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**FRANCE AND THE UNITED KINGDOM:
FACTORS INFLUENCING POSITIONS ON
MULTILATERAL NUCLEAR ARMS CONTROL**

by

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March 2022

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POSITIONS ON MULTILATERAL NUCLEAR ARMS CONTROL**

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ABSTRACT

Following the demise of several critical U.S.-Russian bilateral treaties, the world now faces the most consequential nuclear arms-control crisis in decades. If the desired end goal is to move toward global disarmament, France and the U.K. have several economic, political, and military avenues they could pursue. This thesis analyzes British and French positions on nuclear arms-control and seeks to identify what has precluded them from entering into meaningful discussions. This thesis considers nuclear policies, statistics, official records, publications, and previous case studies on third-party arms control. At this time, there is little optimism for France and the U.K. to have a significant impact on multilateral arms-control negotiations. There are many geopolitical, economic, and security dilemmas that are currently hindering a breakthrough in negotiations, and a disparity in the number of nuclear weapons possessed between the U.S. and Russia and all other nuclear weapons states is an impasse that hinders European nuclear weapon states. Additionally, there is a strong sense of nuclear nationalism inherent to both nations that precludes them from initiating disarmament measures. Achieving meaningful multilateral arms control must begin with small, mutually reinforcing, and incremental measures. Promoting a multilateral forum to increase transparency and build confidence would set the stage for more ambitious and meaningful multilateral measures in the future.

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LIST OF ACRONYMS AND ABBREVIATIONS

ABM	anti-ballistic missile
ALCM	air-launched cruise missile
ASMP-A	air-sol moyenne portée-améliorée
ASN4G	air-sol nucléaire de 4e generation
AWE	Atomic Weapons Establishment
CTBT	Comprehensive Nuclear Test-Ban Treaty
DAM	Direction des Applications Militaires
FMCT	Fissile-Material Cut-Off Treaty
IAEA	International Atomic Energy Agency
INF	Intermediate-Range Nuclear Forces
NATO	North Atlantic Treaty Organization
NPT	Non-Proliferation of Nuclear Weapons Treaty
NSS	Nuclear Security Summits
NWS	nuclear-weapons states
PNI	Presidential Nuclear Initiatives
SALT	Strategic Arms Limitation Talks
SLBM	submarine-launched ballistic missile
SSBN	nuclear-powered ballistic missile submarine
START	Strategic Arms Reduction Treaty
TNA	tête nucléaire aéroportée
TNO	tête nucléaire océanique
TPNW	Treaty on the Prohibition of Nuclear-Weapons
UCS	Union of Concerned Scientists
WMD	weapons of mass destruction

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I. INTRODUCTION

A. MAJOR RESEARCH QUESTION

France and the United Kingdom have historically refused or not been invited to participate in nuclear arms-control negotiations with the Soviet Union and United States. The United States has supported this position, despite frequent Soviet—and now Russian—demands to broaden U.S.-Russian strategic arms control to include these two nuclear-armed states. The research question underpinning this thesis is: What explains the British and French positions on multilateral nuclear arms control that has thus far precluded them from entering into meaningful multilateral discussions?

The important secondary questions that will inform the findings of this thesis include: Does the United Kingdom and France have the interest or ability to re-galvanize the ailing U.S.-Russian strategic stability relationship? Why has multilateral nuclear arms control been so difficult to achieve, and what are its prospects in Europe? For this thesis, it is important to determine what nuclear weapons the four states could incorporate in potential multilateral negotiations, the prospects of equal limitations, and level of transparency measures that could be included in any potential treaties. The findings of this research will produce recommendations on whether the productive engagement of France and the United Kingdom in a quadripartite nuclear arms control construct could improve global or regional security conditions.

B. SIGNIFICANCE OF THE RESEARCH QUESTION

Following the United States and Russian withdrawal from several critical bilateral treaties, a new degree of unpredictability has set in and the world now faces the most consequential arms-control crisis in decades.¹ The collapse of the Intermediate-Range Nuclear Forces (INF) Treaty in August 2019 was the latest development in the dissolution

¹ Lukasz Kulesa, “The Crisis of Nuclear Arms Control and Its Impact on European Security,” *EU Non-Proliferation and Disarmament Consortium* 66 (January 2020): 1.

of the Cold War-era system of nuclear arms control.² The strain in relations between the two nuclear superpowers—United States and Russia—also negatively affects European Union member-states who have a vested interest and role in regional security. With the INF Treaty now dissolved, a daunting security dilemma is unfolding. Russia appears committed to developing and fielding a new generation of intermediate-range missiles and generating meaningful arms reduction poses a serious challenge for the West. Additionally, the United States is seeking to invest up to \$1.5 trillion to modernize its arsenal that will include overhauling each leg of its nuclear triad.³ Up to this point in history, “nuclear arms control and reduction agreements have been conducted almost exclusively between the United States and the Soviet Union, and, following the latter’s collapse in 1991, the United States and Russia.”⁴ Considering how large and relatively equal in size they are to each other, it was only practical that negotiations would be conducted at a bilateral level between the two nuclear superpowers. While the two powers still maintain approximately 90% of the world’s nuclear warheads (combined approximately 12,175), France and the United Kingdom maintain the fourth (approximately 290) and fifth (approximately 225) most respectively.⁵ Given Russia’s interest in the North Atlantic Treaty Organization’s (NATO) nuclear deterrence posture, the French and British arsenals could prove to be crucial elements in future negotiations.

In 2019, the United States withdrew from the INF Treaty following repeated allegations that Russia violated the conditions of the agreement.⁶ At that point, the

² “U.S. Withdrawal from the INF Treaty: What You Need to Know,” Arms Control Association, accessed May 12, 2021, <https://www.armscontrol.org/pressroom/2019-07/us-withdrawal-inf-treaty-what-you-need-know>.

³ “Fact Sheet: U.S. Nuclear Weapons Modernization: Costs & Constraints,” Center for Arms Control and Non-Proliferation, January 22, 2021, <https://armscontrolcenter.org/fact-sheet-u-s-nuclear-weapons-modernization-costs-constraints/>.

⁴ Steven Pifer and James Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” Arms Control and Non-Proliferation (Washington, D.C.: Brookings, August 2016), 1.

⁵ Kelsey Davenport and Reif Kingston, “Nuclear Weapons: Who Has What at a Glance,” Arms Control Association, January 2022, <https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat>.

⁶ “U.S. Withdrawal from the INF Treaty: What You Need to Know.”

prospects of nuclear arms-control appeared to be so bleak that it was worth questioning whether future negotiations was even feasible or worth attempting. However, following the election of U.S. President Joe Biden, there is newfound optimism that meaningful arms control can occur, especially when he and Russian President Vladimir Putin agreed to extend the New Strategic Arms Reduction Treaty (START).⁷ While the New START's extension is a positive step forward, doubts about the future of arms-control remain.

The European Union has largely supported nuclear arms-control but has expressed concern over whether the focus of bilateral U.S.–Russian nuclear arms control is in line with European security interests. Thus far, the two European countries—France and the United Kingdom—designated as nuclear weapon states have remained observers rather than active participants in arms-control negotiations. The Soviets and later the Russians have long contended that French and British nuclear arsenals should be treated as a joint, western collective with the United States and “counted within one set of thresholds on numbers of delivery systems and warheads.”⁸ In negotiations prior to the ratification of the INF Treaty, Russia advocated for the French and British strategic nuclear forces to be included in a potential deal, or attempted to obtain concessions for them, but the United States refused to accept those terms.⁹ Furthermore, Russia has demanded that the West's totals—United States, United Kingdom, and France—cannot exceed Russia's warhead numbers. This has been a major point of contention whenever the subject has been raised in the past and it remains the key issue for the West regarding the push for multilateralism in the future.

Throughout and following the Cold War period, France and the United Kingdom stressed that their nuclear arsenals should be treated independently, and the West has consistently opposed including them in any strategic nuclear arms-control negotiations. To

⁷ Steven Pifer, “With New START Extended, What Is Future of US-Russian Arms Control? - Russia Matters,” Harvard Kennedy School: Belfer Center for Science and International Affairs, February 5, 2021, <https://russiamatters.org/analysis/new-start-extended-what-future-us-russian-arms-control>.

⁸ Kulesa, “The Crisis of Nuclear Arms Control and Its Impact on European Security,” 3.

⁹ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 7.

support this position, the United Kingdom and France maintain they have already considerably reduced the number and salience of their nuclear weapons since the end of the Cold War. It is possible they would be willing to consider the inclusion of their forces into the nuclear arms-control architecture; however, they may not be willing to move forward until the United States and Russia have significantly reduced their own stockpiles.

C. LITERATURE REVIEW

For the purpose of this literature review, this author will analyze works that are relevant to informing France's and the United Kingdom's nuclear arms-control posture. This literature review is divided into segments that will cover the history and strategic policies of France and the United Kingdom—to include the current state of nuclear arms control affairs, and scholarly discourse that outlines the diplomatic capacity of France and the United Kingdom to engage in and influence multilateral nuclear decision-making mechanisms. Important to the following section, France and the United Kingdom are two of the five nuclear-weapons states (NWS) identified under the international Non-Proliferation of Nuclear Weapons Treaty (NPT) intended to promote the peaceful use of nuclear technologies, prevent the spread of nuclear-weapons, and move towards global nuclear disarmament.¹⁰

1. Factors Shaping Nuclear Arms Control Policies of The United Kingdom and France

a. The United Kingdom

The United Kingdom fields approximately 225 strategic warheads that are deployed exclusively on four *Vanguard*-class nuclear-powered ballistic missile submarines (SSBN), which will be replaced by four new *Dreadnought* class submarines set to enter service in the early 2030s.¹¹ Critical to its deterrence posture, the United Kingdom has maintained a

¹⁰ “Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action,” U.K. Ministry of Defence, November 2, 2021, <https://www.gov.uk/guidance/nuclear-non-proliferation-treaty-npt-an-overview-of-uk-action>.

¹¹ “United Kingdom Overview,” The Nuclear Threat Initiative, March 2021, sec. Nuclear, <https://www.nti.org/learn/countries/united-kingdom/>.

continuous deployment of nuclear-armed SSBNs since April 1969.¹² At this time, it is the only one of the five NPT states that rely on a single strategic delivery system. Additionally, the United Kingdom is also party to all of the primary weapons of mass destruction (WMD) nonproliferation treaties and international export control regimes that work towards preventing the proliferation of nuclear weapons.¹³

Following the end of the Cold War, leaders within the British government routinely expressed its intent to participate in several arms-control initiatives, including both “incremental and multilateral disarmament efforts.”¹⁴ In the past, British leaders have maintained that the best way of achieving global disarmament is to do so multilaterally and by working within the non-proliferation confines outlined in the NPT.¹⁵ Additionally, many British officials have dismissed calls to unilaterally disarm over concerns that their arsenal was disproportionately smaller than the United States’ and Russia’s.¹⁶ Lastly, the British are skeptical that unilateral disarmament would be reciprocated by other nuclear states; however, the British government has taken action to reduce the United Kingdom’s stockpile in the past due to defense budget constraints, partisan policy decisions, and anti-nuclear sentiments among the British public.¹⁷

Indeed, the uneasiness felt among many British citizens regarding the United Kingdom’s possession of nuclear weapons ultimately culminated into a movement for

¹² “United Kingdom Overview,” para. 1.

¹³ “United Kingdom Overview,” sec. Nuclear.

¹⁴ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 16.

¹⁵ HM Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy* (Crown, 2021), 78, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/975077/Global_Britain_in_a_Competitive_Age-the_Integrated_Review_of_Security_Defence_Development_and_Foreign_Policy.pdf.

¹⁶ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 16.

¹⁷ Pifer and Tyson, 16.

unilateral disarmament during the Cold War.¹⁸ Unilateral disarmament was once introduced by the Labour Party in the 1980s during its period of opposition; however, when they lost the general election, the movement lost much of its momentum and it was never formally adopted by a ruling government.¹⁹ Over the past several decades, discussion surrounding unilateral disarmament in the United Kingdom has faded, primarily due to the overarching threat of nuclear weapons moving further into the background of public consciousness; however, partisan support for multilateral disarmament initiatives remains relatively strong among those in government.²⁰ There has also been public discourse surrounding what sort of nuclear arsenal the United Kingdom should possess. The Conservative Party and the Liberal Democrats argued over the modernization initiative of replacing the four Vanguard-class ballistic missile submarines with the Dreadnought class submarines.²¹ The Conservative Party cited the ongoing security challenges and the Liberal Democrats argued “the importance of demonstrating a British commitment to work toward a world without nuclear weapons.”²²

As recently as 2015, the United Kingdom committed to reduce its stockpile to 180 warheads by the mid-2020s.²³ However, citing the emergence of new capabilities and changes in the international security environment, the United Kingdom elected to reverse course and elected to raise its nuclear ceiling to 260 warheads.²⁴ According to the most recent British *Integrated Review of Security, Defense, Development and Foreign Policy*,

¹⁸ Alexei Arbatov, James Acton, and Vladimir Dvorkin, “Prospects of Engaging the United Kingdom and France in Nuclear Arms Control,” Carnegie Moscow Center, April 30, 2014, sec. Nuclear Policies of France and the United Kingdom, <https://carnegie.ru/2014/04/30/prospects-of-engaging-united-kingdom-and-france-in-nuclear-arms-control-pub-55616>.

¹⁹ Arbatov, Acton, and Dvorkin, sec. Nuclear Policies of France and the United Kingdom.

²⁰ Arbatov, Acton, and Dvorkin, sec. Nuclear Policies of France and the United Kingdom.

²¹ Arbatov, Acton, and Dvorkin, sec. Nuclear Policies of France and the United Kingdom.

²² Arbatov, Acton, and Dvorkin, sec. Nuclear Policies of France and the United Kingdom.

²³ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 15.

²⁴ HM Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy*, 76.

the government stated that it “will continue to take a leading international role on nuclear disarmament verification.... [and] this is an essential step for nuclear disarmament under strict and effective international control.”²⁵ It remains to be seen what impact the 2016 British referendum to exit the European Union will have on Britain’s nuclear arsenal and overall posture as it relates to its stance on multilateral arms-control.

b. France

According to the Nuclear Threat Initiative, France maintains an arsenal of approximately 300 nuclear weapons that are carried on “F3 land-based aircraft, Rafale MF3 carrier-based aircraft, and *Triomphant*-class nuclear-powered ballistic missile submarines.”²⁶ Additionally, like the British, France is also party to all of the primary nonproliferation treaties and international export control regimes that work towards preventing the proliferation of nuclear weapons.²⁷ Since the end of the Cold War, France has shrunk its inventory of nuclear forces; however, it still maintains a relatively significant nuclear capability. Official French doctrine states that the purpose behind France’s nuclear arsenal is to ultimately guarantee its territorial integrity and prevent other states from infringing on its sovereignty.²⁸

According to the most recent French Strategic Defense Update in 2021, France reaffirmed its commitment to the principle of strict sufficiency and to arms-control and stressed the European dimension of deterrence through an allied approach.²⁹ France has continually expressed intentions to keep its strategic nuclear deterrent as a primary driver of its defense strategy; however, French leaders have also recognized that nuclear

²⁵ HM Government, 76.

²⁶ “France,” Nuclear Threat Initiative, April 2021, sec. Nuclear, <https://www.nti.org/learn/countries/france/>.

²⁷ “France,” para. 1.

²⁸ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 19.

²⁹ French Minister of the Armed Forces, *Strategic Update: 2021*, 2021, 27, <https://www.stjornarradid.is/library/03-Verkefni/Almannaoryggi/Thjodaryggismal/France%20-%20Strategic%20Review%202021.pdf>.

disarmament is an important long-term goal, and it believes that disarmament requires immediate attention as well.³⁰ Though largely due to domestic pressure, France has not fully committed to a wide-range of nuclear disarmament objectives, and a majority of French citizens are believed to be in favor of preserving the country's current nuclear deterrence posture and associated arsenal.³¹ While the French have been more reluctant to engage in disarmament initiatives than the British, they do have a track record of transparency that bolsters France's position as a responsible nuclear power.³² French officials have stated that to achieve progress towards disarmament, several related issues must be taken into consideration such as missile defense, conventional and space capabilities, and the elimination of certain categories of weapons—such as chemical and biological weapons.”³³

In contrast to the United Kingdom, there is strong public support and little opposition in maintaining a strong nuclear deterrence.³⁴ There is no public momentum to influence the French government to take any actions towards unilateral disarmament, nor is there an appetite to abandon its nuclear-armed, air or sea-launched missiles.³⁵ While the French government does not explicitly repudiate the goal of global nuclear disarmament, French officials rarely hide their skepticism of its prospects.

³⁰ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 19.

³¹ Pifer and Tyson, 19.

³² Pifer and Tyson, 20.

³³ Government of France, “Combating the Proliferation of Nuclear Weapons,” France Diplomacy - Ministry for Europe and Foreign Affairs, accessed June 16, 2021, <https://www.diplomatie.gouv.fr/en/french-foreign-policy/security-disarmament-and-non-proliferation/disarmament-and-non-proliferation/>.

³⁴ Arbatov, Acton, and Dvorkin, “Prospects of Engaging the United Kingdom and France in Nuclear Arms Control,” sec. Nuclear Policies of France and the United Kingdom.

³⁵ Arbatov, Acton, and Dvorkin, sec. Nuclear Policies of France and the United Kingdom.

c. Additional Factors Influencing French and British Positions

In assessing France's and the United Kingdom's multilateral nuclear arms-control efforts to date, the EU Non-Proliferation and Disarmament Consortium's report provides a specific lens to examine the history of multilateral arms-control by providing a particular emphasis on the causes of the nuclear arms-control crisis. Both during and after the Cold War, France and the United Kingdom remained steadfast in defending the independent nature of their nuclear stockpiles and their opposition to including them as part of a broader western collective in arms-control negotiations and agreements.³⁶

According to British academic and scientist, James M. Acton, one shared commonality between the France and the United Kingdom is a lack of serious commitment by either state to commit to multilateral nuclear disarmament.³⁷ Indeed, British and French officials will often deflect about their respective roles in the disarmament process and highlight previous initiatives they have undertaken, including the ratification of the Comprehensive Nuclear Test-Ban Treaty (CTBT) in 2010.³⁸ The treaty was championed as a means to allow both states to verify that their warheads can function safely as intended without having to conduct additional nuclear tests.³⁹

Up to this point in history, neither France nor the United Kingdom have clearly stated when they would be willing to discuss reductions or limitations as they relate to nuclear treaties.⁴⁰ In a broader context, Jeffrey Larsen, Jacek Durkalec, and others have contended that NATO at large "has suffered from a serious nuclear identity crisis," as the institution's understanding of the importance of nuclear deterrence has become

³⁶ Kulesa, "The Crisis of Nuclear Arms Control and Its Impact on European Security," 3.

³⁷ Arbatov, Acton, and Dvorkin, "Prospects of Engaging the United Kingdom and France in Nuclear Arms Control," sec. Nuclear Policies of France and the United Kingdom.

³⁸ Arbatov, Acton, and Dvorkin, sec. Nuclear Policies of France and the United Kingdom.

³⁹ Pifer and Tyson, "Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control," 16.

⁴⁰ Arbatov, Acton, and Dvorkin, "Prospects of Engaging the United Kingdom and France in Nuclear Arms Control," sec. Nuclear Policies of France and the United Kingdom.

increasingly vague.⁴¹ France and the United Kingdom often tie much of their security policies within the broader context of collective defense that NATO provides. Many NATO allies seek to further reduce the importance of nuclear deterrence and increase the Alliance's arms-control profile, while others oppose any strategy that moves further in this direction. At any rate, the roles of France and the United Kingdom were reestablished in November 2010 at the NATO Summit in Lisbon when a review of NATO's defense posture determined that "the supreme guarantee of the security of the Allies is provided by the strategic nuclear forces of the Alliance, particularly those of the United States... The independent strategic nuclear forces of the U.K. and France, which have a deterrent role of their own, contribute to the overall deterrence and security of the Allies."⁴²

2. The Practicability of France and the United Kingdom Engaging in Multilateral Discussions

This section will review prominent scholarly discourse that outlines the diplomatic capacity of France and the United Kingdom to engage in multilateral nuclear discussions. This is arguably the most important section, as the synthesis of information and analysis will help inform this author's findings as it pertains to what measures can be implemented to resolve the nuclear crisis, particularly as it related to the deteriorating relations between Washington and Moscow. A survey of varying opinions and analysis will be considered in order to adequately weigh past approaches on how amenable the United Kingdom and France are to multilateral arms-control while also addressing any potential gaps that have not been covered in light of recent arms control developments (i.e., New START extension, withdrawal from Open Skies Treaty, election of U.S. President Biden).

⁴¹ Leopoldo Nuti, "NATO's Role in Nuclear Non-Proliferation and Arms Control: A (Critical) History" (Rome: Istituto Affari Internazionali (IAI), January 2021), 36, <http://www.jstor.org/stable/resrep28795>.

⁴² "Deterrence and Defence Posture Review," NATO, May 2012, sec. II. The Contribution of Nuclear Forces, http://www.nato.int/cps/en/natohq/official_texts_87597.htm.

a. Argument for the Inclusion of Multilateral Discussions

Several schools of thought have emerged regarding the United Kingdom's and France's ability to influence the future of nuclear arms control. Some scholars like Łukasz Kulesa have argued that it is worth exploring whether it is the aim of European states to support U.S. arms-control policies, or to develop a new European policy vis-à-vis both the United States and Russia.⁴³ Kulesa further points out that France and the United Kingdom—among other states in the EU—have the power to influence agendas or even fund international organizations such as the United Nations Security Council, Conference on Disarmament, the NPT, the International Atomic Energy Agency and the Comprehensive Nuclear-Test-Ban Treaty Organization.⁴⁴ While European states have not always fully supported changes in the U.S. nuclear posture and its policies in relation to arms-control, they have so far always adapted to them including the withdrawal from the Anti-Ballistic Missile (ABM) Treaty.⁴⁵

Some experts contend that it could be possible for France and the United Kingdom to engage in multilateral nuclear arms-control by involving all five NWS currently recognized by the NPT. These states have already mutually agreed to commit to disarmament under Article VI of the treaty.⁴⁶ According to this approach, this could have a second order effect such as engaging nuclear-weapon countries not recognized by the NPT, including India, Pakistan, and Israel. According to scholars Steven Pifer and James Tyson of the Brookings Institute, seeking to limit the nuclear weapons of all parties to the NPT would be a bold undertaking. Such limitations would include restrictions on non-strategic nuclear weapons, which has thus far been a proposal Russia refuses to entertain.⁴⁷

⁴³ Kulesa, "The Crisis of Nuclear Arms Control and Its Impact on European Security," 10.

⁴⁴ Kulesa, 10.

⁴⁵ Kulesa, 10.

⁴⁶ Arbatov, Acton, and Dvorkin, "Prospects of Engaging the United Kingdom and France in Nuclear Arms Control."

⁴⁷ Pifer and Tyson, "Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control," 28–29.

