Nuclear Life-Extension Programs:
A Modern Nuclear Arms Race In A Time Of Disarmament

INTRODUCTION

Any discussion on the topic of nuclear weapons would not be complete without referencing The Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The NPT was opened for signature on July 1, 1968 and came into effect on March 5, 1970.[1] It is the most significant and widely observed source of international law governing the use of nuclear materials. It covers both peaceful and military uses stemming from the dual-use nature of nuclear material.

There are three pillars that represent the foundation of the NPT based on what has become known as "the grand bargain" of the NPT. In this bargain, each party to the agreement agreed to two fundamental commitments. The recognized Nuclear Weapon States (NWS) – the United States of America, Russia, China, the United Kingdom, and France – each agreed to negotiate in good faith on effective measures leading to nuclear disarmament and to aid the Non-Nuclear Weapon States (NNWS) develop nuclear capabilities for peaceful purposes. In exchange, the NNWS agreed to forfeit their right to pursue nuclear weapon programs and to subject themselves to safeguards to ensure compliance.

The three foundational pillars of the NPT are embodied in this "grand bargain". They can be summarized as: 1) the non-proliferation of nuclear weapons; 2) nuclear disarmament; and 3) the right to peaceful nuclear technology for civilian use.[2]

[1] Treaty on the Non-Proliferation of Nuclear Weapons (NPT), online: <http://www.un.org/disarmament/WMD/Nuclear/NPT.shtml> [NPT].
[2] Daniel Joyner, *Interpreting the Nuclear Non-Proliferation Treaty*, (New York: Oxford University Press, 2011) at 76 [Joyner, "*Interpreting*"].

This paper is aimed specifically at addressing the issue of nuclear life-extension programs and the resulting implications on any progress made, or lack thereof, on the disarmament pillar of the NPT. The time period under consideration begins with Barack Obama assuming office as President of the United States of America in January 2009 and continues to the present day (January 2014). This represents a five-year period that will be analyzed. Relevant statements, policy decision, and actions of the United States government will all be considered in determining the US government's level of compliance with respect to its obligations as set forth in Article VI of the NPT.

Article VI of the NPT contains the disarmament obligations. It states:

> Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to the 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.[3]

Much of the focus in recent years has been on the words "negotiations in good faith on effective measures related to … nuclear disarmament". For their part, US officials frequently point to significant reductions in the number of actively deployed strategic nuclear weapons in its arsenal as evidence of compliance with Article VI. While the quantitative reductions are a positive step, a number of observers have correctly pointed out the US policy on nuclear weapons use has not undergone much significant change. This is disappointing considering the change many hoped for and expected after President Obama's infamous 2009 speech in Prague, Czech Republic where he promoted his vision of a world free from nuclear weapons. In fact, scholars have argued that the continued role of nuclear weapons in the US defence strategy undermines the progress being made in reducing the quantity of active nuclear weapons. The

[3] *Treaty on the Non-Proliferation of Nuclear Weapons*, 1 July 1968, 729 UNTS161.

argument is that the policies currently in place violate the principle of "good faith" contained in Article VI since it makes the goal of nuclear disarmament highly unlikely.[4]

In a similar vein, this author seeks to highlight how the increasing emphasis being placed on nuclear life extension programs is yet another action and policy decision of US, and other NWS governments, that violates the "good faith" principle contained in Article VI of the NPT. Not only does it make the goal of nuclear disarmament highly unlikely, but it also represents the beginning of a new kind of arms race in the 21st century. Accordingly, the international community should begin to take a closer look at these nuclear life-extension programs and take appropriate action. The world needs to recognize nuclear life-extension programs for what they truly are and understand the dangers they pose to the future of international peace and security.

The structure of the following analysis is threefold. First, an overview of select current life extension programs will be provided to give the reader a greater understanding of their purpose and what they actually entail. Again, the large majority of the discussion focuses on the life-extension programs being implemented by the US due to the wide availability of information and their self-appointed role as the leaders of the nuclear disarmament movement.[5] Second, the obligations contained in Article VI of the NPT will be broken down into more relatable and understandable terms by using well-founded interpretations of their meaning. Exactly how these nuclear life-extension programs violate the obligations set forth in Article VI of the NPT will also be further clarified. Lastly, a discussion on the implications of nuclear life-extension programs on the future of nuclear disarmament negotiations will highlight the dangers of overlooking the threat they present to international peace and security.

