

On the Future of Global Nuclear Arms Control and Disarmament Process

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Because of the amazing destructions and great damages, nuclear weapons have been the objects the international community devotes itself to restrict and eliminate since their emergence. Compared to the height of the Cold War, although currently the size of the U.S. and Russian nuclear arsenals have been greatly reduced, these two countries still hold the vast number of the world's nuclear weapons, which represents a grave danger to global security and stability. In the process of the future global nuclear arms control and disarmament after the New START entering into force, the United States and Russia should consider and solve issues related to strategic stability through negotiations, continue to bilaterally reduce their nuclear arsenals, and create conditions for promoting the multilateral nuclear disarmament process.

I. Factors Affect on Future Deep Nuclear Cut

Strategic stability is the foundation of the classic nuclear arms control theory, which will also play an important role in the future international nuclear arms control and disarmament process. It is generally accepted that the strategic stability consists of two aspects related to nuclear deterrence capability. One is crisis stability, which means that on the occasion of crisis, both sides have confidence in the nuclear deterrence capability; hence, they neither have the incentive to initiate a preemptive nuclear strike nor are afraid of their opponent doing so. Another is arms race stability, which indicates that neither side feels disadvantageous in its nuclear arms, nor has the incentive to expand its nuclear arsenal to weaken the effectiveness of opponent's nuclear deterrence.

At present, there are various factors that

could affect strategic stability. Besides the quantity of operational deployed strategic nuclear weapons, other factors include ballistic missile defense system (BMD), conventional long-range precision strike capability, non-strategic (or tactical) nuclear weapons, non-deployed nuclear weapons, etc. Therefore, these issues should be thought twice in the process of further nuclear disarmament.

1.1 Ballistic Missile Defense System

The issue of ballistic missile defense will become the main obstacle to future nuclear arms control and disarmament process. It is generally believed that the development of a country's ballistic missile defense capability will weaken the strike capability of the opponent's strategic missile, including the first strike capability and the second strike capability, then provoke a new round of arms race and increase the possibility of launching a first nuclear strike. The result is the imbalance of the strategic stability.

Since the announcement in 2001 of its withdrawal from the Anti-Ballistic Missile Treaty (ABM), which is considered as the foundation of nuclear arms control, the United States is no longer constrained in its development of ballistic missile defense system. After years of development, the United States deployed not only 30 Ground Based Interceptors (GBI) in Alaska and California, but also sea-based "Aegis"/"SM-3" system in the Pacific, the Atlantic and the Mediterranean. After coming to power, the Obama Administration even put forward the Phased Adaptive Approach (PAA) to deploy theater missile defense system in Europe, seeking for gradually obtaining the capability of intercepting medium-range, long-range and even intercontinental ballistic missiles.

Strategic stability is usually measured by the

shifting relations of strategic offensive arms and strategic defensive arms of the both sides, and “strategic defensive arms do not undermine the viability and effectiveness of the strategic offensive arms of the Parties”.¹ So it is certain that the U.S. unconstrained development of ballistic missile defensive system will undoubtedly affect the international strategic stability. In future nuclear arms control and disarmament process, each negotiation party should have a thorough consideration on the interrelationship between strategic offensive arms and strategic defensive arms, namely reducing the amount of strategic offensive weapons while simultaneously limiting the development of ballistic missile defense system.

1.2 Conventional Long-range Precision Strike Capability

The U.S. Department of Defense has already regarded conventional long-range precision strike capability as a part of the strategic offensive capability in the Nuclear Posture Review report released in 2002. Recently, the United States is vigorously developing its long-range precision strike capability such as Conventional Prompt Global Strike (CPGS) in attempt to strike any global targets precisely in the shortest time.

Besides further promoting its advantage in conventional forces, the development of the U.S. conventional long-range precision strike capability may also pose threats to the world as follows: (1) If CPGS becomes a reality, then strategic assets on territory of other countries will become the targets of the U.S. conventional strike. Additionally, the U.S. practice of changing some strategic delivery vehicles for conventional military use would increase the possibility of misjudgment by other parties and the risk of triggering a nuclear war. (2) With the advantage in conventional long-range precision strike forces, the U.S. somehow could compensate the strategic offensive forces reduced according to the arms control treaties and offset the certain results of nuclear disarmament. (3) What is more important, the U.S. could use conventional weapons to accomplish part of the missions that previously given to the nuclear weapons. This means that the U.S. could seriously damage or completely destroy a country's nuclear strike capability without crossing the nuclear threshold, thus immensely reducing a country's nuclear deterrence capacity.

