

The Treaty on the Prohibition of Nuclear Weapons:  
An Overview of the Global Nuclear Threat and a Potential  
Solution to Denuclearizing the Planet

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We are witnessing the beginnings of the “New Cold War” between the U.S, China, Russia, and North Korea. The Trump administration’s National Security Strategy, unveiled in December 2017, asserts that “The United States will respond to the growing political, economic, and military competitions we face around the world. China and Russia challenge American power, influence, and interests.”<sup>1</sup> Russian President Vladimir Putin recently flaunted new powerful weapons like nuclear armed cruise missiles.<sup>2</sup> Also, China recently ended presidential term limits, opening up to the possibility of a new era of President Xi Jinping’s dictatorship.<sup>3</sup> North Korea has been aggravating the United States for several years by testing long range missiles and spreading propaganda about the ability to strike several foreign nations.

Though we have avoided World War III for seventy years, the threat of the next world war will loom over our heads in such uncertain times as long as nuclear weapons exist. The nuclear threat is on the rise due to the development of multiple independently targetable reentry vehicles (MIRVs) and inter-continental ballistic missiles (ICBMs), especially in North Korea.<sup>4</sup> Moreover, America plans to replace every leg of its nuclear triad at an estimated cost of \$1.2 trillion and Russia is currently modernizing its nuclear arsenal.<sup>5</sup> Other nuclear weapon states (NWS) such as China, Pakistan, and India are increasing the quality and quantity of their nuclear forces.<sup>6</sup> Iran’s long term plans are uncertain based on the future of the Iran deal.<sup>7</sup> Growing distrust among the world leaders is prompting dramatic policy changes and the risk of a nuclear disaster is much more real than we would like to believe.

The Treaty on the Prohibition of Nuclear Weapons (TPNW), also known as the Nuclear Weapon Ban Treaty, is a legally binding agreement signed by 57 countries banning the possession, development, and deployment of nuclear weapons with the ultimate goal of totally eliminating them. Drafted by the UN in response to the growing nuclear threat, the treaty was adopted on July 7, 2017.<sup>8</sup> On September 20, 2017, the treaty opened for signature.<sup>9</sup> Currently seven states

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<sup>1</sup> Joseph Braude, "Washington's Stance on China and Russia: Fits and Starts of Confrontation and Cooperation," *Majalla Magazine*, March 9, 2018, accessed March 12, 2018, <http://eng.majalla.com/2018/03/article55255724/washingtons-stance-china-russia>.

<sup>2</sup> William J. Broad and Ainara Tiefenthaler, "Putin Flaunted Five Powerful Weapons. Are They a Threat?," *The New York Times*, March 2, 2018, accessed March 10, 2018, <https://www.nytimes.com/2018/03/02/world/europe/putin-weapons-video-analysis.html>.

<sup>3</sup> Evan Osnos, "Xi Jinping May Be President for Life. What Will Happen to China?," *The New Yorker*, February 26, 2018, accessed March 1, 2018, <https://www.newyorker.com/news/daily-comment/xi-jinping-may-be-president-for-life-what-will-happen-to-china>.

<sup>4</sup> "What We Know about North Korea's Missile Programme," BBC News, last modified August 10, 2017, accessed February 1, 2018, <http://www.bbc.com/news/world-asia-17399847>.

<sup>5</sup> W. J. Hennigan, "The Nuclear Power: More Players. Looser Rules. Everything at Stake.," *Time*, February 12, 2018, 22

<sup>6</sup> *Ibid.*, 22

<sup>7</sup> *Ibid.*, 22

<sup>8</sup> Nuclear Threat Initiative, "NTI," Nuclear Threat Initiative, last modified May 2016, accessed March 25, 2018, <http://www.nti.org/learn/treaties-and-regimes/treaty-on-the-prohibition-of-nuclear-weapons/>

have ratified it (Cuba, Guyana, Holy See, Mexico, Palestine, Thailand, and Venezuela), but a total of fifty ratifications are needed for the treaty to enter into force.<sup>10</sup>

Should the entire world cooperate with the TPNW, the nuclear threat will theoretically be reduced to zero. While several important nations, including countries that possess nuclear weapons, have not yet ratified the treaty, it is an important step towards preserving peace and unity in the world by reducing tensions and eliminating the threat of nuclear arms and we need to focus all our efforts to ensure the treaty will enter into force. We have proposed several recommendations to help the TPNW come into effect. In the future, treaties such as the TPNW will greatly reduce the growing global nuclear threat and restore peace and harmony among world leaders.

### *Distinction Between Treaty on Non Proliferation of Nuclear weapons (NPT) vs Treaty on Prohibition of Nuclear Weapons (TPNW)*

In 1968, the UN introduced the NPT. Although the wording is similar to TPNW, the goals are different. While the NPT is a more lax treaty, aiming to prevent further development of nuclear weapons, TPNW aims to completely eliminate any activity or object associated with nuclear warfare from the face of the earth. Thus, NPT deals more with the *spread* of the nuclear weapons while TPNW aims towards *prohibition* of nuclear weapons finally hoping to achieve the goal of disarmament of nuclear weapons.

## **II. Nuclear Activity - Past and Present**

The first use of nuclear weapons in the world was during WWII in the Pacific Theater. Truman believed that the best solution to defeating Japan was a nuclear attack, which targeted civilians rather than military personnel. On August 6, 1945, the U.S. dropped the Little Boy nuclear bomb, equivalent to 15,000 tons of TNT, on Hiroshima.<sup>11</sup> Designed for a primarily psychological impact, the figures for people killed by the warhead vary from 95,000 to 146,000.<sup>12</sup> Still, however, Japan remained unwilling to surrender, which caused Truman to drop a second nuclear bomb on Nagasaki, which forced Emperor Hirohito to surrender.<sup>13</sup> All in all, over 200,000 people were killed by the two bombs.<sup>14</sup> Despite the horrific outcomes of Hiroshima and Nagasaki, nuclear weapons production and development have since greatly accelerated. No

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<sup>9</sup> Ibid.