[4] Joyner, "*Interpreting*", *supra* note 2 at 108.
[5] Office of the Press Secretary, News Release, "Remarks by President Barack Obama" (5 April 2009) online: The White House <http://www.whitehouse.gov>

PART I: AN OVERVIEW OF NUCLEAR LIFE-EXTENSION PROGRMAS

In the US, it falls on the shoulders of the National Nuclear Security Administration (NNSA), an agency created in 2000 that operates within the US Department of Energy (DoE), to manage and maintain the nation's stockpile of nuclear weapons leftover from the Cold War era. As part of its mission, it has used the term "life-extension program" to refer to the process of "repairing/replacing components of nuclear weapons to ensure the ability to meet military requirements."[6]

Generally, there are three approaches that can be considered when determining the best way to renew aging nuclear weapons. These approaches are refurbishment, reuse, and replacement. The three approaches are fairly self-explanatory; but to ensure clarity on this point, below is how the Union of Concerned Scientists describes the three approaches.

- **Refurbishment** – nuclear components of aging warheads are either restored or rebuilt.[7]
- **Reuse** – nuclear components on aging warheads are replaced with surplus or newly built components from a different warhead that had previously undergone nuclear explosive testing.[8]
- **Replacement** – nuclear components of aging warheads are replaced with newly designed components that have not undergone nuclear explosive testing.[9]

The 2010 Nuclear Posture Review (NPR) issued by the US Department of Defense (DoD) asserts a strong preference for the refurbishment and reuse approaches in conducting life-

[6] Life Extension Programs, online: National Nuclear Security Association <http:///nnsa.energy.gov>
[7] Union of Concerned Scientists, *Making Smart Security Choices: The Future of the U.S. Nuclear Weapons Complex* (October 2013), online: <http://www.ucsusa.org/assets/documents/nwgs/nuclear-weapons-complex-report.pdf> at 8 [*Smart Choices*].
[8] *Ibid*.
[9] *Ibid*.

extension programs. In fact, the NPR also states that any replacement of nuclear components with newly designed components would require specific authorization from the President and US Congress.[10] The requirement of additional authorization to use the replacement approach implies that this approach risks crossing a certain fine line between merely extending the life of the nuclear weapons already in place and developing new nuclear weapons.

This concept of a fine line between mere life-extension and new weapons development is also evident in another passage found in the 2010 NPR. The United States declares it "will not develop new nuclear warheads" and that nuclear life extension programs "will not support new military missions or provide for new military capabilities."[11] Interestingly, the NNSA takes a slightly different approach to this fine line and new nuclear weapons development. In its 2014 Stockpile Stewardship and Management Plan (SSMP), the NNSA states it "will not develop new nuclear warheads or provide new military capability, *except* [emphasis added] to improve safety, security and reliability."[12] Essentially, this means the NNSA has undertaken not to develop new nuclear weapons *unless* it is required to do so in order to meet its mandate of ensuring the safety, security, reliability and performance of the US nuclear weapons stockpile.

The difference between the two statements, one issued by the DoD and the other issued effectively by the DoE through the NNSA, is not inconsequential. The variation found in the 2014 SSMP issued by the NNSA creates a potential loophole for the agency to exploit as it continues to oversee the planned life-extension programs. This incongruence in official positions creates a possible source of friction between the two state departments. Fortunately, there exists a joint organization that meets regularly to resolve issues between the two departments regarding

[10] United States, Department of Defense, *Nuclear Posture Review Report* (Washington, DC: Secretary of Defense, 2010) at xiv [*NPR*].
[11] *Ibid*.
[12] United States, Department of Energy, *Fiscal Year 2014 Stockpile Stewardship and Management Plan* (Washington, DC: Secretary of Energy, 2013) at 1-5 [*SSMP*].

concerns and strategies for nuclear stockpile management.[13] This organization is called the Nuclear Weapons Council (NWC).

One of the primary responsibilities of the NWC is to develop options for the US nuclear weapons stockpile.[14] Naturally, nuclear life-extension programs fall under this umbrella. Therefore, since the NWS is a cooperative joint organization between the DoD and DoE, it is reasonable to assume that the structure of current and future life-extension programs proposed by the NWC represent a consensus on the issue regarding the development of new nuclear warheads and military capability. A closer examination of some of the most recent NWC proposals reveals which official position ultimately took precedence.

