

A New Cold War:  
In Search of a Nuclear Arms Treaty  
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Since the 1960s, the United States has been engaged in nuclear arms control agreements related to the threat posed by nuclear weapons and has achieved drastic reductions in the number of nuclear weapons deployed around the globe. The Treaty for the Nonproliferation of Nuclear Weapons (NPT) has been the most widely accepted and most enduring agreement to influence nuclear arms related issues. The NPT established the basis for continued negotiations toward nuclear disarmament. It also signaled a shift in international norms to prevent the proliferation of nuclear weapons beyond the five recognized nuclear weapons states of China, France, the Russian Federation (formerly Soviet Union), United Kingdom, and the United States; a collective also known as the P5. The NPT required parties to the treaty to “pursue negotiations in good faith on 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.”<sup>1</sup> I attempt to identify the factors that contribute to state engagement in or avoidance of nuclear arms control through the review of historical arms control agreements and negotiations that were avoided or stalled.

At the time the NPT was negotiated, and continuing today, the United States and Russia had more nuclear weapons than the combination of the remaining states with formally acknowledged and suspected nuclear weapons programs. Bilateral negotiations and agreements between the U.S. and Russia have paved the way for a long peace enabled by a variety of measures. The agreements have included limitations on the number of nuclear warheads and launchers, addressed concerns about ballistic missile defense, formalized intelligence collection, and provided a series of confidence building exercises that have provided nuclear stability. The New Strategic Arms Reduction Treaty (START) serves as the mediating guideline between the U.S. and Russia. However, with the continued proliferation of nuclear weapons and concerns

about nuclear systems modernization, it is prudent to look for solutions that could fill in behind New START.

The future of nuclear arms control has been shaken by the collapse of long-standing arms control agreements, the proliferation of nuclear weapons, and challenges to the existing status quo by some P5 states. Just as there have been indications that nuclear arms control has lost its relevance, there are indications that nuclear arms control will provide global stability into the future. I propose that a multilateral agreement that limits advantage will provide the stability desired to progress toward disarmament consistent with international norms. The ability to negotiate this agreement will involve a balance of nuclear power between the U.S. and Russia, will allow China relative freedom in relation to numerical limits, and confidence that the involved parties will comply with the agreement's provisions.

The bilateral agreements between the United States and Russia offer a historically refined view of nuclear arms control to inform the future. The timeline associated with U.S. and Russian Nuclear Arms Control agreements provided in Figure 1 served as the sequence in which the review was conducted. A more detailed overview of New START is provided as an anchor point for future negotiations. Although New START is the result of decades of negotiations between two nuclear armed states, various other processes have been used to supplement, precede, or bridge gaps in formal arms control agreements. The review of these agreements will lead to a discussion of the generally accepted objectives of arms control agreements with the addition of international norms as an influential factor. The objectives will provide a framework for the assessment of potential options for the future of nuclear arms control through the use of statements made by government leaders and actions taken by the involved states that could

impact negotiations. The argument that nuclear arms control no longer has a future was determined to be unfounded and that future negotiations should include each of the P5 states.

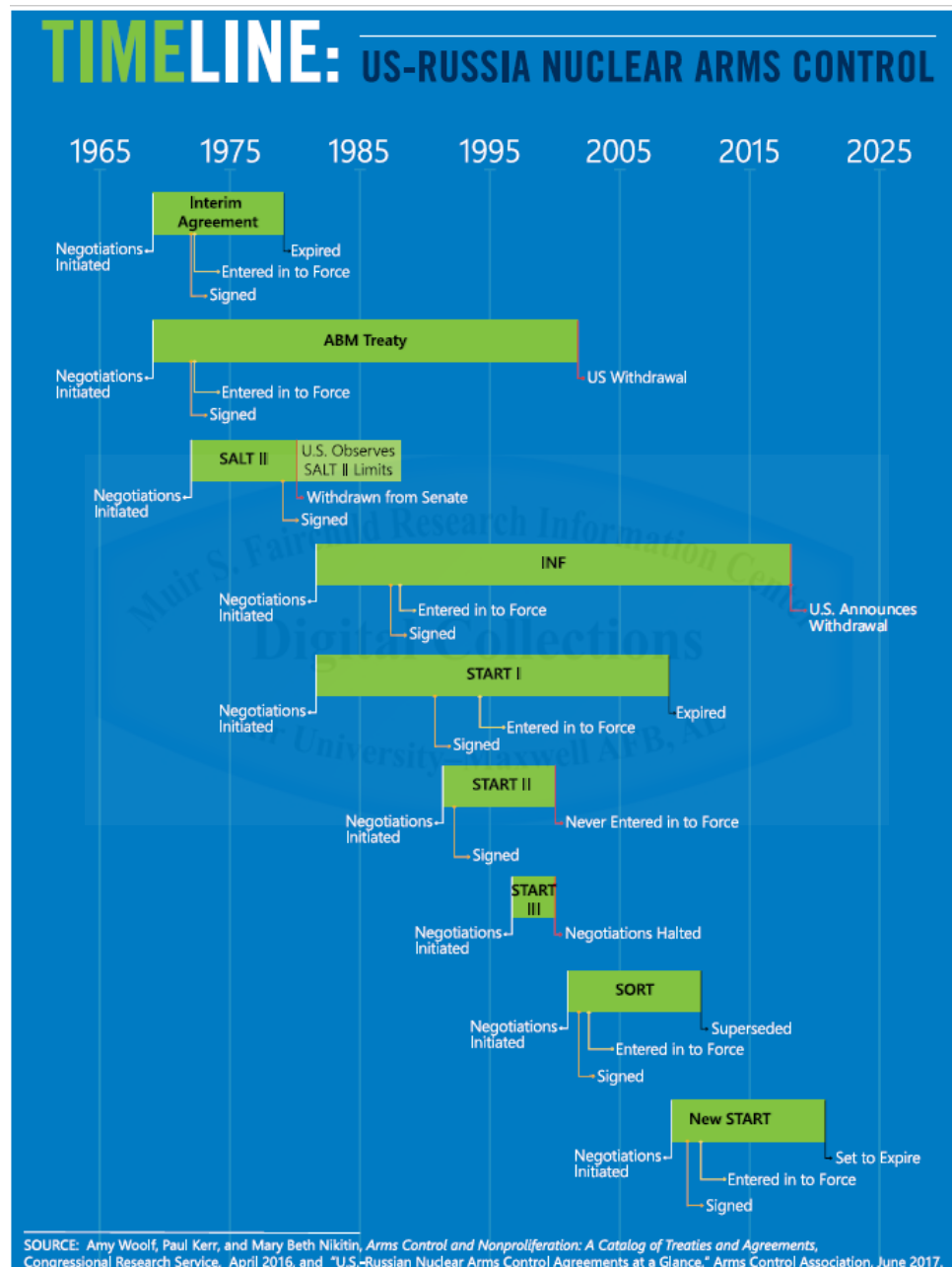


Figure 1<sup>2</sup>

## US-RUSSIA NUCLEAR ARMS CONTROL AGREEMENTS

Arms control is a political tool that can contribute to a state's security by providing transparency and building trust among the parties to the treaty. Nuclear arms control and non-proliferation have been central to the discussion of international norms with a growing number of states becoming engaged in negotiations to encourage the abolition of nuclear weapons. States that already possess nuclear weapons are in a unique position in which they must consider the effects on international security as well as their own security from their continued possession of these devastating weapons. Nuclear arms control that began during the 1960s has weaved a web of efforts in which states, mostly the U.S. and Russia, worked to ensure the effectiveness of their nuclear arsenal and attempted to neutralize or balance the effectiveness of another state's arsenal. Over time, nuclear arms control discussions expanded from numerical limits to include other aspects of an adversary's national power as a method to achieve the desired balance. A review of nuclear arms control is provided in a relatively chronological order due to the interactive nature of agreements with overlapping or counterbalancing effects. The review included a historical accounting of nuclear arms control agreements that were negotiated and entered into force. It also included a review of nuclear arms control that failed at various points prior to the agreement going into effect. The goal was to develop an understanding of the reasons states engage in or are able to achieve agreement in nuclear arms control as well as the factors that influenced a failure of nuclear arms control to enter into force.

