

On the U.S.-Russian Tactical Nuclear Weapons Cut as a Path toward a Nuclear-free World

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Complete destruction of nuclear weapons and realization of a world free from nuclear weapons are the common aspiration of mankind in the atomic era. To achieve the goal, the international community has proposed a series of steps and measures, which include calling for a deep reduction of the U.S. and Russian nuclear arsenals, promoting ratification of the CTBT, initiating negotiation of the FMCT, reducing the role of nuclear weapons played in national security, and so on. However, these steps and measures are hindered due to different reasons. It is of importance for the academic circle to explore creative and active measures to push forward an aspiration of a nuclear-free world. In this paper, the reduction of tactical nuclear weapons (TNWs) is proposed as a new option.

I. An Overview of the U.S. and Russian Tactical Nuclear Weapons Development

Nuclear weapons can be divided into strategic and tactical nuclear weapons according to their performances. In general, a tactical nuclear weapon is composed of a nuclear warhead with relatively low yield, and delivery system with relatively short range, mainly used to strike the adversary's important

targets in battlefield. This kind of weapons has a wide varieties, including nuclear bombs, nuclear cruise missiles, short-range/medium-range nuclear ballistic missiles, nuclear shells, nuclear depth bombs, nuclear land mines, and so on. Since the Cold War, along with the changing global security and political situation, the development posture of tactical nuclear weapons in the United States and former U.S.S.R/then Russia has also been changing accordingly.

In the early years of the Cold War, in order to balance the superiority of the Soviet Union's conventional forces, the United States accelerated development of tactical nuclear weapons and deployed them to Europe and Asia-Pacific region gradually. Having broken the U.S. nuclear monopoly, the former Soviet Union also started developing tactical nuclear weapons and had the first tactical nuclear bomb tested in 1953.

During the major period of the Cold War, the United States pursued the "flexible response" strategy, namely, to escalate the usage of nuclear weapons based on a wartime situation, including selective and limited use of tactical nuclear weapons. This resulted in a rapid growth of U.S. tactical nuclear weapons arsenal, hitting a historical peak of

approximately 22,000 pieces in 1967.¹ Meanwhile, the former Soviet Union adopted its tit-for-tat developing strategy, expecting to achieve equal or even advantageous position with its tactical nuclear forces. In 1991, the former Soviet Union owned 15,000-21,700 tactical nuclear weapons.²

The waning of the Cold War brought about a drastic reduction in the U.S. and U.S.S.R tactical nuclear weapons arsenals. In December 1987, the two countries signed the Intermediate-Range Nuclear Forces Treaty (INF), promising to eliminate all the ground-launched missiles with intermediate-range/shorter-range. In the early 1990s, the U.S. and USSR/Russian presidents unilaterally declared one after another the Presidential Nuclear Initiatives (PNI), promising to grandly reduce tactical nuclear weapons.

Currently, the United States and Russia still have considerable tactical nuclear forces. According to the estimation of international authorities, by the beginning of 2015, Russia has about 2000 tactical nuclear warheads assigned for delivery systems and another big amount of tactical nuclear warheads in retirement and waiting for dismantlement.³ While the United States has approximately 500 B61-3/-4 tactical nuclear bombs, with 180 active ones deployed at six bases in 5 NATO countries (Belgium, Germany, Italy, the Netherlands and Turkey), and another 300 inactive ones are stored domestically.⁴

II. Tactical Nuclear Weapons and a Nuclear-free World

Because of the extremely destructive power of nuclear weapons, there are continuous global efforts to limit, reduce and even completely eliminate them since their birth. During the Cold War, while engaging in a fierce nuclear arm race, the United States and the former Soviet Union also conducted

prolonged negotiations on nuclear arms control, even proposed or discussed plans to eliminate all nuclear weapons on several occasions, including the Baruch Plan of 1946, the McCloy-Zorin Accords of 1961 and Reykjavik Summit of 1986, etc.. However, in the conflicting and hostile environment of the Cold War, it is not easy to reach any agreement of the limitation on nuclear weapons, let alone the substantive efforts on their elimination.

Since the end of the Cold War, though the United States and Russia have achieved great progress in nuclear disarmament, they both still have huge nuclear arsenals. Will nuclear weapons destroy the human beings or the human beings will eliminate the nuclear weapons? People of insights all worry about it. On January 4, 2007, Henry Kissinger, George Shultz, William Perry and Sam Nunn, the four well-known Americans jointly published the article A World Free of Nuclear Weapons on Wall Street Journal, which reawakens the idea of nuclear-free world in the new century. It generates widespread debate and positive response globally. President Obama delivers the famous Prague Speech soon after he won reelection, and states that the United States would work for establishing a world without nuclear weapons.