The most expansive life-extension program currently taking place is that of the B61. The original B61 was designed and built in the 1960's[15] so it comes as no surprise the NNSA chose to modernize the B61 over concerns about the safety and reliability of a number of its components. The basic concept behind the B61 life-extension program is to take select components from four different aging nuclear warheads and consolidate them to create a customized new modern warhead that is better suited to meet the present and future needs of the US military.[16] The four existing warheads being consolidated in this program are the B61-3, B61-4, B61-7, and B61-10.[17]

[13] *The Nuclear Matters Handbook*, (Washington, DC: Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, 2011) online: < www.acq.osd.mil/ncbdp/nm> at appendix A: Nuclear Weapons Council and Annual Reports.
[14] *Ibid*.
[15] Dana Priest, "the B61 bomb: A case study in costs and needs", *The Washington Post* (16 September 2012) online: The Washington Post <http://www.thewashingtonpost.com>
[16] *Ibid*.
[17] *SSMP*, *supra* note 12 at 2-17.

The B61 life-extension program takes the nuclear components from the B61-4, the lowest yield warhead of the group[18], and builds a newly designed model of the B61 series around it using select non-nuclear components taken from all four of the B61 bombs being consolidated.[19] If this was the extent of the life-extension program then it could reasonably be argued that the DoD preference for using the refurbishment and reuse approaches was ultimately victorious. However, the B61 life-extension program does not stop there. The NWC received Congress approval for the addition of a completely new guided Tail SubAssembly (TSA) kit, which was eventually designed and developed by Boeing.[20] The B61 life-extension program also adds new safety and surety features to the B61-12 that previously did not exist on any of the four B61 models being consolidated.

This guided TSA kit was specifically designed to improve the targeting capability of the new B61-12 bomb. Sources believe that the new TSA kit will function similar to that found on Joint Direct Attack Munition (JDAM) that uses a GPS-based internal navigation system. This added feature would make the B61-12 one of the most accurate nuclear weapons on the planet and enable its use in both strategic and tactical (non-strategic) military missions.

Clearly, the addition of this new military capability contradicts the US nuclear policy outlined in the 2010 NPR. In a 2011 report published by the US Government Accountability Office, government officials justify this new military capability as a necessary measure required to ensure the US is able to fulfil its ongoing NATO obligations.[21] For comparison sake, the system these new guided TSA kits are replacing on the old B61 models is a simple parachute

[18] Hans M Kristensen, "B61-12: NNSA's Gold-Plated Nuclear Bomb Project" (26 July 2012), online: Federation of American Scientists <http://blogs.fas.org/security/2012/07/b61-12gold/>
[19] *Ibid*.
[20] Department of the Air Force, "B61-12/F-15E Interface Control Document (ICD) Support" (25 October 2010) online: Federal Business Opportunities <http://www.fbo.gov>
[21] United States, Government Accountability Office, DOD and NNSA Need to Better Manage Scope of Future Refurbishments and Risks to Maintaining U.S. Commitments to NATO, (Washington, DC: 2011) online: <http://www.gao.gov/new.items/d11387.pdf> at 13.

which was designed to slow the descent of the bomb so the delivery aircraft could vacate the area safely before detonation.[22] On February 27, 2012, the NWC authorized the B61 life-extension program to proceed to the engineering development phase with the first production unit scheduled for completion in 2019. It is anticipated around 400 of these new B61-12 nuclear bombs will be produced; with a number of them likely destined to replace the aging B61 bombs stationed on ally NATO bases in Europe.[23] The replacement of aging US nuclear weapons stationed on European soil represents another contentious issue that is beyond the scope of this paper.

If the B61 life-extension program proceeds as planned, then the US military will be left with a new nuclear warhead with expanded capability that can also support new missions. The move towards lower yield bombs with greatly increased targeting abilities may signify the beginning of a disturbing shift in US nuclear policy. The B61 life-extension program represents the biggest indication yet that a new generation of nuclear weapons is on the horizon. This new generation, if it follows the path being laid by the B61 life-extension program, will be custom tailored to meet the individualized modern day needs of various state militaries. It also drastically increases the possibility of an increased role for nuclear weapons in national defence strategies. This development would undoubtedly contradict President Obama's stated intentions of reducing the role of nuclear weapons in the US national defence strategy.