During the negotiation of New START treaty, Russia once proposed to restrict the development of conventional long-range ballistic missiles. However, the final treaty does not prohibit loading

non-nuclear warheads on strategic delivery vehicles. It only mentions in the foreword that “mindful of the impact of conventionally armed ICBMs and SLBMs on strategic stability”.² In future nuclear arms control and disarmament process, the importance of conventional long-range precision strike forces will be more outstanding with the reduction of nuclear forces. Therefore, the effects of conventional long-range strike forces on strategic stability should be well considered during the negotiation of a new treaty.

1.3 Non-strategic (Tactical) Nuclear Weapons

The U.S. government announced in 2010 that as of September 2009, the number of its tactical nuclear weapons (TNWs) has been reduced by around 90% comparing with that in September 1991.³ In the same year the Russian Government also announced that since 1991 the number of its tactical nuclear weapons has been reduced by 75%.

⁴ However, currently the size of both American and Russian tactical nuclear weapon stockpiles is still considerable. According to unofficial estimates, as of the early 2015, the U.S. possessed approximately 500 active TNWs, among which around 180 tactical nuclear bombs are deployed at six bases in five NATO partners, i.e., Belgium, Germany, Italy, the Netherlands, and Turkey;⁵ Russia possessed around 2,000 tactical nuclear warheads in the storage status and an unknown number of tactical nuclear warheads that are retired and await for dismantlement.⁶

The existence of the U.S. and Russian tactical nuclear weapons could trigger a series of security threats, which would harm the security and stability of international community. (1) It will increase the possibility of the first use of nuclear weapons and lower the threshold of using nuclear weapons, which increases the chances of conventional conflicts escalating into nuclear conflicts. (2) Weakening the strategic nuclear weapons reduction achievements. The more the strategic nuclear weapons are reduced, the higher the proportion of the tactical nuclear weapons will account for in the U.S. and Russian nuclear arsenals, and the role of TNWs will be constantly promoted. (3) Nowadays, the U.S. is the only country that deploys nuclear weapons on other countries' territory (these countries are also NPT non-nuclear-weapon States Parties). If other countries follow suit, the world will face more nuclear proliferation risks.

In order to compensate the relatively weak conventional military forces, Russia retains many more tactical nuclear weapons than that of the

United States. The U.S. government hopes to dispel the inequality in the size of tactical nuclear weapon arsenal with Russia and has repeatedly proposed openly that TNWs issue should be discussed in the next round of nuclear disarmament negotiations. However, the U.S. forward deployment of the tactical nuclear weapons in Europe could constitute security threats to Russia as the strategic nuclear weapons do. If the U.S. cannot take the lead in withdrawing the tactical nuclear weapons from Europe, it will be difficult for Russia to agree to initiate the tactical nuclear weapons reduction process. Moreover, the U.S. always emphasizes the extended deterrence function of tactical nuclear weapons in the NATO allied countries, and also invests heavily in modernizing the tactical nuclear weapons. Due to the TNWs issue, the next round of nuclear disarmament negotiation is likely to become more complex.

1.4 Non-deployed Nuclear Weapons

The issues related to non-deployed nuclear weapons with rapid upload capability are not included in current nuclear arms control framework. With the existence of non-deployed nuclear weapons, a seemingly small nuclear arsenal could be expanded rapidly once needed, which has great reversibility and concealment in the nuclear disarmament process.

The U.S.'s ability and tendency in this aspect is worth paying attention to. In 2014, the Department of State announced that as of September 2013, the United States had a stockpile of 4,804 nuclear warheads.⁷ Therefore, even though the number of the operational deployed strategic nuclear weapons will be reduced to 1,550 under the New START framework, it will still possess thousands of non-deployed nuclear warheads. However, the nuclear warheads mentioned above are only those belonging to Department of Defense (DOD). Moreover, the U.S. official data also shows that the Department of Energy (DOE) possesses other thousands of nuclear warheads which are retired and waiting for dismantlement. It is worth noting that recently the U.S. also stated in several official documents that it should keep sufficient non-deployed nuclear weapons and the capability of prompt deployment if necessary, so as to prevent technical accidents or huge geopolitical changes.