From the concept of a nuclear-free world, the reduction of tactical nuclear weapons has been proposed by the international community. The Canberra Commission, a famous international organization on arms control, proposed a global nuclear-elimination plan with different stages and procedures in 1996, which specially mentioned the issue of tactical nuclear weapons.⁵ The Final Document of 2000 NPT Review Conference, for the first time, called for reducing tactical nuclear weapons and took it as “an integral part of the nuclear arms reduction and disarmament process”.⁶ Such issue had also been discussed at the subsequent 2005 and 2010 NPT Review

Conferences. In the famous article published in 2007, the American Four Men made it clear that one of the important steps towards a world without nuclear weapons is to eliminate the “forward-deployed short-range nuclear weapons”,⁷ then in March 2013 they suggested in the Wall Street Journal that “consolidating and reducing U.S. and Russian tactical nuclear weapons uncovered by the New Start should also be a high priority”.⁸

However, the issue of tactical nuclear weapons was non-included in the scope of bilateral arms control agreement by United States and Russian for a long time. Since the 1990s, Washington and Moscow have signed a series of bilateral treaties on nuclear arms control. Under the framework of these treaties, both countries deployment of operational strategic nuclear weapons are limited to a relatively low level compared with that in the Cold War era. Unfortunately, these treaties didn't mention anything about the limitation or the elimination of tactical nuclear weapons, so that the issues on tactical nuclear weapons remain silent in the field of international nuclear disarmament for a long period. In 1997, the leaders of the United States and Russia had considered addressing tactical nuclear weapons in START III,⁹ but because of the serious dissenting opinions on the ABM issue, the negotiations are never kicked off at all.

Currently, it seems difficult to reduce U.S. and Russian strategic nuclear weapons in a foreseeable future, so it is proposed to march to a nuclear-free world through reducing tactical nuclear weapons. For a nuclear state, although its nuclear disarmament policy could be influenced from the political, diplomatic and economic aspects, it ultimately depends on its nuclear strategy. Scholars generally believe that the American and Russian nuclear strategies, viewing from the scale, structure and deployment posture of nuclear arsenals, belong to “war-fighting” nuclear strategies, which seek

to fight and win a nuclear war. In order to maintain nuclear advantages over others, the nuclear states with these nuclear strategies must maintain a considerable amount of strategic offensive arms. If the United States and Russia make no substantial change of such nuclear strategy inherited from the Cold War, it will be no room for deep cut of their strategic nuclear forces, not to mention elimination of them. However, as a nuclear strategy is inveterately embodied in the military strategy and war planning system of a nuclear country, it is not easy to be changed. In this case, promoting reduction of tactical nuclear weapons can contribute to the whole advancement of the global process of nuclear disarmament.

III. The Role and Significance of TNWs Cut in Moving toward a Nuclear-free World

The United States and former Soviet Union/then Russia have adopted the control mechanisms of INF and PNI on the reduction of tactical nuclear weapons, which made pioneering contributions to the process of the international nuclear disarmament and yielded fruitful results.¹⁰ Under the framework of the INF, the United States and former Soviet Union completely eliminated all ground-based missiles with 500-5500-kilometer range in three years. The extraordinary significance of such elimination is that it is the first time in the history of nuclear arms control and disarmament to eliminate an entire category of nuclear weapons, although the eliminated weapons accounted for only 4% of whole nuclear arsenals of both countries at that time. In contrast, having lasted for several decades, even at the expiration of New START in 2021, the strategic nuclear weapons cut process by the two countries will just reduce the number of their deployed operational strategic nuclear weapons to under 1550 pieces each, and has not come to the stage of reducing the non-deployed strategic nuclear weapons, not to

mention completely eliminating the whole strategic nuclear arsenals. In addition, the INF also for the first time has developed some verification measures such as on-site inspections (OSI), which is followed by subsequent arms control treaties. So it can be called a major breakthrough in the process of international nuclear disarmament. As for PNI, it is both the first and the only nuclear cut initiative that not only aims at nuclear delivery vehicles but also at nuclear warheads, while so far all bilateral arms control treaties on strategic nuclear arms of the two countries do not cover the nuclear warheads.