<sup>10</sup> ICANW, "Signature/ratification Status of the Treaty on the Prohibition of Nuclear Weapons," International Campaign to Abolish Nuclear Weapons, last modified July 7, 2017, accessed March 26, 2018, <http://www.icanw.org/status-of-the-treaty-on-the-prohibition-of-nuclear-weapons/>.

<sup>11</sup> "Little Boy and Fat Man," Atomic Heritage Foundation, last modified July 24, 2014, accessed March 27, 2018, <https://www.atomicheritage.org/history/little-boy-and-fat-man>.

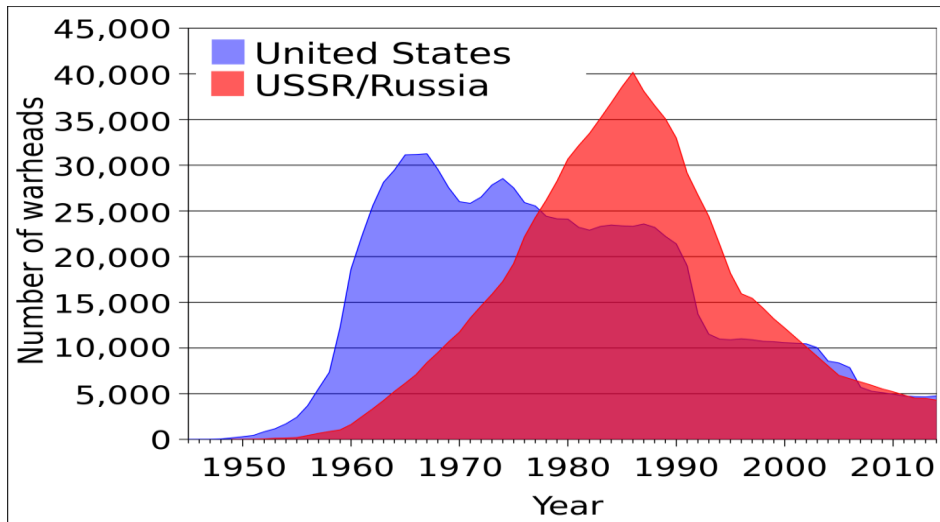
<sup>12</sup> Ibid.

<sup>13</sup> "Bombing of Hiroshima and Nagasaki," History.com, last modified 2009, accessed March 27, 2018, <https://www.history.com/topics/world-war-ii/bombing-of-hiroshima-and-nagasaki>.

<sup>14</sup> "Little Boy and Fat Man," Atomic Heritage Foundation.

nuclear weapons have been used in war since 1945; however, the development of the weapons of mass destruction continue to this day.

Although only two nuclear weapons have been detonated during wartime in the history of mankind, many conflicts over nuclear weapons have erupted since the end of WWII. The Cold War especially heightened tensions between the U.S. and the USSR. With Europe declining due to the costs of WWII, the dominance of the U.S. and the USSR created a polarity, not just ideologically, but also politically. Spies sent from the Soviet Union, including Klaus Fuchs, Theodore Hall, and Harry Gold, gave Soviets an edge to compete with the United States.<sup>15 16 17</sup> After the U.S.' first detonation of a hydrogen bomb in 1952, the USSR quickly followed suit in 1953 with their own test.<sup>18</sup> By the end of the 1950s, the predominant doctrine both powers operated by was mutually assured destruction (MAD), as both sides had enough tonnage to obliterate the opposite side.



(<http://foreignpolicynews.org/wp-content/uploads/2014/12/U.S.-Russia-number-of-warheads.png>)

Tensions worsened further during the Cuban Missile Crisis, during which the communist Cuban government under Fidel Castro gained nuclear capabilities from Russia. After this nuclear capacity was discovered by a U.S. spy plane in 1962, President Kennedy ordered a blockade of

<sup>15</sup> National Science Digital Library, "Klaus Fuchs (1911 - 1988)," Atomic Archive, accessed March 27, 2018, <http://www.atomicarchive.com/Bios/Fuchs.shtml>.

<sup>16</sup> "Theodore Hall," Atomic Heritage Foundation, last modified 2017, accessed March 27, 2018, <https://www.atomicheritage.org/profile/theodore-hall>.

<sup>17</sup> "Harry Gold," Atomic Heritage Foundation, last modified 2017, accessed March 27, 2018, <https://www.atomicheritage.org/profile/harry-gold>.

<sup>18</sup> Merrill Fabry, "What the First H-Bomb Test Looked Like," TIME, last modified November 2, 2015, accessed March 27, 2018, <http://time.com/4096424/ivy-mike-history/>.

Andrei D. Sakharov, "Soviet Hydrogen Bomb Program," Atomic Heritage Foundation, last modified August 8, 2014, accessed March 27, 2018, <https://www.atomicheritage.org/history/soviet-hydrogen-bomb-program>.

Cuban ports, which angered Cubans to the closest point to nuclear war the U.S. had ever been.<sup>19</sup>

<sup>20</sup> Eventually, in private, Kennedy and Khrushchev, who led the Soviet Union at the time, agreed to a peaceful resolution in which the USSR withdrew from Cuba and the U.S. secretly took out its nuclear weapons from Turkey, ultimately viewed by the public as a major U.S. victory because it seemed like a one-sided deal.<sup>21</sup> During Nixon's presidency, the U.S. was thirty years into the Cold War, and yet there was still no large-scale conflict between the two powers. During this period known as détente, both powers engaged in trade and exchange and their cooperation culminated in SALT I and SALT II.<sup>22</sup> However, tensions escalated once again when the U.S., led by Reagan, and the USSR developed more accurate and damaging weapons, including MIRVs.<sup>23</sup> Events then took another turn after Reagan's presidency, as USSR's Gorbachev's glasnost and relaxation policies caused revolts and inevitably the decline and fall of the Soviet Union.<sup>24</sup>