Another important factor to consider is determining how open France and the United Kingdom are to the idea to include their stockpiles into the equation. While there is reason to suspect France and the United Kingdom may be reluctant to engage in disarmament talks or are not seriously considered to be relevant in future arms-control negotiations, scholars Alexey Arbatov, James M. Acton, and Vladimir Dvorkin outline why the U.S. and Russia could specifically engage France and the United Kingdom in multilateral disarmament talks.⁴⁸ Specific reasons include France and the United Kingdom's historic nuclear force reduction efforts, their level of transparency, and nuclear architecture construct. In late 2007 and 2008, there was an effort to multi-lateralize the INF Treaty; however, some states were not prepared to support the initiative for unspecified reasons.⁴⁹ Since 2010, the five permanent members of the U.N. Security Council have discussed questions surrounding nuclear weapons and their use.⁵⁰ Additionally, the U.N. General Assembly announced an open-ended working group in 2015 to explore the possibilities of nuclear disarmament initiatives that its members can take on in the future.⁵¹ Indeed, a new multilateral approach could identify how best to address the major nuclear security threats facing continental Europe and the best path forward to create a stable and lasting nuclear architecture.

b. Argument against the Inclusion of Multilateral Negotiations

In contrast, other experts believe that the formal inclusion of outside nuclear-weapon states is not a worthwhile endeavor seeing as there are many factors that make them unequal or irrelevant actors in strategic nuclear limitation and reduction processes.⁵²

⁴⁸ Arbatov, Acton, and Dvorkin, "Prospects of Engaging the United Kingdom and France in Nuclear Arms Control."

⁴⁹ Sergei Lavrov, "Statement by H.E. Sergey Lavrov," Conference on Disarmament, February 12, 2008, 6–7, <https://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2008/statements/1session/Feb12RussiaLavrov.pdf>.

⁵⁰ Pifer and Tyson, "Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control," 11.

⁵¹ Pifer and Tyson, 11.

⁵² Arbatov, Acton, and Dvorkin, "Prospects of Engaging the United Kingdom and France in Nuclear Arms Control," sec. Exploring Potential Multilateral Arms Control Arrangements.

Engaging outside actors may not be practical in any construct, regardless if they are party to the NPT, between NPT states plus the four that are not party to the NPT, or between all nine states believed to possess nuclear-weapons.⁵³ These experts argue that agreements can only occur between countries that possess comparable levels of nuclear deterrence. Symmetric or asymmetric limitations may be feasible, but it likely depends on the ratio of the states' nuclear assets and would almost certainly require bilateral or multilateral relations that are conducive to holding productive discussions. For its part, France would prefer to renegotiate the terms of the INF treaty in a multilateral format.⁵⁴ French President Emmanuel Macron's push for "strategic autonomy" centers around the desire to bolster Europe's collective defense but it also suggests France is seeking to lessen the role the United States' plays in nuclear negotiations with Russia; however, critics of that notion believe a potential link between France's arsenal and a broader European defense initiative would only foment the conditions for an arms race rather than end it.⁵⁵

If the only reason for countries to possess nuclear weapons was to deter nuclear aggression, then hypothetically, all nuclear states could come to an agreement on arsenal limitations.⁵⁶ The sheer destructive potential of these nuclear weapons are more than sufficient for the sole purpose of deterring potential adversaries. However, a state may employ the threat of nuclear arms for a variety of other reasons, such as a counter to overwhelming conventional aggression, other weapons of mass destruction, or to protect allies from any potential hostilities.⁵⁷ Many states choose to leverage their status as nuclear powers in order to help maintain its influential status as a world power or as a means to

⁵³ Arbatov, Acton, and Dvorkin, sec. Exploring Potential Multilateral Arms Control Arrangements.

⁵⁴ Arvid Bell, "Why Europe Matters: The Case for an Arms Control Negotiation Campaign," Center for Strategic and International Studies, September 2020, <https://www.csis.org/blogs/post-soviet-post/why-europe-matters-case-arms-control-negotiation-campaign>.

⁵⁵ Bell, sec. European Arms Control Interests.

⁵⁶ Arbatov, Acton, and Dvorkin, "Prospects of Engaging the United Kingdom and France in Nuclear Arms Control," sec. Exploring Potential Multilateral Arms Control Arrangements.

⁵⁷ Arbatov, Acton, and Dvorkin, sec. Exploring Potential Multilateral Arms Control Arrangements.

influence the arms-control negotiation process and other strategic issues.⁵⁸ This is why even nuclear arms control initiatives at the bilateral level can run into difficulties in finding mutually acceptable agreements—as further evidenced by the current state of the U.S.-Russian relationship, which is severely strained due to a myriad of geopolitical differences. To introduce a multilateral arms control construct, such problems could become even more complex and difficult to overcome.

D. POTENTIAL EXPLANATIONS AND HYPOTHESES

In keeping with the spirit of this thesis’s research question, it is important to explain the British and French positions on nuclear arms-control and what possibilities exist for them to change. When placing the emphasis on France and the United Kingdom, it is hardly shocking that discussions surrounding nuclear weapons often mention the two states together. Their arsenals are similar in size and structure, and both are members of all major nonproliferation treaties and international export control regimes. However, these similarities should not detract from important differences between the two nuclear powers’ thought processes in regard to nuclear disarmament and arms-control. Both states face differing public and governmental attitudes toward disarmament initiatives. According to the literature reviewed, there are three potential explanations as to how France and the United Kingdom’s positions came to be, and why they have not been party to nuclear disarmament talks with the United States and Russia.

The first explanation is that the respective arsenals of France and the United Kingdom are simply too small compared to the United States and Russia. This has thus far precluded the European states from becoming serious players in broader disarmament talks. As members of the NPT with more modest arsenals, France and the United Kingdom can only serve in supporting or promoting roles of nuclear arms control, or alternatively, facilitators or potential hosts of bilateral or multilateral arms reduction discussions. For example, the British solely possess submarine launched ballistic missiles (SLBM) and may

⁵⁸ Arbatov, Acton, and Dvorkin, sec. Exploring Potential Multilateral Arms Control Arrangements.

not be in a position to make concessions that would convince either Russia or the United States to further limit their stockpiles of other strategic weapons.

The second explanation is that the complexity of any hypothetical multilateral discussion prevents France and the United Kingdom from entering into talks regarding future U.S. and Russian limitations. As highlighted in the literature review, in addition to deterrence, states will employ the threat of nuclear arms for a variety of other reasons, such as countering conventional aggression, a check against other weapons of mass destruction, and to protect allies from any potential hostilities. The differing motives in maintaining status as a nuclear state among the quadripartite parties has proven difficult for the United Kingdom and France when entering in any meaningful discussions up to this point. Considering the evolving security environment, multilateral agreements may need to encompass “missile defense, precision-guided conventional strike, space and cyber developments”—which only further complicate discussions.⁵⁹ Any state interested in taking part in multilateral treaty negotiations that entail numerical limits must address what nuclear weapons would need to be included in multilateral negotiations, including France and the United Kingdom.⁶⁰ British nuclear forces are made up exclusively of SLBMs, and while the majority of France’s nuclear weapons are also made up of SLBM systems, France’s air component launches cruise missiles by fighter-bombers that would not be included according to the conditions of either the New START or the recently abandoned INF treaty.⁶¹

The third potential explanation is that domestic politics and pressures in France and the United Kingdom have limited their respective governments from fully engaging in multilateral talks. Public sentiment over how many and what types of nuclear weapons have influenced the French and British governments to take a measured approach when engaging in strategic nuclear matters. Leaders in France and the United Kingdom likely

⁵⁹ Steven Pifer, “Nuclear Arms Control in the 2020s,” Stanford: Center for International Security and Cooperation, April 6, 2021, <https://cisac.fsi.stanford.edu/news/nuclear-arms-control-2020s>.

⁶⁰ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 28.

⁶¹ Pifer and Tyson, 28.

believe that adopting the NPT to ban nuclear weapons remains the best course of action to complete and strengthen the nuclear disarmament and non-proliferation process, and other avenues such as drafting quadripartite treaties would detract from the overall goal of global disarmament.

E. RESEARCH DESIGN

This thesis analyzes data including national statistics, official records archives, publications, and previous studies conducted on third party arms control. Several prominent case studies were reviewed to include the pioneering Strategic Arms Limitation Talks (SALT), the Strategic Arms Reduction Treaties, and the INF Treaty. The primary data that informed this thesis has been drawn from qualitative research that centers around the relevant governments’—the United States, Russia, France, and the United Kingdom—attitudes that has thus far shaped nuclear arms control negotiations and policies. This author has also conducted a quantitative review of nuclear stockpiles, aggregate numbers of delivery systems and warheads, and data that informs previous arms control negotiations. Additionally, the total numbers of nuclear arms inventories according to deployed or nondeployed status, type, and basing location has been incorporated into this author’s research.

The sources informing this thesis was retrieved online utilizing the Naval Postgraduate School’s library while also leveraging reputable publications publicly available on the internet. The range of dates of information considered for this thesis began in 1967 starting at the U.S./Soviet Glassboro Summit Conference through present day. This ensures that all prior arms-control negotiations and agreements will be considered when analyzing the prospects of French and British participation. This author will focus on identifying and categorizing key themes, interpreting narratives and patterns, and understanding the context and meaning behind past arms-control negotiations to include the breakdowns that have precluded the inclusion of France and the United Kingdom into the decision-making process. Specifically, through this research design, it is this author’s intent to identify points of contention that can be addressed in future discussions among all relevant parties and whether these variables may be the key in progressing towards

meaningful arms-control to ultimately create a more stable nuclear architecture. This thesis will analyze the current nature of U.S.-Russian interactions to determine whether current conditions match relations between the two primary nuclear powers in the past when important arms-control treaties were reached. To effectively meet this objective, this author will research various works that identify domestic, diplomatic, and interactions involving both Western and Russian viewpoints.

To ensure this thesis adequately covers the history and role of multilateral negotiations to date, the extensive material that encompasses the terms of past nuclear agreements, what factors shaped the negotiations, and what roles the relevant parties had will be considered. International and state institutions, foreign diplomat statements, and foreign policy think tanks have thus far provided ample analysis to inform the history of multilateral arms-control. This effectively establishes a baseline of what has thus far been discussed between the governments of the United States, Russia, France, and the United Kingdom to date. Understanding the impact of arms-control on European security is critical in order to assess the attitudes and motivations of France and the United Kingdom. While the United Kingdom, France, and China are the primary candidates for inclusion in future multilateral nuclear arms-control and disarmament efforts—due to their nuclear arsenals and advanced delivery platforms—for the purpose of this thesis, China will only be considered when determining how its inclusion in future talks could impact disarmament as it relates to impacts European security.

F. THESIS OVERVIEW

The following method of organization was chosen to establish the current state of arms-control affairs as it relates to France, the United Kingdom, Russia, and the United States; highlighting areas in which multilateral control could potentially be workable; and finally leads the reader to a conclusion as to how likely it is to occur. This thesis will be organized into six chapters. This first chapter has established the research question's relevance within the context of today's political climate as it pertains to nuclear arms-control. Chapter II will include the history of U.S.-Soviet/Russian arms-control leading up to the current state of play, and the arguments made by the U.S. and Russia for further

nuclear weapon limitations. This chapter will effectively set the baseline for assessing how France and the United Kingdom may be able to contribute to any potential future multilateral framework. Chapter III will attempt to identify areas in which multilateral arms-control may be workable. Chapters IV and V will include the history of France and the United Kingdom's historical policies, nuclear arsenals, current positions, and arms-control efforts in order to examine what has precluded them from entering into meaningful arms-control negotiations to date and the likelihood of them engaging in the future. The sixth and final chapter will present a brief summary of findings and include recommendations on whether the productive engagement of France and the United Kingdom could improve security cooperation and prevent an unprecedented and dangerous missile build up.

II. HISTORY OF U.S. AND SOVIET / RUSSIAN ARMS CONTROL

A. INTRODUCTION

Arms-control can be defined as any arrangement between or “among states to regulate an aspect of their military capability or potential.”⁶² The arrangement may encompass a variety of elements to include the amount, location, readiness levels, or categories of military forces, armament, or facilities.⁶³ Regardless of what the scope or terms of the agreement entails, all plans for arms-control presuppose some form of cooperation among the participants regarding their military programs. Since the ratification of the Partial Nuclear Test Ban Treaty in 1963, an international arms-control regime has carried out actions to reduce the proliferation of nuclear weapons around the world while concurrently limiting existing nuclear arsenals of nuclear-weapon states.⁶⁴ When a potential arms threat arises, arms-control agreements can be leveraged by nuclear powers to enhance its sovereignty, security policy, and military strategy.⁶⁵ While nuclear arms-control efforts have produced varying degrees of success in the international community, they cannot exclusively stabilize adversarial relations. Rather, nuclear arms-control can be seen as a conservative policy that fundamentally aims to introduce some sort of measure of predictability into an adversarial relationship.⁶⁶ Dating back to the Cold War, U.S. and Soviet/Russian leaders have successfully called back to a series of bilateral agreements and other cooperative measures to constrain their respective nuclear arsenals.⁶⁷

⁶² Jeffrey Larsen and James Wirtz, eds., *Arms Control and Cooperative Security* (Boulder, CO: Lynne Rienner, 2009), 1.

⁶³ Larsen and Wirtz, 1.

⁶⁴ Alexei Arbatov, “An Unnoticed Crisis: The End of History for Nuclear Arms Control?” (Moscow: Carnegie Endowment for International Peace, June 2015), 1, <http://www.jstor.org/stable/resrep12816>.

⁶⁵ Larsen and Wirtz, *Arms Control and Cooperative Security*, 2009, 1.

⁶⁶ Larsen and Wirtz, 5.

⁶⁷ “U.S.-Russian Nuclear Arms Control Agreements at a Glance,” Arms Control Association, April 2020, <https://www.armscontrol.org/factsheets/USRussiaNuclearAgreements>.

This chapter will focus on illustrating the history of U.S.-Soviet/Russian arms-control to determine what factors have led up to the current state of play between the two nuclear-powers. This chapter further considers arguments made by both the United States and Russia for further nuclear weapon limitations to determine the intent and desire of both states' capacity for practical arms reduction. Finally, this chapter will examine what the arms-control community seeks out of both countries moving forward. This chapter will effectively establish a baseline to assess which areas France and the United Kingdom may be able to contribute to the ongoing nuclear arms-control dilemma.

B. HISTORICAL U.S. / RUSSIAN NUCLEAR RELATIONSHIP

1. Examining the Past

Various arms-control constructs can be found throughout history, such as the institution of armament-development constraints that was commonly placed on a defeated state following a conflict.⁶⁸ In the 20th century, the arrival of nuclear weapons and the follow-on Cold War conflict between the United States and Soviet Union fundamentally altered the framework of arms control based on self-interest and mortality.⁶⁹ Indeed, the nuclear arms race between the United States and Soviet Union was perhaps the most frightening aspect of the Cold War competition. Specifically, the onset of the Cold War introduced technologies and new modes of combat to emerging battlespaces that revolutionized modern warfare.⁷⁰ These advances led to states taking an alternative, multifaceted approach to controlling weapons that forever changed the language of disarmament. Policymakers viewed nuclear weapons as a critical fixture—albeit a contested one—of the international strategic construct, and what previously consisted of unitary disarmament had evolved into arms-control and non-proliferation initiatives.⁷¹

⁶⁸ Kulesa, “The Crisis of Nuclear Arms Control and Its Impact on European Security,” 1.

⁶⁹ Kulesa, 1.

⁷⁰ Jeffrey Larsen and James Wirtz, eds., *Arms Control and Cooperative Security* (Boulder, CO: Lynne Rienner, 2009), 24.

⁷¹ Larsen and Wirtz, 24.

Particularly during the second half of the Cold War, arms-control played a preeminent role. This is evidenced by the United States creating an Arms Control and Disarmament Agency with the sole purpose of bolstering U.S. national security by “formulating, advocating, negotiating, implementing and verifying effective arms-control, nonproliferation, and disarmament policies, strategies, and agreements.”⁷² Additionally, the extensive history of strategic arms limitations and reduction treaties with the Soviet Union combined with the widespread confluence of policy requirements has shown that the latter half of the Cold War was largely defined by arms-control.⁷³ However, the relationship between nuclear arms-control and the Cold War did not appear on its own. For the United States and Soviet Union to realize the potential dangers of nuclear warfare, it took a series of dangerous crises and several cycles of an intense and costly arms race before leaders of both powers recognized they needed to work towards preventing a global catastrophe.⁷⁴ The nuclear testing boom of the late 1950s and the 1962 Cuban Missile Crisis helped make nuclear arms-control treaties a top priority of the U.S.-Soviet relationship.⁷⁵

Efforts to work in arms-control sought to promote and cultivate a more cooperative U.S.-Soviet diplomatic relationship but there were considerable preconditions and constraints facing any agreement reached.⁷⁶ Whether it was nuclear nonproliferation, counterproliferation, or the employment of the military, all arms-control negotiations sought to achieve the avoidance of war, containment of costs, and limitation of damages in the event of raised hostilities between the two powers.⁷⁷ Both the United States and Soviet Union elected to jointly handle this facet of their confrontational relationship rather than

⁷² “Agencies - Arms Control and Disarmament Agency,” Federal Register, accessed August 26, 2021, <https://www.federalregister.gov/agencies/arms-control-and-disarmament-agency>.

⁷³ Larsen and Wirtz, *Arms Control and Cooperative Security*, 2009, 5.

⁷⁴ Arbatov, “An Unnoticed Crisis: The End of History for Nuclear Arms Control?,” 5.

⁷⁵ “U.S.-Russia Nuclear Arms Control: 1949 – 2021,” Council on Foreign Relations, accessed August 26, 2021, <https://www.cfr.org/timeline/us-russia-nuclear-arms-control>.

⁷⁶ Larsen and Wirtz, *Arms Control and Cooperative Security*, 2009, 25.

⁷⁷ Larsen and Wirtz, 25.

run the risk of unrestrained competition or worse, a war of catastrophic proportions. This could be accomplished by both the United States and Soviet Union demonstrating their commitment towards transparency, predictability, and restraint concerning the progress of each side's respective strategic forces while simultaneously taking action to reduce the potential of either one achieving a qualitative or quantitative breakthrough in armament development.⁷⁸ Additionally, arms-control agreements were intended to reduce the likelihood of one side carrying out a surprise attack or elevating the conflict to the nuclear level during a potential period of crisis.⁷⁹

The strategic stability arms-control approach between the two nuclear-powers consisted of “narrow, technical constraints on military capabilities or behavior that potential adversaries can devise to reduce the risks and costs of competition.”⁸⁰ According to Łukasz Kulesa, this was “the essence of the SALT, launched in the late 1960s, which led to, among other things, the SALT I agreement, the ABM Treaty, and the SALT II agreement... [and] in the late 1980s and early 1990s, these were followed by the 1987 INF Treaty, START I, and the Presidential Nuclear Initiatives (PNIs).”⁸¹ It is important to note that the strategic stability concept remained in place following the conclusion of the Cold War conflict, when both sides assumed their relationship would evolve on the basis of shared values and common interests. This served as the basis of the progress made on the 1992 Lisbon Protocol, START II and START III treaties, and the more recent bilateral arrangements—the Moscow Strategic Offensive Reductions Treaty, and New START.⁸² The series of treaties were able to stabilize the contentious relationship between the two nuclear superpowers upon conclusion of the Cold War, particularly as evidenced by the INF Treaty eliminating and permanently forgoing conventional and nuclear ground-

⁷⁸ Kulesa, “The Crisis of Nuclear Arms Control and Its Impact on European Security,” 2.

⁷⁹ Kulesa, 2.

⁸⁰ Nancy W. Gallagher, “Re-Thinking the Unthinkable: Arms Control in the Twenty-First Century,” *The Nonproliferation Review* 22, no. 3–4 (October 2015): 471, <https://doi.org/10.1080/10736700.2016.1149279>.

⁸¹ Kulesa, 2.

⁸² Kulesa, 2.

launched cruise and ballistic missiles ranging between 500 to 5,500 kilometers.⁸³ Finally, progress made up to this point allowed for considerable rollbacks in the overall amount of warheads and nuclear delivery vehicles as evidenced in the requirements outlines in START I and New START. For an overview of the strategic nuclear arms-control agreements, refer to Figure 1.

⁸³ “Intermediate-Range Nuclear Forces Treaty (INF Treaty),” U.S. Department of State, accessed November 13, 2020, [//2009-2017.state.gov/t/avc/trty/102360.htm](https://2009-2017.state.gov/t/avc/trty/102360.htm).

Strategic Nuclear Arms Control Agreements								
	SALT I	SALT II	INF Treaty	START I	START II	START III	SORT	New START
Status	Expired	Never Entered Into Force	Terminated	Expired	Never Entered Into Force	Never Negotiated	Replaced by New START	In Force
Deployed Warhead Limit	N/A	N/A	N/A	6,000	3,000-3,500	2,000-2,500	1,700-2,200	1,550
Deployed Delivery Vehicle Limit	US: 1,710 ICBMs & SLBMs USSR: 2,347	2,250	Prohibits ground-based missiles of 500-5,500 km range	1,600	N/A	N/A	N/A	700
Date Signed	May 26, 1972	June 18, 1979	Dec. 8, 1987	July 31, 1991	Jan. 3, 1993	N/A	May 24, 2002	April 8, 2010
Date Ratified, U.S.	Aug. 3, 1972	N/A	May 28, 1988	Oct. 1, 1992	Jan. 26, 1996	N/A	March 6, 2003	Dec. 22, 2010
Ratification Vote, U.S.	88-2	N/A	93-6	93-6	87-4	N/A	95-0	71-26
Date Entered Into Force	Oct. 3, 1972	N/A	June 1, 1988	Dec. 5, 1994	N/A	N/A	June 1, 2003	Feb. 5, 2011
Implementation Deadline	N/A	N/A	June 1, 1991	Dec. 5, 2001	N/A	N/A	N/A	Feb. 5, 2018
Expiration Date	Oct. 3, 1977	N/A	Aug. 2, 2019	Dec. 5, 2009	N/A	N/A	Feb. 5, 2011	Feb. 5, 2026

Figure 1. Strategic Nuclear Arms Control Agreements⁸⁴

Throughout the Cold War, discussions surrounding arms-control included several periods of inactivity, heightened tension, and crises, such as the Soviet Union's decision to deploy SS-20 intermediate-range missiles on European soil and the Reagan

⁸⁴ Adapted from "U.S.-Russian Nuclear Arms Control Agreements at a Glance."

administration's desire to acquire advanced nuclear weapons.⁸⁵ The role that nuclear arms-control played in ending the Cold War may have been overstated; however, the contribution arms-control had on limiting nuclear forces and preventing a catastrophic nuclear war is unquestioned. Indeed, the negotiations surrounding arms-control treaties was the most significant factor in the management between the United States and Soviet Union/Russia's geopolitical relationship.⁸⁶

2. Current State of Play

Despite the success of international arms-control efforts that limited existing nuclear arsenals in the past, the current state of affairs between the United States and Russia has reached an impasse as it pertains to future agreements and negotiations.⁸⁷ Any future nuclear arms reduction and nonproliferation negotiations between the two powers have come to a halt due to political standoffs and technological developments. At the time of this writing, Russia's recent aggressive actions culminated into a full-scale invasion of neighboring Ukraine which has only further isolated Russia on the international stage. Following Putin's decision to invade Ukraine, U.S. Deputy Secretary of State Wendy Sherman commented on the current status of the U.S.-Russian relationship, "at this stage, I see no reason for a Strategic Stability Dialogue."⁸⁸ Following the invasion and escalation of tensions, President Putin raised the alert status of his nuclear arsenal in a "special regime of combat duty" which experts believe entails reorienting the command and control construct into a high alert status; however, this is not necessarily indicative that Russia is making preparations to carry out a nuclear strike first.⁸⁹ Unfortunately, it appears that Putin

⁸⁵ Kulesa, "The Crisis of Nuclear Arms Control and Its Impact on European Security," 2.

⁸⁶ Joseph S. Nye, "Nuclear Learning and U.S.-Soviet Security Regimes," *International Organization* 41, no. 3 (1987): 397–98, <https://www.jstor.org/stable/2706750>.