If the United States could not reduce its non-deployed nuclear warheads in stockpile while other countries lack the technology capability like the U.S. that could upload the stockpiles and increase the number of nuclear weapons by flexible infrastructure quickly, a new instability will occur

in further nuclear disarmament process.

II. The Prospect of U.S.-Russian Bilateral Nuclear Disarmament

It is the common goal of mankind to completely eliminate nuclear weapons and realize the Nuclear-Free World in the nuclear age, while the deep nuclear cut between the United States and Russia is the necessary way to realize this target. During the Cold War, the United States and Soviet Union carried out fierce nuclear arms race and at the same time negotiated on the nuclear arms control, which objectively avoided the nuclear war and maintained the strategic stability. Since the end of Cold War, accompanying the changes in the international security situation are the reductions in size of the American and Russian nuclear arsenals, through both formal bilateral treaties and informal unilateral initiatives. However, they still "control more than 90 percent of the world's nuclear weapons."⁸ Therefore, the two countries need to cut nuclear forces continuously and deeply.

The U.S. Government shows positive attitude in further reduction of its nuclear arsenal. In June 2013, President Obama called for a new round of nuclear reduction, which would reduce deployed strategic nuclear weapons by up to one-third based on the New START framework, but still "can ensure the security of America and the allies, and maintain a strong and credible strategic deterrent"⁹ Moreover, in the same year, Obama Administration published a new Nuclear Weapons Employment Guidance, which "directs DoD to examine further options to reduce the role of Launch Under Attack playing in U.S. planning," as the possible changes of nuclear weapon employment strategy would make it possible to "ensure the security of the United States and the Allies and partners and maintain a strong and credible strategic deterrent while safely pursuing up to a one-third reduction in deployed nuclear weapons from the level established in the New START Treaty".¹⁰ -It can be deduced that the goal of the U.S. next step of nuclear disarmament is likely to reduce the operational deployed strategic offensive weapons to about 1000. In addition, the United States may extend the scope of nuclear reduction just like that the U.S. Government emphasized in the 2010 Nuclear Posture Review report, "addressing non-strategic nuclear weapons, together with the non-deployed nuclear weapons of both sides, in any post-New START negotiations with Russia."¹¹

In order to promote the new round of bilateral nuclear disarmament process and to increase

bilateral transparency and enhance bilateral trust, the U.S. government has unilaterally announced some data related to the size of nuclear arsenal and the quantity of nuclear materials several times, such as the stockpile of nuclear warheads from 1949 to 2013, etc. Meanwhile, it has also adopted some other measures related to strategic stability to reduce the security concerns of Russia, such as the announcement of cancelling the fourth stage deployment plan of PAA and so on.

The reasons why the U.S. side shows positive attitude are nothing less than the following reasons. (1) The requirement for anti-terrorism and nonproliferation. Since the "9/11" terrorist attack, the U.S. has taken nuclear terrorism and nuclear proliferation as the main danger for national security, and come to realize that it is necessary to get progress in nuclear disarmament for obtaining result in anti-proliferation and anti-terrorism. (2) No affect on nuclear deterrence. In the international political structure and security posture of post-Cold War era, especially in the case of Russian nuclear forces getting weaker than before, any further nuclear reduction will not affect the U.S. nuclear superiority and nuclear deterrence. (3) Backed by conventional advantage. The U.S. has the world's dominant conventional forces, which is enough to maintain its military superiority under the condition of possessing a relatively small nuclear arsenal, especially part of the nuclear strike mission could be replaced by conventional strike with the development of conventional long-range precision strike capability. (4) Transformation of nuclear forces construction. The construction of the U.S. nuclear forces is turning to "capability-based", which provides a guarantee for the further nuclear reductions, that is to maintain a small size of nuclear arsenal in peacetime, if necessary expand it quickly based on the infrastructure with flexible response capability. In addition, through nuclear disarmament, the U.S. can decrease the international political pressure, reduce domestic economic pressure, hold the moral high ground and constrain other countries' nuclear arsenals. In brief, the continuous promotion of nuclear disarmament of U.S. Government in post-New START era has both an objective reason and a subjective demand. It not only caters to the development of international situation, but is also in line with its actual interests.

