



CONQUERING COMPLEXITY AS AN INTERNATIONAL AGENT

RACING BACK TO MUTUALLY ASSURED (MAD)

NORTH ATLANTIC TREATY ORGANIZATION

1. Welcome Letter

Honorable Delegates,

Fairly excited and with great pleasure we welcome you to the NATO committee in this the 17th edition of the Groningen Model United Nations Conference. We, Claudia and Thomas will be your chairs for the day and will do so to the best of our abilities. We hope you are looking forward to the conference as much as we do.

In the upcoming debates you will be faced with a challenging issue. The security problem we thought to have left behind after the end of the Cold War has dangerously appeared to be returning. NATO as the most important security oriented international organization will be confronted with the task of preserving global security while leaving no one behind. The present issue urges the member states of the organization to find consensus and negotiate around the dangers of nuclear weapons induced dangers that leave international security hanging by a thread.

NATO has frequently been an object of questioning: if the cold war ended, if its task glared fulfilled, why did it remain standing? Given the demanding context we place ourselves in, several answers can be offered to these questions. This committee ought to the fullest of its capacity attempt to avoid the outbreak of conflict of any kind and strive for the prevalence of peace we have been stretching from the end of the Cold War until now. It is of extreme importance that now more than ever the member states realize the relevance of their positions and the necessity to unite their forces to cope with a direct threat to the security of their people and to the international community.

This is a fairly difficult task; hence profound preparation is key. In this background paper you will find the first step into deeper knowledge about the responsibilities you hold as part of the NATO committee. In this paper we offer you the most essential information in its generality. Nevertheless, it will not suffice, which is why we cannot stress enough that **your own research will be required** in order to propose the best solutions and be able to better negotiate. Your own investigation will lead you to better insights on our project and a strong idea about how your country can contribute.

If you have any questions, do not hesitate to contact us. We are here to help you! We cannot wait to meet you and wish you the best of luck in your preparations for this year's GrunnMUN conference 2020.

Kind regards, Claudia Caldentey Santana & Thomas Stavrinos nato@teimun.org

2. Introduction

This year, the theme the TEIMUN foundation has chosen for our conference is 'Conquering Complexity as an International Agent'. This theme is perfectly descriptive of what our discussions ought to decipher orienting towards the crafting of security policies. If we break down this topic and parallel it with our own, the linkages are evident. On a first stare at the sphere of global politics we can confidently infer that it is vastly characterized by an increasing degree of interdependence. In uncountable aspects this intertwinement of our transnational and international goals and interests, has allowed for successful multilateral cooperation, however it has also made its development and performance quite difficult; complex. This interdependence reminds us to contemplate the consequences of our actions on fellow members of the international community, given we are all, in a way, chained to each other and the one pulling from one side can push the other down. There are many actors (international agents) involved in the careful elaboration of security strategies. Currently the possibility of going back to a security dilemma from decades ago because of defection from a bilateral agreement between the US and Russia revolves around your duty, delegates, to protect the nations you represent from any possible repercussions.

This background paper will provide you with the basics of NATO and the problem it is facing: Racing back to MAD (Mutually Assured Destruction)? In the following lines you will find a topic description starting with its relative beginnings in the post-WWII to the Cold War, followed by the arrival at the current issue, where all our efforts will be focused on. After that, a brief analysis of the actors involved in this problem will follow and their structural roles in the international system. Following the next section, the QARMA's will be given. These are questions you will need to answer during the conference together with your fellow delegates in your final resolutions.

3. Problem specification

To better understand the issue at hand we ought to trace back the trajectory of the current events. The intermediate -Range Nuclear Forces Treaty (INF) was a **formal treaty** between the United States of America and the former Union of Soviet Socialist Republics with the ultimate goal of prohibiting any future and destroying any existing **land-based** ballistic **missiles**, cruise missiles and missile launches with ranges of 500 to 1000 kilometers (**short medium range**) and those of 1000 to 5500 kilometers (**intermediate range**). In addition a protocol for mutual inspection was agreed upon. The treaty was signed in December 1978 and ratified by both countries in 1988. This arms control treaty had the escapatory clause which bestowed the states the option of rightful withdrawal from the treaty with six months' notice, if due to extraordinary events the 'supreme' interests of the states have redirected away from the treaties purposes[1].

After the collapse of the Soviet Union, Belarus, Kazakhstan, the Russian Federation, Ukraine, Turkmenistan and Uzbekistan became active participants to the treaty process[2].

A visible degree of skepticism sprouted from Russia in 2007, where the president called for a review of the INF for security improvements with a main preoccupation on the fact that the conditions of the agreement only affected the two countries while every other member of NATO remained exterior to the security restraints[3]. However, it has been announced that one of Russia's biggest concerns was that while their own state was submitted to limits by the treaty, its neighbor China could and was comfortably increasing and improving its military arsenal[4].

According to American reports Russia has violated the treaty by testing SSC-8 missile in 2008, which Russia proceeded to disclaim. Again in 2013, reports were submitted that Russia was violating the terms of the treaty by testing two missiles (SS-25 road mobile intercontinental ballistic missile and the newer RS-26 ICBM). Then in 2014, 2017 and 2018[5], NATO received once again information of Russian treaty breaches, despite Russia negating these accusations the organization opted for supporting the US' claims[6]. Notwithstanding, Russian experts did also accuse the US of violating the terms of the treaty in their usage of target missiles and unmanned aerial vehicles, which has equally been denied[7].

Donald Trump finally announced the intention of his administration to withdraw from the treaty given their continuous contemplation of Russia failing to live up to its commitment[8]. It followed the six months' notice where Russia was called upon to come back into compliance, nevertheless, Russia also suspended the INF treaty in effect to Trump's strategy[9]. In response to Trump's declaration, President Putin assured Russia would not be the first to launch first in a nuclear conflict, although he insisted we rest assured Russia would destroy any attacker, fundamentally returning to Mutually Assured Destruction – policy[10].

Among European NATO members worry exists due to their proximity to Russia and the dilemma of to the extent to which they should support this deterrence void. The organization ought to reach consensus and build a stable alliance against the possible outcomes that may jeopardize the security of their communities[11].

It has been suggested that among the US' reasons to withdraw was *also* its need to build up against China's arms increase in the pacific[12]. Essentially, where this treaty had been trying to suppress security competition "instincts" of two major powers in the international system, now arose a great and dangerous third superpower. Overall the problematization of all possible outcomes intertwine with how China has independently grown to be contemplated as a threat, which has drawn an apparently "peaceful" initiative into its dissolution. The unconstrained development of the country has obligated two enemies to be careful and not only pay attention to each other. The real enigma in this evident international vacuum and uncertain arena is where the roads are to peace and those to conflict? Where do those towards peace lead and how can they be collectively designed for their more effective accomplishment?