The Strategic Arms Limitation Talks (SALT) were not the first round of negotiations between the U.S. and the Soviet Union relating to nuclear weapons. The difference between SALT and previous negotiations was the push for the two states to develop a bilateral agreement that would encompass the full range of issues related to their nuclear weapons. The U.S. stated

objectives for the SALT were to balance the strategic forces permitted by each side, reduce the risk of nuclear war, and reduce arms competition.<sup>3</sup> The Partial Test Ban Treaty, an Interim Agreement, the Anti-Ballistic Missile Treaty, and the Vladivostok Agreement that produced the framework for SALT II were fashioned by the SALT.<sup>4</sup> During these talks, the limitation of strategic arms could generally be placed into two main categories: limitations on the number of weapons and limitations on the improvement of weapons.<sup>5</sup> Numerical limitations included bans on certain weapons, the establishment of nuclear weapon free zones, and agreements to slow the deployment of new systems.<sup>6</sup> The Interim Agreement placed limits on anti-ballistic missiles, the number of launchers on submarines, and the number of ballistic missile submarines. Qualitative limits were placed on anti-ballistic missile radars and intercontinental ballistic missile silos. An area that was lacking support from both sides during the SALT was an improvement that would allow delivery vehicles to carry multiple independent reentry vehicles (MIRVs).<sup>7</sup> The Soviet resistance to qualitative limitations was derived from the significant effect on military utility as well as the uncertainty that improvements could be reliably observed through existing verification methods.<sup>8</sup> Additionally, the U.S. had already begun the deployment of MIRV-capable weapons that would prevent the Soviet Union from agreeing to a qualitative restraint that solidified an inferior position.<sup>9</sup> The complexity of the issues as viewed by the U.S. were no less complex for those in the Soviet Union.

It would be easy to view an adversary or competitor as a black box whose intentions are unclear. The reality is that adversaries and competitors are more alike than might be realized or that some would like to admit. Samuel B. Payne Jr.'s article, "The Soviet Debate on Strategic Arms Limitation: 1968-72" provided insights into the discourse on arms control discussions within the "black box" of the Soviet Union. Payne examined articles of Soviet publications to

identify Soviet elite opinions about foreign policy with a focus on strategic arms limitations. He highlighted the possibility of Soviet motives for the pursuit or rejection of various measures, within Soviet military and academic literature, as being disguised within arguments about U.S. perspectives due to the inability to explore Soviet motives directly. The conditions necessary for the Soviet Union to pursue strategic arms limitations were its attainment of numerical parity to the U.S. and the U.S. pursuit of advanced new strategic nuclear weapon capabilities.<sup>10</sup> The NPT provided the necessary evidence for Soviet leaders that an agreement on strategic arms limitations could be reached between the U.S. and Soviet Union.<sup>11</sup> It would be important to note that even though an Interim Agreement was reached, there were several setbacks that delayed negotiations. The Soviet invasion of Czechoslovakia and a new President of the United States delayed aspects of the SALT until December 1969.<sup>12</sup> Despite some setbacks and delays, the SALT continued to address concerns across the range of nuclear weapon issues.

The primary considerations that influenced Soviet views on strategic arms limitations were the agreement's desirability for the state and the willingness of the U.S. to accept and abide by the agreement. Embedded within the Soviet perspective was a need to be viewed as at parity with or superior to the U.S.<sup>13</sup> Under no circumstances could the Soviet Union be allowed to trap itself in a position of inferiority through strategic arms limitations. Additionally, the Soviet view was that the U.S. would be more likely to accept strategic arms limitations if the Soviet Union negotiated from a position of strength or superiority.<sup>14</sup> The parity or superiority the Soviets sought out related to the number of nuclear weapons as well as the technological capability of its nuclear weapons or nuclear weapon defenses in comparison to the United States.

The effectiveness of each state's strike capability would contribute to the discourse and the web of agreements produced by the SALT. Central to each state's concerns was the



effectiveness of its ability to inflict damage upon the other and the impact of anti-ballistic missile (ABM) development and deployment that led to the negotiation of the ABM treaty. The U.S. aggressively sought out the expansion of ABM capabilities to reduce the effectiveness of a Soviet attack, concerns about a growing Chinese nuclear capability, and to influence negotiations in the SALT.<sup>15</sup> Similarly, the Soviet Union had been working on an ABM system to protect key cities, enhance their prestige as a technologically advanced and militarily strong state, and enable their influence in international affairs.<sup>16</sup> The U.S. and Soviet Union experienced divisive internal conversations on ABM production and deployment due to the significant political and economic capital required to launch the program to the scale necessary to provide the desired results.<sup>17</sup> There were indications the Soviet Union was planning to deploy area specific ABM systems that would degrade or negate the effectiveness of the tactical nuclear weapons that resided in NATO states.<sup>18</sup> The ABM treaty would solidify for both the U.S. and Russia that they would accept the concept of mutually assured destruction in a nuclear war. For the U.S. and its NATO allies, the treaty would prevent the erosion of nuclear arms control discussions that influenced extended deterrence.

Despite the ability of the U.S. and the Soviet Union to come to an agreement that would replace the Interim Agreement during the second round of Strategic Arms Limitation Talks, SALT II never entered into force. After the SALT II treaty was signed, President Carter withdrew the treaty from the Senate before they were able to ratify it due to the “Cuban Brigade,” which was an attempt to station Soviet troops in Cuba and the Soviet invasion of Afghanistan.<sup>19</sup> The treaty’s future appeared bleak since the withdrawal occurred only a few weeks before the Regan Administration would take office. President Regan was critical of the treaty throughout his campaign in which he highlighted the lack of enforcement of Soviet

cheating by the previous administration as well as his statements that he would not seek ratification of the treaty.<sup>20</sup> Although the treaty never entered into force, it remained a centerpiece of the U.S.-Soviet dialogue and resulted in an informal arrangement to adhere to elements of SALT II. The interim restraint policy served U.S. political and military objectives. Politically, the Regan administration wanted to ensure the success of upcoming arms control negotiations related to the Strategic Arms Reduction Treaty and the Intermediate Range Nuclear Forces (INF) Treaty.<sup>21</sup> Militarily, SALT II had almost no cost to U.S. military programs until the Ohio-class ballistic missile submarine USS ALASKA was slated to begin sea-trials, as this would challenge the numerical limits on deployed launchers.<sup>22</sup> The complex language of the SALT II treaty created a questionable foundation for U.S. claims of Soviet cheating coupled with the U.S. desire to prevent an unrestrained growth of Soviet nuclear arms formed a difficult decision for President Regan. If he chose to ignore the treaty limitations, he would have signaled a lack of U.S. engagement in nuclear arms control that would result in domestic and international backlash and would have painted the U.S. as having fueled the arms race.<sup>23</sup> President Carter's decision to withdraw the SALT II treaty from the Senate did not signal the demise of the treaty or arms control as some had predicted. It did complicate decisions for the Regan administration, but ultimately the value of continued nuclear arms control negotiations restarted with the Strategic Arms Reduction Talks (START). This period also provided a clear link between the objectives of an incoming administration and the domestic pressures to progress an arms control agenda that would become more evident during the George H. W. Bush administration.