North Korea has been in conflict with the United States for over seventy years. During the 1950s to the 1970s, basic agreements were made, which limited the development of plutonium processing plants. George Bush also withdrew nuclear weapons from South Korea during this time and both sides signed the Denuclearization of the Korean Peninsula. Despite their promises, IAEA analysis indicated North Korea processed plutonium but inspectors were denied access. Soon afterward, North Korea announced its withdrawal from the NPT following the U.S.' suspension of heavy oil shipments. Multilateral dialogue with China, the U.S., and North Korea occurred sporadically with talks starting and stopping frequently. However, ultimately, North Korea was able to develop nuclear capabilities and tested its first nuclear bomb in 2006. Sanctions were placed and negotiations restarted, but later disputes caused North Korea to kick out other inspectors. During the following decade, North Korea successfully conducted multiple nuclear tests, including a successful thermonuclear test in 2016, and in 2017, President Trump stated that North Korea "will be met with fire and fury like the world has never seen."

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<sup>19</sup> Encyclopedia Britannica, "Cuban Missile Crisis," Encyclopedia Britannica, last modified February 4, 2018, accessed March 27, 2018, <https://www.britannica.com/event/Cuban-missile-crisis>.

<sup>20</sup> United States Department of State, "The Cuban Missile Crisis, October 1962," Office of the Historian, accessed March 27, 2018, <https://history.state.gov/milestones/1961-1968/cuban-missile-crisis>.

<sup>21</sup> Ibid.

<sup>22</sup> Encyclopedia Britannica, "Total Cold War and the Diffusion of Power, 1957–72," Encyclopedia Britannica, accessed March 27, 2018, <https://www.britannica.com/topic/20th-century-international-relations-2085155/Total-Cold-War-and-the-diffusion-of-power-1957-72>.

<sup>23</sup> Daryl G. Kimball, "Looking Back: The Nuclear Arms Control Legacy of Ronald Reagan," Arms Control Association, [https://www.armscontrol.org/act/2004\\_07-08/Reagan](https://www.armscontrol.org/act/2004_07-08/Reagan).

<sup>24</sup> United States Department of State, "Gorbachev and New Thinking in Soviet Foreign Policy, 1987-88," United States Department of State Archive, accessed March 27, 2018, <https://2001-2009.state.gov/r/pa/ho/time/rd/108225.htm>.

India and Pakistan have been quarreling ever since their division in 1947.<sup>25</sup> Pakistan has a first-strike policy meaning that they will launch a preemptive attack if they feel it is necessary because they can not stop the threat if a nuclear weapon is launched against them.<sup>26</sup> On the other side, India tested its first nuclear weapon in 1974 and soon after, Pakistan followed suite and tested their first.<sup>27</sup> The tension between these two countries has lasted a long time and will only get worse if they continue to test and manufacture nuclear weapons as they have been doing.

China currently has over 270 nuclear weapons and has carried out over twenty nuclear tests.<sup>28 29</sup> They have fairly large amounts of resources.<sup>30</sup> In the SALT treaty, China felt they received the bad side of the deal, and were unhappy with the results. Their unhappiness was because SALT had placed a ceiling on their nuclear research.<sup>31</sup> China claimed that they will never be the first to use nuclear weapons.<sup>32</sup> "Our preparations in anticipation of an eventual war are entirely defensive. If we are not attacked we will not attack, but if we are attacked we will counterattack."<sup>33</sup> This is just one of the statements issued by the Chinese government during the seventies saying that they will only use nuclear weapons as a defense for their country, and China keeps putting more and more money into their military defense and nuclear budget.<sup>34</sup>

Russia is the country with the most usable nuclear weapons and is one of the few countries that is designated a nuclear state under the Treaty of Non-proliferation of Nuclear Weapons (NPT).<sup>35</sup> They currently have about 4,300 nuclear weapons, but at their peak during the Soviet Union had

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<sup>25</sup> Shahid Javed Burki and Lawrence Ziring, "Pakistan - Daily life and social customs," Encyclopedia Britannica, last modified March 23, 2018, accessed March 27, 2018,

<https://www.britannica.com/place/Pakistan/Daily-life-and-social-customs#ref387253>.

<sup>26</sup> Sadia Tasleem, "Pakistan's Nuclear Use Doctrine," Carnegie Endowment for International Peace, last modified June 30, 2016, accessed March 27, 2018,

<http://carnegieendowment.org/2016/06/30/pakistan-s-nuclear-use-doctrine-pub-63913>.

<sup>27</sup> "First Nuclear Test at Pokhran in 1974," Federation of American Scientists, last modified July 4, 2000, accessed March 27, 2018, <https://fas.org/nuke/guide/india/nuke/first-pix.htm>.

<sup>28</sup> Hans M. Kristensen, "Nuclear Weapons," Federation of American Scientists, last modified November 29, 2006, accessed March 27, 2018, <https://fas.org/nuke/guide/china/nuke/index.html>.

<sup>29</sup> "Nuclear Weapons: Who Has What at a Glance," Arms Control Association, last modified March 2018, accessed March 26, 2018, <https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat>.

<sup>30</sup> Hans M. Kristensen and Robert B. Norris, "Chinese nuclear forces, 2016," *Bulletin of the Atomic Scientists* 73, no. 3 (July 13, 2016), accessed March 27, 2018, doi:10.1080/00963402.2016.1194054

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

<sup>33</sup> No. 3, vol. 39, *Bulletin of the Atomic Scientists* (Chicago, IL: Bulletin of the Atomic Scientists, n.d.), 18, <https://books.google.com/books?id=5QUAAAAAMBAJ&pg=PA18&lpg=PA18#v=onepage&q&f=false>.