After more than 20 years, the global environment of actively proposing complete destruction of nuclear weapons will not only continue the achievements of both INF and PNI, but also have the following significance on moving toward a nuclear-free world by the U.S. and Russian tactical nuclear weapons reduction.

(a) Eliminating the immediate dangers caused by tactical nuclear weapons. Tactical nuclear weapons are not only products of the outdated war-fighting nuclear strategy of the two countries during the Cold War, but also the American and Russian nuclear arsenals after the Cold War. Besides, the inherent mass destruction of tactical nuclear weapons, compared with strategic nuclear weapons, is more likely to harm the security and stability of the international community in some respects. Firstly, tactical nuclear weapons are mainly designed for use in a battlefield, thus they are always deployed in the frontline and are most likely to generate the first use, unauthorized use or misuse. Secondly, tactical nuclear weapons, whose yield usually lower than that of strategic nuclear weapons, are easily mistaken for having relatively less destructive effect, causing less personal injury, and bearing less moral pressure. Such misunderstanding would lower the threshold of using them. Thirdly, the large

amount of and the lack of transparency of tactical nuclear weapons and their relatively lower level of security have the potential dangers to result in nuclear proliferation if they are stolen, and trigger nuclear terrorism if falling into the hands of terrorists. Fourthly, the four-men article published in 2008 specially pointed out that given the characteristics of “smaller and more portable”, these weapons “invite acquisition targets for terrorist groups”.

¹¹ While the ultimate goal of achieving a nuclear-free world is to ensure humankind free from the threat of nuclear weapons, for a crucial step, the elimination of tactical nuclear weapons could reduce the above risks and dangers.

(b) Benefiting the international security and stability while the international community explores the path towards a nuclear-free world.

Achieving a world without nuclear weapons is an accumulated and exploratory process that could not be finished overnight. What's more, this task is not just as simple as physical dismantlement of nuclear weapons, on the contrary, it is related to several issues on global security and stability, even the possibility of reshaping the international security system and political order. At present, the strategic stability between the United States and Russia still relies on the capability of “mutual assured destruction” by nuclear forces, how can the United States and Russia continue to keep strategic balance after the deep cuts of their nuclear arsenals? Even if the proposal of a nuclear-free world is realized, without the reliable and effective nuclear deterrence, how can the world build a security mechanism to reduce the threshold of using conventional forces? Nuclear weapons can be eliminated but nuclear technical know-how can't be erased, so how can the world prevent an individual country or a non-government organization from clandestinely developing a nuclear weapon in a nuclear-free world? All the issues need to be

considered and handled carefully. Reducing tactical nuclear weapons as a trial of nuclear disarmament, can buy time for international community to consider how to further reduce strategic nuclear weapons, accumulate knowledge and experiences for the process of global denuclearization, and can provide reference for the future nuclear-free world to build a framework of verification, control, prevention and sanction, etc..

(c) *Providing technical reference for realizing “global zero”*. The prospect of a nuclear-free world depends on political will and technical consideration as well. During the progress of moving toward a nuclear-free world, what to be reduced and eliminated by U.S.-Russian bilateral treaties must be turned from nuclear delivery vehicles to nuclear warheads. This will encounter many technical issues, especially the verification technology. Verification is the main approach to guarantee the treaty compliance as well as the important measure to guarantee the irreversibility of nuclear dismantlement. However, the verification of nuclear warheads can't adopt the existing national technical means (NTMs) used to verify nuclear delivery vehicles, which have large amount and are easy to be distinguished. It must adopt much more intrusive approaches of on-site inspections in the nuclear warheads storage sites or dismantlement factories. To avoid exposing sensitive information of the inspected side during the verification process, verification technology, which should be accepted by both sides and can effectively protect and shield sensitive information, need to be researched and developed. Reducing tactical nuclear weapons provides a platform for jointly researching the verification technologies. Generally, for tactical nuclear weapons, the nuclear warheads and delivery vehicles are stored separately. The disarmament process of tactical nuclear weapons, compared with that of strategic nuclear weapons, will be

significantly different – whether the count, reduction or elimination will directly aim at nuclear warheads instead of delivery vehicles. Technically, there is not much difference in the design and capabilities of tactical and strategic warheads, so the verification technology and monitoring measures developed in the process of tactical nuclear weapon reduction can also apply to a deep cut of strategic nuclear weapons in the future.

IV. Challenges to TNWs Reduction

Although the cut of tactical nuclear weapons has a significant role in promoting the process of a nuclear-free world, due to the inherent complexity of tactical nuclear weapons issue, it is difficult for the United States and Russia to reduce and eliminate such kind of weapons existing in their nuclear arsenals for more than half a century. Because the reduction will involve various matters, including bilateral reduction will, reduction modes and reduction steps.