Though the United States tends to continuously negotiate with Russia on nuclear reductions, Russia is full of worries. In the post-Cold War period, Russia lost former allies and

its comprehensive strength couldn't be compared with that before. Therefore, Russia has increased the dependence on nuclear forces in national security, tried to maintain the nuclear power status, and hoped to seek security in the nuclear deterrence mode of "mutual assured destruction". For Russia, the national security based on strategic stability not only depends on whether the nuclear forces between the them is basically equal, but also affected by the factors of U.S. ballistic missile defense capability, long-range conventional strike capability, conventional force advantages and non-deployed nuclear weapons, and so on. All these may be obstacles for Russia to take part in the next round of nuclear disarmament process, mainly reflecting the intense worry of Russia for the possibility of losing strategic stability, even though the U.S. emphasized in the report of Nuclear Posture Review in 2010 that actions such as developing BMD system "are not intended to affect the strategic balance with Russia."¹²

Though Russia has more concerns about the further nuclear disarmament for fear of losing the strategic stability, it is possible for Russia to change the attitude if its security concern is relieved by actual bilateral transparency and trust measures, and it has the confidence in the effectiveness of its nuclear deterrence. Actually, in view of the present quantity of nuclear weapons and the undertaking modernization plan, Russian minimum nuclear deterrence will not be affected materially even the nuclear arsenal is continuously reduced. For example, from the technical and financial perspectives, the U.S. is unlikely to establish ballistic missile defensive system in large scale within ten years, so the attack of Russian Government on the U.S. ballistic missile defensive policy is more due to the requirement of recent political game and concern of long term strategic stability. Furthermore, there are still bulks nuclear weapons developed during Soviet times in the 1970s and 1980s, and still in Russian active nuclear arsenal such as SS-18、SS-19、SS-25 land-based ballistic missiles and SS-N-18 sea-based ballistic missiles, and so on. As the relicts of Cold War, these weapons are aging or close to the end of service span, whose cost of maintenance, upgrading or life-extension can hardly be borne by the Russian limited military budget. So there is objective requirement of further nuclear reduction in Russia.

If the U.S. and Russia return to talks table, the negotiating objective is like to continuously adopt START mode to cut the nuclear arsenal size based on maintaining the bilateral strategic stability in the

premise of basic equivalence. Because there is intricate relationship between them about issues including strategic offensive arms and strategic defensive arms, nuclear forces and conventional forces, deployed nuclear forces and non-deployed nuclear forces, and strategic nuclear forces and tactical nuclear forces, etc. so the negotiation will not be as easy as that of New START treaty to reach an agreement. Moreover, in view of their impossibility to actually change the war-fighting nuclear strategy, which seeks the capability of confrontation and winning in a nuclear war, thus in the near future the bilateral nuclear cut is hard to go deep momentarily. In the aftermath of the Ukraine crisis, the political relationship between the two sides fell into trough. It can be predicted that the new round of nuclear disarmament negotiations between the two sides will be a complicated and protracted process.

III. The Future Multilateral Nuclear Disarmament Process

In order to realize the ideal of Nuclear-Free World which is actively promoted by the international community, currently the bilateral further nuclear cut between the United States and Russia is the most urgent step. With development of international nuclear posture and advance of nuclear disarmament progress, it is the indispensable step for Britain, France, China and other countries possessing nuclear weapons to take part in the future multilateral nuclear disarmament negotiations.

The Chinese Government repeatedly expresses support for promoting the multilateral nuclear disarmament negotiations, just as President Hu Jintao, in the speech "Work Together to Build a Safer World for All" at the UN Security Council Summit on nuclear nonproliferation and nuclear disarmament held in New York on September 24, 2009 stated that "all nuclear-weapon states should fulfill in good faith obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), and publicly undertake not to seek permanent possession of nuclear weapons", "countries with the largest nuclear arsenals should continue to take the lead in making drastic and substantive reductions in their nuclear weapons", "when conditions are ripe, other nuclear-weapon states should also join the multilateral negotiations on nuclear disarmament".

