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An Immediate Step in Global Nuclear Arms Control

LI Bin

Institute of Applied Physics and Computational Mathematics
P. O. Box 8009-22, 6 Huyuan Road, Beijing 100088, China
Tel: 86-10-62014411 ext 2291
Fax: 86-10-62010108
Email: libin@mail.iapcm.ac.cn

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A PROPOSAL OF INTER-LINKED UNILATERAL ACTIONS

Since the end of the cold war, a lot of progress has been made in nuclear arms control. The Non-Proliferation Treaty (NPT) was extended infinitely in 1985; the Comprehensive Test Ban Treaty (CTBT) was opened for signatures in 1996; the Intermediate Nuclear Force Treaty (INF), Strategic Arms Reduction Treaties (START I and II) were concluded one by one. But the progress is not going forward smoothly. The world-wide support to the NPT and CTBT did not prevent India and Pakistan from exploding their nuclear devices. The CTBT and START II treaty still can not enter into forces. So, we need to explore some new ways in global nuclear disarmament that could overcome the difficulties we are facing.

Our proposal tries to deal with the most urgent issues in arms control by avoiding complicated negotiations, ratification and verification. The proposal includes three suggestions that are linked to each other. The first suggestion is the moratoria on the productions of military tritium in the U.S. and Russia; the second is the moratoria on the productions of fissile materials for weapons in small nuclear-states (China, France and United Kingdom), and the third is the moratoria of the flight tests of surface-to-surface missiles in threshold nuclear-states, including India and Pakistan.

Before the countries concerned reach any formal arms control agreements, they could unilaterally declare moratoria according to the above suggestions. The moratoria are voluntary unilateral actions, but they could be conditional on each other. The termination of the moratorium of any country will be deterred by the punishment of other countries by terminating their moratoria. The countries involved could also make some supplementary statements to define and enhance the moratoria. For example, the U.S. and Russia could also declare not to develop nuclear warheads that use less tritium beside their moratoria on tritium production. Such inter-linked moratoria can help create a good atmosphere in which countries would have more confidence to reach formal arms control agreements.

Unlike many arms control agreements, our proposal does not require all relevant countries to make the same commitments. The nuclear developments in some countries are at very different stages, so the most urgent arms control tasks in these countries cannot always be the same. For the U.S. and Russia, their immediate work is to reduce their nuclear arsenals. After the stop of the tritium production, their existing tritium can be used as a good clock to measure the rate of nuclear reduction in them. For small nuclear-states, their main task is to limit their potential capabilities of producing more nuclear weapons. If they do not produce more fissile materials, these countries will not be able to develop much more nuclear weapons. For threshold nuclear-states, it is important for them to commit not to weaponize their nuclear devices. Without missile flight tests, it will be difficult for them to develop more capable nuclear missiles.

UNILATERAL ACTIONS AND FORMAL AGREEMENTS

The purpose of our proposal is not to replace formal arms control agreements with unilateral actions. Instead, the proposal tries to create good atmosphere that helps reach formal agreements and bring them into force. When some formal agreements are not yet in effect for legal reasons, the suggested voluntary actions can play supplementary roles to avoid sudden reverse of arms control process. The CTBT is a good example. The moratoria on nuclear tests by the nuclear-states promoted the conclusion of the CTBT. After India and Pakistan conducted their nuclear tests, none of the nuclear-states resumes nuclear tests although the treaty is not yet in force. An important reason is that besides the CTBT all nuclear-states have declared moratoria or termination on nuclear tests. The unilateral moratoria on nuclear tests by the nuclear-states have played a backup role after the nuclear tests in South Asia.

Another advantage of voluntary unilateral actions is that such actions do not have to go through some very slow processes like negotiations and ratification. This is really important in the U.S. and Russia of today because the governments and congress in the two countries are not so cooperative. We can find many facts in which the unilateral actions are much more efficient than formal agreements. One of the facts is that the unilateral tactical nuclear reductions in the U.S. and Russia since the early 1990s have gone much more smoothly than the strategic reductions.