⁸⁷ Arbatov, "An Unnoticed Crisis: The End of History for Nuclear Arms Control?," 1.

⁸⁸ Samuel Hickey and Monica Montgomery, "Nuclear Issues in the Ukraine Crisis," Center for Arms Control and Non-Proliferation, March 2, 2022, sec. How does the war in Ukraine affect ongoing and future arms control negotiations between the United States and Russia?, <https://armscontrolcenter.org/nuclear-issues-in-the-ukraine-crisis/>.

⁸⁹ Hickey and Montgomery, sec. Did Putin threaten to use nuclear weapons?

is leveraging his country's nuclear power status as a defensive shield that allows Russian forces to carry out a ground invasion while keeping potential Ukrainian partners at bay. Making matters worse, former President Dmitry Medvedev and current deputy head of Russia's Security Council threatened to pull Russia out of New START in response to Western sanctions.⁹⁰

Trouble within the network of arms-control treaties began when START II ultimately failed to enter into force. The issue with the START II failing to come to fruition was twofold. For one, despite the outline of START I being agreed upon in 1990, the U.S. Senate did not ratify the treaty until 1996.⁹¹ This was directly related to the second issue, which was largely tied to the implementation process taking so long to move through the Russian Duma.⁹² Further erosion continued in 2002 when the U.S. terminated the 1972 ABM Treaty.⁹³ At the time, the United States calculated that the necessity of a missile shield against potential threats from North Korea or Iran superseded the need for strong arms-control with Russia. This decision effectively removed geographical and numerical limitations on strategic missile defense, which paved the way for new deployments of missile defenses by Russia.⁹⁴ Subsequently, Russia ceremonially withdrew from the defunct START II a mere two years after its ratification by the Russian Duma.

In 2019, the United States decided to withdraw from the longstanding INF Treaty over Russia's alleged violations of the agreement.⁹⁵ According to press reports, the U.S. intelligence community assessed the Russians employed four battalions of the ground-

⁹⁰ "Senior Russian Security Official Issues Stark Threats to the West," Al Jazeera, February 26, 2022, <https://www.aljazeera.com/news/2022/2/26/senior-russian-security-official-issues-stark-threats-to-the-west>.

⁹¹ Lawrence D. Freedman, "Strategic Arms Reduction Talks," Encyclopedia Britannica, January 8, 2018, sec. START II, <https://www.britannica.com/event/Strategic-Arms-Reduction-Talks>.

⁹² Freedman, sec. START II.

⁹³ Clara Portela, "Nuclear Arms Control Regimes: State of Play and Perspectives," *European Parliament: Policy Department for External Relations*, December 2020, 8.

⁹⁴ Portela, 8.

⁹⁵ Amy F Woolf, "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress," *Congressional Research Service*, February 8, 2019, 1.

launched 9M729 missile, “with a total of just under 100 missiles, including spares.”⁹⁶ The 9M729 missile is assessed to reach distances that exceed the 500km range limit outlined within the INF Treaty.⁹⁷ The dispute over Russia’s compliance with the treaty had worsened since geopolitical tensions rose in 2014 due to Russia’s illegal annexation of Crimea, and has deteriorated even further in 2017 once Russia began actively forward-deploying the 9M729 missile in the battlespace.⁹⁸

When the embattled INF Treaty ultimately fell apart, many in the arms-control community struggled to understand why Russia violated the treaty in the first place.⁹⁹ In the fall of 2017, the Center for Strategic and International Studies hosted a discussion concerning the fate of the INF Treaty.¹⁰⁰ The debate centered around a proposition on whether the United States should develop and field nuclear-capable weapons systems in response to Russia’s repeated INF Treaty violations and subsequently refuse to engage in any future arms-control discussions until Russia returns to compliance.¹⁰¹ Notably, arguing in favor of this proposal was veteran nuclear policymaker, Frank Miller. When asked to provide his opinion on why Russia chose to violate the treaty, Miller retorted: “What new capability do the Russians get out of this missile? I don’t know. But the Russian general staff believes so strongly, and Putin believes so strongly, that they made a decision to violate one of the fundamental two treaties of the Cold War era. And they don’t do things like that lightly... They therefore think it’s very important.”¹⁰² Additionally, several months later a panel met for a symposium hosted by Brookings Institution, at which point a moderator summarized the panel’s assessment regarding Russia’s motivations to

⁹⁶ “INF Treaty Crisis: Background and Next Steps,” Arms Control Association, February 1, 2019, para. 2, <https://www.armscontrol.org/issue-briefs/2019-02/inf-treaty-crisis-background-next-steps>.

⁹⁷ “INF Treaty Crisis: Background and Next Steps,” para. 1.

⁹⁸ “INF Treaty Crisis: Background and Next Steps,” para. 2.

⁹⁹ Michael Fitzsimmons, “Russian Strategy and the End of the INF Treaty,” *Survival* 60, no. 6 (November 2, 2018): 120, <https://doi.org/10.1080/00396338.2018.1542802>.

¹⁰⁰ Fitzsimmons, 120.

¹⁰¹ Fitzsimmons, 120.

¹⁰² Fitzsimmons, 120.

withdraw by simply concluding “it is a bit of a mystery still.”¹⁰³ Senior national-security officials in the U.S. government have also questioned Russia’s motivations for fielding the 9M729 missile. In December 2015, Rose Gottemoeller, undersecretary of state for arms-control and international security affairs, testified to Congress and stated “to be honest with you... we’re puzzled as to why [the Russians] think they need a ground-launched cruise missile that is in violation of this important treaty, because we see they have, in our view, adequate capabilities to cover these threats with other systems at their disposal and that are entirely in accord with the INF Treaty.”¹⁰⁴

Public statements from Russian officials reveal very little as to why Russia violated the INF Treaty. Most Russian officials share sentiments along the lines of categorically denying any Russian wrongdoing.¹⁰⁵ Russia instead tends to counterclaim that it is actually the United States who is violating the treaty through its “deployment of Aegis-Ashore missile-defense systems in Eastern Europe, its use of drones and missiles as test-range targets.”¹⁰⁶ Despite the U.S. government verifiably providing evidence that it had remained in compliance, Russia continually accused the United States of violating the agreement.¹⁰⁷

C. U.S.-RUSSIAN ARGUMENTS MADE FOR FURTHER NUCLEAR WEAPON LIMITATIONS

Following the dissolution of the INF Treaty, the future of U.S.-Russian nuclear arms-control looked increasingly bleak; however, in February 2021, with only two days remaining until its expiration, newly elected U.S. President Joe Biden and Russian President Vladimir Putin reached an agreement to extend New START until February 2026

¹⁰³ Fitzsimmons, 120.

¹⁰⁴ Fitzsimmons, 120–21.

¹⁰⁵ Woolf, “Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress,” 25–26.

¹⁰⁶ Woolf, 25–26.

¹⁰⁷ Woolf, 26.

without any new conditions placed on the agreement.¹⁰⁸ Once the deal was finalized, statements were released by representatives from both governments announcing the deal. U.S. Secretary of State Antony Blinken stated that President Biden felt that the extension “is only the beginning of our efforts to address 21st century security challenges. The United States will use the time provided...to pursue with the Russian Federation, in consultation with Congress and U.S. allies and partners, arms-control that addresses all of its nuclear weapons.”¹⁰⁹ The Russian Foreign Ministry reiterated the importance of extending New START to maintain a stable strategic environment. The ministry released a statement and expressed, “considering the special responsibilities that Russia and the United States carry as the world’s largest nuclear nations, the decision taken is important as it guarantees a necessary level of predictability and transparency in this area, while strictly maintaining a balance of interests.”¹¹⁰ The foreign ministry also indicated that Russia “is ready to do its part” to resurrect U.S.-Russian arms-control “back to a more stable trajectory [and] reach new substantial results which would strengthen our national security and global strategic stability.”¹¹¹ Separately, once it was clear that the Biden administration was interested in extending New START by five years, Pentagon press secretary John Kirby issued a January 2021 statement noting that “we cannot afford to lose New START’s intrusive inspection and notification tools... failing to swiftly extend New START would weaken America’s understanding of Russia’s long-range nuclear forces.”¹¹² These formal statements indicate that New START could serve as a starting point for future and more inclusive negotiations to take place.

¹⁰⁸ Pifer, “With New START Extended, What Is Future of US-Russian Arms Control? - Russia Matters.”

¹⁰⁹ Kingston Reif and Shannon Bugos, “U.S., Russia Extend New START for Five Years,” Arms Control Association, March 2021, para. 5, <https://www.armscontrol.org/act/2021-03/news/us-russia-extend-new-start-five-years>.

¹¹⁰ Reif and Bugos, para. 7.

¹¹¹ Reif and Bugos, para. 8.

¹¹² Reif and Bugos, para. 6.

The desire for a New START extension received widespread external support, including from U.S. allies and partners. In June 2020, NATO Secretary General Jens Stoltenberg stated, “we should not end up in a situation where we have no agreement whatsoever regulating the number of nuclear weapons in the world... we cannot risk losing New START agreement without having something else.”¹¹³ The international community recognized the extension to be especially important. In February 2020, UN Secretary General Antonio Guterres implored Russia and the United States to work together to extend the treaty, describing it as “among the most urgent disarmament and international security priorities of the moment.”¹¹⁴ Additionally, representatives from a host of countries around the world issued a joint statement in support of extending New START, including “Argentina, Canada, Finland, Germany, Indonesia, Japan, Jordan, Kazakhstan, the Netherlands, New Zealand, Norway, South Korea, Spain, Sweden, and Switzerland.”¹¹⁵ Officials from the Biden administration championed this as a victory and claimed that the extension would allot time and space for future discussions that could lead to new arms-control arrangements.¹¹⁶ This has raised optimism among some members of the arms-control community that future deals could be workable.

New START represents one of the sole remaining agreements in the United States and Russia arms-control construct and may serve as one of the only areas in which the two actors can establish productive discourse in an otherwise contentious bilateral relationship. However, much has changed since New START was signed into agreement in 2010.¹¹⁷ As a result, both the United States and Russia will have to factor in other considerations as

¹¹³ Megan Dubois, Gaurav Kalwani, and Pranay Vaddi, “Extending New START Should Be Just the Beginning,” Carnegie Endowment for International Peace, January 25, 2021, sec. What Have U.S. Allies, Partners, and Other Countries Said About a New START Extension?, <https://carnegieendowment.org/2021/01/25/extending-new-start-should-be-just-beginning-pub-83699>.

¹¹⁴ Dubois, Kalwani, and Vaddi, sec. What Have U.S. Allies, Partners, and Other Countries Said About a New START Extension?

¹¹⁵ Dubois, Kalwani, and Vaddi, sec. What Have U.S. Allies, Partners, and Other Countries Said About a New START Extension?

¹¹⁶ Reif and Bugos, “U.S., Russia Extend New START for Five Years,” para. 4.

¹¹⁷ Heather A Conley et al., “The Future of U.S.-Russian Arms Control: Principles of Engagement and New Approaches” (Washington, D.C.: Center for Strategic and International Studies, March 2021), 1.

the treaty encompasses only a part of the “security equation.”¹¹⁸ According to the Center for Strategic and International Studies, at this time, “missile defense, new weapons systems, space-based assets, and advanced technologies” are not bound by conditions set forth in arms-control treaties.¹¹⁹ Russia’s Sarmat and Avangard hypersonic nuclear-capable missiles are among several tactical weapons and delivery systems that the United States has expressed concern over, even though Russia promised they would be covered by New START.¹²⁰ From Russia’s standpoint, it would like future talks to incorporate “U.S. missile defenses, hypersonic weapons, missiles formerly prohibited by the INF Treaty, and the inclusion of France and the United Kingdom in arms control measures.”¹²¹

For both the United States and Russia, there is cause for alarm concerning the capabilities possessed by nuclear-armed states who are not party to any current arms-control agreements.¹²² Prior to the completion of the New START extension, former U.S. President Donald Trump’s administration insisted that China be included in trilateral arms-control talks as a necessary precondition for a New START agreement.¹²³ That request ultimately fell through as China’s government refused to enter into any negotiations that would include reducing its much smaller nuclear arsenal. Russia has maintained that future nuclear arms-control measures should include France and the United Kingdom.¹²⁴ In statements made to Russia’s largest news agency, TASS, Russian Deputy Foreign Minister Sergei Ryabkov said “as an essential element of our position on the future of nuclear arms-control, we insist that the United States’ closest NATO allies possessing nuclear weapons should join these hypothetical talks. They are France and the United Kingdom... we make

¹¹⁸ Conley et al., 1.

¹¹⁹ Conley et al., 1.

¹²⁰ Reif and Bugos, “U.S., Russia Extend New START for Five Years,” para. 26.

¹²¹ Reif and Bugos, para. 26.

¹²² Conley et al., “The Future of U.S.-Russian Arms Control: Principles of Engagement and New Approaches,” 1.

¹²³ Reif and Bugos, “U.S., Russia Extend New START for Five Years,” para. 19.

¹²⁴ “Russia’s Priority Is to Involve UK, France in Future Nuclear Arms Control Talks — Diplomat,” TASS Russian News Agency, accessed June 16, 2021, <https://tass.com/politics/1172109>.

no secret that this is our priority.”¹²⁵ The senior Russian diplomat further stated that the government had long contended that following the extension of New START, it would be necessary to develop a multilateral nuclear-arms-control process. Highlighting the upper limits of 1,550 warheads as set forth by the treaty, he explained “further hypothetical reductions in this sphere are possible only if the corresponding arsenals of other countries are duly taken into account in this process.”¹²⁶

For its part, the European nuclear-weapons states—France and the United Kingdom—have underscored the independent nature of their respective nuclear arsenals and hesitated to include them in any strategic arms-control framework during the Cold War and following the collapse of the Soviet Union.¹²⁷ In response to Soviet and later Russian demands to include the European arsenals in a new arms-control framework, France and the United Kingdom maintained that they had already significantly reduced the total number and qualitative strength of their nuclear weapons since the conclusion of the Cold War.¹²⁸ The European nuclear states appear to generally support arms-control; however, they may have doubts as to whether the security interests of European countries are receiving enough focus when the United States and Russia discuss nuclear arms-control measures and future initiatives.

D. WHAT THE ARMS-CONTROL COMMUNITY DESIRES

The arms-control community has bemoaned the dissolution of the INF Treaty, because its downfall runs the risk of increased proliferation of U.S. and Russian medium-range land-based ballistic missiles.¹²⁹ When determining how France and the United

¹²⁵ “Russia’s Priority Is to Involve UK, France in Future Nuclear Arms Control Talks — Diplomat,” para. 2.

¹²⁶ “Russia’s Priority Is to Involve UK, France in Future Nuclear Arms Control Talks — Diplomat,” para. 4.

¹²⁷ Kulesa, “The Crisis of Nuclear Arms Control and Its Impact on European Security,” 3.

¹²⁸ Kulesa, 3.

¹²⁹ Sharon Squassoni, “Trump Appointee Wants ‘Arms Control for Adults.’ Experts Couldn’t Agree More.,” *Bulletin of the Atomic Scientists* (blog), March 2020, <https://thebulletin.org/2020/03/a-top-us-officials-straw-man-critique-of-arms-control-experts-explained/>.

Kingdom could contribute to multilateral arms-control, it is important to identify Russia's motivations for violating the former INF treaty. Factors that could have contributed to Russia's calculation to abandon the limits in the agreement include: its perception of gaining a conventional military advantage in Europe; desire to sow division among NATO allies; the need to respond to growing threats emanating from China; the accommodation of domestic bureaucratic or technological momentum; or desires to change its strategy and military doctrine to bolster strategic deterrence.¹³⁰

According to Sharon Squassoni, a research professor at the Institute for International Science and Technology Policy, the arms-control community desires sensible international security, and argues states should take measures to reduce nuclear-weapons stockpiles, stop building up missiles and delivery platforms, limit antagonistic behavior, and reduce the greatest risks concerning the current nuclear paradigm.¹³¹ For example, in December 2020, the Union of Concerned Scientists (UCS) expressed its support for U.S. Congress withholding the necessary funding required for the United States to conduct its first nuclear-weapons test in nearly thirty years.¹³² This is an outcome that UCS experts worked meticulously on to ensure no measures were taken to resume explosive underground nuclear-weapons testing.

Building on the recent extension of New START, the arms-control community wishes for the United States to work together with Russia to figure out how to improve the global security environment. This is not just limited to matters related to nuclear conflict, but also “codes of conduct in space and cyberspace... [and] a moratorium on new land-based nuclear-capable missiles”.¹³³ The Center for Arms Control and Non-Proliferation

¹³⁰ Fitzsimmons, “Russian Strategy and the End of the INF Treaty,” 122–28.

¹³¹ Squassoni, “Trump Appointee Wants ‘Arms Control for Adults.’ Experts Couldn’t Agree More.,” para. 14.

¹³² “No Nuclear Weapons Testing Funding in Annual Defense Bill,” Union of Concerned Scientists, December 3, 2020, <https://www.ucsusa.org/about/news/no-nuclear-weapons-testing-funding-annual-defense-bill>.

¹³³ Squassoni, “Trump Appointee Wants ‘Arms Control for Adults.’ Experts Couldn’t Agree More.,” para. 13.

further affirms that a New START extension provides the best opportunity for the United States and Russia to resume negotiations and “expand on further mutual reductions and other areas of concern, including non-strategic nuclear weapons, missile defenses, and other emerging technologies.”¹³⁴ Lastly, there is an open acknowledgement in the arms-control community that the nuclear threats facing the United States may require a multilateral approach and the cooperation of many parties.¹³⁵

Ambassador Marc Finaud, former French diplomat and head of Arms Proliferation at Geneva Center for Security Policy, recognizes there is a loose consensus among those in the arms-control community that a world free of nuclear weapons in the future should be the ultimate goal; however, there are disagreements as to the timeframe and means for achieving this objective.¹³⁶ According to Finaud, to date, approaches to achieve nuclear disarmament have not reached their full potential because the initiatives have been negotiated “in isolation from global and regional security environments.”¹³⁷ Therefore, a new security construct should be pursued in order to “reconcile nuclear powers’ security doctrines with global aspirations for a safer world and ensure that nuclear powers derive their security from mutually-beneficial cooperative security.”¹³⁸

E. CONCLUSION

In the past, New START and the INF Treaty have provided an important layer of security throughout the European region.¹³⁹ Today, the world is facing a series of new

¹³⁴ “Russia,” Center for Arms Control and Non-Proliferation, accessed October 3, 2021, <https://armscontrolcenter.org/issues/russia/>.

¹³⁵ Squassoni, “Trump Appointee Wants ‘Arms Control for Adults.’ Experts Couldn’t Agree More.,” para. 14.

¹³⁶ Marc Finaud, “Cooperative Security: A New Paradigm For A World Without Nuclear Weapons?,” *Cadmus* 2, no. 1 (October 2013): 1, <http://www.proquest.com/docview/1628542389/abstract/F9BD27471BE5458APQ/1>.

¹³⁷ Finaud, 1.

¹³⁸ Finaud, 1.

¹³⁹ Oliver Meier, “European Security and the Future of the INF Treaty,” *Sicherheit Und Frieden (S+F) / Security and Peace* 36, no. 2 (2018): 74, <http://www.jstor.org/stable/26505492>.

challenges that threaten the stability of not only the European region, but the world at large. The dissolution of the INF Treaty, the ongoing crisis in Ukraine, and deteriorating Western/Russian relationship has raised concerns that Europe could become a battleground in which the employment of nuclear-weapon systems becomes a real possibility. In addition to the challenges posed from a military standpoint, the impasse between the West and Russia also creates numerous political and geopolitical obstacles for France and the United Kingdom, NATO allies, and EU to overcome.

If an opportunity presents itself to include France and the United Kingdom in developing a new arms-control approach, the direction in which the new strategic stability construct is established would depend on several internal and external factors.¹⁴⁰ Beyond the challenge of adding new actors to a future strategic arms-control-construct, the primary hurdles to attain strategic stability include identifying capabilities and weapons to be incorporated in any hypothetical agreement, and assurances that future violations would not occur.¹⁴¹ The following chapter will examine areas in which France and the United Kingdom could potentially enter into multilateral arms-control negotiations and have an impact on influencing the United States and Russia to limit or reduce their respective nuclear arsenals.

¹⁴⁰ Kulesa, “The Crisis of Nuclear Arms Control and Its Impact on European Security,” 6.

¹⁴¹ Kulesa, 7.

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III. AREAS OF POTENTIAL COOPERATION AND MULTILATERAL ARMS CONTROL INFLUENCE

A. INTRODUCTION

If the desired end goal is to move towards a world free of nuclear weapons, France and the United Kingdom have several diplomatic, economic, and military initiatives they could independently or jointly pursue. These initiatives have the potential to not only influence Russia and the United States into reduction or disarmament agreements, but also set a precedent for other nuclear countries, such as China to join in the future. This chapter will examine six identified areas that France and the United Kingdom can explore in the event they choose to take a proactive role in multilateral arms control. These areas could be hypothetically pursued as independent campaigns, in combination with each other, or as part of a larger collective; however, the likelihood of engaging each option will depend on the desires of the state and the strategic environment at the time of the pursuit. In the two subsequent chapters of this thesis, the French and British nuclear arsenals, policies, and arms control efforts to date will be analyzed to identify what roles France and the United Kingdom would like to play in multilateral arms control moving forward. This will ultimately inform the findings of how likely France and the United Kingdom are to engage in such arms-control measures outlined in this chapter.

B. FRAMING THE STRATEGIC ENVIRONMENT

For France and the United Kingdom, the historic U.S.-Russian arms-control construct established a reliable framework in which they could maintain and plan for the employment of their own respective nuclear forces.¹⁴² However, the Cold War nuclear-arms-control construct that began as a United States/Soviet Union endeavor is now in crisis, with no telling how the future will unfold.¹⁴³ The overall number of nuclear warheads has dropped over the past several years, a reality primarily attributable to the

¹⁴² Kulesa, 8.

¹⁴³ Kulesa, 1.

United States and Russia dismantling retired warheads.¹⁴⁴ Despite the progress made in reducing nuclear-weapon totals since the end of the Cold War, the combined inventory of nuclear warheads around the world remains very high: As of mid-2021, a total of nine countries—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea—hold close to 13,150 warheads.¹⁴⁵ Instead of a model consisting entirely of Russian and American strategic nuclear forces, today’s international strategic model is a multi-player and multi-domain construct.¹⁴⁶ Third-party countries with emerging nuclear capabilities like China and North Korea are of concern, and a potential nuclear arms race between Pakistan and India is alarming; however, the sheer amount weapons possessed by the United States and Russia has the potential to be the greatest threat to global security if their bilateral relationship continues to deteriorate. According to the Arms Control Association, the nuclear weapon inventories of these two states account for approximately 91 percent of the warheads in the world today.¹⁴⁷

Despite the relatively modest arsenals the two Western European nations possess, they still represent a significant military capability that Russia (and, to a lesser extent, the United States) cannot ignore. As a result of the international security crisis generated by the lack of nuclear arms-control treaties between the United States and Russia, EU member states face negative security consequences. To date, Europe’s nuclear powers have largely remained passive observers rather than active players in directly addressing the arms-control construct.¹⁴⁸ The following initiatives are areas that France and the United Kingdom can explore to have an impact.

¹⁴⁴ “World Nuclear Forces,” in *SIPRI Yearbook 2021: Armaments, Disarmament and International Security*, 52nd ed. (Solna, Sweden: Oxford University Press, 2021), 333, https://sipri.org/sites/default/files/2021-06/yb21_10_wnf_210613.pdf.