<sup>34</sup> Anthony H. Cordesman, *Estimates of Chinese Military Spending* (Washington D.C, United States: Center for Strategic and International Strategies, 2016), accessed March 27, 2018, [https://csis-prod.s3.amazonaws.com/s3fs-public/publication/160928\\_AHC\\_Estimates\\_Chinese\\_Military\\_Spending.pdf](https://csis-prod.s3.amazonaws.com/s3fs-public/publication/160928_AHC_Estimates_Chinese_Military_Spending.pdf).

<sup>35</sup> Nuclear Threat Initiative, "NTI," Nuclear Threat Initiative, last modified May 2016, accessed March 25, 2018, <http://www.nti.org/learn/countries/france/nuclear/>.

more than 32,000 warheads.<sup>36</sup> During that time, nuclear weapons had been put in every Soviet state.<sup>37</sup> During this decade, Russia plans to spend over seventy billion U.S. dollars on research and implementation of the weapons.<sup>38</sup> They are also currently working on creating better methods of deployment.<sup>39</sup>

### **III. Notable Parts of the Nonproliferation Treaties: Brief Overview, Explanation, and Evaluation of Successes and Failures**

#### **LTBT and NPT**

The accelerating arms race in the 1950s brought nuclear tensions to unprecedented levels. Nuclear tensions had been on the rise since the early 1950s; both the United States and the Soviet Union had detonated massive hydrogen bombs, and one American thermonuclear test on Bikini Atoll accidentally contaminated a ship and nearby inhabitants after the amount of fallout was underestimated. Desperate to end the nuclear showdown, the two nations quickly collaborated to put an end to the explosions which instilled fear into every human being on earth. The LTBT talks came to include several nations and eventually came to a standstill. Nevertheless, the Soviet Union and U.S. voluntarily halted tests in the last 1950s and, along with several other nations, signed the LTBT in 1963. Under the terms of the LTBT, all nuclear tests taking place above ground and in outer space were banned; underground tests were still legal. For the first time, countries had voluntarily agreed to curb the proliferation of nuclear weapons.

The entire world nearly met nuclear annihilation when the Soviet Union and U.S. were engaged in the Cuban Missile Crisis, a standoff between the two nations over an arsenal of nuclear missiles stationed in Cuba, a Soviet ally, and pointed at the U.S.. Soon after the event which brought the world to the brink of nuclear war, the United States and Soviet Union pushed for new measures. With pressures rising among the population to deescalate the situation, the Lyndon B. Johnson administration signed the Treaty on the Nonproliferation of Nuclear Weapons (NPT).<sup>40</sup> The first major treaty to curb the expansion of nuclear programs, the NPT aimed to slow down the uncontrolled development of nuclear weapons in three main ways. First, under the terms of the NPT, signatories without nuclear weapons were prohibited from developing them.<sup>41</sup> Second, countries who already had acquired these weapons should pursue methods of disarmament, or reduction and eventual elimination of all nuclear weapons. The signatories were banned from assisting each other with the production of nuclear weapons or

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<sup>36</sup> "Nuclear Weapons," Arms Control Association.

<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.

<sup>40</sup> Nuclear Threat Initiative, "Treaty on the Non-Proliferation of Nuclear Weapons (NPT)," Nuclear Threat Initiative, last modified July 25, 2017,

<http://www.nti.org/learn/treaties-and-regimes/treaty-on-the-non-proliferation-of-nuclear-weapons/>.

<sup>41</sup> "Treaty on the Non-Proliferation of Nuclear Weapons (NPT)," United Nations Office for Disarmament Affairs, last modified 2015, accessed March 26, 2018, <https://www.un.org/disarmament/wmd/nuclear/npt/>.

directly sharing nuclear weapon technology. However, the third part of the NPT encouraged countries to work together to use nuclear technology strictly for peaceful purposes. Specifically, the NPT outlined the right for countries to participate in the development and exchange of materials and technology pertinent to nuclear energy. Although the NPT did not explicitly ban the development, possession, or deployment of nuclear arms, it encouraged countries to proactively disarm themselves and served as an important first step in the eventual goal towards global nuclear nonproliferation.<sup>42</sup>

### **SALT I and SALT II**

Soon after the NPT was signed, the U.S. and Soviet Union began talks limiting their nuclear weapon stockpiles. Since the NPT did not explicitly ban or limit any nuclear programs, the Lyndon B. Johnson administration initiated the first Strategic Arms Limitation Talks (SALT I) in 1967 in order to decrease nuclear tensions. One major part of the agreement was, first and foremost, to decrease the nuclear stockpile, specifically of the long-range and intercontinental ballistic missiles. However, the most important and significant achievement of SALT I was the Treaty on Anti-Ballistic Missile Systems. As the Soviet Union installed anti ballistic missiles (ABM), special rockets which can counter nuclear strikes, the United States decided to take the road of peace rather than escalate tensions by expanding its own arsenal of ABMs. After continuing for several years, President Richard Nixon and Soviet General Secretary Leonid Brezhnev signed the ABM treaty, which limited the number of ABMs in each country to 200 and allowed for the construction of only two ABM sites. By limiting the amount of deployments of missile defense systems, the treaty ensured that nuclear weapons would still have their deterrent effect in preventing war.

However, SALT I merely limited nuclear defense systems. As both the U.S. and Soviet Union continued to expand their nuclear weapons programs, negotiations for the second Strategic Arms Limitation Talks (SALT II) were initiated. SALT II was originally intended to limit the number of Multiple Entry Warheads (MIRVs), weapons of mass destruction (WMD) that could carry several thermonuclear warheads on the same missile, each of which could strike an individual target. While a complete ban on nuclear weapons was far from practical, the SALT II talks were another major step forward in the de-escalation of the Cold War and a nuclear arms race. Spanning through the Nixon, Ford, and Carter administrations, the SALT II talks finally came to a close on June 18, 1979 when Brezhnev and Carter signed the document. Under the terms of the treaty, both nations were required to limit their delivery vehicles to less than 2,250 and MIRVs to less than 1,320. The treaty also banned new strategic missile programs, by limiting the construction and development of new Intercontinental Ballistic Missile (ICBM) launchers, a significant step in the global goal to nuclear nonproliferation. Unfortunately, the treaty failed to