Aside from the B61 life-extension program, the NNSA also has two other life-extension programs currently underway. These are for the W76-1, which is now in the production phase with scheduled completion in 2019; and the W88 Alt 370, which is in the engineering development phase similar to the B61-12. Looking further ahead, the latest NWC proposal for

[22] *Ibid*.
[23] Hans M Kristensen, "NATO's Nuclear Groundhog Day?" (18 May 2012), online: Federation of American Scientists <http://blogs.fas.org/security/2012/07/b61-12gold/>

the future of the US nuclear stockpile is the 3+2 plan.[24] The plan proposes to consolidate the current US nuclear arsenal into three ballistic missile warheads and two air-delivered warheads.[25] The selling point of this system is "interoperability"; meaning one type of warhead can be deployed on multiple delivery systems thereby reducing the number of warhead types needed in the arsenal.[26] Without even knowing the details of these proposed future life-extension programs, the interoperability feature itself may be considered yet another new military capability.

The emergence of nuclear life-extension programs is not limited to the US either. Russia and China are also making great expenditures to modernize their nuclear arsenals; a fact acknowledged by the US in the 2010 NPR.[27] Both countries cite the US missile defence system as a major driving force behind their nuclear modernization programs.[28] Similar to the US, their modernization programs focus on enhancing the quality of their nuclear weapons, not the quantity. Considering the motivating factors, Russia and China's modernization programs have predictably been primarily aimed at increasing the survivability of their nuclear weapons to minimize the effectiveness of any missile defense system.

Overall, the nuclear modernization trend certainly raises some red flags. As demonstrated above, the life-extension programs being implemented by the NNSA in the US clearly violate the official US nuclear policy contained in the 2010 NPR by developing what are arguably "new" nuclear weapons. Whereas the "new" versus "refurbished" debate may still be legitimate in some aspects, the fact that these modernization programs are adding new military capabilities is now indisputable. These departures from internal nuclear policy are undoubtedly disconcerting;

[24] *SSMP*, *supra* note 12 at iii.
[25] *Ibid*.
[26] *Ibid* at 2-16.
[27] *NPR*, *supra* note 10 at 28
[28] Ray Acheson ed, *Assuring Destruction Forever: Nuclear Weapon Modernization Around the World* (2012) online: Reaching Critical Will <http://www.reachingcriticalwill.org> at 22-23.

however, perhaps even more worrisome is the blatant violations of international law that they represent. Particularly, as will be discussed below, the re-emergence of a new generation of nuclear arms race for the 21st century.

PART II: NPT ARTICLE VI – THE DISARMAMENT OBLIGATION EXPLAINED

As stated above, nuclear disarmament is one of the three pillars of the NPT. The foundation of the nuclear disarmament pillar is found in the content of Article VI of the NPT, which states:

> Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to the 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.[29]

On a general level, the basic obligation contained in Article VI is to "pursue negotiations in good faith." Article VI then goes on to delineate three specific outcomes that are to result from these negotiations.[30] These outcomes are:

1) the cessation of the nuclear arms race at an early date;
2) nuclear disarmament; and
3) a treaty on general and complete disarmament under strict and effective international control.

To fully understand the content of the disarmament obligation in Article VI, a number of terms need to be defined. The first, and most important, of these terms is "pursue negotiations in good faith." The inclusion of the words "good faith" in this obligation is critical. It implies a much more meaningful commitment compared to a simple obligation to negotiate. "Good faith"

[29] NPT, *supra* note 1.
[30] Joyner, "*Interpreting*", *supra* note 2 at 97.

is a long established and justiciable legal principle.[31] In its 1996 *Advisory Opinion on the Threat or Use of Nuclear Weapons*, the International Court of Justice (ICJ) described the obligation to negotiate in good faith contained in Article VI of the NPT as one that "goes beyond that of a mere obligation of conduct," and proceeds to state, "the obligation involved here is *an obligation to achieve a precise result* [emphasis added]—nuclear disarmament in all its aspects..."[32] Therefore, the obligation is not merely to engage in negotiations relating to the delineated results in Article VI. The obligation is to actually *achieve* those results in all their aspects.[33]

Furthermore, in the *Nuclear Test cases*, the ICJ described the principle of good faith as one that does not require actual damage; instead "its violation may be demonstrated by acts and failures to act which, taken together, render the fulfillment of specific treaty obligations remote or impossible."[34] Understanding the ways by which the principle of good faith can be breached is critical to the remaining discussion.