Nuclear arms control discussions under the new title were focused on the balance of military power in Europe, primarily through the relationship of conventional to nuclear forces as well as the risks associated with specific delivery systems. As a bilateral negotiation platform,

the START continued the discussion about total numerical reductions in nuclear arms. The talks expanded the web of concerns beyond the U.S. and Soviet nuclear arsenals to include intermediate and short-range nuclear weapons, conventional forces, and the nuclear stockpiles outside of the two nuclear superpowers. The START produced the Intermediate-Range Nuclear Forces (INF) Treaty as well as the first Strategic Arms Reduction Treaty (START I). The buildup of intermediate range nuclear weapons in the Soviet Union and Europe created a destabilizing force that increased the danger of a pre-emptive nuclear strike. Intermediate range weapons provided little time for identification and determination of targets that could have resulted in a pre-emptive counter strike often times referred to as a launch on warning policy. The INF treaty was designed to minimize the risk of nuclear war due to misperception or miscalculation by eliminating a specific weapon capability based on range.

The deployment of Soviet INF missiles capable of reaching Europe and Asia prompted a response from NATO countries that ultimately resulted in the NATO dual-track decision. NATO's goal was to use nuclear modernization as a bargaining chip for arms control.<sup>24</sup> The U.S. deployment of INF missiles in Europe served the objectives to fill a gap in NATO capabilities, provided flexibility for nuclear strike options, and demonstrated the U.S. commitment to defend Western Europe.<sup>25</sup> The Soviet Union attempted to prevent the deployment of U.S. INF missiles through propaganda that claimed the nuclear forces of the United Kingdom and France should be included in comparisons of the nuclear balance of power.<sup>26</sup> Eventually, the Soviets left the Geneva negotiations and announced the deployment of additional INF missiles because the U.S. had deployed INF missiles in Europe.<sup>27</sup> The Soviet propaganda campaign and grandstanding neither prevented the U.S. deployment of INF missiles nor did it signal the end of negotiations. President Regan had called for a "zero option" that would reduce global INF missiles that was

initially rejected by Soviet negotiators.<sup>28</sup> However, when Secretary Gorbachev agreed to remove all of the Soviet SS-20s it signaled that the U.S. would also have to eliminate all of its INF missiles.<sup>29</sup> This could have unintentionally left NATO vulnerable due to a significant conventional imbalance that favored the Soviet Union.<sup>30</sup> The deployment of U.S. INF missiles increased the risk to Soviet interests and applied the pressure necessary to restart negotiations.

The INF treaty resulted in the verified destruction of all U.S. and Soviet INF missiles and produced lessons learned for future nuclear arms control negotiations. Although the Soviet Union would have preferred the removal of all U.S. nuclear forces from Europe, the INF treaty was viewed as a partial win through the removal of U.S. INF missiles.<sup>31</sup> Additionally, Soviet negotiators argued their stance that all nuclear armed NATO states should be considered when the balance of power was evaluated. This was an early indication of a desire to include the United Kingdom and France in nuclear negotiations or at least to account for the nuclear stockpiles of U.S. allies. NATO was able to celebrate the effectiveness of their dual-track decision that confirmed U.S. commitment to NATO, removed the U.S. and Soviet INF missile threat, and resulted in a highly desired arms control agreement.<sup>32</sup> The U.S. learned that it must be ready to accept the consequences of its most radical proposals since they might be accepted at a later time. As stated by Lynn Davis, “The West needs to define strategic and arms control objectives which are mutually consistent and serve alliance interests.”<sup>33</sup> Other lessons learned from INF treaty negotiations included the importance of NATO solidarity and the necessity for NATO states to engage with the public who had become active in nuclear affairs.<sup>34</sup> The influence of domestic political pressure to pursue nuclear arms control had become evident within the NATO allies. These lessons learned and perspectives would shape future discussions as

negotiations for the INF treaty commenced along with the negotiations on strategic arms reduction between the U.S. and Soviet Union.

As the George H. W. Bush administration took office, nuclear arms control negotiations became a lower priority than conventional force issues.<sup>35</sup> President Bush favored the completion of the Treaty on Conventional Forces in Europe over the completion of a nuclear arms reduction treaty that contrasted President Regan's approach to push hard in an attempt to compete START I before he left office.<sup>36</sup> The concern for an imbalance in conventional forces was not unwarranted and was on the mind of NATO leaders. During this period, the Soviet Union possessed conventional forces superior to those of NATO and that NATO believed could be offset by short-range nuclear forces.<sup>37</sup> The limitation on conventional forces would enable further discussions about nuclear arms control to establish and maintain a military balance of power in Europe. This was an indication the U.S. perceived that it and the Soviet Union had progressed from arms racing behaviors in which numerical superiority and the effectiveness of their nuclear strikes were primary concerns to a nearly balanced nuclear weapon status. This shifted the talks to a broader range of military capabilities. There was still a need to negotiate nuclear arms reductions that would be addressed in the continuance of the Strategic Arms Reduction Talks.

The nuclear weapon balance of power achieved thus far through the SALT and START was fragile. Long-range Sea-Launched Cruise Missiles (SLCM) and ABM treaty compliance had become primary concerns for the Soviets. Despite indications that SLCM did not provide a significant contribution to the nuclear balance of power, the weapon system was a point of contention during negotiations. The U.S. agreed to limit the number of SLCMs to 880 outside of START I after the U.S. had rejected Soviet proposals to ban or establish a limit of 400 SLCMs.<sup>38</sup>

Both the U.S. and the Soviet Union continued to work nuclear modernization programs and progress their ABM systems research that prompted claims each side had cheated on previous agreements. Compliance with the ABM treaty was a factor necessary for both sides to continue negotiations that would reduce the number of strategic offensive arms.<sup>39</sup> Mutual distrust over compliance issues and continued nuclear modernization fueled domestic debates in both states regarding the viability of an agreement to reduce nuclear arms.

Debate over the future of a nuclear arms reduction treaty being produced from the START were influenced by the U.S. experiences in the Gulf War and the Soviet's self-view as a world power. START I would not prohibit mobile launchers that were a cause of concern for U.S. military leaders due to the challenges experienced with the hunt and destruction of Iraq's SCUD missiles.<sup>40</sup> The issue was that the Soviet Union's nuclear forces were primarily land-based forces while the U.S. nuclear forces were largely sea-based.<sup>41</sup> The treaty would place significant limitations on land-based nuclear forces. This ran contrary to the Soviet Union's identity as a superior land-based force and would require a substantial economic investment to restructure its nuclear forces. These concerns were trumped by the opportunity for the Soviet Union to be recognized as a peer superpower and their ability to have predictability that would bridge the technology gap.<sup>42</sup> The U.S. would be able to take a step forward in stabilizing its relationship with the Soviet Union, provide the ability to constrain the nuclear environment, and make it easier to project the nuclear force structure.<sup>43</sup>

The START indicated that both the U.S. and Soviet Union were under pressure to address the cost of preparations for nuclear war and establish a stronger relationship that reduced mutual distrust. The verification standards proposed for the treaty would provide knowledge and understanding of the nuclear forces to reduce the fears caused by misperception and

miscalculation.<sup>44</sup> If nothing else, the treaty would provide a placeholder in international dialogue to stabilize the relationship between the U.S. and Russia as well as provide a triggering mechanism for the potential return to arms racing behaviors should a state choose to withdraw from the treaty.<sup>45</sup> START I was not a perfect agreement for either side, but it was an anchor point for the two states to continue negotiations and to build confidence in each other.