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<sup>42</sup> "The Treaty on the Non-Proliferation of Nuclear Weapons," United Nations, last modified 2005, <http://www.un.org/en/conf/npt/2005/npttreaty.html>.



pass ratification due to the USSR's invasion of Afghanistan and continued nuclear proliferation worldwide. Nevertheless, the U.S. honored the terms of the treaty until its expiration in 1985.<sup>43</sup>

### **INF and START I**

Following the success of the SALT treaties, the U.S and Soviet Union initiated talks to not only limit the proliferation of nuclear weapons but to reduce both countries existing nuclear weapons programs. Beginning in 1982, the Soviet Union and U.S. began the first Strategic Arms Reduction Treaty (START I).<sup>44</sup> Acknowledging that “nuclear war would have devastating consequences for all humanity, that it cannot be won and must never be fought,” the two countries aimed to wrap up the Cold War as the Soviet Union began to crumble. After a brief pause in negotiations due to the United States' decision to deploy intermediate range missiles in Europe, the two countries signed the Intermediate-Range Nuclear Forces Treaty (INF). Under the terms of the INF, both countries would eliminate all ground-based nuclear missiles with a range of 300-3,400 miles, and each country would inspect the other's nuclear sites in order to verify adherence to the treaty.<sup>45</sup> In 1991, the countries proposed the START I treaty. Due to the breakup of the Soviet Union, the signing of the treaty was delayed by three years. START I represented a major leap forward in nuclear nonproliferation, as it severely limited the production, possession, and potency of various nuclear weapons. Russia, Belarus, Kazakhstan, and Russia, the four post-Soviet states, along with the United States, signed the treaty. Under the terms of the treaty, the size and quantity of delivery vehicles, warheads, and ICBMs were all reduced, and only Russia and the United States were allowed to continue as nuclear states. The three other countries joined the NPT as non-nuclear states and were prohibited from pursuing a nuclear weapons program. The START I treaty dramatically reduced the global nuclear threat and helped cool down the Cold War.

### **START II and New START**

The U.S. and Soviet Union soon followed up with the START II treaty. Intended to further reduce the nuclear weapon stockpiles on both sides, the START II treaty never came to fruition.

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<sup>43</sup> Nuclear Threat Initiative, "Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Strategic Offensive Arms, Together with Agreed Statements and Common Understandings regarding the Treaty (SALT II)," Nuclear Threat Initiative, accessed March 27, 2018, [http://www.nti.org/media/pdfs/aptsaltII.pdf?\\_=1316712786](http://www.nti.org/media/pdfs/aptsaltII.pdf?_=1316712786).

<sup>44</sup> Nuclear Threat Initiative, "Treaty between the United States of America and the Union of Soviet Socialist Republics on Strategic Offensive Reductions (START I)," Nuclear Threat Initiative, last modified October 11, 2011, accessed March 26, 2018, <http://www.nti.org/learn/treaties-and-regimes/treaties-between-united-states-america-and-union-soviet-socialist-republics-strategic-offensive-reductions-start-i-start-ii/>.

<sup>45</sup> Nuclear Threat Initiative, "Treaty between the United States of America and the Union of Socialist Soviet Republics on Further Reduction and Limitation of Strategic Offensive Arms (START I)," Nuclear Threat Initiative, accessed March 26, 2018, [http://www.nti.org/media/pdfs/START\\_I\\_1.pdf?\\_=1316646898](http://www.nti.org/media/pdfs/START_I_1.pdf?_=1316646898).

<sup>46</sup>Although Russia ratified the treaty, the United States refused to comply. Eventually, the treaty was abandoned. In 1997, the United States also withdrew from the ABM treaty. During the START II negotiations, the U.S. and Soviet Union carried on talks on the START III treaty, intended to further reduce the nuclear weapon stockpile. START III also never came to fruition. Finally, in the beginning of the 21st century, negotiations began on the New START since START I was set to expire in 2009. The New START treaty further reduced the nuclear weapons stockpile of both the U.S. and Soviet Union after taking effect in 2010.<sup>47</sup>

## **CTBT**

Perhaps one of the most important non proliferation treaties was the Comprehensive Test Ban Treaty (CTBT), an agreement which sought to completely ban all nuclear tests and detonations.<sup>48</sup> A product of years of intense negotiations between world powers, the CTBT opened for signature in 1996.<sup>49</sup> Unfortunately, nuclear tensions began to rise as Israel and North Korea had launched their own nuclear programs. Additionally, the India-Pakistan conflict had intensified over the past few decades. Although the ambitious treaty has been signed by 183 states and ratified by 166, certain key states, including the U.S., North Korea, Pakistan, Israel, and China, have not pursued ratification. A key reason for the failure of the treaty is the global nuclear gridlock, a situation in which nations are unwilling to compromise their nuclear programs out of fear that other nations will get a nuclear advantage. Because those key states have not signed, the CTBT is currently not in effect. However, the majority of nations which have ratified the CTBT continue to abide by the terms of the treaty, and since 1998, only India, Pakistan, and North Korea have conducted nuclear tests, with North Korea being the only country to detonate a nuclear weapon.<sup>50</sup>

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<sup>46</sup> Nuclear Threat Initiative, "Treaty between the United States of America and the Union of Soviet Socialist Republics on Strategic Offensive Reductions (START II)," Nuclear Threat Initiative, last modified October 11, 2011, accessed March 26, 2018, <http://www.nti.org/learn/treaties-and-regimes/treaty-between-united-states-america-and-union-soviet-socialist-republics-strategic-offensive-reductions-start-ii/>.

<sup>47</sup> United States Department of State, "New START," United States Department of State, last modified 2011, accessed March 26, 2018, <https://www.state.gov/t/avc/newstart/>.