With the scope of the good faith obligation now defined, the next step is to provide meaning to the three delineated outcomes listed in Article VI of the NPT. On first reading, it is difficult to ignore the seemingly logical sequencing of the listed results. It is perfectly reasonable to conclude the nuclear arms race must end before nuclear disarmament can occur.[35] Likewise, nuclear disarmament would generally be viewed as a lesser step along the path to general and complete disarmament.[36] Given this logical sequencing of results, the mistake that many modern scholars and government officials are guilty of is ignoring the obligation to end the nuclear arms race while moving directly to the obligation to negotiate in good faith on effective measures

[31] Ibid.
[32] *Legality of the Threat or Use of Nuclear Weapons Case*, Advisory Opinion, [1996] ICJ Rep 226 at 264.
[33] Joyner, "*Interpreting*", *supra* note 2 at 98-100.
[34] Guy Goodwin-Gill, State Responsibility and the "Good Faith" Obligation in International Law, in Malgosia Fitzmaurice and Dan Sarooshi, eds, *Issues of State Responsibility before International Judicial Institutions* (Oxford: Hart, 2004) at 75.
[35] Joyner, "*Interpreting*", *supra* note 2 at 100-102.
[36] *Ibid*.

related to nuclear disarmament.

This is an oversight largely caused by the common assumption that the cessation of the nuclear arms race was achieved along with the end of the Cold War, the dissolution of the Soviet Union and the subsequent arms control measures implemented over the past two decades.[37] For a period of time this assumption may have proven to be entirely true; however, the emergence of nuclear modernization or life-extension programs among nuclear weapon possessing states means that this assumption has now become erroneous.

The increasing prevalence and breadth of these nuclear modernization programs is a strong indicator that a new generation of nuclear arms race fit for the 21st century is on the horizon, if not already here. The term "arms race" is used to describe a situation in which two or more states compete against one another for superiority in the quantity and quality of military arms.[38] Considering the context in which the NPT was proposed, a similar meaning is certainly what the framers of NPT had in mind when drafting Article VI. At the time, it was primarily the US and Russia who were competing against one another. It is widely accepted that the competition between them was not just to accumulate the most nuclear weapons, but also to develop the most powerful nuclear weapons.

The fact that the US and Russia were competing to build the most powerful nuclear bombs of their time is important because it highlights the inherent qualitative element in the term "arms race." At the time it was primarily used to refer to the power, or yield, of the nuclear weapon. However, just as the threats to international peace and security have evolved over time, so too has the focus of the qualitative aspect of "arms race." The qualitative element of "arms race" now properly includes what are referred to as "new military capabilities". These are

[37] *Ibid* at 100.
[38] Dictionary.com, online: <http://www.dictionary.reference.com> "arms race".

qualitative features such as increased accuracy, the ability to penetrate hard targets, and increased survivability.

The consequence of adding these new military capabilities under the guise of nuclear life-extension or modernization programs is that every state engaged in these practices is guilty of contributing to the start of a new arms race for the 21st century; and thereby putting them in clear violation of their good faith obligation under Article VI of the NPT. These programs make the cessation of the nuclear arms race, the first result listed in the logical sequence of events in Article VI, highly unlikely or impossible to achieve.

What these life-extension programs truly represent is a giant step backwards in the global movement towards a world free from nuclear weapons. President Obama's 2009 speech in Prague, Czech Republic brought renewed and heightened attention to the need for nuclear disarmament. Unfortunately, the focus on reducing the sheer number of nuclear warheads around the world may have created the perfect cover for military agencies looking to develop a new generation of nuclear warheads more aptly suited for addressing the threats of today's society.

PART III: IMPLICATIONS FOR THE FUTURE OF NUCLEAR DISARMAMENT NEGOTIATIONS ON THE INTERNATIONAL STAGE

In terms of international law, the five NWS parties to the NPT are not violating the terms of the treaty any more now than they were before they began pursuing ambitious nuclear modernization programs. The unchanging national defense polices mean the NWS have been violating the good faith principle contained in the Article VI disarmament obligation since shortly after it came into force in 1970.[39] These policy decisions violate the good faith principle in the same way that the life-extension programs do; by making the achievement of one or more

[39] Joyner, "*Interpreting*", *supra* note 2 at 107-108.

of the delineated results listed in Article VI of the NPT highly unlikely or impossible. Therefore, it is doubtful that the international community will all of a sudden decide to take legal action against the NWS to stop these modernization programs. If the NNWS thought legal action would be useful, they likely would have pursued that course of action long ago by complaining the NWS nuclear defense strategies violate the good faith obligation in Article VI of the NPT.