(a) Reduction Will

The United States and Russia have different attitudes in reducing tactical nuclear weapons, which play different role in their national security and military strategies. Currently, the U.S. active tactical nuclear weapons are all deployed in its European allies, although they basically have no military function, only show a political symbol of alliance solidarity and a promise for European defense.¹² The United States obviously has the wish to promote the reduction of tactical nuclear weapons. In the 2010 NPR, the U.S. Government emphasized “addressing tactical nuclear weapons...in any post-New START negotiations with Russia.”¹³ The U.S.-led NATO point out in DDPR released in 2012 that it is prepared to consider further reducing the requirement for tactical nuclear weapons in the context of reciprocal steps by Russia.¹⁴ President Obama stated on many public

occasions, including the Brandenburg Gate speech in Berlin in 2013, that the reduction of tactical nuclear warheads should be discussed in the next round of nuclear disarmament negotiations.

However, the case with Russia is totally different. Tactical nuclear weapons still play very important role in the Russian military and have become even more significant since the collapse of the former Soviet Union. Russia considers NATO as its main security threat and possible source of regional conflict, but continuous economic turmoil makes Russia unable to maintain a large and effective conventional army like that in Cold War period. Russia shows a deep concern on the superiority of NATO conventional military forces in every version of Russian Military Doctrine, including the latest version released in December 2014. Russian Government officials have stated on several public occasions its negative attitude towards tactical nuclear cut. Many scholars also argue frankly that Russia must depend more on tactical nuclear weapons while its conventional forces are disadvantaged compared to that of NATO.

Russian's heavy dependence on tactical nuclear weapons in national security and the advantage of tactical nuclear weapon scales over America can be the biggest obstacle in the future tactical nuclear reduction. If the United States could adopt measures to ease the security concern of Russia, such as withdrawing all B61-3/-4 bombs from Europe and signing new CFE, it could not rule out the possibility that Russia takes part in reduction process of tactical nuclear weapons in the near future.

(b) Reduction Model

If both the United States and Russia have the political will on tactical nuclear weapons reduction, two models can be referred to. One is the PNI model, which has adopted unilateral voluntary measures. The advantage of this model is avoiding endless and fussy

negotiations and signing processes, and could result in quick progress; but it is also accompanied with some inevitable defects, such as lack of legally-binding, transparency measures and verification mechanisms. After implementing the PNI, the United States and Russia still possess thousands of tactical nuclear weapons, indicating that unilateral voluntary measures can't satisfy the requirement in promoting a nuclear-free world. Moreover, the United States and Russia currently have no will for further reduction unilaterally. The U.S. side emphasized in *Report on Nuclear Employment Strategy of the United States* in 2013 that it will "maintain the capability to forward-deploy nuclear weapons.....in support of extended deterrence and assurance of U.S. Allies and partners", unless "NATO agrees the conditions are appropriate to change the Alliance's nuclear posture."¹⁵ Richard W. Mies, a former commander of U.S. Strategic Command, states that "the U.S. unilateral disarmament initiatives have done little to promote similar initiatives in its potential adversaries; they have reduced our arms control negotiating leverage."¹⁶ Similarly, Russia has no political pressure to reduce the nuclear stockpile unilaterally. Russia always relies on nuclear weapons for national security and military strategy. If there is no significant change in international security environment and domestic political situation, Russia is likely to find unilateral nuclear disarmament difficult.

The INF model is another reduction model, which is negotiating a bilateral formal treaty. Based on the legal-binding treaty and guaranteed by the verification measures and transparent mechanism of the treaty, it will be beneficial to fundamentally resolve the tactical nuclear weapons problems and lay the foundations for achieving a nuclear-free world. Given the different numbers and roles of tactical nuclear weapons for the two countries,

it is predictable that negotiation process of bilateral disarmament treaty will be full of difficulties. If the negotiation revolves other issues that will affect bilateral strategic stability during the negotiation process, such as missile defense system, strategic non-nuclear weapons, outer space weapons and NATO's superiority conventional forces, the negotiation process will be more complicated.¹⁷ In this case, the political will of both sides will be the key factor for concluding the treaty.