¹⁴⁵ Hans M. Kristensen and Matt Korda, “Status of World Nuclear Forces,” *Federation of American Scientists* (blog), May 2021, <https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>.

¹⁴⁶ Steven Pifer, “Nuclear Arms Control in the 2020s,” *Brookings* (blog), April 2021, <https://www.brookings.edu/blog/order-from-chaos/2021/04/08/nuclear-arms-control-in-the-2020s/>.

¹⁴⁷ Davenport and Kingston, “Nuclear Weapons: Who Has What at a Glance.”

¹⁴⁸ Kulesa, “The Crisis of Nuclear Arms Control and Its Impact on European Security,” 1.

C. MULTILATERAL ARMS-CONTROL INITIATIVES

1. Propose to Negotiate Numerical Limits

France and the United Kingdom could engage the United States and Russia to discuss numerical limitations within a new multilateral framework. Future arms control agreements between nuclear weapon states could focus on specific warheads, or all of them in order to minimize the chances of an arms breakout while simultaneously enhancing verification methods across the entire spectrum of nuclear capabilities.¹⁴⁹ In order for all parties to agree on mutually reinforcing numerical limitations and reductions, China—due to its rise in nuclear capability—would likely need to be included in any hypothetical treaty if Russia and the United States were to agree on such measures. Certainly, parameters would need to be determined such as what types of nuclear weapons to be included in any treaty—or potentially include them all—and whether the states would be willing to accept equal limitations.¹⁵⁰ Inevitably, a multilateral framework would require agreed-upon definitions of nuclear weapons, and have them separated into categories in order to account for strategic and non-strategic nuclear weapons.¹⁵¹ Additionally, it would also necessitate invasive inspection and verification measures that exceed those set forth in the New START in order to keep track of the warheads that are not currently mated to delivery systems.¹⁵²

To date, equal limitations on nuclear inventories have been a hallmark of U.S. and Russian nuclear arms-control treaties. This is largely due to their relatively equal status as nuclear powers. The total number of U.S. and Russian nuclear weapons each account to nearly 20 times the amount of the United Kingdom's stockpile, and approximately 15 times

¹⁴⁹ Mark Melamed, "Multilateral Steps to Reduce Nuclear Risks," U.S. Nuclear Policies for a Safer World (Washington, D.C.: Nuclear Threat Initiative, June 2021), 19, <https://www.nti.org/analysis/articles/us-nuclear-policies-safer-world/>.

¹⁵⁰ Pifer and Tyson, "Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control," 28–29.

¹⁵¹ Pifer and Tyson, 29.

¹⁵² Pifer and Tyson, 29.

the size of France and China's.¹⁵³ Therefore, the most plausible way to reach an agreement would involve an unequal limits approach. In continuing with the paradigm of past treaties, the United States and Russia could accept equal limitations with each other, unless Russia were to mandate the incorporation of Great Britain and France's nuclear forces into a collective western total, given that they are allied partners within NATO.¹⁵⁴ Logically, it makes sense that France and the United Kingdom would agree to equal limitations due to their partnership and near-equal stockpiles; however, determining where China fits into the equation would prove to be difficult in any potential negotiation. France and the United Kingdom could unilaterally place a cap on their nuclear stockpiles or do so through mutually reinforcing political commitments depending on what actions Russia and the United States take.¹⁵⁵ Each state's respective warhead cap should be close to or below each one's current inventory in order to encourage the United States and Russia to further reduce theirs, and ultimately prevent conditions that foment an arms race.¹⁵⁶

Alternatively, declaring a moratorium on the production of plutonium and highly enriched uranium could prove to be a mutually beneficial agreement for all parties, even if it is not a long-term solution.¹⁵⁷ Indeed, the potential exists that it could serve as the beginning of a framework for more stabilizing measures in the future. Among the NWS, only China has not yet declared such a moratorium due to concerns that it could not properly retaliate against the United States in the event it was threatened.¹⁵⁸ As it pertains to a Fissile Material Cutoff Treaty (FMCT), France and the United Kingdom could convince China that a unified P5 declaration would increase pressure on other key states to join, particularly Pakistan who for years has thwarted the consensus required by the

¹⁵³ Pifer and Tyson, 29.

¹⁵⁴ Pifer and Tyson, 29.

¹⁵⁵ Melamed, "Multilateral Steps to Reduce Nuclear Risks," 48.

¹⁵⁶ Melamed, 48.

¹⁵⁷ Melamed, 49.

¹⁵⁸ Pifer and Tyson, "Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control," 33.

Conference on Disarmament to ratify a FMCT.¹⁵⁹ If all five NWS agreed on a cut off limit, then other states could feel inclined to follow suit which would pave the way for future multilateral negotiations on a formal FMCT.

2. Improve Transparency Initiatives and Confidence-Building Measures

France and the United Kingdom could implement transparency measures to improve the level of confidence among the NWS. This could include processes such as the inclusion of inspection activities like those provided for in New START.¹⁶⁰ According to the conditions outlined in New START, the United States and Russia exchange pertinent data with each other on a biannual basis, including “intercontinental ballistic missile and submarine-launched ballistic missile launchers and deployed and nondeployed heavy bombers equipped to carry nuclear armaments.”¹⁶¹ From the standpoint of the British and French, engaging in this type of data exchange would not be too difficult since the majority of their nuclear weapons consist of SLBMs that operate on submarines at naval bases that are well-known to the public.¹⁶² France and the United Kingdom could agree to enter into the same data exchange interface New START uses, a modified version, or create a new multilateral system to enter and exchange such data. Additional sharable data could include: the precise locations of nuclear arms production facilities, what exactly those locations are producing, the commissioning and decommissioning plans of nuclear weapons and their delivery systems, intentions to conduct major exercises, and the start or completion of nuclear arms-related production efforts. A secondary benefit to exchanging data is that it would grant each state the opportunity to exercise their respective intelligence service’s capacity to accurately estimate and corroborate each other’s nuclear forces.¹⁶³ If

¹⁵⁹ Pifer and Tyson, 33.

¹⁶⁰ Pifer and Tyson, 31.

¹⁶¹ Amy F Woolf, “The New START Treaty: Central Limits and Key Provisions” (Washington, D.C.: Congressional Research Service, February 2, 2022), sec. Summary, <https://sgp.fas.org/crs/nuke/R41219.pdf>.

¹⁶² Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 31.

¹⁶³ Pifer and Tyson, 31.

all sides were being honest and transparent, then the action of each state independently verifying the accuracy of the data exchanged could be an important step towards improving trust and confidence among them. Any discrepancies or misleading information that is identified based on the exchanged data can then be addressed accordingly.

Another method to consider would be France and the United Kingdom agreeing to provide test launch notification measures for planned missile launches, and directly sharing them with their fellow NWS.¹⁶⁴ This could provide an opportunity to demonstrate that they are committed to testing their weapons without leaving room for misinterpretation. Lastly, the United Kingdom and France could propose that all NWS agree to de-mate and split warheads from their respective delivery systems from a predetermined portion of their nuclear arsenals.¹⁶⁵ Lowering the readiness status of some of these weapons could be a way to reduce tensions and decrease alert levels while still maintaining the ability to employ their arsenals if necessary. In summary, building confidence and rapport regarding the accurate estimates of the NWS nuclear forces could prove to be an appropriate starting point towards creating a legally binding treaty that requires compliance within agreed-upon numerical limits.¹⁶⁶

3. Establish a Multilateral Commission to Create a Norms-based Strategy

France and the United Kingdom could promote the establishment of a commission, joint enterprise, or working group consisting of officials—equal in status—among the respective nuclear state governments to initiate a routine series of discussions with the goal of establishing mutually agreed upon norms. The benefit of employing a norms-building methodology, is that unlike numbers, norms would apply to all parties and are not predicated on a hierarchical system.¹⁶⁷ Additionally, from a political standpoint, the

¹⁶⁴ Pifer and Tyson, 32.

¹⁶⁵ Pifer and Tyson, 32.

¹⁶⁶ Pifer and Tyson, 31.

¹⁶⁷ Michael Krepon, “Norms for Nuclear-Armed Rivals,” *Stimson Center* (blog), February 2021, para. 7, <https://www.stimson.org/2021/norms-for-nuclear-armed-rivals/>.

history of nuclear arms-control initiatives suggests it may be a more practical option to prohibit the use of nuclear weapons rather than get rid of the arsenals altogether.¹⁶⁸ If a multilateral commission were established, the issues up for discussion could include geopolitical matters that impact international security, the emergence of new technologies (i.e., hypersonic glide vehicles), and a review of doctrines concerning the intent of how each respective state intends to maintain and employ nuclear forces.¹⁶⁹ This diplomatic approach is one way to reduce uncertainty, overcome misperceptions, directly address concerns about each other's arsenals, and identify areas of mutual cooperation. As author and co-founder of the Stimson Center, Michael Krepon notes, diplomatically strengthening key norms has the added benefit of succeeding during times of severe domestic partisanship dissension, which has proven to be a challenge in maintaining treaties in the past.¹⁷⁰

There is some precedent for proposing a multilateral forum as a path towards nuclear disarmament. Former U.S. Secretary of State, George Shultz has suggested that a joint enterprise could create a path towards nuclear disarmament in the future.¹⁷¹ Secretary Shultz suggests that in addition to the NWS, the group of participating states could include “at least some non-nuclear weapons states” with strong civil nuclear programs and be requested to contribute “house gifts” such as promises to take affirmative action that moves the world towards becoming free of nuclear weapons.¹⁷² A forum like the one Secretary Shultz proposes could serve as the impetus towards securing more productive arrangements and agreements in the future.

¹⁶⁸ Nik Hynek and Michal Smetana, eds., *Global Nuclear Disarmament Strategic, Political, and Regional Perspectives*, Routledge Global Security Studies (London: New York : Routledge, Taylor & Francis Group, 2016), 108.

¹⁶⁹ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 33.

¹⁷⁰ Krepon, “Norms for Nuclear-Armed Rivals,” para. 7.

¹⁷¹ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 34.

¹⁷² Pifer and Tyson, 34.

Even in the absence of new treaties or established numerical limitations, creating a multilateral commission to develop a norms-based strategy to reduce nuclear danger has the potential to succeed in other ways. Indeed, norms have proven to have greater longevity than treaties and have shown to be more successful than deterrence because they are not grounded in aggressive posturing against one another.¹⁷³ This can prove to be successful because all NWS can benefit from bolstering norms, and it is unlikely that any nuclear power wants to cross the point of no return and launch an attack first.¹⁷⁴ This stance was recently reiterated in a joint statement released on January 3, 2022, when the leaders of China, France, Russia, the United Kingdom, and the United States stated their mutual desire to prevent a nuclear war and avoid an arms race while not aiming nuclear devices at each other.¹⁷⁵ The NWS declared that they consider the avoidance of war between each other and the reduction of strategic risks as some of their foremost responsibilities, and jointly stated “we affirm that a nuclear war cannot be won and must never be fought.”¹⁷⁶

Various experts working in global nuclear policy support the notion of establishing a multilateral working group. Michael Krepon notes that a multilateral approach might actually “open doors” for bilateral talks that are “now closed or barely ajar.”¹⁷⁷ Krepon states that while the United Kingdom and France are not involved in any direct nuclear rivalries, their participation in a multilateral format could be productive in generating a positive outcome.¹⁷⁸ Additionally, Krepon states that multilateral discussions would be more constructive if bilateral disputes were omitted from these discussions. This would better facilitate progress on joint initiatives that are not weighed down by bilateral

¹⁷³ Krepon, “Norms for Nuclear-Armed Rivals,” para. 6.

¹⁷⁴ Krepon, para. 7.

¹⁷⁵ “Joint Statement of the Leaders of the Five Nuclear-Weapon States on Preventing Nuclear War and Avoiding Arms Races,” The White House, January 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/p5-statement-on-preventing-nuclear-war-and-avoiding-arms-races/>.

¹⁷⁶ “Joint Statement of the Leaders of the Five Nuclear-Weapon States on Preventing Nuclear War and Avoiding Arms Races,” para. 2.

¹⁷⁷ Krepon, “Norms for Nuclear-Armed Rivals,” para. 12.

¹⁷⁸ Krepon, para. 13.

disagreements. Senior Director of the Nuclear Threat Initiative's Global Nuclear Policy Program, Mark Melamed believes that the NWS should agree on a plan that includes frequent discussions to iteratively build momentum towards a solution, rather than keep moving forward with annual meetings that typically fail to produce anything past each side sharing their prepared talking points.¹⁷⁹ Melamed further suggests that the agenda should lay out risk reduction measures to include avenues that deconflict and reduce tensions while avoiding the potential for miscalculation in a time of crisis¹⁸⁰ Progress made in a diplomatic, multilateral forum could potentially build confidence among the NWS and pave the way for productive bilateral negotiations in the future between the United States and Russia, and set grounds for them to take the initiative and start the process of formal reductions.

4. Engage International Organizations and Regimes

France and the United Kingdom could turn their efforts towards influencing international security organizations or political unions. If France and the United Kingdom deemed that working with the United States and/or Russia directly to be an unproductive endeavor, they could elect to either lobby or provide funding to larger organizations to further the disarmament agenda. It may also hold greater weight if they negotiate their respective nuclear weapon prospects through NATO rather than individually or as a tandem.

France and the United Kingdom can attempt to lobby the EU or NATO to promote a negotiation campaign. Two experts in the field of negotiations, David Lax and Jim Sebenius argue that implementing a negotiation campaign can be an effective means to overcome challenges associated with striking or maintaining an individual deal that does not have the potential to succeed due to connections between the issue at hand and issues related to other hypothetical agreements.¹⁸¹ Given the inherent mistrust in the bilateral

¹⁷⁹ Melamed, "Multilateral Steps to Reduce Nuclear Risks," 48.

¹⁸⁰ Melamed, 47.

¹⁸¹ Bell, "Why Europe Matters: The Case for an Arms Control Negotiation Campaign," sec. From Subsidiary Deals to a Negotiation Campaign.

U.S.-Russia, and trilateral U.S.-Russia-China relationship, a European-led campaign can serve as an alternative avenue to pursue mutually-beneficial areas to change or improve current nuclear agreements. For example, Arvid Bell, a scholar and entrepreneur specializing in complex conflict analysis, negotiation strategy, and international security at Harvard University outlines a six-step negotiation campaign that the EU could implement.¹⁸² Bell's campaign or a similar iterative process could help address multiple arms control disputes by directly addressing underlying concerns among all NWS as well as the interests of other secondary parties. To summarize, Bell suggests EU diplomats should:

1. "Envision the ultimate target deal" with more practical and sustainable ambitions
2. "Decide how a European arms control campaign will influence this target deal"
3. "Identify and characterize all key players"
4. "Group the parties into fronts" or collections that share similar arms control interests
5. "Assess interdependence among fronts"
6. "Decide how to orchestrate the process among fronts"¹⁸³

Separately, there is an opportunity for France and the United Kingdom to leverage the P5 process and lobby the other three members to create a new arms-control paradigm within the process. Former deputy secretary general of NATO and undersecretary for Arms Control and International Security at the U.S. Department of State, Rose Gottemoeller states that "there has been a certain maturation of the P5 process" and that "arms control is

¹⁸² Bell, sec. From Subsidiary Deals to a Negotiation Campaign.

¹⁸³ Bell, sec. From Subsidiary Deals to a Negotiation Campaign.

part of the spectrum of deterrence and defense.”¹⁸⁴ Generating nuclear arms reduction initiatives through an established institution like the P5 could improve stability, generate more dialogue, and link nuclear disarmament incentives with improved security conditions under a proven and sustainable process.¹⁸⁵

While currently none of the NWS support the recently entered-into-force Treaty on the Prohibition of Nuclear Weapons (TPNW), France and the United Kingdom could lobby the treaties’ signatories to address aspects of its framework that could transform it into a practical arms-control solution for all of the NWS to enter into. Upon the TPNW’s entry into force, NATO claimed that “the treaty was at odds with the existing non-proliferation and disarmament architecture ... [and the] legal debate has centered on whether the TPNW directly contradicts the NPT.”¹⁸⁶ Politically, the United States, France, the United Kingdom, and their NATO allies disagree with the terms of the TPNW because its wording effectively prohibits nuclear deterrence and NATO’s nuclear sharing agreements, and these conditions are largely incompatible with NATO’s deterrence strategy.¹⁸⁷ As Clara Portela, senior associate analyst at the EU Institute for Security Studies suggests, part of an agenda to repair the perceived shortcomings of the TPNW should include aspects of the agreement that remain ambiguous and generate confusion.¹⁸⁸ These lines of effort include determining the body responsible for verification, identifying the link to the CTBT, and dispelling misconceptions about the agreement’s adversarial relationship to the NPT, particularly the interpretation of the subordination clause.¹⁸⁹ Separately, according to former U.S. Ambassador Laura Kennedy, the NWS can work to “identify areas of common

¹⁸⁴ William M. Moon, “Beyond Arms Control: Cooperative Nuclear Weapons Reductions – A New Paradigm to Roll Back Nuclear Weapons and Increase Security and Stability,” *Journal for Peace and Nuclear Disarmament* 3, no. 1 (January 2, 2020): 111, <https://doi.org/10.1080/25751654.2020.1732516>.

¹⁸⁵ Moon, 110.

¹⁸⁶ Clara Portela, “The EU’s Arms Control Challenge: Bridging Nuclear Divides,” Chaillot Paper (Paris: European Union Institute for Security Studies., April 2021), 34, <https://data.europa.eu/doi/10.2815/424755>.

¹⁸⁷ Portela, 34.

¹⁸⁸ Portela, 38.

¹⁸⁹ Portela, 38.

endeavor with the countries that have ratified the TPNW” and “build on efforts such as the International Partnership for Nuclear Disarmament Verification and possibly extend and reconfigure the Creating the Environment for Nuclear Disarmament initiative.”¹⁹⁰

5. Take Unilateral Action to Reduce Nuclear Inventories

France and the United Kingdom could elect to take further unilateral measures to reduce their nuclear forces. Each state could independently or as a tandem declare measures to reduce some or all of its nuclear stockpiles independently or in parallel with other nuclear-armed states.¹⁹¹ This can potentially be done outside of the constraints of a legally binding agreement. If all other attempts to influence Russia and the United States fail or efforts to establish negotiations do not prove to be fruitful, the unilateral action option could prove to be less antagonistic than a pressure campaign and leaves room to reduce arsenals iteratively. For example, France can unilaterally agree to reduce one leg of its nuclear employment method and eliminate all of its air-launched delivery methods, which would relegate its posture similar to that of the British who only rely on a single-delivery system.

In the spirit of negotiating numerical limits as proposed earlier in this chapter, France and the United Kingdom may identify areas to negotiate a numerical cut-off among themselves, which could potentially be adopted by other states in the future. France, the United Kingdom, and possibly the United States, could jointly declare that they would agree to mutually reinforcing numerical limitations with Russia and/or China.¹⁹² If a baseline starting point could be established there, negotiators among the nuclear states—or through NATO—could determine appropriate measures to then verify the limitations

¹⁹⁰ Laura Kennedy, “With New START Extended, What Is Future of US-Russian Arms Control? - Russia Matters,” Harvard Kennedy School: Belfer Center for Science and International Affairs, February 5, 2021, <https://russiamatters.org/analysis/new-start-extended-what-future-us-russian-arms-control>.

¹⁹¹ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 34.

¹⁹² Heather A Conley et al., “The Future of U.S.-Russian Arms Control,” Principles of Engagement and New Approaches (Center for Strategic and International Studies, March 2021), 5.

which could prove to be an effective first step in building trust and moving towards effective arms control without the use of formal treaties to begin with.¹⁹³

6. Pressure and Incentivize the United States and Russia

The final area that France and the United Kingdom could influence the nuclear arms-control architecture is to pressurize or incentivize the United States and Russia into taking actions that lead towards disarmament. This can be carried out independently, in unison, or through an organization, such as the EU. As it pertains to the United States, France and the United Kingdom could agree to increase their defense budgets towards collective defense or support specific U.S. policies deemed advantageous to the Americans, such as curbing the influence of China.¹⁹⁴ An alternative angle France and the United Kingdom could take with the United States could include the threat of reducing the level of cooperation in the event of continued stalled bilateral U.S.-Russian arms control negotiations. This would not necessarily be limited to just security cooperation but could also involve the EU's nuclear sharing agreements. For example, France and the United Kingdom could lobby the EU to request the removal of U.S. nuclear weapons or specific strategic installations, such as missile defense or early warning facilities from their soil.¹⁹⁵

There are several options France and the United Kingdom could take to pressure Russia. For one, they could double down their efforts to host U.S. intermediate-range missiles or potentially even field their own to curb Russia's offensive posture in the region.¹⁹⁶ Seeing as both the United States and Russia have withdrawn from the conditions set forth within the INF Treaty, this is a policy option that would remain on the table as long as there is no agreement limiting intermediate-range missiles in the European theater. Separately, in conjunction with the United Kingdom's own measures, France could influence the EU to implement a new series of sanctions against Russia to force them to

¹⁹³ Conley et al., 5.

¹⁹⁴ Kulesa, "The Crisis of Nuclear Arms Control and Its Impact on European Security," 11.

¹⁹⁵ Kulesa, 11.

¹⁹⁶ Kulesa, 11.

the table. The implementation of sanctions to further non-proliferation objectives can be found in the EU's programmatic document, *Basic Principles for the Use of Restrictive Measures*.¹⁹⁷ The document stipulates that "the Council will impose autonomous EU sanctions in support of efforts to fight terrorism and the proliferation of weapons of mass destruction."¹⁹⁸ In the past, the EU has levied sanctions on actors to achieve a wide-array of foreign policy objectives to include: deterring human rights violations (i.e., against Iran), punishing illegal and aggressive territorial land grabs (i.e., Russia's annexation of Crimea), and preventing the spread and development of nuclear weapons (i.e., against the North Korean regime).¹⁹⁹ Conversely, lifting currently imposed economic sanctions could be an option for bringing Russia to the negotiating table as well. In this manner, diplomats from the EU could draw on their experience gained through the Iran Joint Comprehensive Plan of Action nuclear negotiations when they discussed the lifting of sanctions and access to financial systems.²⁰⁰

France and the United Kingdom have several other incentivization and pressure options available to them. For one, they could reach an understanding to not engage in specifically identified nuclear-related missile development programs and connect those with an evaluation of EU-imposed sanctions.²⁰¹ Separately, for negotiation purposes, they could openly declare their support to include their respective stockpiles into the U.S. arsenal, and publicly declare that future arms-control discussions can be viewed as a binary Western-Russian construct. While this would certainly please the Russians, it is unlikely

¹⁹⁷ Clara Portela, "The EU's Evolving Responses to Nuclear Proliferation Crises: From Incentives to Sanctions," *Non-Proliferation Papers* (Stockholm: SIPRI, July 2015), 3, <https://www.sipri.org/publications/2015/eu-non-proliferation-papers/eus-evolving-responses-nuclear-proliferation-crises-incentives-sanctions>.

¹⁹⁸ Portela, 3.

¹⁹⁹ Geneva Forwood et al., "The Guide to Sanctions - Second Edition: EU Restrictive Measures," *Global Investigations Review*, July 2021, sec. Sanctions as a tool to achieve foreign policy objectives, <https://globalinvestigationsreview.com/guide/the-guide-sanctions/second-edition/article/eu-restrictive-measures#footnote-031-backlink>.

²⁰⁰ Bell, "Why Europe Matters: The Case for an Arms Control Negotiation Campaign."