Only months after the U.S. and Soviet Union signed START I, the Soviet Union collapsed which delayed ratification and START I's entry into force. The Soviet deployment of nuclear forces throughout Russia, Belarus, Ukraine, and Kazakhstan created a difficult situation for the future of START I. The Lisbon Protocol was developed as a multilateral agreement to bring the four former Soviet states and U.S. under the provisions of START I.<sup>46</sup> The agreement would require Belarus, Kazakhstan, and Ukraine to accede to the NPT as non-nuclear weapon states and return all nuclear weapons to Russia.<sup>47</sup> This would make Russia the only recognized nuclear weapon state of the former Soviet republics. Belarus signed and ratified the Lisbon Protocol without indication of significant resistance. Kazakhstan and Ukraine indicated their desire to retain their nuclear forces, but later agreed to return nuclear weapons to Russia and join the NPT as non-nuclear weapon states. Publicly, Ukraine demanded the most in exchange for their full compliance with the Lisbon Protocol as it pursued security guarantees, financial compensation, and economic assistance.<sup>48</sup> The conditions added to the ratification of START I by the Ukrainian Rada were rejected by the U.S. and Russia. Ukraine's domestic political debates influenced its reluctance to comply with the Lisbon Protocol, ratify START I, and accede to the NPT as a non-nuclear weapon state. Diplomatic efforts by the U.S. and Russia encouraged Ukraine to move forward with the actions of the Lisbon Protocol. More than twelve years after negotiations for START I began, it entered force with Russia as the only former

Soviet state recognized as a nuclear weapon state and Belarus, Kazakhstan, and Ukraine set to join the NPT as non-nuclear weapon states.

The effort expended to ratify START I after the collapse of the Soviet Union interrupted negotiations for follow on nuclear arms reduction treaties. START II was negotiated, signed, and ratified by both states, but would not enter into force. The framework of START II was negotiated before the debate about START I ratification had begun and diverted the attention of Russian politicians.<sup>49</sup> The political discourse in Russia was partly due to the substance of START II and partly focused on opposition to the Russian president's policies.<sup>50</sup> Substantively, the treaty would require the restructure of Russian nuclear forces to favor SSBNs and would need to do so at a significant economic investment to catch up to U.S. submarine capabilities.<sup>51</sup> Politically, START II was perceived by Russian political elites as having provided too many concessions to the U.S. in relation to ABM capabilities and the downloading of weapons.<sup>52</sup> The treaty would require the elimination of Russian systems, but would allow the U.S. to store downloaded weapons that would provide the U.S. with a breakout capability. The U.S. bombing of Iraq, announcement that it would pursue funding for a national missile defense system, and demands to modify the ABM treaty resulted in the delay of the Duma's vote to ratify START II.<sup>53</sup> When the Duma voted to ratify START II, it attached conditions for the treaty to enter into force that the U.S. would not agree to and ultimately, prevented the treaty from entering into force. Since continued negotiations for START III were tied to the ratification of START II, both treaties failed to progress a nuclear arms control agenda.

The inability of the Clinton administration and Russian Federation under President Yeltsin to resolve the domestic discourse related to START II provided the follow-on administrations with an opportunity to reassess the U.S.-Russia relationship before START I



expired. Several people in the George W. Bush administration, including the President, did not believe formal arms control agreements were necessary because of the improvement in the U.S.-Russia relationship and that the President would approve unilateral reductions.<sup>54</sup> Russian President Putin agreed that the relationship had improved, but that Russia would prefer to continue with the formal process for the reduction of the nuclear weapons.<sup>55</sup> The Strategic Offensive Arms Treaty (SORT) was negotiated and signed by President's Bush and Putin in 2002 to overcome the stalled negotiations of START II and START III. Key elements of START III that were omitted from SORT included limits on tactical nuclear weapons and nuclear warhead destruction. In addition to the START III omissions and rejection of President Bush's desire to avoid formal agreements, the U.S. Senate debate included the recent decision by President Bush to withdraw from the ABM Treaty without Senate consultation, SORT nuclear weapon cuts, and the verification procedures that lacked the necessary rigor to assure Russia would be in compliance.<sup>56</sup> The Russian Duma opted to delay its ratification vote until after issues related to the U.S. invasion of Iraq in 2003 were resolved with the United Nations Security Council.<sup>57</sup> The requirements proposed by SORT would provide each side with the flexibility to determine its nuclear force structure to meet the numerical limits on deployed warheads. Since the treaty did not limit launchers, did not require the destruction of nuclear weapons, and did not require substantial changes to the desired force structure for either state, its real contribution was to have a treaty in place that would give the appearance of having worked toward reductions. As then Senator Biden remarked, "The arms reductions in [SORT] do not go far enough...but they are better than nothing."<sup>58</sup> SORT might have checked a box on the political agendas of the U.S. and Russia, but there were pressures domestically and internationally to do more. New START would provide more aggressive reductions and incorporate modified verification standards.

## Overview of New START

New START is a bilateral agreement on nuclear arms control between the U.S. and Russia. The treaty was signed in April 2010 by President Barak Obama and Russian President Dmitry Medvedev to replace START I which expired in 2009 and the 2002 Strategic Offensive Reduction Treaty (SORT). Due to expire in 2021, New START could be extended for five years until 2026. Unfortunately, the current relationship between the U.S. and Russia has led to concerns that New START will expire which would leave the states without constraints on their nuclear arsenals.

President Trump announced in 2019, that he would make a decision regarding the U.S. position on New START in 2020. The timing and content of his decision will certainly have an influence on the way ahead for New START and a treaty that would replace it. If President Trump's presidency will end in 2021 and he refuses to make a decision on the future of the treaty, it will be a tight timeline for a new administration to negotiate the extension of New START or reach an agreement that bridges the gap. There is also the possibility that President Trump could announce his intent to allow the treaty to lapse without time to implement a replacement that incorporates his demand for China to be part of a future agreement. Finally, he could announce his intent to withdraw the U.S. from the treaty. The implications of a lapse of or withdrawal from New START and whether or not the President should extend or leave the treaty are beyond the scope of this research, but it does influence what a follow-on agreement to New START should entail. A decision has likely been delayed while the world grapples with the ongoing COVID-19 pandemic.

**New START as a Foundation.**<sup>59</sup> New START continued to refine the limitations on deployed warheads, delivery systems, counting rules, and ballistic missile defense. Both Russia

and the U.S. reported completion of the reduction of accountable deployed strategic nuclear warheads and bombs to 1,550 by the February 2018 deadline. The treaty allows for 700 deployed Intercontinental Ballistic Missiles (ICBMs), Submarine-Launched Ballistic Missiles (SLBMs), and heavy bombers. Only a total of 800 deployed and non-deployed warheads in these categories is allowed to prevent a break-out capability by either side. While this was a modest reduction in comparison to the reductions achieved in START I, it was progress that demonstrated the efforts of both states to work toward an agreement.

The rules for counting warheads, delivery vehicles, and launchers changed from START I and SORT. START I did not count reentry vehicles, while SORT did not count Russia's stored bomber weapons. New START counts each heavy bomber as one warhead regardless of the aircraft's actual payload capacity. The warheads deployed on ICBMs and SLBMs are counted by the actual number of warheads deployed on each missile. START I did not count actual number of reentry vehicles deployed, but counted the capacity of a delivery vehicle regardless of the attached payload. The separation of deployed and non-deployed missile launchers from the missiles allowed each side flexibility in their nuclear force structure. Non-deployed ICBMs and SLBMs are monitored, but are not limited in number and must be located at specified facilities away from deployment sites along with other identification requirements to facilitate monitoring.