If legal action is not the solution to the problem presented by nuclear life-extension programs, then the solution will likely have to be manufactured through a lengthy course of diplomatic relations. The first step in the solution is to get state officials to recognize these life-extension programs for what they truly are, a modern incarnation of the nuclear arms race. Considering these same officials have been willing to contradict their own policies and statements (see above) in pursing these life-extension programs, this first step may prove to be the most challenging.

Second, the resources currently being put towards nuclear disarmament efforts should be redirected to focus squarely on eliminating the practice of nuclear modernization. Referring back to the logical sequencing found in Article VI of the NPT, nuclear disarmament cannot be achieved without first putting an end to the nuclear arms race. This means that any future arms control or disarmament initiatives that seek solely to reduce the number of nuclear warheads are ignoring a much more pressing and growing threat to international peace and security.

Currently, the NNSA and NWC justify the US nuclear life-extension programs partly on the basis that they are needed to allow for continued reductions in the US nuclear stockpile.[40] This may prove to be true in the short term; however, progress on nuclear disarmament is destined to slow, stall, and potentially regress until a framework for eliminating the practice of nuclear modernization can be developed and agreed upon by the international community. In a

[40] *SSMP*, *supra* note 12 at 2-16.

roundabout way, the leaders of the NWS have already realized this fact when they reference the need to create the necessary "conditions for disarmament." When state officials use this term they are usually making reference to things such as increased transparency and improved diplomatic relations.[41] Not including the cessation of nuclear modernization programs (read: cessation of the modern nuclear arms race) as a "condition for disarmament" is a huge oversight. It is unquestionably the *most* necessary "condition for disarmament." Again, as contemplated by the framers of the NPT and expressed in the logical sequencing of results in Article VI, disarmament simply cannot happen without the cessation of the modernization programs.

Perhaps the scariest threat posed by life-extension programs as they are currently being implemented is the fact they are creating new nuclear warheads that are customized to meet current military needs instead of those that existed during the time of the Cold War. By introducing new capabilities like increased range and accuracy on lower yield weapons, these life-extension programs make nuclear weapons use a much more viable and appealing option for states that possess them. This perhaps makes the likelihood of nuclear states choosing to increase the role of nuclear weapons in national defence strategies higher that the likelihood of their role being decreased.

At this stage, any dreams of complete nuclear disarmament have already been pushed back many decades as a result of the massive amounts of spending[42] and upgrading being done by the NWS and other nuclear weapon possessing states. In economic terms, complete nuclear disarmament cannot be justified after such major investments in their arsenals. Unless the international community begins taking the threat posed by modernization programs seriously, the ultimate outcome of nuclear disarmament will continue to be pushed back indefinitely.

[41] NPR, *supra* note 10 at vi.
[42] *Smart Choices*, *supra* note 7 at 4.

CONCLUSION

President Obama's 2009 speech in Prague, Czech Republic brought a renewed focus to the mission of nuclear disarmament. He provided a catalyst that reinvigorated discussions between the US and Russia for further arms reductions and sparked discussion in the international community. His vision of a world free from nuclear weapons was so well received that it was a contributing factor in his recognition as the winner of the 2009 Nobel Peace Prize.[43]

Unfortunately, other than the ratification of the New START bilateral arms reduction agreement with Russia in 2011, little progress has been made on the disarmament front during his administration. Touted as an initiative that will allow further nuclear reductions in the future, life-extension programs like that of the B61-12 and the NWC's proposed 3+2 plan actually represent a major threat to nuclear disarmament progress. By approving multi-billion dollar life-extension programs, the Obama administration is actually pushing the end goal of complete nuclear disarmament further out of reach than it has ever been in the past two decades.

Nuclear modernization is a sign that the nuclear arms race never truly ended along with the Cold War. Rather, it was merely temporarily paused for reconfiguration and a qualitative upgrading. The modern nuclear arms race that these life-extension programs represent is the biggest impediment to future progress on nuclear disarmament. The programs are a clear violation of the good faith principle contained in Article VI of the NPT and should be addressed accordingly. The international community needs to quickly realize this growing threat to international peace and security and take immediate action to see that these programs are put to an end at the earliest date possible, just like their Article VI obligation requires them to.

[43] Norweigan Nobel Committee, press release, "The Nobel Peace Prize for 2009", (9 October 2009) online: <http://www.nobelprize.org>