²⁰¹ Kulesa, "The Crisis of Nuclear Arms Control and Its Impact on European Security," 11.

that the British and French would want to relinquish any of their leverage or prestige as independent NWS.

As Lukasz Kulesa, researcher at the Polish Institute of International Affairs and senior associate at the European Leadership network states, given the importance of the transatlantic relationship with the United States and its impact on European security policies, it is difficult to imagine France and the United Kingdom would pursue a pressure campaign on the United States.²⁰² France and the United Kingdom may not be in a position to threaten the United States and/or Russia with ultimatums, and they certainly do not have nuclear arsenals nearly large enough to stack up against either. However, they could elect to pursue this choice if other options fail or if they perceive the situation calls for it due to unforeseen circumstances like a change in status of its relations.

D. CONCLUSION

This chapter explored several diplomatic, economic, and military avenues France and the United Kingdom could explore to enter the multilateral arms control construct. The more important and relevant question to this thesis is “how likely are they to do so?” While there is evidence to suggest both states have made commitments towards disarmament and have a shared desire to move towards a world free of nuclear weapons, there are aspects of their policies and actions that require further examination to determine whether they are willing to make further concessions to achieve global disarmament. Additionally, their nuclear policies and actions in the past will be indicative if they are truly capable or interested in taking on such an endeavor. The following two chapters will examine France and the United Kingdom’s historical nuclear policies, current arsenals, arms-control efforts to date, and desires as independent states to determine the likelihood of them entering into a multilateral framework with the United States and Russia.

²⁰² Kulesa, 11.

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IV. FRANCE'S NUCLEAR POSITION

A. INTRODUCTION

With several economic, diplomatic, and military initiatives available for France to pursue, how likely is it to enter into a new, meaningful multilateral nuclear arms-control framework? Recognizing the unlikelihood of a breakthrough in arms-control negotiations between the United States and Russia, France is highly unlikely to undertake unilateral disarmament measures in the near-future. In recent developments, President Macron has established a more prominent voice within the EU and extended its nuclear-shield to the rest of Europe. For France, possessing nuclear weapons is a matter of status and prestige within the European region and on the international stage. Until the two nuclear superpowers—United States and Russia—bring down their respective arsenals, France is unlikely make any concessions on its own stockpile. However, France does appear to be willing to build on disarmament steps already taken—such as multilateral forums and implementing the NPT—and is willing to work towards establishing and expanding on cooperative initiatives moving forward.

This chapter will examine France's historical policies, nuclear arsenals, current positions, and arms-control efforts in order to examine what has precluded it from entering into meaningful arms-control negotiations to date and determine the likelihood of it participating in the future. While France purportedly favors multilateral arms-control, this chapter suggests France believes its nuclear arsenal can serve as the primary deterrent for Europe's collective security and it is preparing to modernize its nuclear forces amid questionable long-term prospects for a productive transatlantic relationship with the United States and an increasingly assertive Russia.

B. HISTORICAL NUCLEAR PROGRAMS AND POLICIES

France's nuclear strategy has evolved over the course of the 20th century, and beyond. In the early 1950s, France started developing its nuclear-weapons program in an

attempt to close the military and political gap with the rest of the world.²⁰³ On February 13, 1960, France tested its first large nuclear device in Algeria—a French colony at the time—which officially solidified its status as the fourth nuclear-armed state.²⁰⁴ The nuclear test project was code-named “Gerboise Bleue” (Blue Desert Rat) and signified the first of 17 total nuclear weapons tests conducted in Algeria.²⁰⁵ With a blast capacity of nearly 70 kilotons, Gerboise Bleue was considerably large for a state’s initial nuclear test, about four times more powerful than the U.S.-dropped Hiroshima bomb.²⁰⁶ When Algeria successfully gained its independence in 1962, two new testing sites were established in French Polynesia and an additional 193 atmospheric and underground tests were carried out between 1966 and 1996.²⁰⁷ On January 27, 1996, France officially conducted the last of its 210 nuclear tests in French Polynesia. The final series of French nuclear tests triggered international protests to include the widespread boycotts of French-made commercial products.²⁰⁸ The international backlash surrounding the French nuclear tests occurred around the same time that the negotiations of the CTBT were being held in Geneva. France was one of the first countries to sign the 1996 CTBT and officially ratified the agreement in 1998.²⁰⁹

The traditional French position of employing its strategic forces was to target adversarial cities, and the objectives were measured in terms of total number of deaths

²⁰³ “Fact Sheet: France’s Nuclear Inventory,” Center for Arms Control and Non-Proliferation, March 2020, <https://armscontrolcenter.org/fact-sheet-frances-nuclear-arsenal/>.

²⁰⁴ “Arms Control Center: France,” Center for Arms Control and Non-Proliferation, accessed October 11, 2021, <https://armscontrolcenter.org/countries/france/>.

²⁰⁵ “13 February 1960 - The First French Nuclear Test,” Comprehensive Nuclear-Test-Ban Treaty Organization, accessed October 11, 2021, <https://www.ctbto.org/specials/testing-times/13-february-1960-the-first-french-nuclear-test>.

²⁰⁶ “13 February 1960 - The First French Nuclear Test.”

²⁰⁷ “Arms Control Center: France,” para. 1.

²⁰⁸ “13 February 1960 - The First French Nuclear Test.”

²⁰⁹ “Arms Control Center: France,” para. 1.

achieved through kinetic strikes.²¹⁰ Indeed, in 1961, Charles de Gaulle revealed in private conversation that the future intent of France's military was "to destroy 20 Russian cities," and identified Moscow, Leningrad, Kiev, and Odessa as key objectives.²¹¹ Specifically, Moscow was the primary objective of France's nuclear deterrent force, and the protection afforded by missile defenses in the 1980s had warranted the decision to move to acquiring multiple warheads.²¹² Indeed, while De Gaulle's primary concern was the security of France in the face of threats posed by the Soviet Union, France's possession of a nuclear bomb was a means of self-determination, and a way for it "to exist by ourselves and, in case of a drama, to choose our own direction."²¹³ If France was to depend on the United States or a defensive alliance like NATO to support its national defense, than De Gaulle viewed it as a loss of sovereignty and it weakened the posture of its foreign policy. Lastly, it was readily apparent that De Gaulle viewed possessing nuclear weapons as way to restore France's status as a legitimate power on the international stage.

Following the shutdown of its nuclear testing program in 1996, France made a series of changes that altered its posture as a nuclear state. Then-President Jacques Chirac ushered in a series of significant reforms to France's nuclear forces including: rolling back the number of French ballistic-missile submarines from five to four, decommissioning the outdated Mirage IVP strategic bombers, taking apart the Plateau d'Albion land-based ballistic missile system and also imploding the silos to effectively rescind France's possession of a nuclear triad.²¹⁴ Additionally, since the ratification of the CTBT, France has shut down and dismantled all of its nuclear testing sites, making it the only NWS to date carry out this action.²¹⁵ In 2009, the French Senate looked to make amends for past

²¹⁰ Bruno Tertrais, *French Nuclear Deterrence Policy, Forces and Future*, Fondation Pour La Recherche Stratégique 1, 2019, 35, <https://www.frstrategie.org/web/documents/publications/recherches-et-documents/2019/201901.pdf>.

²¹¹ Tertrais, 35.

²¹² Tertrais, 36.

²¹³ Tertrais, 9.

²¹⁴ "Arms Control Center: France," para. 2.

²¹⁵ "13 February 1960 - The First French Nuclear Test."

transgressions and passed a bill that formally recognized the detrimental effect of its nuclear testing program and authorized a compensation system for civilians and military veterans who were affected.²¹⁶

C. NUCLEAR ARSENALS

While France has scaled back its nuclear program since the Cold War ended, it still maintains a robust nuclear force that makes it an important global nuclear power. France deploys nuclear-powered submarines to maintain persistent at-sea presence, guaranteeing it a second-strike capability.²¹⁷ Additionally, France employs air-launched cruise missiles (ALCM) by way of land- and carrier-based aircraft. This makes France's dyad status as a European nuclear-armed state unique in that the British employs all of its nuclear-weapons on its fleet of SSBNs, while France determinedly continues to field air-launched nuclear weapons. The weapons delivered by France's air component is considered to be tactical by other nuclear-armed countries due to the armament's unique profile, such as limited ranges.²¹⁸ France's nuclear arsenal consists of an estimated 290 warheads, which has remained consistent over the past several years.²¹⁹ Of the 290 warheads, the majority of them are either currently deployed or ready to rapidly deploy on short notice.²²⁰ Additionally, a limited quantity of warheads remain in maintenance status in central storage.

France maintains its nuclear stockpile at a level of "strict sufficiency," meaning it currently does not possess the "capability to target all of an adversary's deployed nuclear forces" and is adjusted to meet the country's defensive needs at the time.²²¹ Currently, there is no information available to suggest France has considered altering its nuclear

²¹⁶ "13 February 1960 - The First French Nuclear Test."

²¹⁷ "Arms Control Center: France."

²¹⁸ "World Nuclear Forces," 363–65.

²¹⁹ Hans M. Kristensen and Matt Korda, "French Nuclear Forces, 2019," *Bulletin of the Atomic Scientists* 75, no. 1 (January 2, 2019): 51, <https://doi.org/10.1080/00963402.2019.1556003>.

²²⁰ Kristensen and Korda, 51.

²²¹ "Fact Sheet: France's Nuclear Inventory."

doctrine to include the integration of pre-emptive first strikes against a potential adversary.²²² According to France’s Ministry for Europe and Foreign Affairs office, France’s nuclear deterrent is credible based on its sea-based and air-launched components; these each have designated functions and work in unison with each other in regards to their precision and range, while employing different penetration modes.²²³ France’s nuclear inventory is run by the Direction des Applications Militaires (DAM), which is a department subordinate to the state’s Nuclear Energy Commission.²²⁴ DAM is entrusted to oversee the “research, design, manufacturing, operational maintenance, and dismantlement of nuclear warheads.”²²⁵ Table 1 contains the breakdown of France’s nuclear forces.

Table 1. French Nuclear Forces, 2021²²⁶

Type/Designation	No.	Year Deployed	Range* (KM)	Warhead x yield (kilotons)	Warheads (total available)
Land-based aircraft					
Rafale BF3	40	2010-2011	2,000	1 x [up to 300 kt] TNA**	40
Carrier-based aircraft					
Rafale MF3	10	2010-2011	2,000	1 x [up to 300 kt] TNA	10
SLBM					
M51.2	48	2017	>9,000	4–6 x 100 kt TNO**	240
Total					290

* Actual mission range will vary according to flight profile, weapon loading, and in-flight refueling

** tête nucléaire aéroportée (TNA); tête nucléaire océanique (TNO)

²²² “World Nuclear Forces,” 363–65.

²²³ “Nuclear Non-Proliferation Treaty (NPT): Our Dossier,” France Diplomacy - Ministry for Europe and Foreign Affairs, accessed November 1, 2021, <https://www.diplomatie.gouv.fr/en/french-foreign-policy/security-disarmament-and-non-proliferation/disarmament-and-non-proliferation/responsible-development-of-peaceful-uses-of-nuclear-energy/article/nuclear-non-proliferation-treaty-npt-our-dossier>.

²²⁴ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 18.

²²⁵ Pifer and Tyson, 18.

²²⁶ Adapted from “World Nuclear Forces,” 364.

1. Air

France's air-launched element of its nuclear forces consists of land- and carrier-based aircraft to deliver its air-launched cruise missiles, named the air-sol moyenne portée-améliorée (ASMP-A).²²⁷ The missiles are equipped with a nuclear warhead, named the tête nucléaire aéroportée (TNA) that has an estimated blast capacity of nearly 300 kilotons.²²⁸ France's Air and Space Force maintains 40 land-based Rafale BF3 aircraft and France's Naval Nuclear Air Force maintains 10 carrier-based Rafale MF3 aircraft that are configured to deliver the missiles.²²⁹ The combat radius of the Rafale fighter-bomber can approach 2,000 kilometers and is fielded by the French Air Force for land-based operations while the French Navy deploys with them on the aircraft carrier, *Charles de Gaulle*.²³⁰ At this time, the French carrier is the only surface platform in the NATO alliance that is outfitted with nuclear weapons.²³¹ France's Strategic Air Forces have access to 40 thermonuclear warheads and France's Naval Nuclear Aviation Force has 10 warheads available for us on their platforms.²³²

2. Sea

Since 1996, France has maintained a constant at-sea deployment by deploying its SSBN, which is considered to be the backbone of its nuclear deterrent.²³³ Falling under command of France's Strategic Ocean Force, four of the *Triomphant*-class SSBNs are kept on a rotating deployment cycle.²³⁴ Most commonly, a single SSBN is at sea for an estimated period of 70 days while one conducts preparations for a patrol, one conducts a

²²⁷ "Fact Sheet: France's Nuclear Inventory," sec. Air.

²²⁸ "World Nuclear Forces," 366.

²²⁹ "World Nuclear Forces," 366.

²³⁰ "World Nuclear Forces," 366.

²³¹ Kristensen and Korda, "French Nuclear Forces, 2019," 53.

²³² "Fact Sheet: France's Nuclear Inventory," sec. Air.

²³³ "Fact Sheet: France's Nuclear Inventory," sec. Sea.

²³⁴ Kristensen and Korda, "French Nuclear Forces, 2019," 52.

return transit to its homeport, and another remains in maintenance status.²³⁵ The French Navy fields two SLBMs, the M51.1 & the M51.2, with the M51.1 going through a process of phasing out of service.²³⁶ The M51 series has multiple independently targetable reentry vehicles and both variants have ranges that exceed 9,000 kilometers.²³⁷ All of the *Triomphant*-class SSBNs can be equipped with up to sixteen M51 SLBMs, with every single one being able to handle between five to six warheads each.²³⁸

3. Land

When France possessed a land-based component of a nuclear triad, it deployed nuclear medium-range ballistic missiles in silos located at Plateau d'Albion; however, in 1996, they were deactivated.²³⁹ Initially, their purpose was to react to any surprise Soviet attack with a strike into their territory as a doctrinal-based “final warning.”²⁴⁰ The final warning is the concept of threatening an adversary who may have underestimated French resolve to protect its vital interests with a single limited nuclear strike on military targets.²⁴¹ When the Soviet Union collapsed, France's land-based nuclear capability was deemed unnecessary and ultimately dismantled.²⁴²

4. Modernization Efforts

President Macron has reasserted the nation's long-term commitment towards modernizing its air- and sea-based nuclear deterrent forces, in addition to their respective

²³⁵ Kristensen and Korda, 52.

²³⁶ “Fact Sheet: France's Nuclear Inventory,” sec. Sea.

²³⁷ “Fact Sheet: France's Nuclear Inventory,” sec. Sea.

²³⁸ “Fact Sheet: France's Nuclear Inventory,” sec. Sea.

²³⁹ “Fact Sheet: France's Nuclear Inventory,” sec. Land.

²⁴⁰ “Fact Sheet: France's Nuclear Inventory,” sec. Land.

²⁴¹ Bruno Tertrais, “A Comparison between U.S., UK and French Nuclear Policies and Doctrines” (Paris: Sciences Po University, February 2007), 5, https://www.sciencespo.fr/ceri/sites/sciencespo.fr/ceri/files/art_bt.pdf.

²⁴² “Fact Sheet: France's Nuclear Inventory,” sec. Land.

delivery vehicles.²⁴³ According to the Stockholm International Peace Research Institute's 2021 yearbook, France's 2018 Law on Military Planning for 2019–25 allocates \$42.2 billion (U.S. dollars) for the “maintenance and modernization of France's nuclear forces and infrastructure”.²⁴⁴ This uptick in spending represents a considerable increase to the \$26.2 billion assigned towards its nuclear platforms and associated infrastructure by the Law on Military Planning for 2014–2019.²⁴⁵ Additionally, the Ministry of the Armed Forces' 2021 budget included allocations of \$5.7 billion towards activity designated for nuclear-weapons, which is \$0.34 billion more than in the budget set forth in 2020.²⁴⁶ The budget also outlines a total of \$28.5 billion to be allocated towards modernizing its nuclear forces between 2019 and 2023.²⁴⁷ These numbers suggest that France is embarking on a broad reinforcement of its nuclear forces to ensure its deterrent remains credible.

France has taken several measures to upgrade its nuclear armament, and current proposals include the modernization of French SSBNs, SLBMs, and ALCMs.²⁴⁸ France's Ministry of the Armed Forces has commissioned a research project to develop a successor, fourth-generation air-to-surface nuclear missile, the air-sol nucléaire de 4e génération (ASN4G), to enhance the French missile's stealth and maneuverability performance to combat technological advances made in adversarial air-defenses.²⁴⁹ The ASN4G is projected to enter service in 2035 and replace the ASMP-A air-launched cruise missiles.²⁵⁰ Separately, France's SLBMs and associated warheads are set to receive modernized replacements.²⁵¹ In June 2020, French SSBN *Le Téméraire*—which previously carried the

²⁴³ “World Nuclear Forces,” 365.

²⁴⁴ “World Nuclear Forces,” 365.

²⁴⁵ “World Nuclear Forces,” 365.

²⁴⁶ “World Nuclear Forces,” 365.

²⁴⁷ “World Nuclear Forces,” 365.

²⁴⁸ “World Nuclear Forces,” 365.

²⁴⁹ “World Nuclear Forces,” 366.

²⁵⁰ “World Nuclear Forces,” 366.

²⁵¹ “World Nuclear Forces,” 367.

legacy M45 SLBM—was equipped with the upgraded M51.2 SLBM after the missile successfully conducted a test launch.²⁵² The M51 has undergone several upgrades to improve its performance. The first version, the M51.1, could carry “up to six TN-75 warheads in multiple independently targetable re-entry vehicles each with an explosive yield of 100 kt.”²⁵³ As part of its modernization efforts, France has systematically replaced the M51.1 with an upgraded version, the M51.2 tête nucléaire océanique (TNO), which has improved range and better accuracy.²⁵⁴ Lastly, over the next twenty-years, the French Navy’s *Triomphant*-class SSBNs will be replaced by the modernized *SNLE-3G* class SSBN.²⁵⁵ It is expected that the new SSBN will begin rolling out to the French fleet sometime near the year 2035, and the platform will include an extended hull and advanced stealth technology.²⁵⁶

D. CURRENT NUCLEAR POLICY POSITIONS

France’s official doctrine states that the intent of its nuclear weapons is to guarantee its security and sovereignty.²⁵⁷ If France elected to carry out a nuclear strike on another country, the action would require the president’s approval and the consultation process would likely involve “the president, the chief of the presidential military staff, and the chief of the defense staff.”²⁵⁸ With the exception of the United States, France maintains a reputation as having the most transparent nuclear-weapons program of all nuclear-states and it regularly shares details concerning its nuclear-related programs and forces.²⁵⁹ As mentioned in Chapter I, France is party to all of the primary international export control

²⁵² “World Nuclear Forces,” 367.

²⁵³ “World Nuclear Forces,” 367.

²⁵⁴ “World Nuclear Forces,” 367.

²⁵⁵ “Fact Sheet: France’s Nuclear Inventory,” sec. Sea.

²⁵⁶ Kristensen and Korda, “French Nuclear Forces, 2019,” 53.

²⁵⁷ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 19.

²⁵⁸ Pifer and Tyson, 19.

²⁵⁹ Kristensen and Korda, “French Nuclear Forces, 2019,” 51.

regimes and nonproliferation treaties. Additionally, it is one of the five NWS recognized under the NPT.²⁶⁰ France is also a participant in the Proliferation Security Initiative established in 2003, which pursues the strengthening of international cooperation to interdict weapons-of-mass-destruction transfers, their delivery systems, and associated materials and equipment.²⁶¹ Although France is a NATO member, its nuclear weapons are not integrated under the alliance's integrated military command structure and therefore not subject to its command and control.²⁶² However, France could leverage its nuclear weapons in the event its neighbors or allies were threatened.

Currently, France maintains an “ambiguous nuclear-use policy,” as well as a “final warning” strike policy with its strategic weapons.²⁶³ This nuclear-policy option was created in the 1970s and states that regardless of the adversary or circumstances of the crisis, France may elect to employ nuclear weapons before it is attacked in order to defend its vital interests and to restore deterrence.²⁶⁴ According to France's December 2017 Defense and National Security Strategic View, France's nuclear deterrent must be maintained in order to block another state from violating or threatening its vital interests.²⁶⁵ While this policy note has surfaced in several presidential speeches and white papers over the years, the things that comprise France's “vital interests” are not readily apparent.²⁶⁶ Vital interests are not necessarily related to the objectives targeted by a potential adversary or the adversarial methods employed, but to a certain extent it is the scope and consequences of aggression as determined by the sitting president of France.²⁶⁷

²⁶⁰ “France,” sec. Nuclear.

²⁶¹ “Nuclear Non-Proliferation Treaty (NPT): Our Dossier,” sec. Are there no other ways of combating proliferation?

²⁶² “Fact Sheet: France's Nuclear Inventory,” para. 3.

²⁶³ “Fact Sheet: France's Nuclear Inventory,” para. 3.

²⁶⁴ “Fact Sheet: France's Nuclear Inventory,” para. 3.

²⁶⁵ “France,” sec. Nuclear.

²⁶⁶ “World Nuclear Forces,” 363.

²⁶⁷ Tertrais, *French Nuclear Deterrence Policy, Forces and Future*, 27.

Therefore, the definition of “vital interests,” and subsequently “the nuclear threshold,” is necessarily vague.²⁶⁸ This notion is in place in order to keep an adversary from determining the innate risk in any potential aggressive action and also because “the nature of vital interests can evolve in time and space, depending on the circumstances.”²⁶⁹ Lastly, what constitutes “vital interests” is ultimately a matter for the president to determine because if those interests became public knowledge in advance of France engaging its nuclear weapons, the country would surrender its perceived advantageous freedom of action.

E. ARMS-CONTROL EFFORTS TO DATE

France has certainly demonstrated its commitment towards preserving its strategic nuclear deterrent to protect its vital interests and to guarantee its sovereignty; however, leaders at the highest echelons of the French government have acknowledged that achieving global nuclear disarmament is an important long-term goal.²⁷⁰ In 2015, French President Francois Hollande stated that “France will maintain its sea-based and airborne nuclear forces,” and continue to move forward with initiatives to modernize French warheads and delivery platforms; however, it will only meet levels that are required to keep in line with the its “strict sufficiency” principles.²⁷¹ These principles effectively keep France’s nuclear arsenal down to the “lowest possible level” in relation to whatever the current strategic context entails.²⁷² For example, France claims that it has not equipped itself with nuclear systems that its advanced technology could hypothetically produce, such as a neutron bomb, and its refrainment of “not having participated in the arms race.”²⁷³ Additionally, strict-sufficiency principles include rolling back the number of weapons in

²⁶⁸ Tertrais, 27.

²⁶⁹ Tertrais, 27.

²⁷⁰ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 19.

²⁷¹ Pifer and Tyson, 19.

²⁷² Tertrais, *French Nuclear Deterrence Policy, Forces and Future*, 31.