(c) Reduction Steps

According to the status quo of U.S. and Russian tactical nuclear weapons, in order to promote the reduction and elimination of such weapons, treaties or agreements to be negotiated should include the following basic steps: (1) The limitation on scope. Just as the Four Men Team stated in 2008 that consolidating the nuclear weapons designed for forward deployment to enhance their security, and as a first step toward careful accounting for them and their eventual elimination.¹⁸ In this step, the United States should withdraw all its tactical nuclear weapons deployed in Europe, and Russia should do with all the tactical nuclear weapons stationed in its European border. All the withdrawn weapons should be stored in their respective domestic safety facilities. Such step will help strengthen the U.S. and Russian roles in controlling tactical nuclear weapons and reducing the concerns of the international community about the safety and security of these weapons. (2) The limitation on the quantity and quality. For this purpose, the treaty shall ban the United States and Russia from developing and deploying new tactical nuclear weapons, thus "ceiling" the quantity and quality of these weapons and reducing the potential dangers. (3) Set up a mechanism of data exchange and increase transparency. In the execution process of a tactical nuclear disarmament treaty, increasing transparency is an indispensable step. This not

only helps establish mutual trust between the two countries, but also formulate and implement verification measures. Transparency shall be based on information sharing. By referring to the provisions made in a series of strategic offensive arms reduction treaties, the United States and Russia shall build a mechanism for exchanging the detailed data regularly, including the number, type, location, status and related delivery systems of their tactical nuclear weapons. (4) Reduce in stages until thorough elimination. In view of substantial differences in quantity and types of tactical nuclear weapons between the two countries, they can adopt the method of reducing in proportion or according to the specific type, for example, both sides could reduce all long-range sea-based nuclear cruise missiles first. The finally goal is to completely eliminate both sides' tactical nuclear weapon arsenal simultaneously. For every steps above, the corresponding verification measures shall be established to ensure the implementation by both sides and the irreversibility of disarmament.

In addition, the tactical nuclear weapons reduction may also encounter many other problems, such as domestic legal and institutional guarantee, nuclear security cooperation in the process of the reduction, control and disposal of the dismantled military fissile materials, etc. For all of these problems which may affect the tactical nuclear weapon cut process, the United States and Russia shall consider carefully and make a proper arrangement on the basis of reduction consensus achieved.

V. Conclusions

The process of exploring a nuclear-free world will be long, arduous and tortuous. President Obama admitted in the "Prague speech" that a world without nuclear weapons cannot be achieved during his tenure, and he

even is unable to have the honor to see in his lifetime. Even so, it can still make a difference by taking a nuclear-free world as a gradual process and moving forward with an appropriate step and measure. Based on maintaining global security and stability, the international community needs to seriously explore and build a clear-cut roadmap for the nuclear elimination. Marching toward a complete destruction of tactical nuclear weapons by the United States and Russia is, undoubtedly, a solid and feasible step towards this distant goal.

Tactical nuclear weapons are not only the product of the special period of the Cold War, but also a big obstacle on the path to a nuclear-free world. The signing and ratifying of the New START restarts the bilateral nuclear arms control negotiations stagnated for many years between United States and Russia, and at the same time provides a new impetus for the future nuclear disarmament. Along with common aspirations of the international community, there has never been such a good time in history to promote the process of "global zero". Moreover, it also a good opportunity for the two countries to shift tactical nuclear weapons reduction from the blind spot of nuclear arms control to forerunner area of a nuclear-free world.

As a step for exploring and promoting a more extensive nuclear disarmament, tactical nuclear weapons cut alone cannot solve all the problems along the way to achieve the distant

goal of "global zero", but could open up a new way towards a world without nuclear weapons and set up a significant milestone for the U.S. and Russian nuclear disarmament. In addition, the reduction of tactical nuclear weapons will play a positive role in shaping a new global political environment by effectively reducing the dangers caused by such weapons, strengthening the global nuclear non-proliferation regime and enhancing international security and the regional stability. Furthermore, it not only demonstrates the will, capability and confidence of international community to eliminate nuclear weapons, but also provides experience and reference for further nuclear disarmament in the future, so as to guarantee the security, stability and irreversibility of the process of moving toward a nuclear-free world.

Certainly, a number of problems need to be resolved throughout the tactical nuclear weapon disarmament process. These problems not only pose challenges to the existing mechanism of international arms control, but also demonstrate the difficulty and complexity of moving towards a world without nuclear weapons. Even so, compared with strategic nuclear weapons with important strategic mission, currently the deep cut of tactical nuclear weapons is more operable. The key lies in whether United States and Russia can find a common political will and resolve to take up each other's security concerns.

Footnotes:

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