New START retains pertinent monitoring and verification requirements from START I and incorporates items that were not previously monitored. The upper limit of deployed warheads is verifiable through inspections that allow inspectors to count the number of warheads on an ICBM or SLBM selected by the inspecting state. Warheads may be covered to prevent the disclosure of sensitive information. This process is designed to deter either side from deploying launchers with more than its declared number of warheads.

As both sides worked to modernize their nuclear forces, the treaty was updated to reflect information sharing that was no longer necessary as well as to incorporate new developments. START I required all missile-generated flight test data to be shared in order to monitor missile development. New START does not limit new types of ballistic missiles, making the sharing requirement unnecessary. However, the states opted to require the exchange of flight test data for up to five missile tests per year to maintain transparency. All new Russian mobile ICBMs are subject to the treaty once they leave the production facility. Additionally, Russia must notify the U.S. 48 hours before a new solid-fueled ICBM or SLBM leaves the production facility to allow for monitoring by national means. Verification of treaty limits and conversions or elimination of delivery systems was simplified to reduce the fiscal and human capital required to execute inspections. Finally, ballistic missile defense programs were not constrained by New START. The treaty addressed desires to take actions consistent with disarmament objectives while it provided stability for the U.S.-Russian relationship through predictability, transparency, and equality.

### **Arms Control Objectives**

The reasons states engage in arms control treaties vary, as does the effectiveness of and compliance with the measures spelled out in the treaties. Any agreement between states to regulate aspects of their military capability or potential can be categorized as arms control.<sup>60</sup> It is important to note that arms control is more of a process than a completed assignment. The pursuit of global nuclear disarmament began in earnest via diplomatic means with the NPT and continues to be a topic of conversation among the world's leaders. The first step toward nuclear disarmament was to end the arms race between the U.S. and the Soviet Union. Since the end of the arms race, several treaties have been enacted to reduce the nuclear weapon stockpiles to the

levels they are today under New START. The process has included negotiations on nuclear testing, the balance of military strength, and defense against nuclear strikes as well as the types of weapons that would be limited, reduced, and monitored.

Arms control is a diplomatic tool used as part of a cooperative security strategy. Cooperative security is “a commitment to regulate the size, technical composition, investment patterns, and operational practices of all military forces by mutual consent for mutual benefit.”<sup>61</sup> It might be necessary to engage with allies and partners as well as adversaries to achieve the cooperative security objectives involved with arms control. John Maurer argued that there was not a consensus on the purpose of arms control, but that arms control has been used for disarmament, stability, and advantage.<sup>62</sup> Others have argued that arms control is used to ensure peace, stability, or security.<sup>63</sup> Embedded within these positions are classic ideas of Thomas Schelling and Morton Halperin that the purpose of arms control was to “reduce the costs of preparing for war, the chances of war, and the damage that would result should it occur.”<sup>64</sup> An example is in the preamble of New START that states the treaty “will enhance predictability, stability, and thus the security of both Parties.”<sup>65</sup> The purpose of a specific arms control agreement can serve multiple purposes for a state while leaving analysts, allies, and adversaries questioning the true intent.

A consideration in arms control negotiations is that a state’s ability to achieve disarmament, stability, or advantage with one adversary can have a profound effect on allies and other adversaries. For example, stability with Russia typically involves some discussion of ballistic missile defenses such that the U.S. does not implement defenses that reduce the effectiveness of a Russian nuclear strike. Vulnerability to a Russian nuclear strike would also make the U.S. vulnerable to a strike by another nuclear armed adversary such as China or North

Korea. Should the U.S. accept mutual vulnerability with China, it might be viewed as an unacceptable risk for Japan that could result in Japan's desire to pursue its own nuclear arsenal. Disarmament through agreements such as the INF treaty could leave Russia vulnerable to a nuclear strike by China that does not share in the INF treaty restrictions. This also leads to disparities about the meaning of the terms disarmament, strategic stability, and strategic advantage, where strategic and nuclear are used interchangeably in much of the literature.

**Disarmament.** Disarmament is defined as “the reduction or abolition of armaments.”<sup>66</sup> Although the NPT does not define disarmament, it is a reasonable assumption that nuclear disarmament would be defined as the abolition of nuclear weapons based on references to the cessation of manufacturing, elimination of nuclear weapons from stockpiles, and eventual complete disarmament. This would not prohibit the retention or development of technologies that would allow a state to rapidly procure weapons. The NPT acknowledged that disarmament was a long-term goal and not something that would be accomplished easily. Unless there is a notable shift toward acceptance of global denuclearization, it is irrational to believe that an agreement for total disarmament will follow New START. Therefore, for the purpose of this research, the definition of nuclear disarmament is as stated above, but is operationalized as a process for removing nuclear warheads from deployed status through dismantlement and verification by international monitoring. The longstanding relationship between the U.S. and Russia has resulted in a drastic reduction of their stockpiles, but complete disarmament is likely to remain a moving endpoint in time. In the interim, it will be necessary to continue the pursuit of agreements that reduce the potential for nuclear war while lowering the total number of nuclear weapons.

**Stability.** Stability is often times referred to as strategic stability by U.S. analysts and politicians for the purpose of nuclear weapons policy. From a U.S. perspective, strategic stability

is the near parity of U.S. nuclear forces to that of an adversary such that neither side has an incentive for a first strike.<sup>67</sup> John Maurer defined stability as, “limiting especially dangerous offense-dominant weapons while bolstering deterrence by allowing the procurement of defense-dominant weapons.”<sup>68</sup> The stability-instability paradox, introduced by Glenn Snyder, would imply that conflict below the level of all-out nuclear war is more likely to occur because the balance achieved at the strategic nuclear weapon level.<sup>69</sup> As the U.S. works to negotiate the future of nuclear arms control, it must be recognized that Russia and China utilize a similar concept in defining strategic stability that deviates from the U.S. perspective. Russia and China view strategic stability as involving a variety of avenues of engagement to prevent military aggression.<sup>70</sup> The narrow focus of the U.S. on nuclear superiority or parity based on a numerical accounting of strategic nuclear weapons could result in adversary advantages in other areas that cannot be accounted for through nuclear arms control. One example of this imbalance would be Russia’s stockpile of non-strategic nuclear weapons (NSNWs) that could be viewed as an offset to NATO conventional forces in Europe. The jockeying of efforts in categories across the range of a state’s capabilities results in competition that might stabilize one concern while creating instability in another. The objective of stability would be to lower the potential for nuclear war.

**Advantage.** In competition, it is generally preferable to have an advantage over an opponent. Much of U.S. strategy has focused on the creation of some form of an advantage or superiority. In relation to nuclear weapons, Dr. Matthew Kroenig defined nuclear superiority as “a military nuclear advantage over an opponent...A state possesses nuclear superiority if its expected cost of nuclear war is less than the expected cost of nuclear war for its adversary.”<sup>71</sup> Another view on advantage is “preventing dangerous countries from acquiring weapons technologies while preserving a stable balance of power for trustworthy, status quo countries.”<sup>72</sup>

Interestingly missing, or not identified thus far, from Russian and Chinese literature is their view of advantage. The disparities in perspectives for areas in which states should seek agreement provided the stark realization that misperception and miscalculation are likely outcomes when states do not engage in diplomatic solutions to complex problems. This also highlighted the possibility for states to use arms control agreements to restrain an adversary's advantage in one area to create or enhance one's advantage in another area. Arms control agreements have provided transparency and predictability for the U.S. and Russia for over fifty years through key elements that build confidence and trust.