However, because all Chinese, British and French nuclear arsenals are maintained the scale of minimum nuclear deterrence with limited nuclear

forces, there is little room for their reduction in the current international nuclear posture. Although the size of the U.S. and Russian nuclear arsenals have been reduced greatly compared with that at the peak of Cold War, the size of other countries' nuclear arsenals are still far smaller than that of the two countries. Even if the implementation of the New START treaty expires on February 5, 2018, just the U.S. and Russian operational deployed strategic nuclear weapons will be 1550 respectively, which exceeds the total nuclear arsenals possessed by other countries. Furthermore, multilateral nuclear disarmament needs to consider not only the difference in the number of nuclear weapons of nuclear-weapon states, but also the differences in stockpiles of nuclear materials, productivity of nuclear warheads, even science, technology and engineering ability, and judge whether a country should join the nuclear disarmament progress by comprehensive evaluation. Therefore, in the international nuclear arms control and nuclear disarmament progress, the United States and Russia shoulder special responsibility. They should both greatly reduce the size of nuclear arsenals in a verifiable, irreversible and legally-binding manner, meanwhile, the nuclear disarmament measures shall be to maintain global strategic stability and does not damage the security interests of all countries as the guiding principle. If the bilateral nuclear disarmament between the two cannot make the progress and efforts expected by the international community, or if they can't actually reduce their nuclear forces to the appropriate extent agreed by other nuclear-weapon states, then the multilateral nuclear disarmament is difficult to make progress recently, then in the near future it is difficult for the multilateral nuclear disarmament to get any progress.

Though there is no condition to promote the negotiations of multilateral nuclear reduction yet, it is necessary to hold discussions and communications among nuclear-weapon states in various ways such as multilateral, bilateral, Track 1 or Track 2, etc., to provide advisory opinions and influence to gradually solve the barrier of multilateral nuclear disarmament. In fact, if the three nuclear-weapon states, China, Britain, and France, only insist on the minimum nuclear deterrence strategy and maintain the smallest nuclear arsenals for the minimum nuclear deterrence strategy, they are just making contributions to maintaining the strategic stability and promoting international nuclear arms control and disarmament progress.

IV. Conclusions

Although the realization of a nuclear-free world is the common aspiration of the peace-loving people of the world, the nuclear weapons still plays an irreplaceable role in maintaining the national security and international stability. Therefore, in the foreseeable future, the nuclear weapons will continue to exist, which determines that the global nuclear disarmament and nonproliferation will be a gradual and long-term process.

The deep cuts in both the U.S. and Russian nuclear arsenals are still the main contradiction and urgent task in current international nuclear arms control and disarmament process. How to maintain the strategic stability in the context of the changing security environment is still a main problem that the United States and Russia should take into first consideration when participating in the next round of nuclear disarmament negotiations, and will have a profound impact on the following nuclear disarmament process. The factors influencing the strategic stability are diversified, and the issues mentioned above are undoubtedly complex and

difficult to be solved. The negotiating parties should consider each other in real security concerns, constantly strengthen mutual trust, actively carry out cooperation and seek solutions, and promote the process of bilateral nuclear disarmament while maintain strategic stability and strengthen security, and then come to a new disarmament agreement.

Although the United States and Russia have greatly reduced the nuclear arsenals under the framework of a series of bilateral disarmament treaties including the New START treaty, the retained nuclear warheads are still greatly exceed the total amount of other nuclear-weapon states together. Moreover, their nuclear reductions only limit and destroy the deliver vehicles such as ballistic missiles and heavy bombers, not involving nuclear warheads. In this case, it is difficult for other nuclear-weapon states to agree to reduce their limited size of nuclear arsenals. Therefore, the United States and Russia should continue to deeply cut their nuclear arsenals, so as to create conditions for other nuclear-weapon states to participate in multilateral nuclear disarmament process.

Footnotes:

1. Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, 2010, <http://www.state.gov/t/pm/rls/othr/misc/101756.htm>.
2. Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, 2010, <http://www.state.gov/t/pm/rls/othr/misc/101756.htm>.
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4. Stockholm International Peace Research Institute, SIPRI Year Book 2010, New York: Oxford University Press, 2010, p.334.
5. Hans M. Kristensen and Robert S. Norris, "U.S. Nuclear Forces, 2015," Bulletin of the Atomic Scientists, Vol.71, No.2, 2015, p.115.
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