4. Questions That Need to Be Answered

In this section, we have included a list of questions that need to be answered in order to adequately address the issue at hand. Any successful resolution needs provide an answer to these questions and delegates can use them to guide their own independent research. However, the following three questions are meant as the basis for your research, and to guide you in your understanding of the issues we believe must be discussed. We expect that, of course, you will follow the Rules of Procedure provided by the GrunnMUN team, and to expand on this issue beyond these three basic questions.

- 1. How should NATO readjust the status of non strategic nuclear weapons within its overall nuclear posture?
- 2. How can NATO adapt its nuclear posture to the emerging threat of a new nuclear arms race emanating from Russia?
- 3. In what ways can NATO engage with Russia on the issue of nuclear disarmament and envisage new venues of cooperation in this area?

5. Explanatory section per question

a. "How should NATO readjust the status of non strategic nuclear weapons within the nuclear posture?"

Nuclear weapons were a prominent characteristic of the Cold War and played an instrumental role in the strategic interaction between the US and USSR. Even in the present, nuclear weapons are seen as important to national security due to their so-called 'deterrent effect' that changes the risk calculation of a potential aggressor. The prospect of unacceptable damage through nuclear retaliation sends the political message to a potential attacker that they cannot expect to gain or benefit from their aggression.[13] For this reason, nuclear weapons were central to the US strategy of deterring Soviet aggression against the United States and U.S. allies. To achieve this

goal, the US maintained its central strategic weapons - long range land-based missiles, submarine-based missiles, and long-range bombers - at bases in the United States. At the same time, it deployed thousands of shorter range or non-strategic nuclear weapons (NSNW) with US forces based in Europe, Japan, and South Korea and on surface ships and submarines around the world.[14] The principal idea behind the overseas deployment of NSNW's was extending nuclear deterrence to US allies in Europe and Asia and emphasizing its commitment to their collective security.[15] In fact, this resulted in a de facto linkage or coupling of US and Allied security to make nuclear retaliation more credible in the eyes of the Soviet Union. It meant that the United States took the commitment to retaliate with nuclear weapons not only in case of an attack on its own homeland but also in case of an aggression against other Allies. Again, this meant to signal to the Soviet Union that it could not escape nuclear retaliation by limiting its aggression to only certain parts of the world.

In Europe, extended deterrence was achieved through stationing weapon delivery systems with US warhead's in NATO that were capable of putting the Soviet homeland at risk. These weapons were seen as part of NATO's strategy of 'flexible response'. This flexible response recognized NATO's numerical inferiority in conventional forces vis a vis the Soviet Union and the Warsaw Pact and provided a plan to respond with nuclear weapons in case the alliance was overrun by Soviet forces.[16] Nonetheless, the concept of 'extended deterrence' posed some serious dilemmas for the alliance that needed to be resolved. One dilemma revolved around the uncertainty that many non-nuclear countries faced and the question of whether the US would act in its capacity as nuclear protector in case of need, given that they might also suffer retaliation against their own territory. This dilemma was encapsulated in the famous question of whether or not the United States would risk San Francisco to save Cologne.[17] It is due to this uncertainty, that the stationing of weapon delivery systems in NATO countries was seen as an important step to alleviate these concerns and reassure the US guarantee to their security.

In addition, the forward deployment of these weapons put at risk the safety of the host, since the short range of these weapons meant that they would have likely detonated close to or even on the territory of the Allies had war broken out between East and West. Therefore, NATO countries had a vested interest in obtaining relevant information from the United States that was related to the nature and quantity of weapons stationed on their soil.[18] They tried to influence U.S. nuclear strategies and target plans for Europe, because this would immediately affect their own security. This strong desire to be consulted about the US decision to use nuclear weapons in Europe in case of a crisis encouraged the creation of the Nuclear Planning Group (NPG) in 1967 as a forum for consultation, information sharing, and common planning.[19] Up to this day, the United States uses the NPG to provide its Allies with a remarkable level of information and influence on its nuclear plans and posture in Europe.

The INF Treaty and the Dual Track Decision

In the latter half of the 1970s NATO's nuclear deterrent came under severe pressure when the

Soviet Union began to deploy the SS-20 intermediate range ballistic missiles. These three-warhead missiles had a range of 4,000 kilometers and were able to strike targets in most NATO nations from bases inside the Soviet Union.[20] This gave the Soviet Union a strategic advantage since NATO did not possess a similar capability. In essence, this development revived the deeply held insecurity about the credibility of US commitment and gave the Soviet Union the opportunity to test the alliance cohesion. To counter this development, NATO and the US adopted the dual-track decision in 1979, which tried to link the modernization of US nuclear weapons in Europe with an effort to encourage the Soviets to negotiate reductions in Intermediate Range Nuclear Force (INF) systems. [21]The modernization of US nuclear weapons was seen as an important step to limit the gap that was created in the intermediate-range forces of the alliance. This decision would be carried out by replacing the aging medium range Pershing ballistic missile with a more accurate and longer range Pershing II (P-II) while adding new ground launched cruise missiles.[22]The new weapons would be owned and controlled by the United States, but they would be deployed on the territories of five European allies: West Germany, United Kingdom, Italy, the Netherlands and Belgium.

At the same time, this deployment decision was explicitly linked to a parallel track in which negotiations would take place with the Soviet Union in order to impose limits on INF systems. Fostering the link between these two tracks was important in reducing the soviet threat and appealing to public opinion which was strongly opposed to the deployment of these new weapon systems. Adding to this, modernizing its intermediate range forces implied that NATO would be able to negotiate from a position of strength given that the Soviet Union was unlikely to reduce its missiles unless it faced a similar threat.[23] However, what is most noteworthy about the dual track decision was the massive public outcry that was generated in response to the forward deployment of these weapon systems on European soil. These began in 1980 and escalated through the first half of the decade. For example in 1ate 1981, protests occurred in Italy, Germany, Great Britain and Belgium. Nearly 1 million people marched in Central Park in New York City in June 1982. In addition, in October 1983, nearly 3 million people protested across Europe, with nearly 1 million marching in the Netherlands and around 400,000 marching in Great Britain. [24] Public disapproval in combination with political opposition limited the room of maneuver for the governments that had accepted the deployment of the missiles on their territory. For example although both Belgium and the Netherlands agreed to the deployment in principle due to these tensions its implementation was delayed.

Despite these public upheavals, the dual track policy was successful in forging an agreement known as the Treaty on Intermediate Range Nuclear Forces (INF) on December 8, 1987.

NATO's Nuclear Posture after the Cold War

The year 1989 signaled the dissolution of the USSR and the United States found itself in a new strategic environment that reaffirmed its status as unipolar power. As the sole remaining superpower, the United States sought to shape the international system in accordance with its

vision through the expansion and transformation of NATO into an instrument of collective security with the capacity to engage in out of area crises. Therefore, NATO focused on adapting to the dramatic changes in the strategic environment by creating the conditions for the admittance of twelve new members in its alliance. As part of this adaptation and as reassurance to Russia on the non-threatening nature of enlargement, NATO announced its "three no's" in the 1997 NATO-Russia Founding Act.[25] These included a statement of no intention, no reason, and no plan to station nuclear forces on the territory of the new members. It is interesting to mention here that the new members have pointed to some complications in this agreement, highlighting that these declarations were signed without them and would effectively prohibit their participation in the existing Alliance arrangement.