**International norms.** The evolution of international norms with relation to nuclear arms control would require a look back at the end of the Cold War era. The NPT had been in effect for nearly twenty years with several states having joined, but the end of the Cold War had a different effect on the future of nuclear arms control. The last two nuclear armed holdouts on the NPT, China and France, joined shortly after the fall of the Soviet Union. Although the NPT's status as an arms control agreement could be debated, the NPT has provided a consistent avenue for the P5 to demonstrate their commitment to the reduction of the global risk of nuclear war. States that have signed the NPT have committed themselves to either pursue negotiations toward the eventual disarmament of nuclear weapons or to remain free of nuclear weapons. Both of these positions were designed to place limitations on global nuclear stockpiles. States that have agreed to remain free of nuclear weapons have agreed to limit themselves to zero nuclear weapons. At least as long as the state would oblige itself to adhere to the treaty.

Additionally, several states have banded together to establish nuclear weapon free-zones and have created a Treaty on the Prohibition of Nuclear Weapons (TPNW). These agreements have demonstrated the strong international support for diplomatic solutions to prevent war



through arms control agreements. It has also demonstrated the willingness of non-nuclear weapon states to work together to build confidence among each other to increase stability. Scott Sagan asserted that weaker states pursue nuclear weapons to balance against a rival.<sup>73</sup> It is possible that nuclear weapon free zones and the TPNW are examples of a diplomatic approach to balance against nuclear armed rivals while attempting to prevent the rise of new nuclear armed rivals. The international community has expressed its desire for a world without nuclear weapons. The accession of Belarus, Kazakhstan, and Ukraine to the NPT, Syria's accession to the chemical weapons treaty, and the signing of SORT have demonstrated the strong influence that compliance with international norms could be an objective of nuclear arms control. While the international community has sought the prevention of nuclear war through the reduction and prohibition of nuclear arms, China, Russia, and the U.S. have taken actions that have caused concern.

### **Assessment of the Future of Arms Control**

#### **The Unstable Future of Nuclear Arms Control**

Shifts in perceptions and actions taken by both the U.S. and Russia have resulted in uncertainty about the future of nuclear arms control. The U.S. withdrew from the INF Treaty after claims that Russia had been violating the treaty. This was a devastating blow to arms control advocates as the INF was viewed as the landmark example of how arms control could be used to eliminate destabilizing weapons and weapon systems.<sup>74</sup> Similarly, President Trump made comments and signed a declaration that he was considering the withdrawal of the U.S. from the 1992 Open Skies Treaty that allows overflight of nuclear weapon sites as a method of verification and monitoring.<sup>75</sup> Although the U.S. has not formally announced a withdrawal from the treaty, it has raised questions about the U.S. administration's commitment to arms control

and its view of Russia. In fact, U.S. policy has transitioned from Russia's role as a strategic partner to one of strategic competition based on Russia's revisionist actions.<sup>76</sup>

Russian actions and military developments have contributed to the U.S. policy shift as well as the growing unrest among U.S. allies that a new Cold War or worse is brewing. A notable shift in U.S.-Russia relations occurred in 2014, when Russia was sanctioned and removed from the G8 for the annexation of Crimea. In 2016, Russian President Putin told the Russian people that Russia would not start an arms race with the U.S. following tweets by President Trump about expanding the U.S. nuclear arsenal.<sup>77</sup> Two years later, President Putin stated that Russia would pursue new mid-range nuclear weapons if the U.S. withdrew from the INF treaty.<sup>78</sup> Although the two sides disagreed about Russia's violation of the INF treaty, Russia was quick to advertise new developments in nuclear capabilities. These developments included a nuclear-powered cruise missile, "doomsday" torpedo, glider warhead, and long-range hypersonic missile that would go into service following the end of the INF treaty.<sup>79</sup> Intermediate range missiles placed U.S. allies in Europe and Japan within striking distance of Russian forces. Russia has been using arms control treaties and other agreements to its advantage by shifting the balance of military power in its favor. The Russian advantage might be limited to areas in Europe and Asia, but are within the boundaries of stated Russian objectives and detracts from the sense of security that can be provided to U.S. allies by the nuclear umbrella. Another view of Russia's buildup of nuclear capabilities would be a desire to counter a rising China that has been unencumbered by nuclear arms treaties.

China presents a unique challenge due to its ever-changing standards for nuclear talks, opacity about their nuclear forces, and lack of engagement on the North Korean nuclear weapons program. China has consistently declined to enter into a nuclear arms reduction talks with the

U.S. and Russia until meeting certain demands.<sup>80</sup> Each time the U.S. and Russia near China's threshold for entering nuclear talks, the threshold changes.<sup>81</sup> Little is known about the size and capability of Chinese nuclear forces such that it could hinder further reductions in the nuclear stockpiles of the U.S. and Russia. Transparency achieved through verification and notification in arms control agreements could provide an opportunity to build confidence among the U.S., Russia, and China. Although China is a fervent supporter of the NPT, it has actively reduced the ability of the United Nations to take effective action against North Korea for the development of a nuclear weapons program.<sup>82</sup> This may be partly due to concerns about a North Korean refugee crisis, but could also be attributed to the economic ties between the two states. China is critical of the U.S.'s practices related to extended deterrence and ABM systems, the size of the U.S. and Russia's nuclear arsenals, and the lack of a no-first use policy among the P5 states.<sup>83</sup> Regardless of the reason for China's soft stance on North Korea and its moving thresholds for engagement in arms control discussions, it is evident China presents a substantial diplomatic challenge should it even be possible to reach a nuclear arms control agreement. China's willingness to enter into an agreement is limited as is its willingness to aggressively pursue cooperative security objectives. At this point, it does not appear that China's objectives would be met through engagement in nuclear arms control with the U.S. and Russia.

The U.S. pursuit of weapons that compete with increasing Russian and Chinese capabilities outside of the established nuclear triad of bombers, ICBMs, and SLBMs gives the appearance that an arms race is already underway. Recommendations in China's White Paper for the 2015 NPT conference includes actions to diminish the role of nuclear weapons in national security policies and increasing mutual trust among states.<sup>84</sup> Both Russia and the U.S. have moved away from the concept of diminishing the role of nuclear weapons with the rhetoric from

President Putin and President Trump. The white paper also opposes the policy and practice of providing a “nuclear umbrella” and “nuclear sharing.” The U.S. continues to provide a “nuclear umbrella” and “nuclear sharing” to prevent the proliferation of nuclear weapons and provide assurances of U.S. commitments to its allies’ security. The U.S. concern for the proliferation of nuclear weapons by North Korea and challenges with Iran makes the desire to improve ballistic missile defense a factor in future negotiations. It can be expected that both Russia and China will want concessions on U.S. ballistic missile defense to enter into a future treaty.<sup>85</sup> The U.S. will find it a challenge to accept restrictions on its inactive stockpile of nuclear weapons and ballistic missile defenses. NSNWs will probably be off the table for negotiations with Russia. Notably, neither state’s NSNWs are regulated by New START. It is plausible that China will find a new threshold for the U.S. and Russia to meet in order to avoid entering into an agreement that produces transparency and confidence. The Comprehensive Test Ban Treaty (CTBT) will likely be another point of contention as the U.S. and China are the only P5 states that have not ratified the treaty. Although these two states have not ratified the treaty, they have complied with the provisions to end testing. The U.S. faces pressure domestically and from allies to achieve a nuclear superiority to maintain the credibility of strategic deterrence of the homeland and the credibility of extended deterrence commitments. The U.S. also faces pressure through a variety of sources to aggressively pursue global zero. These opposing forces provide constructive tension to shape U.S. strategy and policies.