²⁷³ Tertrais, 31.

the event the technology of the systems advances, like it did in 2009 when France reduced the amount of nuclear squadrons due to the recorded improvement of its airborne missiles that became operational at the time.²⁷⁴ It also encompasses the notion that the ability to inflict damage must be an available choice “in all circumstances, regardless of the adversary, and therefore as a second-strike if necessary.”²⁷⁵ Lastly, the principles are designed to adapt to the ever-changing strategic environment. The issues that are deemed “sufficient” are ultimately a matter of political judgment by the president of France to decide what he or she deems necessary to deter.²⁷⁶ It takes into account a variety of factors, such as the “penetration capacity of anti-missile and anti-aircraft defenses, and the reliability of weapon systems.”²⁷⁷

While France has stated nuclear disarmament is a long-term goal, it has hesitated to commit to broader proposed disarmament initiatives, and a majority of the French population is believed to support retaining the country’s nuclear arsenal no matter the strategic circumstances.²⁷⁸ While France has taken a more conservative strategy to disarmament than its U.S. and British allies, it has reaffirmed its commitment to arms control and strategic stability by highlighting its history of nuclear transparency initiatives. French leaders have stated that any steps taken to achieve nuclear disarmament must factor in a wide variety of defense-related issues, including “missile defense, conventional, and space capabilities.”²⁷⁹

²⁷⁴ Tertrais, 31.

²⁷⁵ Tertrais, 32.

²⁷⁶ Tertrais, 32.

²⁷⁷ Tertrais, 32.

²⁷⁸ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 19.

²⁷⁹ Pifer and Tyson, 20.

According to France's Ministry for Europe and Foreign Affairs, the French government does not support a total ban on nuclear weapons at this time.²⁸⁰ Additionally, the Ministry made a point to reaffirm France's commitment to uphold its nuclear disarmament obligations. France, like many other nuclear-armed countries working towards nuclear-arms limitations and reductions, has chosen not to endorse the Treaty on the Prohibition of Nuclear-Weapons (TPNW).²⁸¹ The ministry states that the TPNW would be ineffective given the current "international security context," which is marred by the constant threat of violence, Russia's military buildup and aggressive regional actions in Europe, regional disputes, and nuclear proliferation crises around the world.²⁸² France believes the TPNW is unfairly aimed at Western democracies, and that countries outside of Europe do not face similar pressures to limit nuclear-weapon advancements.²⁸³ Therefore, France believes the TPNW will not positively contribute towards the global disarmament effort, as none of the nuclear-armed states will support it as it stands today. Additionally, France believes it undermines a practical, "step-by-step approach" that is necessary to achieve nuclear disarmament.²⁸⁴

France's Ministry for Europe and Foreign Affairs has highlighted six tangible efforts the French government has taken to achieve nuclear disarmament and four nuclear disarmament priorities.²⁸⁵ For the six tangible actions France has taken to achieve nuclear disarmament, the ministry notes:

²⁸⁰ "Nuclear Non-Proliferation Treaty (NPT): Our Dossier," sec. Why does France not support a total ban on nuclear weapons?

²⁸¹ "Nuclear Non-Proliferation Treaty (NPT): Our Dossier," sec. Why does France not support a total ban on nuclear weapons?

²⁸² "Nuclear Non-Proliferation Treaty (NPT): Our Dossier," sec. Why does France not support a total ban on nuclear weapons?

²⁸³ "Nuclear Non-Proliferation Treaty (NPT): Our Dossier," sec. Why does France not support a total ban on nuclear weapons?

²⁸⁴ "Nuclear Non-Proliferation Treaty (NPT): Our Dossier," sec. Why does France not support a total ban on nuclear weapons?

²⁸⁵ "Nuclear Non-Proliferation Treaty (NPT): Our Dossier," sec. What tangible action has France taken for nuclear disarmament?

1. It was the first state, along with the United Kingdom, to sign and ratify the CTBT.
2. It was the first state to close and dismantle its plants for the production of fissile material for nuclear weapons.
3. It was the only nuclear-weapon State to have transparently dismantled its nuclear testing site in the Pacific.
4. It is the only state to have dismantled its ground-to-ground nuclear missiles.
5. It is the only state to have voluntarily reduced its number of nuclear-powered ballistic missile submarines by a third.
6. It has reduced its nuclear weapons and missiles and the aircraft in its airborne component by a third.²⁸⁶

Additionally, according to France’s Ministry for Europe and Foreign Affairs, its four nuclear disarmament priorities include:

1. [Promoting] the entry into force of the CTBT.
2. Negotiation at the Conference on Disarmament of a Fissile-Material Cut-Off Treaty.
3. [Encouraging] continued reduction of Russian and American nuclear arsenals (90% of global stockpiles).
4. Continuation of work on the verification of nuclear disarmament.²⁸⁷

As it pertains to the CTBT, under Article XIV, “the treaty will not enter into force until it has been signed and ratified by 44 states listed by name in Annex 2”.²⁸⁸ Among the 44 states listed, the nine nuclear powers are included—the five NWS and the secondary nuclear states, India, Israel, North Korea, and Pakistan.²⁸⁹ The CTBT prohibits “any nuclear weapon test explosion or any other nuclear explosion,” regardless where the test occurs.²⁹⁰ In September 1996, the CTBT opened for states to officially sign, and to date 185 nations have signed and 170 have ratified it; however, the treaty will not enter into

²⁸⁶ “Nuclear Non-Proliferation Treaty (NPT): Our Dossier,” sec. What tangible action has France taken for nuclear disarmament?

²⁸⁷ “Nuclear Non-Proliferation Treaty (NPT): Our Dossier,” sec. What tangible action has France taken for nuclear disarmament?

²⁸⁸ Daryl Kimball, “Comprehensive Test Ban Treaty at a Glance,” Arms Control Association, July 2020, sec. Entry into Force, <https://www.armscontrol.org/factsheets/test-ban-treaty-at-a-glance>.

²⁸⁹ Kimball, sec. Entry into Force.

²⁹⁰ Kimball, para. 1.

force until 44 specific nations formally ratify it, eight of which have elected not to do so: two members of the NPT, the United States and China; four additional nuclear-armed states, India, Pakistan, North Korea, and Israel; plus Iran and Egypt.²⁹¹ Both France and the United Kingdom have been active in the CTBT Preparatory Commission since it began its operations, and France highlights this as a key element of its record on its domestic disarmament policies while also illustrating its practical and progressive approach to wider nuclear disarmament.²⁹² Specifically, France has played a major role in the CTBT's Organization's International Monitoring System by opening several facilities: "16 stations on its territory, eight stations abroad, [and] one certified radionuclide laboratory."²⁹³ In 2021, France achieved certification of the IS25 station in overseas French territory Guadeloupe.²⁹⁴ With this certification, France has fulfilled all of its commitments regarding the CTBT. The French government has "urged all States that have either not signed or not ratified the Treaty to do so without further delay."²⁹⁵

By France electing to ratify the NPT, it subjected itself to the legal requirements outlined in Article VI which requires all parties to commit itself to nuclear disarmament requirements and take active measures to prevent a nuclear arms-race.²⁹⁶ However, Paris fundamentally believes that Article VI is a wider concept, and links "nuclear disarmament" to "general and complete disarmament."²⁹⁷ For France to consider even further reductions to its nuclear arsenal, the Americans and Russians would have to take steps to reduce their

²⁹¹ Kimball, para. 1.

²⁹² "France Reaffirms Strong Support for the CTBT," CTBTO Preparatory Commission, accessed March 5, 2022, <https://www.ctbto.org/press-centre/highlights/2017/france-reaffirms-strong-support-for-the-ctbt/>.

²⁹³ "25 Years of the Comprehensive Nuclear Test Ban Treaty," France Diplomacy - Ministry for Europe and Foreign Affairs, September 24, 2021, sec. France's support for the CTBT, <https://www.diplomatie.gouv.fr/en/french-foreign-policy/security-disarmament-and-non-proliferation/news/2021/article/25-years-of-the-comprehensive-nuclear-test-ban-treaty>.

²⁹⁴ "25 Years of the Comprehensive Nuclear Test Ban Treaty," sec. France's support for the CTBT.

²⁹⁵ "25 Years of the Comprehensive Nuclear Test Ban Treaty," sec. France's support for the CTBT.

²⁹⁶ Tertrais, *French Nuclear Deterrence Policy, Forces and Future*, 56.

²⁹⁷ Tertrais, 56.

stockpiles first. This was reiterated by French President Jacques Chirac in 2006 when he said, “We will only be able to make progress towards disarmament if the conditions of our global security are maintained and if the will to progress is unanimously shared.”²⁹⁸ In 2015, former French President François Hollande declared, “I therefore share the ultimate objective of the total elimination of nuclear weapons, but I add: when the strategic context permits it.”²⁹⁹

In 2009, U.S. President Barack Obama attempted to bring the global disarmament vision back to the forefront of international politics, a move that was met with some skepticism by the French government.³⁰⁰ During his 2009 speech in Prague—which helped him win the Nobel Peace Prize—President Obama announced his enthusiastic support for the long-term goal of a nuclear-weapon free world, in addition to a series of specific initiatives on the “road toward zero” primarily relating to areas of strategic arms control, nuclear security, and nuclear non-proliferation.³⁰¹ Among the second-tier nuclear states, France has appeared to be the most pessimistic about President Obama’s vision, as France believes its nuclear-weapons disarmament behavior has been unprecedented in nature, citing its move to dismantle its nuclear weapon-testing sites and fissile production materials.³⁰² Therefore, France sees a disconnect between rhetoric and the actual actions of other nuclear-armed states, as they have not undertaken similar disarmament initiatives.³⁰³ However, it is worth noting that several external factors may have influenced France to halt its nuclear testing program, opposed to taking unilateral measures itself in the spirit of global disarmament. Six months of global protests, trade boycotts, allied disgruntlement, and President Jacques Chirac’s waning popularity may have largely played

²⁹⁸ Tertrais, 57.

²⁹⁹ Tertrais, 57.

³⁰⁰ Hynek and Smetana, *Global Nuclear Disarmament Strategic, Political, and Regional Perspectives*, 2.

³⁰¹ Hynek and Smetana, 2.

³⁰² Hynek and Smetana, 23.

³⁰³ Hynek and Smetana, 23.

into France's calculation to halt testing.³⁰⁴ Lastly, given its historical regard for the force de frappe—France's nuclear deterrence “striking force”—and the predilection to maintain a sovereign defense policy in support of a strong international reputation, France has not been entirely supportive of the global zero initiative.³⁰⁵

Following the dissolution of the INF Treaty, Russia requested the United States to declare a global-moratorium on the deployment of intermediate-range missiles in Europe.³⁰⁶ French President Emmanuel Macron supported the U.S. and NATO rejection of Russian President Vladimir Putin's proposal; however, Macron stressed that diplomatic channels remain open with Moscow as it pertains to matters of security.³⁰⁷ Additionally, Macron made a point to express his interest in Europe being included in any negotiation that might lead to an agreement that ultimately replaces the INF Treaty. In a November 2019 meeting with NATO Secretary General Jens Stoltenberg in Paris, Macron supported the position that France wishes for European nations to become more involved in nuclear arms-control.³⁰⁸ Macron stated, “We cannot leave our security [in] the hands of a bilateral treaty [in] which no European country [is a] part of.”³⁰⁹ Kremlin spokesman Dmitry Peskov stated that Russia agreed with Macron's position and also believes Europe should be included in any future talks to establish a new arms control agreement.³¹⁰

In his February 2020 speech in Paris, President Macron suggested that “France's vital interests now have a European dimension,” and he proposed to meet with other

³⁰⁴ Alex Duval Smith, “France Stops Nuclear Test Programme – Archive, 1996,” *The Guardian*, January 30, 1996, sec. World news, <https://www.theguardian.com/world/from-the-archive-blog/2021/jan/27/france-stops-nuclear-test-programme-pacific-1996>.

³⁰⁵ Hynek and Smetana, *Global Nuclear Disarmament Strategic, Political, and Regional Perspectives*, 23.

³⁰⁶ “France Seeks Dialogue on Post-INF Treaty Arms Control,” Arms Control Association, February 2020, para. 1, <https://www.armscontrol.org/act/2020-01/news-briefs/france-seeks-dialogue-post-inf-treaty-arms-control>.

³⁰⁷ “France Seeks Dialogue on Post-INF Treaty Arms Control,” para. 1.

³⁰⁸ “France Seeks Dialogue on Post-INF Treaty Arms Control,” para. 2.

³⁰⁹ “France Seeks Dialogue on Post-INF Treaty Arms Control,” para. 4.

³¹⁰ “France Seeks Dialogue on Post-INF Treaty Arms Control,” para. 5.

European nations to discuss the role France's nuclear arsenal can play in bolstering deterrence and improving their collective security.³¹¹ Macron proclaimed France's nuclear arsenal "strengthen the security of Europe through their very existence," and "[an erosion] of the comprehensive security framework" that defends Europe plays a role in shaping the approach of France's defense policies.³¹² He further stated that France's nuclear deterrence "ensures our independence, our freedom to assess, make decisions, and take action. It prevents adversaries from betting on escalation, intimidation, and blackmailing to achieve their ends."³¹³

During his speech, Macron defined three international "paradigm shifts" underway that merit consideration.³¹⁴ The first he described as strategic in nature, in which "a new hierarchy of powers" is developing and creating a greater risk of military escalation due to intense competition. The second paradigm shift involves the challenges posed to "a multilateral order based on law," illustrated by the downfall of the INF Treaty in August 2019. Macron stated that "Europeans must collectively realize today that, without a legal framework, they could quickly find themselves at risk of another conventional and even nuclear arms race on their soil... they cannot stand by." The third paradigm shift involves the technological advances made around the world and how their emergence will play an even more prominent role in a potential conflict.³¹⁵

In an effort to achieve global peace, Macron proposed a four-pillared strategy to confront the worldwide paradigm shifts.³¹⁶ The first pillar was dubbed the "promotion of an efficient multilateralism," which entails an increased commitment by European nations to establish appropriate defense measures and a call for a "renewed international arms

³¹¹ "World Nuclear Forces," 365.

³¹² Shannon Bugos, "France Offers Nuclear Deterrent to All Europe," Arms Control Association, March 2020, <https://www.armscontrol.org/act/2020-03/news/france-offers-nuclear-deterrent-europe>.

³¹³ Bugos, para. 3.

³¹⁴ Bugos, para. 6.

³¹⁵ Bugos, para. 8.

³¹⁶ Bugos, "France Offers Nuclear Deterrent to All Europe."

control agenda.” As it pertains to arms-control, Macron encouraged Europe to “rethink disarmament” so that it can effectively contribute to making the world a more secure place. As an example, he made it a point to highlight France’s “unique track record in the world.”³¹⁷ Specifically, Macron alluded to historical efforts taken by France, such as the irreversible dismantlement of France’s former “land-based nuclear weapons, nuclear testing facilities, and fissile material.”³¹⁸ The subsequent two pillars Macron outlined included developing strategic alliances aimed at bringing together nations to promote peace and move Europe towards achieving greater autonomy. For the final pillar, Macron identified national sovereignty, stating, “if France is to live up to its ambition and its history, it must remain sovereign.”³¹⁹ While Macron delivered an impassioned speech, so far it appears that Macron’s proposal has found minimal support among politicians and has not been collectively endorsed by European political parties, governments, or institutions.³²⁰

Despite the lack of external enthusiasm for Macron’s four pillar strategy, it appears that there was an internal component driving France’s decision to flaunt its nuclear might. Considering the timing of the speech, the INF Treaty was now a thing of the past, the United States was disassociating itself from international alliances while simultaneously modernizing its new and advanced types of nuclear weapons, and Russia was further isolating itself on the international stage, developing new technologies, and behaving as an irrational actor. Taking this into consideration, Macron likely determined there was value in engaging in diplomacy with its nuclear arsenal interwoven within it. France likely believes that the United States is no longer the reliable partner it once was, and Macron saw an opportunity to take an active role in determining the national security path for his own country. Macron’s stance does not represent new behavior or a complete policy reversal from France. As evidenced earlier in this chapter, France’s support for national nuclear deterrence has deep roots within its own history, dating

³¹⁷ Bugos, para. 10.

³¹⁸ Bugos, para. 10.

³¹⁹ Bugos, para. 12.

³²⁰ “World Nuclear Forces,” 365.

back to the Charles De Gaulle era. Ever since the Cold War crisis and emergence of nuclear-weapon technologies, there has been a strong domestic consensus serving as the bedrock for France's nuclear deterrence policy. At this time, there is no evidence to suggest that will change any time soon.

In the absence of any real public appetite to disarm its nuclear arsenal or internal political debate regarding its status as a nuclear-armed state, the French government will continue to act conservatively when it comes to pushing for multilateral arms-control measures. Indeed, France appears content in remaining a passive observer when it comes to arms-control initiatives; however, it might be willing to go through the motions of disarmament if the United States and Russia take substantive measures first. If the United States and Russia do not make a concerted effort to bilaterally reduce their nuclear arsenals, France probably feels taking actions to unilaterally—or in tandem with any other nuclear-armed state—reduce its own stockpile would represent a detrimental loss of its own national sovereignty. For France, its nuclear policy and stance on arms-control is indicative that disarmament should not be a goal in of itself, but rather states should seek the right to self-determination while improving the security conditions for all nations.

F. CONCLUSION

As this chapter has outlined, France feels there is a strong link between its nuclear deterrence policy and its sovereignty. Additionally, France is investing a significant amount of money towards modernizing its SSBNs, SLBMs, and ALCMs to maintain its dyad nuclear posture. France's rhetoric suggests that it wants its arsenal to play more of a prominent role in Europe's collective security. This indicates that in the near-term, France is focusing its efforts on bolstering deterrence rather than disarmament. France is unlikely to significantly influence the multilateral arms-control paradigm unless several geopolitical, economic, and security dilemmas are addressed between Russia and the United States. Additionally, if the United States and Russia do not negotiate an agreement to lower the number of nuclear weapons below the limitations set forth in New START, France may very well feel it has little incentive to negotiate and accept constraints on its own nuclear arsenal. This stance is very similar to the British position, as the next chapter indicates.

V. THE UNITED KINGDOM'S NUCLEAR POSITION

A. INTRODUCTION

With several economic, diplomatic, and military initiatives available for the United Kingdom to pursue, how likely is it to enter into a new, meaningful multilateral nuclear arms-control framework? Recognizing the unlikelihood of a breakthrough in arms-control negotiations between the United States and Russia, the United Kingdom is highly unlikely to undertake unilateral disarmament measures in the near-future. Indeed, the United Kingdom appears so alarmed by recent geopolitical security developments that it has elected to reverse course and raise the limit of nuclear warheads available for its SSBNs. Especially in light of its recent exit from the EU, the United Kingdom views its nuclear-power status as a matter of international necessity, and until the two nuclear superpowers—United States and Russia—lower their total number of nuclear weapons, the United Kingdom is unlikely to make any concessions or reverse course on its recent pledge to raise the ceiling on its warhead inventory. However, the United Kingdom does appear willing to build on disarmament steps already taken, particularly the full implementation of the NPT, and is willing to work towards establishing and expanding on multilateral initiatives moving forward.

This chapter examines the United Kingdom's historical policies, nuclear arsenals, current positions, and arms-control efforts in order to examine what has precluded it from entering into meaningful arms-control negotiations to date and determine the likelihood of it participating in the future. While the United Kingdom purportedly favors multilateral arms-control, this chapter suggests that as of this time, it believes the NPT is the only credible path towards disarmament. As a defense mechanism, it will continue to modernize its sea-based nuclear force. This is something the United Kingdom deems particularly important amid questionable long-term prospects for a productive transatlantic relationship with the United States and an increasingly assertive Russia.

B. HISTORICAL NUCLEAR PROGRAMS AND POLICIES

During the World War II era, the United Kingdom and the United States worked collaboratively on nuclear matters that led to significant technological developments and devastating weapons. In 1941, efforts were underway for the United Kingdom to pursue an atomic weapon before ultimately collaborating with the United States on its “secret nuclear weapons program in 1943—the Manhattan Project.”³²¹ Two leading physicists, Otto Frisch and Rudolf Peierls, first determined the possibility of assembling an atomic bomb while working at the University of Birmingham in England.³²² Their technical exposition and research helped contribute to the formation of the MAUD Committee, the Tube Alloys research and development project, the Manhattan Project, and in the long run, the bombings of Hiroshima and Nagasaki that effectively pushed the Japanese to surrender in WWII.³²³ While the work of the British scientists had a major impact on the success of the Manhattan Project, the U.S.-U.K. collaboration ended abruptly when U.S. Congress—with strong bipartisan support—passed the Atomic Energy Act of 1946.³²⁴ This act effectively implemented the safeguarding of secret nuclear technologies from the United Kingdom. Therefore, in 1947 the United Kingdom opted to develop its own national nuclear weapons program. That same year, the United Kingdom began constructing the first plutonium production reactors which paved the way for the country’s first nuclear explosive test on October 3, 1952, during “Operation Hurricane.”³²⁵ During the nuclear test, the United Kingdom detonated a 25-kiloton plutonium implosion bomb off the coast of an Australian

³²¹ “Arms Control Center: United Kingdom,” Center for Arms Control and Non-Proliferation, para. 1, accessed October 11, 2021, <https://armscontrolcenter.org/countries/united-kingdom/>.

³²² “British Nuclear Program,” Atomic Heritage Foundation, sec. Preliminary Organization, accessed October 11, 2021, <https://www.atomicheritage.org/history/british-nuclear-program>.

³²³ “British Nuclear Program.”

³²⁴ “Arms Control Center: United Kingdom,” para. 1.

³²⁵ “Arms Control Center: United Kingdom,” para. 2.

island within the hull of the HMS Plym frigate.³²⁶ The test vaporized the ship and effectively simulated a nuclear weapon being smuggled into a British harbor.³²⁷

In 1953, the United Kingdom officially became the third nuclear-armed state—after the United States and the Soviet Union—when it created its first nuclear atomic bomb for its arsenal.³²⁸ In 1954, British Prime Minister Winston Churchill ordered that the United Kingdom move forward “with the development of thermonuclear weapons, and the British [successfully] tested its first hydrogen bomb on November 8, 1957.”³²⁹ At this point in time, the Soviet Union also possessed a hydrogen bomb which demonstrated its military capacity to rival the West. In October 1957, the Russians placed the world’s first artificial satellite into orbit.³³⁰ The satellite, named “Sputnik 1” had demonstrated that the Soviets had a capability that not even the United States possessed.³³¹ To counter the Soviets’ surging nuclear threat, the United States felt compelled to once again share nuclear information with its British ally by amending the Atomic Energy Act of 1946.³³² In an effort to regain a military advantage over the Soviets, the United States and United Kingdom signed the U.S.-U.K. Mutual Defense Agreement, which established a partnership on nuclear research in addition to the transfer of equipment and materials related to nuclear development. Following the signing, British atomic weapons were patterned after U.S. designs made accessible by the pact.

Throughout the Cold War, the United States and the United Kingdom worked together on several nuclear initiatives. Most notably, the United States forward-deployed a

³²⁶ “Nuclear Testing - Montebello Islands Fishing,” *Montebello Island Safaris* (blog), sec. Operation Hurricane: 1952., accessed March 1, 2022, <https://www.montebello.com.au/nuclear-testing/>.

³²⁷ “Arms Control Center: United Kingdom,” para. 2.

³²⁸ “British Nuclear Program,” sec. Further Development and Legacy.

³²⁹ “British Nuclear Program,” sec. (Re)starting the British Project.

³³⁰ “British Nuclear Program,” sec. Further Development and Legacy.

³³¹ “British Nuclear Program,” sec. Further Development and Legacy.