Another fundamental change was that with the end of the Cold War, non-strategic nuclear weapons appeared to play a less relevant role, both politically and operationally. The threat of conventional attack against Europe declined significantly as both NATO and Russia cut conventional forces and the Soviet Union and Warsaw Pact dissolved. Consequently, NATO reduced substantially the stockpile of nuclear weapons that were stationed in Europe, only retaining a small air-delivered nuclear component.[26] This consists of B-61 bombs delivered by Dual Capable Aircraft (DCA) that provide the alliance with a degree of flexibility. The aforementioned arrangement can be described as a form of 'nuclear sharing' a term that aims to describe how other countries bear the political and financial cost of a nuclear alliance by housing these B-61 bombs upon their territory.[27] The hosting countries are the ones that have the capacity to carry these tactical bombs with their DCA systems and include Germany, the Netherlands, Belgium, Italy and Turkey. The logic behind this arrangement is simple; any discussion on a nuclear strike is carried out through consultation in the Nuclear Planning Group. This forum gathers both the member states that are directly involved in the DCA strike mission as well as the rest. In times of war, these allies cast their vote in favor of, or against, the use of a nuclear strike. Other members, such as Poland with its F-16s, contribute to the nuclear mission in what NATO terms a "SNOWCAT" role. These allies provide non-nuclear capabilities such as the suppression of enemy air defense. SNOWCAT can be anything from the command and control of nuclear forces to the security of weapons on the ground.[28]

Besides the non-strategic nuclear element of the alliance, the independent strategic forces of the three nuclear powers comprise NATOs nuclear hardware: the United States, United Kingdom and France – about 7,800 nuclear weapons in total.[29]These "strategic" forces include the traditional nuclear triad: of bombers, Inter-Continental Ballistic Missiles (ICBMs), and submarines. At any given time, these three countries could employ their strategic nuclear forces autonomously, or make them available to the Alliance in a NATO capacity. However, responsibility over nuclear deterrence is given to the US, with NATO's stating 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."[30] However, the Allies do not generally consider the strategic forces of the US, UK and France to be "NATO" nuclear weapons. The reason for this is

twofold: first, the French nuclear force has always been independent of NATO and France has officially stayed outside all discussions of NATO's nuclear weapons. It takes part in the drafting of language on NATO strategic policy in key documents and participates in defense planning for conventional forces but remains outside the NPG. Second, the focus has shifted towards non-strategic nuclear weapons because Russia currently outnumbers NATO in terms of "tactical" weapons with an alarming ratio of about 6:1[31].

Although the strategic utility of NSNW's is considered by some critics to be gradually fading, their symbolic role in emphasizing solidarity and resolve among the alliance remains the main reason why these weapons still occupy a place in NATO's overall nuclear posture.[32] This symbolic importance has been the driving force for many new members form Central and Eastern Europe to join the alliance since to them it manifests the transatlantic link between the US and Europe. As result, NATO's Strategic Concepts in 1991 and 1999 placed strong emphasis on the political nature of nuclear weapons. The Concepts included the statement that NATO will "maintain adequate sub strategic forces based in Europe which will provide an essential link with strategic nuclear forces, reinforcing the transatlantic link".[33] Nonetheless, over the years there has been a clear rift between new member states that support the status of NSNWs and other countries that want to reduce their role even further. [34]The latter was inspired by Obama's reset policy towards Russia which aimed to improve bilateral relations and open up avenues of cooperation in different areas such as arms control. In fact, bilateral nuclear negotiations between the US and Russia emerged and ultimately resulted in the signing of the New Start Treaty in 2010.

Overall, this agreement was tied to a new direction in nuclear policy under the Obama administration, which aspired to create the necessary steps towards total nuclear disarmament. This new momentum in the arms control agenda opened up discussions around the status of NSNWs in Europe with Germany leading the call to withdraw them.[35] Belgium, Norway, Luxemburg, and the Netherlands supported this bold initiative heading into NATO's 2010 Lisbon Summit. However, this move was quickly hampered by US diplomatic efforts that announced a key policy principle at a meeting of NATO foreign ministers in April 2010 (prior to the Lisbon Summit) in Estonia[36]. It asserted that US tactical nuclear weapons would remain in Europe in order to avoid "consternation" throughout the Alliance. The principle was later reflected in the 2010 NATO "Strategic Concept" which specifies that NATO's deterrence will be based on an appropriate combination of nuclear and conventional capabilities.[37] This line of argument was also present in NATOs 2012 Deterrence and Defense Posture Review (DDPR) that was released at the Chicago summit and reinstated that "nuclear weapons are a core component of NATO's overall capabilities for deterrence and defense".[38] Nonetheless, the 2012 DDPR lacks substance as to what exactly constitutes this new nuclear posture. It merely represents a move to mask member's diverging views by essentially embracing the status quo of NSNWs in Europe without any fundamental changes to NATOs nuclear posture.

b. "How can NATO adapt its nuclear posture to the emerging threat of new nuclear arms race emanating from?"

A Turning Point?

The internal debate within the alliance over a potential adjustment of NSNWs in NATOs nuclear posture quickly faded away when Russia illegally annexed Crimea and actively supported separatists in Eastern Ukraine in 2014.[39] This action revitalized Eastern European concerns on the possibility of being targeted by an increasingly assertive Russia and prompted them to seek guarantees to their internal security ahead of the 2014 Wales Summit. The main focus of this summit concentrated on enhancing NATO's conventional capability through what is known as the Readiness Action Plan (RAP). It was created to "assure frontline allies that NATO was willing and able to defend their sovereignty against Russian aggression".[40] The RAP is built upon two main pillars: assurance and adaptation measures that aim to increase NATO's military presence and activity. In general, the Wales Summit was important in recognizing the changed strategic environment in 2014 and opening up discussions about the effectiveness of the 2012 Defense and Deterrence Posture Review in preventing Russian aggression. Although the discussion remained limited to the implementation of the RAP in the subsequent 2016 Warsaw Summit, it was clear that there were increasing calls to pay attention to the nuclear dimension of NATO's strategy.