Space is an area that is not addressed often in relation to nuclear arms control. The weaponization of space has been a concern since the 1960s and resulted in the 1967 Outer Space Treaty that, in short, bans weapons in space. However, it does not prohibit attacks on a state’s space assets. There are military and civilian implications to attacks on space assets that could

frustrate a decision to escalate toward nuclear war. The 2018 Nuclear Posture Review identified aspects of the space domain that could influence nuclear decision making and that an attack on U.S. space assets could cause a retaliation that could include a nuclear component.<sup>86</sup> Seeing the growing focus on the importance of space, it is worth considering that anti-satellite capabilities could be part of the nuclear arms control discussion.

### **Bright Future in Arms Control**

The banter between the U.S. and Russia along with the proliferation of nuclear weapons in North Korea would seem to some as a slide toward the failure of nuclear arms control. Although the INF and ABM treaties are no longer a binding agreements, they included elements of arms control that met the objectives related to the achievement of stability between the involved parties as well as assurance of U.S. allies. Similarly, there was evidence that Syria had used weapons banned under the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction before its accession to the treaty in 2013.<sup>87</sup> These apparent detractors to the effectiveness of arms control treaties are reasonable, but are unqualified to discount the potential effectiveness of future arms control agreements. Subsequent to its use of chemical weapons, Syria submitted to international pressures and consented to the treaty that required it to give up its chemical weapons and submit to verification inspections. Arms control has and will remain an invaluable part of the establishment and enforcement of international norms. Despite current concerns, there is a bright future for nuclear arms control.

**Future options.** During the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, each P5 state submitted a report that indicated their desire to engage in substantial negotiations leading to the eventual disarmament noted by the

NPT. Each state also eluded to issues and its view of how to achieve nuclear disarmament. Options for the U.S. to pursue in relation to nuclear arms control are discussed along with the challenges that could be present during negotiations. Unilateral reductions by the U.S., continuance of bilateral agreements between the U.S. and Russia, and a multilateral agreement are examined in relation to a factors that contribute to a state's engagement in arms control.

The U.S. could continue its efforts toward disarmament with unilateral reductions in its strategic nuclear forces. The transition from OHIO-class ballistic missile submarines to the COLUMBIA-class ballistic missile submarine includes a reduction in the number of available SLBM launchers from twenty-four to sixteen. Compliance with New START resulted in the decision to modify SLBM launchers to reduce the number of deployed launchers and warheads on each SSBN from twenty-four to twenty. Continuing to reduce the number of deployed launchers without changing the number of deployed nuclear weapons would have little impact on the effectiveness or credibility of the SSBN leg of the nuclear triad based on the projected path of U.S. shipbuilding. The U.S. could also look to reduce both launchers and warheads in keeping with its trajectory toward global zero. These actions would be similar to those taken by the United Kingdom and France to reduce both their nuclear force structure, posture, and stockpiles.<sup>88</sup>

However, unilateral actions that function outside of formal agreements could result in an imbalance that negatively effects U.S. security interests. The Presidential Nuclear Initiatives (PNI) undertaken at the direction of President Bush in 1991 were crafted during a time of easing tensions and optimism.<sup>89</sup> Unilateral reductions might signal a noble position for the U.S. in keeping its commitment to reduce the number of nuclear warheads, but it likely undermines U.S. objectives to prevent proliferation and provide assurance to allies. The uncertainty of China's

intentions as demonstrated by expansion of its nuclear forces while simultaneously having called for reductions in other states' nuclear forces as well as Russia's modernization and weapons development has identified a necessity to pursue other than unilateral reductions. The conditions that supported PNI in the 1990s and could support unilateral reductions do not exist today. Unilateral reductions by the U.S. would likely fuel proliferation by states that were under the nuclear umbrella and could destabilize the nuclear balance of power.

There is the option to amend New START to extend beyond 2026 or create a new treaty that will encompass the verification and notification elements of New START in a bilateral agreement between the U.S. and Russia. Whether a new treaty is created or New START is amended to extend beyond 2026 is viewed as a single option to continue with bilateral agreements that address states' objectives. This option maintains the transparency and confidence desired by U.S. arms control advocates.<sup>90</sup> Additionally, it would maintain the U.S. version of strategic stability by maintaining parity with Russia in the number of strategic nuclear weapons. The bilateral agreement would not move either state closer to disarmament nor would it provide either state with an advantage in relation to strategic nuclear weapons. It would, however, continue to provide lines of communication that support stability.

Additional challenges to this approach would be that it fails to address concerns about New START that were identified during and following New START's ratification process. U.S. Senators were concerned about the treaty's lack of provisions for Russia's NSNWs, ensuring funding for nuclear modernization, methods of verification, and the treatment of long-range conventional strike weapons.<sup>91</sup> At the time of New START, military leaders had explored options to use SLBM and ICBMs armed with conventional payloads. New START includes provisions that would count conventionally armed SLBMs and ICBMs as part of the total

deployed launchers.<sup>92</sup> Aside from Russia's NSNWs, the concerns brought up by U.S. Senators have not garnered much attention. The Russian Duma amended New START during the ratification process to address conditions that could result in Russia's withdrawal from the treaty such as a U.S. breach of the pact, concerns about U.S. missile defenses, and U.S. strategic conventional armaments.<sup>93</sup> More recent issues and weapons developments have been identified that warrant additional efforts for future bilateral agreements should it be deemed necessary to continue with bilateral agreements. There is a case that Russia would continue to enjoy a nuclear advantage as well a NSNW stockpile that offsets a U.S. conventional superiority should a treaty that mirrored New START be pursued. The option to pursue a bilateral agreement would sustain strategic stability, but would not move toward disarmament nor would it address the imbalances in nuclear forces that exist.

A multilateral treaty that included each member of the P5 would likely be the most challenging endeavor to accomplish, but would provide the greatest benefit to the global zero movement as well as provide for nuclear stability. Each of the parties to the NPT, most specifically the P5, have the responsibility to pursue negotiations toward eventual disarmament. There are significant challenges to overcome to pursue an arms control agreement that limits the nuclear arsenal of states other than the U.S. and Russia. Without transparency China, Russia and the U.S. have little incentive to continue bilateral reductions. The United Kingdom and France have pursued reductions outside of formal arms control agreements, but should be included in this process. An achievable multi-lateral agreement would essentially be a bilateral agreement between the U.S. and Russia that included the other members of the P5 as observers. This agreement would lay the foundation for future substantive negotiations. By including the other members of the P5 as observers, they will be able to gain confidence in the process and in the



other parties. It is an option that would not move any state toward disarmament nor should it provide any state with an advantage other than those previously noted. The efforts should be focused on the enhancement of transparency and to strengthen mutual confidence to improve stability as the states embark on the disarmament path together.

In a perfect world, a multilateral agreement would be able to address all of the contentious issues related to nuclear arms control. In reality, a multilateral agreement that encompasses ABM, NSNWs, inactive stockpiles, new weapons, ally assurances, and no-first use policies might be too much to address in a first round of multilateral nuclear arms control. However, a continuance of current numerical limits and the verification regime of New START that brings in observers from the other P5 states could be a useful introduction to future negotiations. Unfortunately, it would allow Russia to remain unconstrained in NSNWs and the U.S. to maintain an inactive nuclear stockpile. Additionally, bringing in the other P5 states without verification and notification elements on their nuclear arsenals does not provide transparency and mutual confidence for the U.S. and Russia. The primary goal of the treaty that replaces New START should be to ensure that each member of the P5 agrees to the rules and falls under the verification and notification requirements. An agreement that will make an accounting of each state's nuclear arsenal will be an important first step to the reduction of risk of nuclear war and future reduction.