³³² “British Nuclear Program,” sec. Further Development and Legacy.

significant amount of nuclear-weapons on British soil.³³³ The weapons remained under U.S. control, but if deemed necessary, British-operated delivery vehicles could serve as the launching mechanism.³³⁴ Following a brief hiatus on conducting nuclear tests, the United Kingdom began jointly testing nuclear-weapons with the United States in Nevada between 1958 and 1992.³³⁵ The United Kingdom would go on to buy weapons directly from the United States, which included the submarine-launched Polaris missile in addition to U.S.-designed delivery systems.³³⁶

Over the course of its history as a nuclear power, the United Kingdom is believed to have developed and produced nine different warhead designs.³³⁷ Between 1974–1981, the British nuclear arsenal peaked at roughly 500 warheads, though the quelling of tensions with the Soviets later in the decade prompted the British to reduce their stockpiles.³³⁸ In 1998, the British officially retired its final air-launched nuclear-weapon, the WE-177, which would subsequently relegate its nuclear forces to become an entirely sea-based arsenal.³³⁹ The United Kingdom never ultimately produced a ground-launched missile to complete the third prong of a nuclear triad; however, in the early 1960s, the United States staged Thor intermediate-range ballistic missiles in U.K. territory.³⁴⁰

C. NUCLEAR ARSENALS

Currently, the United Kingdom maintains the smallest deployed nuclear arsenal of the five recognized NWS, operates with a minimal-deterrent strategy, and its weapons are

³³³ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” Center for Arms Control and Non-Proliferation, April 2020, <https://armscontrolcenter.org/fact-sheet-the-united-kingdoms-nuclear-arsenal/>.

³³⁴ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” sec. How Many?

³³⁵ “British Nuclear Program,” sec. Further Development and Legacy.

³³⁶ “British Nuclear Program,” sec. Further Development and Legacy.

³³⁷ “Arms Control Center: United Kingdom,” para. 3.

³³⁸ “Arms Control Center: United Kingdom,” para. 4.

³³⁹ “Arms Control Center: United Kingdom,” sec. Air.

³⁴⁰ “Arms Control Center: United Kingdom,” sec. Land.

based solely at sea.³⁴¹ Of the five nations party to the NPT, the United Kingdom is the only one that employs a single nuclear strategic delivery system.³⁴² For a breakdown of the United Kingdom's nuclear forces, refer to Table 2.

Table 2. British Nuclear Forces, 2021³⁴³

Type/Designation	No.	Year Deployed	Range (KM)	Warhead x yield (kilotons)	Warheads (total available)
Trident II D5 (LE)	48	1994	>10,000	1-8 x 100 kt*	225**

* A small number of warheads were previously modified to produce a low yield; however, these warheads are not deployed.

** Lists total warheads in stockpile. Of these, 120 are operationally available and 40 are deployed on the single SSBN that is at sea.

1. Sea

The United Kingdom's lone strategic deterrent, the *Vanguard*-class SSBNs, are based at Her Majesty's Naval Base, Clyde in Scotland.³⁴⁴ The submarines are positioned in the Faslane area which notably has direct access to the Irish Sea.³⁴⁵ Since April 1969, the United Kingdom has maintained a continuous at-sea presence of nuclear-armed SSBNs.³⁴⁶ Outfitted with an estimated 40 warheads, one of the four British *Vanguard*-class SSBNs is permanently underway at sea.³⁴⁷ Two of the Vanguard SSBNs remain in port on alert status and can quickly get underway on short notice, while the fourth SSBN

³⁴¹ "Arms Control Center: United Kingdom."

³⁴² "World Nuclear Forces," 358.

³⁴³ Adapted from: Hans M. Kristensen and Matt Korda, "United Kingdom Nuclear Weapons, 2021," *Bulletin of the Atomic Scientists* 77, no. 3 (May 4, 2021): 153, <https://doi.org/10.1080/00963402.2021.1912309>.

³⁴⁴ Pifer and Tyson, "Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control," 15.

³⁴⁵ Pifer and Tyson, 15.

³⁴⁶ "United Kingdom Overview," para. 1.

³⁴⁷ Kristensen and Korda, "United Kingdom Nuclear Weapons, 2021," 153.

remains in an overhaul status and would be unable to rapidly deploy, and depending on the stage of its overhaul, may not be able to get underway at all.³⁴⁸ The manner in which the SSBN patrols the sea domain is characterized as a “reduced alert” level, meaning its capacity to launch its missiles is “measured in days, rather than a few minutes” similar to its Cold War posture.³⁴⁹ Additionally, its missiles are placed in a “detargeted” mode which means the submarine’s launch control center is entrusted with maintaining and entering in the target coordinates rather than each missile’s navigation system performing that function. The United Kingdom’s nuclear warheads are kept in the Atomic Weapons Establishment (AWE) at Aldermaston, England.³⁵⁰ While the United Kingdom does not exclusively possess any of its own missiles, it does have access to a group of 58 Trident SLBMs that is shared with the U.S. Navy.³⁵¹

2. Air

Throughout the Cold War, the United Kingdom leveraged its air-based nuclear assets as a supplemental deterrent; however, this strategy was ultimately viewed as unwarranted once the Soviet Union collapsed.³⁵² In March 1998, the United Kingdom officially retired its final air-launched nuclear weapon, the WE 177 gravity bomb, and the arsenals were subsequently dismantled by the end of August 1998.³⁵³ The gravity bombs were versatile weapons, able to be used in a strategic and tactical role—depending on the variant. Both the Royal Navy and the Royal Air Force fielded the WE 177 which had explosive yields ranging between 200–400 kilotons with the tactical variant having a low-yield around 10-kilotons.³⁵⁴

³⁴⁸ Kristensen and Korda, 153.

³⁴⁹ Kristensen and Korda, 153.

³⁵⁰ Kristensen and Korda, 156.

³⁵¹ Kristensen and Korda, 156.

³⁵² “Fact Sheet: The United Kingdom’s Nuclear Inventory,” sec. Air.

³⁵³ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” sec. Air.

³⁵⁴ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” sec. Air.

3. Land

In 1955, the British began the process of developing the Blue Streak ground-launched, intermediate range ballistic missile.³⁵⁵ However, the British Cabinet Defense Committee did not want to invest an additional 600 million pounds on top of the 65 million already committed to a delivery system that turned out to be insufficient following its testing.³⁵⁶ The primary issue with the Blue Streak was its fixed-site launch requirement, and preparations could take an upwards of 30 minutes before it could lift off.³⁵⁷ Susceptible to pre-emptive attacks by the Soviet Union coupled with escalating program costs, in 1960 the Blue Streak rocket program was cancelled which effectively ended Britain's attempt at establishing an independent nuclear missile program.

4. Modernization Efforts

With the *Vanguard*-class SSBN approaching the end of its expected service life, the United Kingdom—with strong parliamentary support—has rolled out a plan to replace its submarine fleet with brand-new *Dreadnought*-class submarines.³⁵⁸ Currently, BAE Systems is constructing the *Dreadnought*-class SSBNs at its Barrow-in-Furness shipyard in Cumbria, England, for the British Royal Navy.³⁵⁹ The total approximate cost for the Dreadnought program is an estimated \$47 billion (U.S. dollars), and the first SSBN is expected to become operational in the 2030s. Additionally, its service life is projected to last at least 30 years and it is expected to be capable of holding up to 12 missiles.³⁶⁰ Separately, the U.S. Navy is incorporating the United Kingdom to take part in its program

³⁵⁵ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” sec. Land.

³⁵⁶ “The Blue Streak Rocket,” The U.K. National Archives (The National Archives, May 2006), para. 2, <https://media.nationalarchives.gov.uk/index.php/the-blue-streak-rocket/>.

³⁵⁷ “The Blue Streak Rocket,” para. 3.

³⁵⁸ Kristensen and Korda, “United Kingdom Nuclear Weapons, 2021,” 155.

³⁵⁹ “Dreadnought-Class Nuclear-Powered Ballistic Missile Submarines, UK,” Verdict Media, accessed October 16, 2021, <https://www.naval-technology.com/projects/dreadnought-class-nuclear-powered-ballistic-missile-submarines/>.

³⁶⁰ “Dreadnought-Class Nuclear-Powered Ballistic Missile Submarines, UK,” para. 4.

to increase the service life of the Trident II D5 missile—the new variant will be named the D5LE—to the 2060s.³⁶¹

In February 2020, the British defense secretary announced that a new development project was underway to replace the current nuclear warhead—the Trident Holbrook.³⁶² Once it becomes operational, the new warhead will be mated to missiles deployed on the four *Vanguard*-class submarines.³⁶³ In April 2020, the defense secretary wrote a letter to members of U.S. Congress with a plea to back the new warhead initiative and portraying it as “critical... to the long-term viability of the U.K.’s nuclear deterrent.”³⁶⁴ The British Ministry of Defense expressed that similar to the resemblances between the U.S. and U.K. warheads currently fielded, the United Kingdom’s new warhead will be comparable to the U.S. W93 and remarked, “It’s not exactly the same warhead but... there is a very close connection in design terms and production terms.”³⁶⁵ The Pentagon’s deputy undersecretary of defense for acquisition and sustainment, Alan Shaffer, countered that the W93 and the British weapon “will be two independent development systems.”³⁶⁶

Separately, the AWE is commencing a life-extension project on its current warhead stockpile, including upgrading some of its systems and electronics to “improve accuracy and performance.”³⁶⁷ The United Kingdom is also allocating billions of pounds towards infrastructure construction in support of the AWEs warhead development, construction, and testing at sites in southern England and Valduc, France.³⁶⁸ This also happens to be

³⁶¹ Kristensen and Korda, “United Kingdom Nuclear Weapons, 2021,” 156.

³⁶² Kristensen and Korda, 156.

³⁶³ Andrew Chuter, “Britain Confirms New Nuclear Warhead Project after U.S. Officials Spill the Beans,” *Defense News*, February 2, 2020, <https://www.defensenews.com/global/europe/2020/02/25/britain-confirms-new-nuclear-warhead-project-after-us-officials-spill-the-beans/>.

³⁶⁴ Kristensen and Korda, “United Kingdom Nuclear Weapons, 2021,” 156.

³⁶⁵ Kristensen and Korda, 156.

³⁶⁶ Chuter, “Britain Confirms New Nuclear Warhead Project after U.S. Officials Spill the Beans,” para. 9.

³⁶⁷ Chuter, para. 15.

³⁶⁸ Chuter, para. 17.

where the United Kingdom is conducting joint hydrodynamic experiments with the French Alternative Energies and Atomic Energy Commission.³⁶⁹

As part of the broader nuclear agreement, France and the United Kingdom agreed to the joint nuclear-testing treaty in the spirit of cooperating on maintaining their nuclear weapon stockpiles.³⁷⁰ The conditions of the agreement entail the establishment of a center in Great Britain to “[develop] work to underpin the technologies” and a separate center in France to “measure the performance of materials.”³⁷¹ The warheads undergo testing by radiography technical means to confirm they are efficient and safe, without having to test them by traditional nuclear explosion methods.³⁷² As an outlook moving forward, this collaborative initiative has reinforced a nuclear-armed codependency for both nations.³⁷³ While the two states collaborate on testing matters, each still controls their respective warheads, and the agreement does not entail sharing nuclear secrets.

D. CURRENT NUCLEAR POLICY POSITIONS

According to the U.K. Ministry of Defense, the view of successive U.K. governments has been that a “minimum, credible, independent nuclear deterrent” in support of NATO’s collective security is critical domestically and regionally.³⁷⁴ The United Kingdom’s deterrent strategy is predicated on the concept of minimum deterrence—meaning not to necessarily achieve nuclear parity, but to field a nuclear

³⁶⁹ Chuter, para. 17.

³⁷⁰ Robert Golan-Vilella, “UK, France Sign Nuclear Collaboration Treaty,” Arms Control Association, para. 3, accessed February 8, 2022, <https://www.armscontrol.org/act/2010-12/uk-france-sign-nuclear-collaboration-treaty>.

³⁷¹ Golan-Vilella, paras. 3, 5.

³⁷² Golan-Vilella, para. 3.

³⁷³ Nick Ritchie and Benoît Pelopidas, *European Nuclear Nationalism: UK and French Perspectives on Nuclear Disarmament*, ed. Nik Hynek and Michal Smetana, Routledge Global Security Studies (London: New York : Routledge, Taylor & Francis Group, 2016), 225.

³⁷⁴ “The UK’s Nuclear Deterrent: What You Need to Know,” U.K. Ministry of Defence, November 9, 2021, sec. The UK’s approach to nuclear deterrence, <https://www.gov.uk/government/publications/uk-nuclear-deterrence-factsheet/uk-nuclear-deterrence-what-you-need-to-know>.

arsenal that is able to inflict “unacceptable damage” on an adversary when necessary.³⁷⁵ In accordance with the U.K.’s 2021 Integrated Review, Britain deliberately maintains an ambiguous nuclear-use policy in order to create a sense of uncertainty in its adversaries and to thwart the decision-making process of its prospective enemies.³⁷⁶ Therefore, little information is publicly available about “when, how and at what scale” the United Kingdom would elect to employ its nuclear weapons or what exactly its operational arsenal fully consists of.³⁷⁷ Additionally, as mentioned in Chapter I, the United Kingdom is recognized as one of the five nuclear-states party to the NPT and is a participant in all of the primary nonproliferation treaties and international export control regimes that work towards preventing the proliferation of nuclear weapons.³⁷⁸

Unlike France, the United Kingdom’s nuclear arsenal is part of NATO’s integrated military command structure; however, decisions made concerning the arsenal’s employment is still conducted in London and only the prime minister can authorize a nuclear strike.³⁷⁹ If an adversarial action is deemed threatening to the United Kingdom’s national interests, Britain reserves the right to overrule any commands issued by NATO officials.³⁸⁰ However, the United Kingdom has expressed its commitment to employing its nuclear arsenal, consistent with the Washington Treaty, in “extreme circumstances of self-defense, including the defense of our NATO Allies.”³⁸¹ Additionally, according to British doctrine, the United Kingdom provides “negative security assurances in its employment guidelines” for its nuclear arsenal.³⁸² The United Kingdom has stated that it

³⁷⁵ Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 16.

³⁷⁶ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” para. 1.

³⁷⁷ “Arms Control Center: United Kingdom,” para. 5.

³⁷⁸ “United Kingdom Overview,” para. 1.

³⁷⁹ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” para. 3.

³⁸⁰ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” para. 3.

³⁸¹ “Fact Sheet: The United Kingdom’s Nuclear Inventory,” para. 3.

³⁸² Pifer and Tyson, “Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control,” 16.

will “not use, or threaten to use, nuclear weapons against any non-nuclear weapons state party to the [NPT],” as long as they are complying with their responsibility to uphold nonproliferation initiatives.³⁸³

Until March 2021, the United Kingdom was taking action to decrease the number of nuclear-weapons in its arsenal; however, as part of the U.K.’s 2021 Integrated Review, the government reneged on its pledge to reduce the number of nuclear-weapons to 180 by the mid-2020s, and instead declared it will “move to an overall nuclear weapon stockpile of no more than 260 warheads.”³⁸⁴ Additionally, according to the review, the United Kingdom no longer intends to openly share details surrounding its nuclear arsenal or the conditions in which it would consider carrying out a nuclear strike. This shift in doctrine means the British are pursuing a strategically ambiguous policy as it pertains to nuclear deterrence. The United Kingdom’s ruling to boost its warhead stockpile by 40% in March 2021 makes it the first Western nuclear-armed state to take such action since the end of the Cold War.³⁸⁵ The move will ultimately bring its nuclear stockpile back to a size comparable to what it had in the early-2000s. The United Kingdom justified the decision to reverse its previous pledge of reducing the number of warheads by pointing out the dynamic threat environment, specifically highlighting the rise in international competition and increased spread of new and dangerous technologies.³⁸⁶ Additionally, the change in the United Kingdom’s posture is part of “a shift to a more robust position on security and deterrence.”³⁸⁷ For an estimation of the United Kingdom’s nuclear weapon stockpile history and trajectory, refer to Figure 2.

³⁸³ Pifer and Tyson, 16.

³⁸⁴ Hans M. Kristensen and Matt Korda, “British Defense Review Ends Nuclear Reductions Era,” *Federation of American Scientists* (blog), May 2021, para. 1, <https://fas.org/blogs/security/2021/03/british-defense-review-2021/>.

³⁸⁵ Kristensen and Korda, para. 2.

³⁸⁶ “United Kingdom Overview,” sec. Nuclear.

³⁸⁷ Kristensen and Korda, “British Defense Review Ends Nuclear Reductions Era,” para. 2.

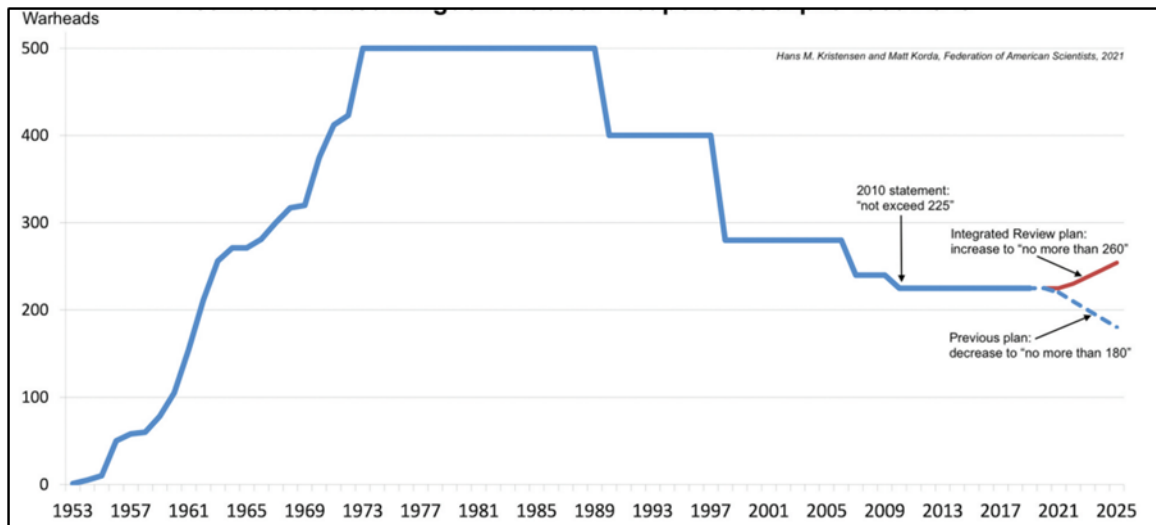


Figure 2. Estimated United Kingdom Nuclear Weapons Stockpile 1953–2025.³⁸⁸

E. ARMS-CONTROL EFFORTS TO DATE

The U.K.’s Ministry of Defense has stated that it remains steadfast in its goal to collectively move towards a world without nuclear weapons and encourages that states work towards fully implementing the NPT, in all of its aspects.³⁸⁹ Indeed, the Ministry of Defense has expressed its belief that currently, “no credible alternative route to disarmament” exists and the NPT is the best avenue to pursue that objective. Additionally, the U.K.’s Ministry of Defense has highlighted several tangible efforts the British government has taken in the past to achieve nuclear disarmament. These efforts include:

- [Upholding its] legal obligation to pursue global disarmament under Article VI of the Treaty on the NPT
- The United Kingdom is the only NWS with a single weapon system, and is the NWS with the smallest nuclear arsenal
- Since 2010, the United Kingdom has decreased the number of warheads on each submarine from 48 to 40, decreased the requirement for available warheads from 160 to 120, and decreased the number of operational missiles on each submarine to eight
- The last of the 100 WE 177 A/B Nuclear Gravity Bombs was dismantled at AWE Aldermaston in 1998

³⁸⁸ Adapted from: Kristensen and Korda, “United Kingdom Nuclear Weapons, 2021,” 155.

³⁸⁹ “The UK’s Nuclear Deterrent: What You Need to Know,” sec. A world without nuclear weapons.

- [Established] the UK-Norway Initiative [as] a collaborative project between the United Kingdom and Norway, begun in 2007, to develop a verification system for warhead dismantlement. [The U.K.-Norway project has worked to collaboratively identify verifiable disarmament procedures with the results presented at the 2010 NPT Review Conference, the 2012 NPT PrepCom, and the 2015 NPT Review Conference.]³⁹⁰

Rhetorically, the British government has gone on record several times pledging its commitment to work towards moving towards a nuclear-free weapon world. In 2007, the Labour government acknowledged the renewed desire for global disarmament by pledging its unwavering commitment to this goal, and declared it would play a prominent role in determining the appropriate actions to take and challenges to address.³⁹¹ In June 2007, British Foreign Secretary Margaret Beckett stated, “When it comes to building this new impetus for global nuclear disarmament, I want the U.K. to be at the forefront of both the thinking and the practical work. To be, as it were, a disarmament laboratory.”³⁹² In January 2008, British Prime Minister Gordon Brown stated:

I pledge that in the run-up to the Non Proliferation Treaty review conference in 2010 we will be at the forefront of the international campaign to accelerate disarmament amongst possessor states, to prevent proliferation to new states, and to ultimately achieve a world that is freer from nuclear weapons.³⁹³

During a February 2008 speech, British Defense Secretary Des Browne declared a foundation for steps to take towards multilateral disarmament at the Conference on

³⁹⁰ “Nuclear Disarmament United Kingdom,” *The Nuclear Threat Initiative* (blog), July 2015, sec. Disarmament and Commitments to Reduce Arsenal Size, <https://www.nti.org/analysis/articles/united-kingdom-nuclear-disarmament/>.

³⁹¹ Hynek and Smetana, *Global Nuclear Disarmament Strategic, Political, and Regional Perspectives*, 228.

³⁹² Margaret Beckett, “Keynote Address: A World Free of Nuclear Weapons?,” Carnegie Endowment for International Peace, June 25, 2007, <https://carnegieendowment.org/2007/06/25/keynote-address-world-free-of-nuclear-weapons-event-1004>.

³⁹³ Gordon Brown, “Getting to Zero Timeline: 2008,” *BASIC* (blog), May 2013, <https://basicint.org/updates/gtz/timeline/2008/>.

Disarmament in Geneva.³⁹⁴ He stated, “the U.K. has a vision of a world free of nuclear weapons and, in partnership with everyone who shares that ambition, we intend to make further progress toward this vision in the coming years.”³⁹⁵ In February 2009, British Foreign Secretary David Miliband published a policy paper titled *Lifting the Nuclear Shadow: Creating the Conditions for Abolishing Nuclear Weapons*, which stated, “We need an assertive and cooperative strategy, founded on the premise that the goal of a nuclear weapons free world is achievable.”³⁹⁶ The following month, Prime Minister Gordon Brown declared that the United Kingdom would develop “a credible roadmap toward disarmament by all the nuclear weapons states... through measures that will command the confidence of all the non-nuclear weapons states.” The roadmap was formally published later that year.³⁹⁷ Lastly, unlike France’s pessimistic response, the formal British reaction to the 2009 global zero initiative speech given by U.S. President Barack Obama in Prague was generally positive.³⁹⁸

As it pertains to the NPT, the British government strongly believes that the only path to attain international disarmament is through an iterative and measured multilateral disarmament process, and that negotiations should take place through a gradual approach within context of the NPT—which by nature of the agreement, considers wider international security conditions and events.³⁹⁹ The United Kingdom has highlighted the critical role the NPT has played in curbing a nuclear-arms race and reducing the proliferation of nuclear weapons, which is why the British government does not support the TPNW. The British government believes the TPNW puts the “existing non-proliferation and disarmament architecture” at risk and could ultimately disrupt the

³⁹⁴ Hynek and Smetana, *Global Nuclear Disarmament Strategic, Political, and Regional Perspectives*, 228.

³⁹⁵ Hynek and Smetana, 228.

³⁹⁶ Hynek and Smetana, 228.

³⁹⁷ Hynek and Smetana, 228.

³⁹⁸ Hynek and Smetana, 232.