It was the Eastern European states that advocated for an offensive turn in NATOs nuclear posture perceiving the forward deployment of NSNW's as the ultimate assurance to their collective security. NATO attempts to provide this assurance via an increase in its conventional capabilities were seen as a welcome step in the right direction but not sufficient in and by itself. [41]A change of course was slowly emerging, at a meeting of NATO defense ministers in 2015, U.S. Secretary of Defense Ash Carter and Adam Thomson, the United Kingdom's ambassador to NATO, publicly stated that NATO should consider steps to improve the way it integrates conventional and nuclear deterrence.[42]Two months later, Polish Deputy Defense Minister Tomasz Szatkowski proposed stationing U.S. tactical nuclear weapons in Poland. However, the Polish Ministry of National Defence denied that Szatkowki's statement was a formal proposal.[43] NATO was carefully bolstering its nuclear posture; Polish F-16s participated for the first time on the sidelines of a NATO nuclear strike exercise at the end of 2014. As a clear signal to Russian President Vladimir Putin, four B-52 bombers flew a nuclear strike mission over the North Pole and the North Sea in a bomber exercise in April 2015. Although these planes did not have nuclear weapons on board, they were equipped to carry 80 nuclear air-launched cruise missiles.[44]

These aforementioned actions are small indications that from 2014 onwards NATO was quietly treading towards a more relevant role for nuclear weapons within its defense policy. While Russia's assertive foreign policy in Ukraine gradually opened the room for discussion about NSNWs, its recent violation of the 1987 INF brought them back to the forefront of NATO

policy.

Russia's Non-Compliance with the INF

Russia's violation should be seen in the context of Moscow's illegal annexation of Crimea in 2014 and ongoing discussions about its military doctrine. According to the 2018 Nuclear Posture Review (NPR), Moscow "mistakenly assesses that the threat of nuclear escalation or actual first use of nuclear weapons would serve to 'de-escalate' a conflict on terms favorable to Russia".[45] This concept known as escalate to de-escalate relies on the insecurities that exist within NATO about the credibility of extended deterrence.[46]As was mentioned before, there is a feeling of insecurity whether members of NATO would actually risk nuclear retaliation on their own territory in order to protect the one that is being attacked. Russia already has a wide range of conventional and nuclear capabilities that can threaten U.S. allies in NATO. For example, its shorter-range systems, like the Iskander missiles, which can carry either conventional or nuclear warheads, can reach into Poland and the Baltic states, particularly if they are deployed in Belarus or Kaliningrad.[47]However, they cannot reach across Eastern Europe, particularly if they are deployed further east in Russia.

As a result, Russia may believe that land-based intermediate-range cruise missiles could fill a gap in Russia's conventional capabilities.[48] From this angle, Russia can use its intermediate range weapons in order to hold NATO targets deep in Western Europe hostage and prevent them from providing the necessary reinforcements in the events of a military crisis. Without the capabilities for an immediate measured nuclear response, NATO would have little choice but to accept defeat, according to Western analysts. [49]Even though the concept was said to be defensive in nature, the NPRs assessment reflects a fear that Moscow could use it for offensive purposes by invading perhaps a military weak NATO member state in Eastern Europe.[50] Its decision to withdraw from the INF treaty and actively rearm in the area of intermediate range missiles could indicate such an offensive interpretation. In addition it also worth noting that Russia retains a numerical superiority in terms of NSNWs which inevitably complicates any diplomatic track that might be pursued to achieve reductions.

The undeniable threat that Russia's violation of the INF poses to NATO security must be acutely addressed by the alliance through a serious discussion of possible military countermeasures. One such tactic could take place in the area of missile defense through so-called point defense. Point-defense refers to the protection of a single object or a limited area, e.g. a ship, building or an airfield, against air attacks and guided missiles. NATO could use the US Patriot system equipped with PAC-3 interceptors to defend critical centers in Western Europe such as the Ramstein US Air Force base or the Bremerhaven port in Germany.[51] To achieve this NATO will have to scrap its policy of publicly insisting that its missile defense is not directed against Russia which might cause further distrust between the two sides. Moscow might view the interconnected system of point defenses against cruise missiles as an affirmation of its suspicions and use it as an excuse to further re-arm its INF forces.[52] The potential use of a missile defense system might also fuel the debate about NATO's burden sharing since their operation is

expensive and Washington has made it abundantly clear that allies need to contribute more financially.[53] Another option would be to focus on INF compliant offensive system in order to increase the pressure on Russia. As it stands, the treaty does not cover sea or air based intermediate range missiles so the United States could consider increasing its presence in European waters or airspace. However, these missiles are not optimal for military use in the event of a crisis since deploying sea and air-launched missiles would take up a considerable amount of time and increase the likelihood of a Russian confrontation. This is because frequent US reliance on them as conventional weapons in recent conflicts and a strong concern about their capability will make it difficult for Russia to discriminate between nuclear and conventional armed missiles. [54]

So far, NATO has opted for a pathway that emphasizes modernizing its nuclear arsenal and enhancing the readiness of its dual capable aircraft (DCA). Its modernization proposal relies on a ten billion dollar "Life Extension Program" financed by the US, which aims to turn four versions of the bomb into one single modification known as the controversial B-61 Mod 12. This decision has stirred up discussion since its cost is said to have rocketed from four billion to a now realistic ten billion, signaling a return to the issue of defense spending within the alliance [55] The lack of defense spending has been a major souring point with only seven members currently meeting their targets. NATO sets a target for members to spend at least two per cent of their gross domestic product (GDP) on defense, and for at least twenty per cent of that defense spending to be on major equipment, including research and development. Since very few members meet this target the declaration following the 2014 Wales Summit watered down the commitment and outlined the conditions that must be met in case of failure. [56] This includes a pledge to halt any decline in defense spending and to move towards the two per cent guideline within a decade. Given that the US currently bears the lion's share of NATO defense spending, it is crucial for a new nuclear posture to take into account a way to incorporate those outside of the DCA arrangement in active participation and 'burden sharing'.

At the same time, the decision to enhance the readiness of its dual capable aircraft (DCA) has followed years of reducing their operational capacity. Contrary to the past, it would take weeks or even months to be able to use the US NSNWs stationed in Europe. [57]According to the 2011 GAO report, "Although NATO has no standing operational plans for the use of nuclear weapons, the United States and certain NATO allies provide forces and are required to maintain the ability to be on alert within a 30-day, 180 day, or 365 day period". [58] Anderson further expanded on this and gave an exact account of the DCA forces that operated within this time limit. According to him, the United States DCA readiness is one month, Turkey's is one year, and the other European host nations is at six months. [59] Considering, Russia's conventional advantage on the eastern flank, this readiness level will not provide the swift and immediate nuclear response that is needed in case of a crisis. [60] However, what is perhaps most important to consider is that NATO's current strategy has been criticized by some authors as being ineffective. Numerous military experts have pointed out that for any weapon to be credible as a deterrent its use must be

plausible; otherwise, it has no political purpose. [61]For many, the current DCA arrangement is militarily not viable since it relies on the unrealistic ability of DCA aircraft to cover the distance required in an actual strike scenario. This does not seem to be convincing given that they have to travel long distances from Western European bases to combative environments containing modern Anti-Access/Aerial Denial (A2AD)[62].