<sup>48</sup> Nuclear Threat Initiative, "Comprehensive Nuclear-Test-Ban Treaty (CTBT)," Nuclear Threat Initiative, last modified November 28, 2016, accessed March 26, 2018, <http://www.nti.org/learn/treaties-and-regimes/comprehensive-nuclear-test-ban-treaty-ctbt/>.

<sup>49</sup> "Comprehensive Nuclear-Test-Ban Treaty (CTBT)," United Nations Office of Disarmament Affairs, last modified 2013, accessed March 26, 2018, <https://www.un.org/disarmament/wmd/nuclear/ctbt/>.

<sup>50</sup> Kimball Daryl, "The Nuclear Testing Tally," Arms Control Association, last modified September 2017, accessed March 26, 2018, <https://www.armscontrol.org/factsheets/nucleartesttally>.

## **Now: The TPNW**

The development of the TPNW in particular began with the convention of an open-ended working group within the General Assembly focused on disarmament.<sup>51</sup> The group met thrice in Geneva in 2016, where some states expressed support for a total ban treaty, as opposed to the gradual solution favored by states dependent on nuclear programs, while all NWS boycotted the group entirely.<sup>52</sup> Following the group's vote in favor of a report that recommended it do so, the General Assembly approved in December 2016 a resolution to begin negotiations on the treaty.<sup>53</sup> Negotiations over the treaty, including negotiations on the potential inclusion of a ban of nuclear testing and the threat of nuclear weapons use, occurred in two rounds, one in March and one in June and July of 2017.<sup>54</sup> The NWS and most of their allies again boycotted the negotiations.<sup>55</sup> On July 7, the conference voted to adopt the treaty, which opened for signature on September 20, 2017; fifty states signed the treaty that day.<sup>56</sup>

Meanwhile, the U.S., Britain, and France have indicated continued support for the NPT and refuse to sign or ratify the TPNW, citing its lack of proposed resolution to "the security concerns that continue to make nuclear deterrence necessary", such as North Korea's nuclear program, in a July 7 joint statement.<sup>57</sup>

## **IV. Main Objectives, Provisions, and Current State of the Treaty**

The core idea of the Treaty on the Prohibition of Nuclear Weapons is to build upon the NPT and take the next step towards unity and peace between nations as a means to eliminate the fear of nuclear usage; however, this is currently unachievable as all current NWS have refused to sign the treaty in order to ensure that they are not making a binding agreement that would affect their soft-power if they were to violate their promise to denuclearize. The treaty itself aims towards complete elimination of nuclear weapons. The TPNW's exact goals are to outlaw the use and testing of nuclear weapons, to cease the research and development of nuclear technology for non-peaceful applications, to ban the production and modernization of existing nuclear weapon designs, to eliminate all countries' stockpiles of nuclear weapons, and to establish lasting measures to enforce these nonproliferation laws.

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<sup>51</sup> Nuclear Threat Initiative, "NTI," Nuclear Threat Initiative, accessed March 26, 2018, <http://www.nti.org/learn/treaties-and-regimes/treaty-on-the-prohibition-of-nuclear-weapons/>

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

<sup>55</sup> Ibid.

<sup>56</sup> ICANW, "Signature/ratification Status," International Campaign to Abolish Nuclear Weapons.

<sup>57</sup> United States, United Kingdom, and France, "Joint Press Statement from the Permanent Representatives to the United Nations of the United States, United Kingdom, and France following the Adoption of a Treaty Banning Nuclear Weapons," news release, July 7, 2017, accessed March 26, 2018, <https://usun.state.gov/remarks/7892>.

The first article of the treaty stipulates that parties must not possess, build, test, receive, give, or allow the installment in their territory of any nuclear explosive devices, regardless of the ownership of said weapon. Parties also may not threaten to use any nuclear explosives in their possession and should, instead, find ways to dispose of them.<sup>58</sup> Additionally, article two demands that within thirty days of the treaty entering force, all states are required to pronounce to the Secretary-General of the UN whether they have had any form of interaction with explosive nuclear technology in their territory, including who is the owner of said nuclear explosives.<sup>59</sup>

The third article of the treaty enforces safeguards to ensure proper implementation of TPNW. Similar to its predecessor, the NPT, this treaty intends to use the IAEA as a neutral mediator that enforces these safeguards in order to ensure that nuclear technology is only used peacefully. Agreements are made between the state and the IAEA on the steps that are taken towards denuclearization, and the IAEA ensures that the parties remain on track. Since safeguards are heavily reliant on cooperation between both groups, a framework is provided to the state in addition to other resources on how to work towards positive influential usage of nuclear technology.

Article four designates enforcement of responsibilities to an international authority decided by competent States. The chosen authority or authorities are responsible for verifying the irreversible elimination of all nuclear weapons programs possessed by States Parties, the implementation of safeguards to guarantee that remaining nuclear material is used for peaceful purposes, and the removal of all nuclear weapons within its territory controlled by other states. While discussing the article in theory, 122 countries voted “YES”.<sup>60</sup> However, the Netherlands in particular voted against the treaty, hinting towards a potential nuclear state, while Singapore abstained from voting.<sup>61</sup> Possible reasons for the current failure of the treaty may be that the measures are incredibly demanding for NWS; completely eliminating all nuclear weapons seems overly ambitious to some, while aggressive denuclearization will result in the waste of trillions of dollars of research and development. Take the political situation of the Cold War: no country would voluntarily back down because the act of disarming was and is perceived as an act of vulnerability, and like in the past, nationalistic sentiment would plummet. Specifically, the treaty’s stipulation to eliminate “any stationing, installation or deployment of any nuclear weapons or other nuclear explosive devices in its territory or at any place under its jurisdiction or

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<sup>58</sup> ICANW, "UN Treaty on the Prohibition of Nuclear Weapons (Full Text)," International Campaign to Abolish Nuclear Weapons, last modified July 7, 2017, accessed March 26, 2018, <http://www.icanw.org/treaty-on-the-prohibition-of-nuclear-weapons/>.

<sup>59</sup> Ibid.