³⁹⁹ “The UK’s Nuclear Deterrent: What You Need to Know,” sec. A world without nuclear weapons.

international security environment.⁴⁰⁰ In strong terms, the British government has made it clear that it will not endorse, sign, or ratify the TPNW, and refuses to be compelled by the conditions set forth within the treaty. Additionally, the United Kingdom has stated that the TPNW is incompatible with NATO membership, and it jointly supports NATO's position against it.

The United Kingdom has also identified how it works within the three pillars of the NPT to halt the proliferation of nuclear weapons and associated materials, undertake global initiatives to support the responsible use of nuclear energy, and endorses arms-control efforts to limit and reduce nuclear arsenals.⁴⁰¹ According to the U.K. Ministry of Defense, Pillar I is associated with nuclear disarmament, and requires all states party to the treaty to engage in disarmament and reduction negotiations in the spirit of lowering nuclear arsenals; however, no timeframe to initiate and complete the disarmament process is established within the pillar itself.⁴⁰² In addition to the several tangible efforts the British government has taken to disarm in the past, the United Kingdom has lessened the role nuclear-weapons play in its national security strategy, and has considerably lowered the number of nuclear warheads in its stockpile that once peaked at 520 warheads in the 1970s. In 2009, the United Kingdom created the P5 Process among the NWS to foster cooperation and establish a forum to enhance coordination efforts when discussing nuclear-related matters.⁴⁰³

The United Kingdom has undertaken several additional projects that work towards nuclear disarmament in the spirit of Pillar I. This includes significant investments made in its national research program at the Atomic Weapons Establishment, and it routinely

⁴⁰⁰ "The UK's Nuclear Deterrent: What You Need to Know," sec. A world without nuclear weapons.

⁴⁰¹ "Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action."

⁴⁰² "Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action," sec. Pillar I: Disarmament.

⁴⁰³ "Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action," sec. Pillar I: Disarmament.

participates in global projects that could prove to be promising in the future.⁴⁰⁴ Among the initiatives, the Quad Nuclear Verification Partnership and the International Partnership for Nuclear Disarmament Verification are important projects the United Kingdom has identified to work towards nuclear disarmament.⁴⁰⁵ The Quad Nuclear Verification Partnership is an initiative between the United Kingdom, the United States, Norway, and Sweden that is designed to collaboratively identify new multilateral nuclear disarmament verification methods.⁴⁰⁶ The partnership focuses on technical and policy-making projects to include developing strategies that could assist states in solving challenges associated with verification and monitoring as they relate to nuclear disarmament processes. Separately, the International Partnership for Nuclear Disarmament Verification is a working group that includes the United Kingdom, France, and over 25 countries—nuclear-armed and unarmed—with the goal of identifying critical knowledge gaps and technical challenges related to monitoring and verifying nuclear disarmament measures.⁴⁰⁷ The working group develops summary reports that entail technologies and processes to potentially deal with those challenges.

The British government has stated that it will continue to collaborate with other nations to identify positive steps to take towards achieving multilateral disarmament. Part of these efforts include promoting productive discussions on a Fissile Material Cut-Off Treaty within the Conference on Disarmament and entering the CTBT into force.⁴⁰⁸ Along with France, the United Kingdom was one of the first NWS to ratify the CTBT which partly

⁴⁰⁴ “Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action,” sec. Pillar I: Disarmament.

⁴⁰⁵ “The UK’s Nuclear Deterrent: What You Need to Know,” sec. A world without nuclear weapons.

⁴⁰⁶ “QUAD: About Us,” Quad Nuclear Verification Partnership, 2020, <https://quad-nvp.info/about-us/>.

⁴⁰⁷ “About the Nuclear Disarmament Verification Initiative,” International Partnership for Nuclear Disarmament Verification, 2022, <https://www.ipndv.org/about/>.

⁴⁰⁸ “Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action,” sec. Pillar I: Disarmament.

demonstrates their commitment towards preventing nuclear-weapon test explosions as a step towards de-escalation.⁴⁰⁹

Pillar II of the NPT includes initiatives towards promoting nuclear non-proliferation. This ensures that the countries who do not have nuclear-weapons will not be able to acquire them.⁴¹⁰ Additionally, the NPT sets up a safeguard system through the International Atomic Energy Agency (IAEA) and the system makes sure that states without nuclear weapons are complying with the treaty. The NWS, including the United Kingdom, have also agreed to implement international safeguards to further strengthen the IAEA's system. The United Kingdom champions this system and publicly encourages all nations to "ratify and fully implement safeguards agreements."⁴¹¹ To enhance international security, the U.K. government works to promote international nuclear agreements and ensure their associated conditions are as impactful as they can be while encouraging as many countries as possible to ratify and implement them. The United Kingdom is also a firm believer in bolstering safeguards within the system, particularly the universal acceptance of the Additional Protocol—a tool that the IAEA's leverages to verify that all nuclear activities are being done peacefully and that states are employing comprehensive safeguard agreements.⁴¹² To further halt the spread of nuclear-weapons, the United Kingdom stands as one of the leading financial contributors to the IAEA through its Safeguards Support Program and Nuclear Security Fund.⁴¹³

⁴⁰⁹ "Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action," sec. Pillar I: Disarmament.

⁴¹⁰ "Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action," sec. Pillar II: Non-Proliferation.

⁴¹¹ "Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action," sec. Pillar II: Non-Proliferation.

⁴¹² "Additional Protocol," International Atomic Energy Agency, June 2016, <https://www.iaea.org/topics/additional-protocol>.

⁴¹³ "Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action," sec. Pillar II: Non-Proliferation.

Pillar III of the NPT highlights measures taken to ensure the peaceful use of nuclear technologies and to make certain that all countries can benefit from their use.⁴¹⁴ The United Kingdom contributes to the global effort to detect and assist countries—particularly developing ones—in gaining access to these peaceful nuclear technologies so that the United Nations can achieve progress in “areas including human health, access to food and water, clean energy, and the environment.”⁴¹⁵ The United Kingdom has reaffirmed its commitment to use nuclear technologies in a responsible manner and ensure that public safety remains a priority by reassuring the world it will not abuse these technologies in accordance with the best international practices.⁴¹⁶

Because the United Kingdom believes the best path towards disarmament is through a multilateral approach, it continues to pursue key steps needed towards achieving that goal including promoting negotiations on a FMCT in the Conference on Disarmament.⁴¹⁷ The FMCT is a proposed multilateral agreement that would effectively ban states from producing two of the main elements necessary for the assembly of nuclear weapons: plutonium and highly-enriched uranium.⁴¹⁸ The UN Conference on Disarmament has hosted multilateral discussions surrounding this issue. The conference consists of an international group of 65 member states and meets annually to serve as the primary multilateral forum for disarmament negotiations. The conference is set up to operate only by consensus and therefore it does not often produce tangible progress, which has impeded the advancement on ratifying the FMCT.⁴¹⁹ In the event the FMCT were to enter into force, the United Kingdom—along with the other recognized NWS—would face

⁴¹⁴ “Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action,” sec. Pillar III: Peaceful uses.

⁴¹⁵ “Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action,” sec. Pillar III: Peaceful uses.

⁴¹⁶ “Nuclear Non-Proliferation Treaty (NPT): An Overview of UK Action,” sec. Pillar III: Peaceful uses.

⁴¹⁷ “The UK’s Nuclear Deterrent: What You Need to Know,” sec. A world without nuclear weapons.

⁴¹⁸ Daryl Kimball and Kingston Reif, “Fissile Material Cut-off Treaty (FMCT) at a Glance,” Arms Control Association, June 2018, para. 1, <https://www.armscontrol.org/factsheets/fmct>.

⁴¹⁹ Kimball and Reif, para. 1.

additional nuclear production restrictions beyond the ones outlined in the NPT. Though the United Kingdom has declared it has already ceased production of fissile materials for nuclear weapons. Indeed, the United Kingdom stopped producing highly enriched uranium in 1963 and weapons-grade plutonium in 1989.⁴²⁰

To curb the threat of nuclear weapon development, the United Kingdom has been involved with a series of regional treaties and participated in several security summits. Specifically, the “United Kingdom has ratified protocols to the Latin American and the Caribbean, South Pacific, African, and Central Asian nuclear weapons free zone treaties,” vowing to refrain from employing or threatening “to use nuclear weapons against the treaty’s member states; however, the [British] government maintains reservations to each of these protocols.”⁴²¹ For example, the United Kingdom, along with the other four recognized NWS, have yet to ratify the Southeast Asia nuclear weapons free zone treaty due to limitation concerns related to their respective nuclear postures.⁴²² Additionally, the NWS are hesitant to extend comprehensive negative security assurances to one another or nuclear-armed countries that are not included within the NPT framework. Lastly, there are concerns over not being able to enjoy the freedom of movement with their own nuclear-armed vessels and they also want to avoid anything that undermines their ability to execute nuclear launches from within the Southeast Asian region.⁴²³ Separately, in September 2009, the United Kingdom hosted a conference in London with the five recognized nuclear weapons states to identify confidence-building actions that can be taken to limit and reduce nuclear arsenals, which marked the first time an international meeting was held in this

⁴²⁰ Kimball and Reif, “Fissile Material Cut-off Treaty (FMCT) at a Glance.”

⁴²¹ “Arms Control and Proliferation Profile: The United Kingdom,” Arms Control Association, July 2019, sec. Nuclear Weapons Free Zones, <https://www.armscontrol.org/factsheets/ukprofile#nw>.

⁴²² Tong Zhao, “Nuclear Weapon States and the Southeast Asia Nuclear Weapon Free Zone,” Carnegie Endowment for International Peace, February 2017, sec. MAIN CONCERNS OF NWS COUNTRIES, <https://carnegietsinghua.org/2017/02/10/nuclear-weapon-states-and-southeast-asia-nuclear-weapon-free-zone-pub-67965>.

⁴²³ Zhao, sec. MAIN CONCERNS OF NWS COUNTRIES.

manner.⁴²⁴ This led to subsequent meetings in Paris, Washington, DC, Geneva, and once again in London. Lastly, the United Kingdom has also participated in a series of Nuclear Security Summits (NSS) with the goal of thwarting nuclear terrorism around the world, including the “2010 NSS in Washington, DC, the 2012 NSS in Seoul, the 2014 NSS in The Hague, and the 2016 NSS held again in Washington, DC.”⁴²⁵

Despite participating in a multitude of international arms-control initiatives, both changes made in the U.K.’s 2021 Integrated Review—deliberate ambiguity and stockpile increase—faced harsh backlash from foreign governments and civil society groups.⁴²⁶ Most notably, this new posture represents a complete reversal from the United Kingdom’s previous open-rhetoric that it was fully invested in working towards nuclear disarmament. Additionally, there is concern that the United Kingdom’s policy of ambiguity could undermine the credibility of any condemnations it issues towards Russia’s proliferation and lack of transparency with its nuclear programs. Indeed, Russia is specifically identified as “the most acute direct threat to the U.K.,” but the review does appear to mention Iran posing an indirect threat even though Iran does not possess nuclear weapons at this time.⁴²⁷ In the review, assurances were made that the “U.K. will not use, or threaten to use, nuclear weapons against any non-nuclear weapon state party to the Treaty on the Non-Proliferation of Nuclear Weapons 1968” and then adds: “This assurance does not apply to any state in material breach of those non-proliferation obligations.”⁴²⁸ This is a similar proclamation to the one the United States made during its 2018 Nuclear Posture Review.⁴²⁹ While Article VI of the NPT does not explicitly forbid the United Kingdom from adding to its nuclear arsenal, it does require the country to “pursue negotiations in good faith on

⁴²⁴ Hynek and Smetana, *Global Nuclear Disarmament Strategic, Political, and Regional Perspectives*, 228–29.

⁴²⁵ “Arms Control and Proliferation Profile: The United Kingdom,” sec. Nuclear Security Summits.

⁴²⁶ “United Kingdom Overview,” sec. Nuclear.

⁴²⁷ Kristensen and Korda, “British Defense Review Ends Nuclear Reductions Era,” sec. Nuclear Strategy and Targeting.

⁴²⁸ Kristensen and Korda, sec. Nuclear Strategy and Targeting.

⁴²⁹ “World Nuclear Forces,” 335–38.

effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”⁴³⁰ Critics of the United Kingdom’s decision argue that the its move to increase its stockpile as a reactionary measure to Russia and other emerging threats appears to be a direct contradiction of the NPT’s purpose and the ultimate goal of ending the nuclear arms race.⁴³¹

Despite the outward perception that the United Kingdom is as an actor who pushes nuclear disarmament initiatives forward, it is readily apparent that it will continue to link national security and international status with its nuclear arsenal and will not risk disarming without the two nuclear superpowers taking the initiative. As highlighted in Chapters II and III, Russia is continuing to make technological advances in its conventional and nuclear forces, and the United Kingdom likely believes maintaining a nuclear deterrent can help offset the risks associated with Russia’s—and potentially China’s—modernization plans and aggressive behavior. Additionally, as highlighted earlier in this chapter, the United Kingdom justifies its decision to increase the limit of its warhead inventory and shift towards a strategically ambiguous nuclear doctrine because of the dynamic international threat environment. In light of the recent crisis in Ukraine, Europe could be on the verge of its first major war in decades. Vladimir Putin’s decision to raise the readiness level of its nuclear forces likely emboldens the United Kingdom to invest in its nuclear deterrent, and diplomatic and defense officials within the British government probably feel these recent events validate their decision to reverse course on its disarmament path.

Similar to France, the United Kingdom likely does not feel the extended collective deterrence the United States provides is adequate enough to replace its independent nuclear arsenal. As one of the forefront leaders of NATO, the United Kingdom’s nuclear deterrent supports the collective security of its European allies which contributes to its status as a prominent player in European affairs, despite its exit from the European Union.

⁴³⁰ Kristensen and Korda, “British Defense Review Ends Nuclear Reductions Era,” sec. The NPT Context.

⁴³¹ Kristensen and Korda, sec. The NPT Context.

Relinquishing or diminishing its status as a nuclear power would likely have a cascading effect in its ability to diplomatically influence matters on a range of regional geopolitical issues as an independent actor or as a leader within NATO.

Unlike the French who enjoy a near-consensus in maintaining its nuclear deterrent posture, the British have a history of domestic and governmental dissent when it comes to fielding and investing in nuclear weapons. This could challenge Britain's status as a nuclear power moving forward, especially if the governing party takes a position similar to the Labour Party in the 1980s or momentum arises for a domestic opposition movement like the Cold War protest. Economic hardship could also portend difficult conditions for the British government to justify producing and modernizing its nuclear arsenal, even though the strategic stability in Europe is in question as it pertains to the Russia-Ukraine crisis. It could simply become a matter of national prioritization, where nuclear deterrence falls to the wayside.

While it is unlikely the British would be willing to make nuclear concessions without the United States, Russia, or even China taking significant measures first, this does not mean that the United Kingdom does not want to act like a responsible nuclear power. Looking ahead, the British will likely continue to initiate and participate in a series of limited arms-control initiatives. The most prominent efforts will continue to center on the endorsement of the NPT's full-implementation and cooperative forums that promote working together to identify disarmament objectives.

F. CONCLUSION

As this chapter has outlined, the United Kingdom's perception of the regional security environment has served as the impetus behind its decision to reverse course on its own disarmament progress. This is most evident in the United Kingdom move to increase its warhead stockpile, implement a doctrine of strategic ambiguity, and replace its current submarine fleet with brand-new *Dreadnought*-class SSBNs. Its outward rhetoric suggests it believes the full implementation of the NPT is the only pathway towards disarmament. This indicates that in the near-term, the United Kingdom is focusing its efforts on bolstering its deterrence posture. At this time, it appears the United Kingdom is unlikely to

significantly influence multilateral arms-control unless several geopolitical, economic, and security dilemmas are addressed between Russia and the United States. Additionally, if the United States and Russia fail to come to an agreement to reduce the number of nuclear weapons down below the limits set forth in New START, the United Kingdom may very well feel it has little incentive to enter negotiations and accept constraints on its own nuclear arsenal. Now that the United Kingdom has exited the European Union, it is possible it may take a more independent approach regarding nuclear-related matters though it will continue to play a significant role in the collective defense of its European allies. Similar to the French, there is a strong sense of national identity tied to the United Kingdom's possession of nuclear weapons, at least among the British elite, and it feels its arsenal contributes to its status as a strong, international power.

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VI. CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY OF FINDINGS

This thesis contributes to the ongoing debate of identifying what avenues are worth exploring to progress towards international nuclear disarmament by assessing the British and French attitudes towards nuclear disarmament. Upon conclusion of this author's research, it appears that there is little optimism that France and the United Kingdom can have a significant impact on U.S.-Russian bilateral arms control negotiations in the near term. France and the United Kingdom's areas of strength include its membership and support of international organizations, experience in multilateral diplomacy, and development of advanced technologies that could all lend itself to positive contributions towards disarmament. However, up to this point, they have been relegated to passive observers and have had a relatively minimal impact on significantly influencing the arms-control architecture that has kept the European continent safe from a nuclear attack for decades. Based on the policies and behavior of the two European nuclear powers, they likely will continue to only pursue and maintain conditional commitments towards a world free of nuclear weapons. Additionally, there are many geopolitical, economic, and security dilemmas that are currently hindering a breakthrough in arms-control negotiations between the United States and Russia, and they likely need to be addressed before any meaningful nuclear reductive measures can occur.

Meaningful arms-control may not occur as long as it remains a U.S.-Russian bilateral construct, but expanding the negotiation process to include third parties is a complicated endeavor. The disparity in the number of nuclear weapons possessed between the United States and Russia and all other nuclear weapons states is an impasse that may relegate the European nuclear weapon states to remaining minor players for the foreseeable future. While the impetus is on the United States and Russia to create an environment conducive for multilateral arms-control, the United Kingdom and France are nuclear weapons states recognized by the NPT and are bound by the same obligation that requires its signatories to pursue measures to achieve global nuclear disarmament. However, both states have a strong sense of nuclear nationalism tied to their defense and foreign policies,

and likely do not feel compelled to take risks that threaten their sovereignty or weaken their influence on the international stage. Indeed, for both the United Kingdom and France, the resurgent advocacy in favor of global nuclear nonproliferation is grounded in promoting the conditions for disarmament rather than practicing it themselves first.

B. RECOMMENDATIONS

Progress towards achieving meaningful arms control would have to begin with small, mutually reinforcing, and incremental measures. While the U.S.-Russia and U.S.-China relationships remain the most likely and serious points of contention among the NWS, the European nuclear states are still important stakeholders.⁴³² Even if all NWS were able to come to an agreement to work together on a limited agenda, it would represent a significant breakthrough in arms-control.⁴³³ Indeed, with New START expiring in 2026 without plans for a successor, time is of the essence. Without a follow-on treaty in place, the potential for an arms race greatly increases and could portend a catastrophic outcome for Europe, which has largely benefited from New START's protective measures.⁴³⁴ As Clara Portela, sanctions and arms-control expert at the University of Valencia, argues, "in the absence of agreed limitations, there is no obstacle to a descent into an arms race with Europe as the most likely theatre of operations."⁴³⁵ Some aspects of global disarmament efforts can benefit from a multilateral approach, and it is incumbent on France and the United Kingdom to consider all options at their disposal to influence the arms-control architecture. Indeed, multilateral efforts cannot replace any potential progress made through productive bilateral engagement between Russia and the United States; however, France and the United Kingdom can still take action that might have a limited impact in the future. As this thesis has highlighted, the European powers can promote the

⁴³² Melamed, "Multilateral Steps to Reduce Nuclear Risks," 47.

⁴³³ Pifer and Tyson, "Third-Country Nuclear Forces and Possible Measures for Multilateral Arms Control," 36.

⁴³⁴ Portela, "The EU's Arms Control Challenge: Bridging Nuclear Divides," 28–29.

⁴³⁵ Judy Dempsey, "The West Cannot Rescue Arms Control Alone," Carnegie Europe, November 2021, <https://carnegieeurope.eu/strategieurope/85689>.

implementation of a multilateral forum for states to discuss a wide range of security and geopolitical issues while also endorsing multilateral initiatives that halt the spread of nuclear weapons.⁴³⁶

While the current U.S.-Russian relationship is extremely fractured as a result of a myriad of geopolitical issues, it does not reduce the need to address nuclear dangers and substantive talks should resume immediately once tensions surrounding the Ukraine crisis have subsided. Russia's recent threat to pull out of the only remaining bilateral arms-control agreement, New START, only raised the need to establish new nuclear arms limitation and reduction guidelines moving forward. As the world has seen play out in real time, leveraging a country's nuclear-armed status as blackmail—as Russia has done in Ukraine—should not be used to create precedents like a “sphere of influence,” and the best path forward to achieve sustainable security guarantees is through diplomatic channels.⁴³⁷

There is the potential for U.S. and Russian negotiators to build on the momentum of the recent New START extension and begin working towards a new arms-control “scaffolding” effect that will seek to address concerns surrounding advanced technologies while simultaneously prioritizing matters that require more urgent attention as they relate to second-strike capabilities.⁴³⁸ While engaging Russia, the United States, and other nuclear-armed states into further arms reductions will prove to be difficult, it is still a worthy endeavor. As Steven Pifer notes, to build on New START's extension, the United States and Russia could look to “negotiate a sub-limit on warheads on deployed strategic ballistic missiles.”⁴³⁹ In the past, Russia has indicated it would be willing to discuss and potentially negotiate limits on conventional strike and missile defense systems.⁴⁴⁰ Along with a bolstered U.S.-Russian arms reduction framework, establishing norms that build

⁴³⁶ Melamed, “Multilateral Steps to Reduce Nuclear Risks,” 47.

⁴³⁷ Hickey and Montgomery, “Nuclear Issues in the Ukraine Crisis,” sec. How does the war in Ukraine affect ongoing and future arms control negotiations between the United States and Russia?

⁴³⁸ Conley et al., “The Future of U.S.-Russian Arms Control,” 9.

⁴³⁹ Pifer, “With New START Extended, What Is Future of US-Russian Arms Control? - Russia Matters,” sec. 4.

⁴⁴⁰ Pifer, sec. 4.

upon mutually reinforcing actions would pave the way for more ambitious and meaningful multilateral negotiations to be had in the future.

Ultimately, considering the size and capabilities of their nuclear forces, the onus is on the United States and Russia to bring down their nuclear stockpiles before any meaningful multilateral measures can be implemented. Otherwise, there is little incentive for the other nuclear weapons states to negotiate and accept constraints on their own respective nuclear weapons. Especially in light of the swaying transatlantic relationship with the United States over the past decade, France and the United Kingdom likely view their nuclear stockpiles as an independent mechanism to guarantee their security. As Marc Finaud, head of the arms proliferation division at the Geneva Center for Security Policy notes, if the United States and Russia elected to take a “Reykjavik-type approach” and “[eliminate] all ballistic missiles and 50% of all strategic weapons within 10 years,” the obligation shifts towards the other nuclear-armed states to enter into discussions and make commitments to limit the size of their nuclear arsenals.⁴⁴¹ While France and the United Kingdom will unlikely agree to disarming their nuclear arsenals in the near future, they could implement transparency and confidence-building measures with Russia and the United States overseeing the progress.⁴⁴² In the near term, this may be the most practical alternative for linking France and Great Britain to U.S. and Russian attempts to create a multilateral arms-control construct.

⁴⁴¹ Finaud, “Cooperative Security: A New Paradigm For A World Without Nuclear Weapons?,” 174.

⁴⁴² Arbatov, Acton, and Dvorkin, “Prospects of Engaging the United Kingdom and France in Nuclear Arms Control,” sec. Conclusions.

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