In addition, the political implications from such a nuclear response would be much more severe in comparison to the usage of a strategic nuclear weapon.[63] It is hard to envision the circumstances under which a US president would initiate nuclear use for the first time in more than 70 years with a NATO DCA flown by non-US pilots delivering a US B61 bomb. It is equally hard to envision host-country governments authorizing their aircraft to deliver the weapon, under what would be a sure threat of nuclear retaliation against them. Therefore, the focus is placed on improving mechanisms of nuclear consultation, planning and information sharing between the US and NATO on the status of its strategic arsenal. [64] The idea behind this is that the trust in the credibility of U.S. commitments depends much more on the knowledge of how the United States intends to execute its nuclear options in case of need than in the immediate visibility of the weapons themselves.[65] Yet others insist that the forward deployment of US tactical weapons constitutes the ultimate form of collective security and that its symbolic importance cannot be substituted by verbal commitments.[66] In addition, geographical complications of travelling these long distances can easily be resolved through the reallocation of NSNWs to Eastern Europe, which are in closer proximity to Russia. [67] Although such a move will inevitably increase Russian stakes in the dispute and exercise pressure on them to join the negotiating table, it is not free of repercussions. This because it will be seen as a breach of the 1997 NATO- Russia Founding act and potentially turn into a "tit for tat" game that could diminish future diplomatic leverage in arms control treaties with Russia.

c. "In what ways can NATO engage with Russia on the issue of nuclear disarmament and envisage new venues of cooperation in this area?"

Nuclear Disarmament in a Historical Context

Until the end of the Cold War nuclear disarmament and arms control was dominated by the United States and the Soviet Union, with the two superpowers possessing nuclear arsenals of such scale and sophistication as to make their bilateral arrangements the center of gravity of the international system.[68] However, nuclear disarmament had never been a top priority for either side until the 1962 Cuban Missile Crisis exemplified the potentially disastrous effects of a nuclear confrontation. Consequently, the two powers throughout the years occasionally displayed an interest in arms control negotiations in order to prevent an accidental nuclear war and to drastically reduce the enormous costs and implications to humankind.[69] Therefore, to lessen this enormous risk both parties sought to cut expanding arsenals of nuclear weapons and achieve a level of strategic balance that would ensure the stability of the international system. Two

landmark treaties that formed the basis for escaping the arms spiral in the cold war era are the *Strategic Arms Limitation Talks (SALT)* and the *Intermediate-Range Nuclear Forces Treaty (INF)*. In a post-cold war context, nuclear disarmament continued to influence the geostrategic relationship between the US and Russia and some successes were achieved particularly in the early 90s. The INF Treaty (1987), START I (1991), START II (1993), the Strategic Offensive Reductions Treaty or SORT (2002) and New START (2010) led to massive reduction in strategic warheads from about 63,000 in 1986 to 8,300 today.[70] It is important to note here that START I and New START were particularly successful in their goals due to their rigorous verification mechanisms that ensured compliance and invoked trust.[71] They provided a direct and reliable view into the arsenals of the other side through a verified data exchange. Adding to this it is also noteworthy that tactical nuclear weapons were neither part of the discussion nor included in these existing arms control treaties.[72]

What is central to understanding the ongoing disarmament negotiations between the two powers is the observation that each treaty is closely interconnected and that failure from one side to adhere to its agreement can put in jeopardy the entire arms regime process. This is evident by the decision of the George W. Bush administration to terminate the 1972 Anti-Ballistic Missile *Treaty* that imposed geographical and numerical limitations on strategic missile defense.[73] In response, Russia withdrew from START II, which it had previously ratified in 2000. Nevertheless, both sides were able to mitigate to a certain extent the negative consequences that this could have on the disarmament process by signing the SORT Treaty in 2002. [74] Nonetheless, the US withdrawal from the Anti-Ballistic Missile treaty set in motion a gradual decline in bilateral cooperation on global disarmament with the notable exception of the New START treaty that was signed in 2010. [75] This was because the decision to withdraw from the 1972 Anti-Ballistic Missile Treaty was paired with a plan to establish a US missile defense system in Europe that deepened Russian anxieties about being a possible target. These concerns must be seen in relation to its recent violation of the 1987 INF treaty and are therefore worth exploring in the next section. Even though disarmament has mainly been seen as the outcome of bilateral negotiation between Russia and the US, the issue of missile defense in the European theatre brings NATO back into the discussion. It is in this area that NATO can play an important role as a mediator and incorporate the US missile defense system as an important talking point in a future discussion with Russia about its INF compliance.

European Phased Adaptive Approach (EPAA)

The European Phased Adaptive Approach (EPAA) refers to the plan that was put in place by the Obama administration to establish a common missile defense system in Europe. Initially the George W. Bush administration formulated the plan in order to establish a global missile defense system under US auspices but this later on changed under the Obama presidency.[76] However before entering into a discussion about its practicalities and implications it is important to understand how such a system works.

The central task of a ballistic missile defense system (BMD) is to detect and destroy flying ballistic missiles before they reach their target.[77] A missile defense system has three basic components. First, there are network sensors, such as space-, ground-, and sea-based radars. They serve to detect and track ballistic missiles. Second, a BMD system includes interceptor missiles, which could be ground- and sea-based. They are launched to destroy a ballistic missile by direct collision (hit-to-kill technology) or by producing an explosive blast fragmentation warhead. Third, there are command-and-control battle management centers and communications networks, which link the missile interceptors and sensors to the operational commanders. [78] Moreover it is worth mentioning that BMD as a concept is agnostic toward the point of origin of the incoming missile. In other words, the technical capabilities of a BMD system do not necessarily differentiate between Iranian, North Korean or Russian missiles. Depending on the types of BMD interceptors and the range of the BMD radars, BMD deployed in Europe can protect the European territory from Iranian missiles, North Korean missiles and missiles fired from parts of Russia in the direction of Europe.[79] The BMD operates against all types of missiles—short-, medium-, and long-range, and can intercept them depending on their geographical point of origin vis-à-vis the location of the BMD radars and interceptors. Even though these systems have often been subject to grand and misleading titles such as Star Wars or MD shield in reality their effectiveness is much more limited. This is because environmental conditions, missile trajectories, speed and many other factors, could greatly complicate the ability of the BMD system to intercept its flying target.[80]

As was mentioned before missile defense systems became relevant again in the area of nuclear arms mainly through the George W. Bush administration in 2007 that began to worry about the nuclear capabilities of Iran and North Korea. In an attempt to protect the US homeland, the Department of Defense (DOD) started positioning long-range missile interceptors in California and Alaska.[81] To complement this plan, the administration wanted to extend the US national missile system to Europe to counter possible threats from Iran. The European component would have constituted a third site, of the Ground-Based Midcourse Defense (GMD) system. [82]According to his plan, Ground-Based Interceptors (GBIs) were to be based in Poland and a radar system was to be located in the Czech Republic. At the Bucharest Summit in April 2008, the NATO member states issued a declaration stating that they acknowledged the increasing threat presented by the proliferation of ballistic missiles. The 2008 declaration further stipulated that the proposed Bush BMD architecture would make a "substantial contribution" to NATO security and that the alliance members would examine concrete steps for integration of the U.S. system in a future NATO BMD.[83]