<sup>60</sup> ICANW, "UN General Assembly Approves Historic Resolution," <http://www.icanw.org/>, last modified December 23, 2016, accessed March 26, 2018, <http://www.icanw.org/campaign-news/un-general-assembly-approves-historic-resolution/>.

<sup>61</sup> Ibid.

control,” ignores the possibility of a power imbalance when denuclearizing. For countries dependent on the U.S. as a security blanket, denuclearization would equate to instability.<sup>62</sup>

## V. Motivating Factors for Ratification

Ideologically, the premise of a world without the threat of nuclear weapons drives the ratification of the Treaty on the Prohibition of Nuclear Weapons. More specifically, people are "deeply concerned about the catastrophic humanitarian consequences that would result from any use of nuclear weapons".<sup>63</sup> Among other threats such as global warming, nuclearization presents widespread humanitarian harms, especially among nuclear-armed states. The probability of such an event is small. However, people are "cognizant that the catastrophic consequences of nuclear weapons cannot be adequately addressed, transcend national borders, [and] pose grave implications for human survival [and] the environment...".<sup>64</sup> In other words, the high magnitude of an event of nuclear weapon use, despite its low probability, necessitates attention. Only one such instance is needed to contextualize its gravity: the U.S. bombing of Hiroshima and Nagasaki. The treaty demonstrates mindfulness of the "unacceptable . . . harm caused to the victims of the use of nuclear weapons (hibakusha), as well as of those affected".<sup>65</sup> Such a disastrous outcome drives the impetus behind ratification of this treaty. Even if nuclear armed states plan to use arms for deterrence and not for war-fighting like in Hiroshima, proliferation remains a destabilizing threat. Non-nuclear weapons states are worried about the possibility of lost or stolen nuclear weapons being obtained by malicious actors, such as terrorist groups.<sup>66</sup> As a signal of intent, countries are motivated to ratify in the name of public conscience; basic human principles indicate a need to eliminate weapons, such as nuclear weapons, that have the ability to inflict massive destruction.<sup>67</sup>

The reasoning behind the current push for such a treaty has been the inaction that has plagued contemporary nonproliferation and disarmament efforts. The sluggish pace of current disarmament efforts by NWS spurred concurrent action by non-nuclear weapons states to get rid of nuclear weapons, in the form of the creation, signing, and ratification of the treaty.<sup>68</sup> The

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<sup>62</sup> John Burroughs, "Key Issues in Negotiations for a Nuclear Weapons Prohibition Treaty," <https://www.armscontrol.org>, last modified June 2017, accessed March 26, 2018, <https://www.armscontrol.org/act/2017-06/features/key-issues-negotiations-nuclear-weapons-prohibition-treaty>.

<sup>63</sup> ICANW, "UN Treaty," International Campaign to Abolish Nuclear Weapons.

<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

<sup>66</sup> France24, "More than 120 Nations Adopt First-ever Treaty to Ban Nuclear Weapons at UN," France24, last modified July 7, 2017, accessed March 26, 2018, <http://www.france24.com/en/20170707-diplomacy-more-120-countries-adopt-first-treaty-ban-nuclear-weapons-un-united-nations>.

<sup>67</sup> ICANW, "UN Treaty," International Campaign to Abolish Nuclear Weapons.

<sup>68</sup> France24, "More than," France24.

treaty itself represents a first step to delegitimizing and stigmatizing nuclear weapons both legally and in the court of public opinion.<sup>69</sup> This helps create a norm against nuclear weapons that drives further action for disarmament,<sup>70</sup> that would necessarily solve back for the reasoning that drove the impetus behind the treaty itself in the first place. Thus, the current need for a new, robust norm that emphasizes the illegality of nuclear weapons necessitates the ratification of the NPTW.

However, not all states signed or even attended the treaty talks. None of the nuclear armed states took part in the negotiations nor the voting, with NATO also opposing the treaty as a whole.<sup>71</sup> Their motivations to neglect to participate are three-fold. First, the treaty does not offer a solution to the situation in North Korea. The principles of the treaty do not apply to an irrational actor such as the Kim regime because North Korea has no reason to denuclearize under any circumstance, besides the improbable situation of U.S. agreement to abstain from nuclear threats going forward.<sup>72</sup> Thus, nuclear armed states worry that the treaty does not do enough to address the global security risk that is perpetuated by North Korea.<sup>73</sup> Second, the U.S., Britain, and France stated about that the treaty does not “address other security challenges that make nuclear deterrence necessary.”<sup>74</sup> They argue that the point of their nuclear stockpiles is not to launch a pre-emptive strike; instead, it is to deter other countries from striking first by demonstrating their ability to strike back with equal force.<sup>75</sup> Finally, the talks were boycotted by Japan, which is the only country to date that has been targeted by nuclear weapons.<sup>76</sup> This is because Japan, as a U.S. ally, gains from the U.S. nuclear security blanket, just like South Korea and others.

These motivating factors must be taken into account when deciding future steps to be taken, since the factors will drive the future movements surrounding disarmament of nuclear weapons.

## **VI. Future Work (Our Recommendations)**

Although TPNW is a huge step forward towards the goal of eliminating nuclear weapons, addressing the issues regarding boycott of the NWS and the challenges around the wording of the treaty to avoid ambiguity for clear enforcement is the key towards wider acceptance. Future activities such as peace talks, sanctions, and additional bilateral treaties should help the TPNW

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<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

<sup>72</sup> Mark Bell, "North Korea won't give up its nuclear weapons. The U.S. has three good reasons to talk anyway.," *Washington Post* (Washington, D.C), March 9, 2018, accessed March 27, 2018, [https://www.washingtonpost.com/news/monkey-cage/wp/2018/03/09/north-korea-wont-give-up-its-nuclear-weapon-s-the-u-s-has-3-good-reasons-to-talk-anyway/?utm\\_term=.e45f1fdc3a7f](https://www.washingtonpost.com/news/monkey-cage/wp/2018/03/09/north-korea-wont-give-up-its-nuclear-weapon-s-the-u-s-has-3-good-reasons-to-talk-anyway/?utm_term=.e45f1fdc3a7f).