### **Conclusion**

Seeking the prevention of nuclear war through diplomatic means has roots throughout the history of nuclear weapons. Some negotiations have led to agreements that have been more successful than others. The current political climate and technological advances have enabled the deterioration of long-standing agreements, but do not signal the end of nuclear arms control. It

does, however, signal a need for continued engagement among states to overcome challenges in which there might appear to be no common ground to reach consensus or no trade space to make a bargain. Whether the states' desires are to achieve disarmament, stability, advantage, or to comply with international norms, there are areas in which agreement can be found.

Fundamentally, each of the P5 states has documented its efforts in pursuit of nuclear disarmament as well as their desire to continue moving in that direction. The steps to be taken to get to that point are not as easily achieved. It becomes more challenging when the states are proclaiming its efforts toward the goal, but undermine those efforts with actions that cause concern about its intentions.

The U.S. finds itself in a different place today than it was when treaties such as the NPT and New START were negotiated. Factors that once contributed to peace and stability have given way to arms racing behaviors that are viewed as threatening. Invasions of sovereign states, nuclear modernization, and other revisionist actions that challenge the status quo coupled with political rhetoric have exacerbated the problem associated with finding a comprehensive diplomatic solution. It is arguable that a new Cold War or a Second Nuclear Age is looming or is underway. These issues have been working in the background while the U.S. was proclaiming victory from the Cold War and had shifted its focus for nearly two decades toward a conflict against an ideology. Ignoring a problem does not make it go away and it certainly does not make it a new problem.

Through limited study of when arms control was effective and when it seemed to falter identified that when parties are able to agree to the rules, find appropriate means to conduct verification activities, and provide notification that arms control can achieve its objectives. The withdrawal of the U.S. from the INF treaty due to claims of Russia cheating demonstrated the

effectiveness of the verification provisions of the treaty. The U.S. was able to identify Russia's noncompliance and provide an opportunity for it to return to compliance. The parties knew and understood the rules, notification was not provided, and verification processes identified the noncompliance. It was an altogether effective process that has raised awareness to issues that degraded stability. It is unlikely that any agreement will survive indefinitely if the parties do not comply with the agreement's provisions. This does not make the key elements of the agreement less effective, but it could lead to other issues that increase tensions.

The likelihood a state would be willing to engage in nuclear arms control is related to their willingness to comply with the provisions of the agreement. A state might engage in negotiations for the purpose of appearing to comply with international norms, but then withdraw due to domestic pressures. North Korea and Iran provide examples of this type of behavior that has led to increased tensions in their geographic regions. Similarly, China's involvement in the NPT and other nuclear weapon related negotiations have demonstrated a willingness to engage in negotiations, but these are likely veiled attempts to appease the international community in an effort to bolster a positive image of China as a global leader. On the other hand, Russia has worked to omit or include certain types of weapons or defensive systems to their own advantage. Russia's stockpile of NSNWs that fall outside of New START inspection requirements are indicative of their desire to retain an advantage while accepting stability at the strategic nuclear level of competition. Finally, the U.S. stance on ABM deployments has been a cause for concern in negotiations before the ABM treaty existed. The maintenance of an inactive stockpile also demonstrates the U.S. concern about the stability of the future.

Further research is necessary on the subject of a follow-on treaty for New START. The Navy's shipbuilding plan includes fewer COLUMBIA-class SSBNs with fewer launchers than

the OHIO-class SSBNs. While this provides some clarity on the Navy's contribution to the strategic nuclear triad, little information was reviewed on the Air Force's plans for the replacement of the B-2 and B-52 bombers. The B-21 is being looked at for both conventional and nuclear missions that will require special consideration when negotiations begin. Although each bomber is counted as a single unit under New START, future force structure desires might not be afforded the flexibility the U.S. would enjoy. ICBM modernization and structure, similar to SLBMs, is fairly clear under the assumption that counting rules remain the same in future agreements. The force structure of the U.S. strategic nuclear triad, as a whole, would require adjustment should a new round of reductions be part of a future agreement. It would also provide an avenue to reduce procurement and the expense associated with maintaining the triad.

A multilateral agreement among the P5 should include NSNWs and inactive stockpiles. Additionally, each P5 state needs to improve its transparency and accounting for its nuclear arsenal. The small numbers reported by China, France, and the United Kingdom do not warrant reductions on numerical limits at this time, but these states have interest in reductions by the U.S. and Russia. Continued reduction in the total number of nuclear weapons by the U.S. and Russia should be evaluated as a provision that follows an initial accounting of existing stockpiles. It would be prudent for the U.S. and Russia to ensure the provisions provide a limit to prevent the other states from growing their arsenals beyond the limits imposed on the U.S. and Russia. At an elementary level, nuclear weapons are still nuclear weapons regardless of the size of the explosion. Acquiring additional NSNW capabilities and maintaining an inactive stockpile that fall outside of confidence building measures such as verification and notification are counter to NPT efforts toward disarmament.

ABM systems and no-first use policies are contentious topics, but should be addressed outside of nuclear arms control agreements among the P5. The U.S. and Russia have pursued ABM systems with varying degrees of capability and deployment. The concerns that arise from limiting the nuclear strike of an adversary are founded on the idea of mutual vulnerability as a stabilizing factor. However, the U.S. should not accept mutual vulnerability with China due to ally assurances. In order to address the concern about ABM systems, the future agreement could include provisions that require the states to engage in additional negotiations on the subject.

China's pursuit of a no-first use policy is likely to fall outside of any formalized agreement and could lead to China's withdraw from negotiations or an unwillingness to be party to a P5 agreement. Each P5 state maintains that their nuclear arsenals exist for defensive purposes. It is not completely understood why China views no-first use policies as a key initiative. Just as states have withdrawn from treaties because of cheating or to pursue objectives that run contrary to the agreement, nuclear armed states facing an existential threat might feel that it has nothing to lose by using its nuclear weapons regardless of the agreement. Effective verification of a no-first use policy would require states to give inspectors access to sensitive command and control information that seems unlikely any P5 state would desire to provide or are simply unknowable.

China's open criticism of the U.S. nuclear umbrella overlooked how the nuclear umbrella has prevented the proliferation of nuclear weapons by China's neighbors in Japan and South Korea which has contributed to peace and stability in the Asia Pacific region. It would appear as though China's statements about nuclear nonproliferation, no first use policies, and absence of nuclear weapons in military planning are designed to produce the image of a responsible global power without demonstrated commitment to the actions necessary to confirm the desired self-

view. China's lack of enforcement of U.N. sanctions and lack of engagement in diplomatic efforts have contributed to the proliferation of nuclear weapons to the regional rogue state of North Korea. The state's lack of transparency has contributed to domestic and global instability. Recent riots in Hong Kong have demonstrated the tight control over the narrative provided to the Chinese people along with how the COVID-19 pandemic was handled and intellectual property issues have raised questions about the projected image of China in comparison to the real China.

There are many factors to consider as the U.S. moves forward with nuclear arms control negotiations and decisions. Recent history has shown that unilateral action is efficient, but is not necessarily the best option. Similarly, continuing to apply Cold War style strategies to problems that have arisen from different circumstances is unlikely to obtain the desired results. A multilateral agreement that brings in each of the P5 states to provide transparency and mutual confidence is the best option for an agreement that will replace New START and continue NPT efforts toward nuclear disarmament. There is no doubt that negotiations will be messy and tense to develop a multilateral agreement, but they are necessary.

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