In response, Russia threatened to cease all cooperative bilateral arms control measures and escalate its military posture if the system was deployed. The first voices suggesting the termination of the INF Treaty were already heard. The strong Russian opposition to the missile defense system is based on the idea that it is being built against them. Moscow believes that the BMD in Europe would weaken Russia's nuclear deterrent and disrupt the strategic balance.[84]

Its objections relate not only to the inclusion of interceptors that could engage Russia's ICBMs but also to the future likelihood for qualitative and quantitative expansion of the defense system, which the United States has left open-ended. Foreign Minister Lavrov has echoed this concern stating that Russia was afraid that in the future the United States, not restricted by any legally binding agreements, might deploy "hundreds or even thousands" of interceptors. In this sense, Russia's opposition is primarily based on future intent, rather than on current capabilities. [85] Tensions were partially eased with the Obama administration's reset policy with Russia that revolved around cooperation in areas of mutual concern. In regards to the US missile defense system, Obama ended the European component of the GDM system and replaced it with Standard Missile (SM-3) weapons.[86] This decision was not intended to reassure Russian concerns but was rather based on new intelligence that Iran's long range missile capabilities were not as advanced as previously thought.[87] Therefore upgrading and deploying the SM-3 interceptors is seen as a solution to protect against Iran's short range and mid-range capabilities. Nevertheless, this new change was welcomed by Moscow as a promising step in improving bilateral relations.[88] In addition, the EPAA was also welcomed by NATO that officially decided to build its own system known as the Active Layered Theatre Ballistic Missile Defense (ALTBMD). The decision that was taken at the Lisbon Summit in 2010 covered all 27 member states and incorporated the EPAA under its auspices. The US missile defense system was officially transformed into a NATO initiative. However, as details on the planned EPAA emerged, Russian claims about the vulnerability of its strategic deterrent resurfaced.

The EPAA missile defense system was to consist of four phases, beginning in 2011 and reaching full deployment in 2022, with interceptors stationed on Aegis ships in the Mediterranean Sea and at land sites in Deveselu, Romania, and Redzikowo, Poland. The first phase dealt with the sea deployment of SM-3 IA and SM-3 IB ballistic missile interceptors on Aegis ships in the Mediterranean Sea and a land-based radar in Turkey. Phase two of the system focused on the land-based deployment of the SM3 IB ballistic missile interceptor (Aegis Ashore) and the Aegis spy 1 radar in Romania. Phase 3 of the system involved the land-based deployment of the more powerful SM-3 IIA interceptor (with a burnout velocity of 4.5 km/s) at the second site in Poland. This phase substantially expanded the coverage that EPAA provides for Europe enabling it to defend against short-, medium-, and intermediate-range ballistic missiles and with a limited capacity to intercept ICBMs. Finally, the last phase initially planned to be completed in the 2020 period, aimed to upgrade the land-based interceptor in Poland with the SM-3 IIB in order to effectively defend against ICBMs launched from the Middle East.[89]

Russian concerns about the effects of the EPAA missile defense system on its strategic deterrent rested mostly on the capability of the fourth phase of the system involving advanced interceptors and possible space-based components.[90] On March 15, 2013, the Obama administration decided to eliminate the fourth phase of the EPAA system, citing development problems and a lack of money. Nonetheless, this did not alleviate Russian concerns about future US intentions with the Russian ambassador to NATO, Dmitry Rogozin, reiterating that "the missile shield built

by Barack Obama might develop an anti-Russian potential, which is what we are afraid of". [91]In addition, this fear is paired with a suspicion that Washington's overall missile defense policy in Asia and Europe is part of a multilayered global missile defense system. This is further exacerbated by the fact that Russia's strategic nuclear weapons are gradually deteriorating and that this could result in a strategic disadvantage vis a vis other powers. The prospect of becoming a declining nuclear power is the main reason why Russia has linked further bilateral nuclear arms reduction to changes in U.S. missile defense[92].

From the beginning, the US response to Russia on its claims of vulnerability has been that the EPAA does not pose a threat to Russia's missile forces. It has repeatedly made the point, that the system is designed for ballistic missile threats from outside the Euro-Atlantic area and that it is not able to stop Russia's strategic nuclear capabilities.[93] Russia in turn asked for legally binding "military- technical" guarantees from the United States and NATO that the missile defense system will not be aimed against Moscow's strategic nuclear forces. These "military-technical" guarantees included: certain changes to the algorithms of the operation of missile defense radars and not to bring Aegis-equipped ships into areas that are in direct proximity to the potential trajectories of Russia's ICBMs ballistic missiles. Furthermore, it required the stationing of Russian observers at U.S. and NATO missile defense installations and future discussions on a monitoring mechanism.[94] The US declined to engage in any formal military-technical agreement stating that this would create limitations on its ability to defend itself against the evolving ballistic missile threats from Iran and North Korea.[95] Instead, it expressed a willingness to provide reassurances at the highest political level and to publicly proclaim that U.S. missile defenses are not aimed at Russia. Moscow has discarded these reassurances as insufficient. This is because it considers withdrawing from a legally binding treaty to be more difficult than going back on a political promise. However, one could also argue that a political assurance from the highest political levels can carry a similarly binding weight.[96]

It is clear that what lies underneath Russia's official justification for its opposition is an issue of trust and a long standing suspicion about NATO's intentions. Although the European Phased Adaptive Approach (EPAA) has always been a source of contention, it also provides the unique opportunity for a future NATO-Russia cooperation in the area of missile defense. This is not a remote possibility given that in 2008 NATO explicitly expressed interest in exploring ways that would link the "United States, NATO and Russian missile defense systems at an appropriate time." [97] One of the most promising alternatives to Russia's demands was presented in 2011 under the Euro-Atlantic Security Initiative (EASI), launched by the Carnegie Endowment for International Peace. Facilitated by EASI, chief U.S. and Russian military experts have conducted detailed discussions and drafted a version of joint missile defense structure that would include Moscow. The release of the EASI proposal and the wide endorsement it received among disarmament experts in both Washington and Moscow demonstrated the willingness of nongovernmental actors to facilitate a consensus on missile defense. [98]

Regardless of whether one believes that such cooperation is impossible given the current political climate, the issue of missile defense remains one of the key justifications for Russia's noncompliance with the INF. Russia claims that the Mk-41 launch canisters of NATO missile defense sites in Poland and Romania are suitable for testing and stationing offensive US cruise missiles. Additionally, it claims that the target missiles used by the United States for its missile defense tests were a kind of missile banned by the INF Treaty.[99] It is therefore crucial to recognize that the areas of missile defense and conventional arms control are closely connected to Russias violation of the INF treaty.