<sup>73</sup> France24, "More than," France24.

<sup>74</sup> United States, United Kingdom, and France, "Joint Press."

<sup>75</sup> Ibid.

<sup>76</sup> France24, "More than," France24.

come into effect. Our policy suggestions are meant to facilitate the entry into force of the TPNW and resolve open issues surrounding the treaty.

*Increasing public awareness and holding our leaders accountable for more action.*

It is natural for human beings to forget tragedies that have occurred in the past. And yet, by forgetting the past, we are dooming ourselves to repeat it. The last time a nuclear weapon was detonated in war was in 1945. The Cuban Missile Crisis occurred in 1962. Both of these events are regarded as ancient history. This effect is aptly titled “nuclear amnesia”.<sup>77</sup> The world has forgotten how incredibly deadly a nuclear weapon can be. During the Blitz in London, some forty-thousand civilians were killed by German strategic bombing. It should - must - be stressed how devastatingly powerful a nuclear explosion is. The already weighty figure of forty thousand pales when compared to the deaths in the bombing of Hiroshima, where roughly seventy thousand civilians were killed, excluding those who succumbed to radiation exposure at a later date.

As stated before, Russia has more than demonstrated its possession of nuclear weapons by flaunting a Status-6 nuclear-powered intercontinental range torpedo, and nuclear armed cruise missiles during President Putin’s speech on March 1st. Similarly, North Korea has shown its capability in firing and detonating nuclear weapons at intercontinental ranges in recent events. The United States, in this already escalating and unstable environment, served to destabilize it even further in the form of President Trump’s provocative rhetoric towards North Korea, which included comments such as “fire and fury,”<sup>78</sup> or “a bigger nuclear button,”<sup>79</sup> as well as personal attacks towards Kim Jong Un.

This casual treatment of nuclear weapons as merely a larger bomb shows how the leaders of our countries are in the grips of nuclear amnesia. This is not only concerning for the citizens of those countries involved, but for the world at large. To trigger more action from our leaders and to drive policy change, there must be grassroots movements, media coverage, and a united public front demanding actions to eliminate an incredibly serious threat to the world’s security and well-being.

*Peace talks and political diplomacy.*

The NWS need to be brought to the drawing board and engage in open talks for their acceptance of the treaty. The cooperation of the NWS is critical for the success of the TPNW and achieving

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<sup>77</sup> Mendelsohn, Jack. "The Continuing Problem of Nuclear Weapons: Delegitimizing Nuclear Weapons." *Issues in Science and Technology*, January 1, 1970. Accessed March 26, 2018. <http://issues.org/22-3/mendelsohn-4/>.

<sup>78</sup> Bierman, Noah. "Trump Warns North Korea of 'Fire and Fury.'" *Los Angeles Times* (Los Angeles, CA), August 8, 2017. Accessed March 26, 2018.

<sup>79</sup> Baker, Peter, and Michael Tackett. "Trump Says His 'Nuclear Button' Is 'Much Bigger' than North Korea's." *The New York Times* (New York, NY), January 2, 2018.

the goal of eliminating nuclear weapons. Unfortunately, dialogue is currently absent and a new cold war is on the rise. The stakes for global conflict are high and we need to intensify our efforts on cooperation for a peaceful solution. Current leaders are showing hostility towards international agreements (Iran deal, New START, *etc.*) and unfortunately expanding and advertising their ability to launch nuclear war. This trend needs to be reversed and peace talks and diplomacy need to be resumed.

*Clear unambiguous wording to send a coherent message.*

Currently, NWS use mutually assured destruction as a successful nuclear deterrence policy to protect their national interests and those of its allies. As long as MAD remains a military strategy, the risk of their use by accident or on purpose is real and it remains impossible to achieve the elimination of nuclear weapons. In order to discourage the practice of the use of nuclear weapons under threat or by force it is critical to add the language that there can be no use of nuclear weapons *under any circumstances* in TPNW.

*Broaden the definition of testing.*

Currently the TPNW only prohibits nuclear test explosions as linked to the CTBT. As nuclear testing is required to maintain current nuclear stockpiles, testing is a key component in the nuclear arms race. Computer advancement now provides the ability to monitor and maintain nuclear stockpiles without the need for nuclear weapons testing. The definition of testing in the TPNW should be expanded to also prohibit computer simulation testing and sub-critical nuclear testing. Since sub-critical mass involves no yield and does not reach the critical mass of fissile material, they still continue to be conducted by the U.S., Russia, and China.

*Improve credibility of TPNW*

The TPNW needs to build its credibility to ensure its ability to provide nuclear-free security for all. Credibility would build confidence amongst NWS to consider disarmament steps and accede to the treaty. Building this credibility would involve steps such as verification of compliance by non-NWS and enforcement of nuclear weapons dismantlement by NWS. As the credibility of TPNW is established, NWS and its allies will feel more comfortable and less vulnerable in disarmament efforts.

*Uniform Safeguard Requirements*

Currently, the TPNW has different safeguard requirements for non-NWS and NWS. The NWS, when they decided to accede, have to adhere to comprehensive IAEA safeguards along with additional protocol requirements. This additional requirement for the NWS is bound to be a major challenge. The TPNW needs to outline a uniform set of safeguard requirements for all member parties including ISES safeguards and additional protocols.



## **VII. Conclusion and Looking Forward**

The above policy suggestions are tools to facilitating the entry of the TPNW into force. The TPNW is a historic treaty with a clear objective of total elimination of nuclear weapons acknowledging the humanitarian consequences and limitations of current nuclear treaties. With the entry into force of the TPNW, we can step away from nuclear disaster and look forward to a world without nuclear weapons free of nuclear conflicts, nuclear terrorism, and nuclear accidents.

## **Bibliography**