6. Sources for further research

- Anderson, Matthew P. "NATO Nuclear Deterrence: The Warsaw Summit and Beyond." Connections 15, no. 4 (2016): 5-30.
- Andreasen, Steve. "Rethinking NATO's Tactical Nuclear Weapons." Survival 59, no. 5 (2017): 47-53.
- Fink, Anya Loukianova. "The evolving Russian concept of strategic deterrence: Risks and responses." Arms Control Today 47, no. 6 (2017): 14-20.
- Ivanov, Igor, Wolfgang Ischinger, and Sam Nunn. "Missile Defense: Toward a New Paradigm." Euro-Atlantic Security Initiative (EASI) Report, February (2012)

 .https://carnegieendowment.org/files/WGP_MissileDefense_FiNAL.pdf
- Kühn, Ulrich. "Between a rock and a hard place: Europe in a post-INF world." The Nonproliferation Review 26, no. 1-2 (2019): 155-166.
- Neuneck, Götz. "The Deep Crisis of Nuclear Arms Control and Disarmament: The State of Play and The Challenges." Journal for Peace and Nuclear Disarmament just-accepted (2019).
- Steve Andreasen and Isabelle Williams (eds), Reducing Nuclear Risks in Europe (Washington DC: Nuclear Threat Initiative, November 2011). https://media.nti.org/pdfs/NTI Framework full report.pdf
- Woolf, Amy F. Russian Compliance with the Intermediate Range Nuclear Forces (INF)
 Treaty: Background and Issues for Congress. No. CRS-R43832. Congressional Research
 Service Washington United States, 2017
 https://fas.org/sgp/crs/nuke/R43832.pdf

7. Bibliography

- "Deterrence and Defense Posture Review", e-library, NATO, accessed January 22, 2020 https://www.nato.int/cps/en/natohq/official_texts_87597.html
- Anderson, Matthew P. "NATO Nuclear Deterrence: The Warsaw Summit and Beyond." Connections 15, no. 4 (2016): 5-30

- Anonymous. "Russia suspends INF treaty in 'mirror response' to US Putin". Russia Today, February 2, 2019.
- Anonymous. "Russia unveils evidence on missile that US claims violates INF Treaty, Washington snubs briefing" . RT, January 23, 2019.
- Anonymous. "Wars not diminishing': How Putin's iconic 2007 Munich speech sounds today", RT, 2017.
- Anonymous. INF nuclear treaty: US pulls out of Cold War-era pact with Russia. BBC, October 2, 2019.
- Anonymous."Nato accuses Russia of breaking nuclear missile treaty", BBC, December 4, 2018.
- Blumenthal, Dan & Stokes, Mark. "Can a treaty contain China's missiles?", Washington Post, January 2, 2011.
- Fink, Anya Loukianova. "The evolving Russian concept of strategic deterrence: Risks and responses." Arms Control Today 47, no. 6 (2017): 14-20.
- Garthoff, Raymond L. The Great Transition: American-Soviet Relations and the End of the Cold War. 1994.
- Glenn Snyder, Deterrence and Defense: Toward a Theory of National Security (Princeton University Press, 1961).
- Gordon, Michael R. "Russia Deploys Missile, Violating Treaty and Challenging Trump", The New York Times, February 12, 2018.
- Hans Kristensen, "Adjusting NATO's Nuclear Posture," Federation of American Scientists, December 7, 2015, https://fas.org/blogs/security/2015/12/poland/.
- Ivanov, Igor, Wolfgang Ischinger, and Sam Nunn. "Missile Defense: Toward a New Paradigm." Euro-Atlantic Security Initiative (EASI) Report, February (2012). https://carnegieendowment.org/files/WGP MissileDefense FiNAL.pdf
- Kramer, Andrew E & Special, Megan. "What Is the I.N.F. Treaty and Why Does It Matter?", February 1, 2019.
- Kühn, Ulrich. "Between a rock and a hard place: Europe in a post-INF world." The Nonproliferation Review 26, no. 1-2 (2019): 155-166.
- Lilly, Bilyana." Setting the Record Straight: Why Russia's Security-Related Fears Are Exaggerated" in Russian foreign policy toward missile defense: Actors, motivations, and influence (Lexington Books, 2014)
- Lowe, Christian. "Trump: U.S. to exit nuclear treaty, citing Russian violations". Reuters, October 23, 2018.
- Neuneck, Götz. "The Deep Crisis of Nuclear Arms Control and Disarmament: The State
 of Play and The Challenges." Journal for Peace and Nuclear Disarmament just-accepted
 (2019). Office of the Secretary of Defense, "Nuclear Posture Review," Washington, DC,
 February 2018.
- Reif, Kingston. "NATO Weighs Nuclear Exercises." Arms Control Today 45, no. 9

(2015).

- Reuters. "'Aggressors Will Be Annihilated, We Will Go to Heaven as Martyrs,' Putin Says". The Moscow Times. Russia. 19 October 2018. Retrieved 26 October 2018.
- Rogin, Josh. "US Reluctant to Disclose to All NATO Allies that Russia is Violating INF Treaty", The Atlantic Council, December 7, 2013.
- Sanger, David E.; Broad, William J. "U.S. Suspends Nuclear Arms Control Treaty With Russia, February 1, 2019.
- Sanger. D & Broad. W. "U.S. to Tell Russia It Is Leaving Landmark I.N.F. Treaty". The New York Times, October 20, 2018.
- Sankaran, Jaganath. The United States' European Phased Adaptive Approach Missile Defense System: Defending Against Iranian Missile Threats Without Diluting the Russian Deterrent. RAND CORP ARLINGTON VA NATIONAL SECURITY RESEARCH DIV, 2015.
- Sauer, Tom. "Just leave it: NATO's nuclear weapons policy at the Warsaw summit." Arms Control Today 46, no. 5 (2016): 16-21.
- Stephen J. Blank, "Russia and the Current State of Arms Control" in: Russia and the United States: Arms Control, ed. Louisa B. Murphy (New York: Nova Science Publishers, 2013), 49-113
- Steve Andreasen and Isabelle Williams (eds), Reducing Nuclear Risks in Europe (Washington DC: Nuclear Threat Initiative, November 2011). https://media.nti.org/pdfs/NTI_Framework_full_report.pdf
- Stewart, Phil. "Trump's missile treaty pullout could escalate tension with China" Reuters, October 23, 2018.
- US Department of State. "Intermediate-Range Nuclear Forces Treaty (INF Treaty)". 1987.
- Woolf, Amy F. "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress", Congressional Research Service (7–5700), January 27, 2017. https://fas.org/sgp/crs/nuke/R43832.pdf

^[1] Anonymous, INF nuclear treaty: US pulls out of Cold War-era pact with Russia. BBC, October 2, 2019.

^[2] Anonymous, INF nuclear treaty: US pulls out of Cold War-era pact with Russia. BBC, October 2, 2019.

^[3] Anonymous, "Russia unveils evidence on missile that US claims violates INF Treaty, Washington snubs briefing". RT, January 23, 2019.

^[4] Blumenthal, Dan & Stokes, Mark, "Can a treaty contain China's missiles?", Washington Post, January 2, 2011.

- [5] Woolf, Amy F, "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress". Congressional Research Service. 27 January 2017.
- [6] Anonymous,"Nato accuses Russia of breaking nuclear missile treaty", BBC, December 4, 2018
- [7] Anonymous, "Russia unveils evidence on missile that US claims violates INF Treaty, Washington snubs briefing". RT, January 23, 2019.
- [8] Sanger. D & Broad. W, "U.S. to Tell Russia It Is Leaving Landmark I.N.F. Treaty". The New York Times, October 20, 2018.
- [9] Anonymous, "Russia suspends INF treaty in 'mirror response' to US Putin". Russia Today, February 2, 2019.
- [10] Reuters, "'Aggressors Will Be Annihilated, We Will Go to Heaven as Martyrs,' Putin Says". The Moscow Times. Russia. 19 October 2018. Retrieved 26 October 2018.
- [11] Anonymous, INF nuclear treaty: US pulls out of Cold War-era pact with Russia. BBC, October 2, 2019.
- [12] Stewart, Phil, "Trump's missile treaty pullout could escalate tension with China" Reuters, October 23, 2018.
- [13] Glenn Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton:Princeton University Press, 1961).
- [14] Woolf, Amy F. Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress. No. CRS-R43832. Congressional Research Service Washington United States, 2017.
- [15] Ibid
- [16] Woolf, "Russian Compliance"
- [17] Ibid.
- [18] Karl Heinz-Kamp and Robertus C.N. Remkes, 'Options for NATO Nuclear Sharing Arrangements', in Steve Andreasen and Isabelle Williams (eds), *Reducing Nuclear Risks in Europe* (Washington DC: Nuclear Threater Initiative, November 2011).
- [19] Ibid.
- [20] Woolf, "Russian Compliance"
- [21] Ibid.
- [22] Ibid
- [23] Woolf, "Russian Compliance"
- [24] Ibid, p 12
- [25] Kamp and Remkes, 'Options for NATO Nuclear Sharing'
- [26] Ibid.
- [27] Anderson, Matthew P. "NATO Nuclear Deterrence: The Warsaw Summit and Beyond." *Connections* 15, no. 4 (2016): 5-30.
- [28] Anderson, "NATO Nuclear Deterrence"

- [29] Ibid.
- [30] "Detterence and Defense Posture Review", e-library, NATO, accessed January 22, 2020 https://www.nato.int/cps/en/natohq/official-texts-87597.html
- [31] Anderson, "NATO Nuclear Deterrence"
- [32]Simon Lynn, 'Reflections on Lisbon and Looking Ahead to the DDPR', in Steve Andreasen and Isabelle Williams (eds), *Reducing Nuclear Risks in Europe* (Washington DC: Nuclear Threater Initiative, November 2011).
- [33] Ibid.
- [34] Ibid.
- [35] Lynn, "Reflections on Lisbon"
- [36] Anderson, "NATO Nuclear Deterrence"
- [37] Ibid.
- [38] Ibid.
- [39] Anderson, "NATO Nuclear Deterrence"
- [40] Ibid.
- [41] Sauer, Tom. "Just leave it: NATO's nuclear weapons policy at the Warsaw summit." *Arms Control Today* 46, no. 5 (2016): 16-21.
- [42] Reif, Kingston. "NATO Weighs Nuclear Exercises." Arms Control Today 45, no. 9 (2015): 24.
- [43]
- [44] Hans Kristensen, "Adjusting NATO's Nuclear Posture," Federation of American Scientists, December 7, 2015, https://fas.org/blogs/security/2015/12/poland/.
- [45] Office of the Secretary of Defense, "Nuclear Posture Review," Washington, DC, February 2018, p. 8,

https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVI EW-FINAL-REPORT.PDF

- [46] Ibid.
- [47] Woolf, "Russian Compliance", p 28
- [48] Ibid.
- [49] Kühn, Ulrich. "Between a rock and a hard place: Europe in a post-INF world." *The Nonproliferation Review* 26, no. 1-2 (2019): 155-166.
- [50] Fink, Anya Loukianova. "The evolving Russian concept of strategic deterrence: Risks and responses." Arms Control Today 47, no. 6 (2017): 14-20.
- [51] Ulrich, "Between a rock"
- [52] Ibid.
- [53] Ulrich, "Between a rock"
- [54] Ibid.
- [55] Anderson, "NATO Nuclear Deterrence"
- [56] Ibid.

- [57] Sauer, "Just leave it"
- [58] Anderson, "NATO Nuclear Deterrence
- [59] Ibid.
- [60] Ibid.
- [61] Kamp and Remkes, 'Options for NATO Nuclear Sharing'
- [62] Anderson, "NATO Nuclear Deterrence"
- [63] Kamp and Remkes, 'Options for NATO Nuclear Sharing'
- [64] Ibid.
- [65] Ibid.
- [66] Anderson, "NATO Nuclear Deterrence"
- [67] Ibid.
- [68] Stephen J. Blank, "Russia and the Current State of Arms Control" in: *Russia and the United States: Arms Control*, ed. Louisa B. Murphy (New York: Nova Science Publishers, 2013), 49-113
- [69] Neuneck, Götz. "The Deep Crisis of Nuclear Arms Control and Disarmament: The State of Play and The Challenges." Journal for Peace and Nuclear Disarmament just-accepted (2019).
- [70] Ibid
- [71] Ibid
- [72] Ibid
- [73] Neuneck, "The Deep Crisis"
- [74] Ibid
- [75] Ibid
- [76] Lilly, Bilyana." Setting the Record Straight: Why Russia's Security-Related Fears Are Exaggerated" in *Russian foreign policy toward missile defense: Actors, motivations, and influence* (Lexington Books, 2014)
- [77] Ibid.
- [78] Ibid.
- [79] Ibid.
- [80] Bilyana." Setting the Record"
- [81] Ibid.
- [82] Ibid.
- [83] Ibid.
- [84] Ibid
- [85] Ibid.
- [86] Sankaran, Jaganath. The United States' European Phased Adaptive Approach Missile Defense System: Defending Against Iranian Missile Threats Without Diluting the Russian Deterrent. RAND CORP ARLINGTON VA NATIONAL SECURITY RESEARCH DIV, 2015.
- [87] Jaganath, "The United States European Phased"
- [88] Ibid.

- [89] Ibid.
- [90] Ibid.
- [91] Bilyana." Setting the Record"
- [92] Ibid.
- [93] Jaganath, "The United States European Phased"
- [94] Jaganath, "The United States European Phased
- [95] Ibid.
- [96] Bilyana." Setting the Record"
- [97] Ibid
- [98] Ivanov, Igor, Wolfgang Ischinger, and Sam Nunn. "Missile Defense: Toward a New Paradigm." Euro-Atlantic Security Initiative (EASI) Report, February (2012). https://carnegieendowment.org/files/WGP_MissileDefense_FiNAL.pdf
- [99] Woolf, "Russian Compliance"