Among the three parts of our proposal, it would be unlikely to transform any one into a universal and effective treaty quickly. The ratification of START II by the Russian Duma is still a problem, that could disturb deeper reductions; the negotiations and the entry into force of the Ban on the Production of Fissile Materials for Weapons (Cut-off Treaty) might be a long process although its Ad Hoc Committee has been established at the Conference on Disarmament; and a Ban on Missile Flight Test has never been seriously treated by the international community. It is obvious that we cannot wait for the formal arms control treaties if we want to deal with the problems we are now having. It will be much more efficient and speedy to take unilateral actions, as suggested in our proposal.

The most urgent tasks of arms control in different countries are different. If we hope that the countries mentioned above could make their different commitments, we may have to negotiate individual treaties one by one, that would take even longer time. An alternative way is to take unilateral actions that are linked to each other. This could help extend current arms control processes to more countries quickly and meet the different special interests of these countries.

MORATORIUM ON TRITIUM PRODUCTION

Tritium is a radioactive isotope that is important for making small and efficient nuclear weapons (boosted nuclear weapons). The amount of tritium automatically decreases by half in every 12 years due to its decay if no new tritium is produced. It is not an economical way to keep a big quantity of tritium in stockpile because it decays time by time. If a country does not supply new tritium, the total number of boosted nuclear weapons in operation will have to decrease. So the stop of tritium supply is a natural way of nuclear reductions.

Our suggestion is that the U.S. and Russia declare moratoria on the productions of tritium for weapons if the small nuclear-states do not produce fissile materials for

weapons and if the threshold nuclear-states do not conduct missile flight tests. The U.S. and Russia could also make supplementary statements not to develop nuclear weapons that need less tritium. The production of small amount of tritium for civilian uses if needed must be under the IAEA safeguards.

Nuclear reductions always include three categories of contents: (1) the decrease of the scale of nuclear arsenal, (2) the transfer of the structure of nuclear arsenal to be safer and (3) the stabilization of the operation of nuclear arsenal. The stop of tritium supply is not so useful for the last two parts. So, it cannot replace nuclear reduction treaties, like START treaties, that have many arrangements about the structures and operations of the nuclear arsenals. However, the stop of tritium production can solidify the most important results of nuclear reductions.

The U.S. stopped the last production of tritium for weapons in 1988. The losses of tritium due to decay in the U.S. are compensated by recycling it from dismantled weapons. If the U.S. reduces its nuclear arsenal according to START I, it will not need new tritium by the year of 2005; and if it reduces its nuclear arsenal according to START II, it will not need new tritium by 2011. If the deployed warheads are reduced to 1000 as suggested by many arms control researchers, no new tritium will be needed by 2035. So, the moratorium on tritium production will not do any harm to the U.S. nuclear arsenal for at least seven years or even for several decades. The total number of Soviet nuclear warheads was much bigger than that of the U.S. in the 1980s. The actual nuclear reductions in Russia should have larger speed than that in the U.S. if they keep the same amounts of nuclear weapons in the future. So, it will not be a problem either for Russia to compensate the decay losses of tritium by recycling tritium from reduced and retired warheads.

Now the U.S. Department of Energy is preparing for the resumption of tritium production in case the nuclear reductions in the U.S. and Russia cannot continue. Once the tritium production in the U.S. is resumed, it will have a big negative psychological impact on the confidence of the international community in deep reductions. The moratoria on tritium production can play a supplementary role when the reduction process has temporary difficulties.

The moratoria on tritium productions in the U.S. and Russia can encourage the small nuclear-states to seriously consider the participation of global nuclear reductions earlier. Before the small nuclear-states take substantial steps to reduce their nuclear arsenals, they certainly want to know if the claimed U.S.-Russian reductions indeed happened and to what extent they happened. The START treaties do not require the parties to inform the inspection results to non-parties and the treaties do not have any arrangements of warhead dismantlement either. The moratoria of tritium production can be regarded as an important Confidence-Building Measure that helps convince the small nuclear-states and other countries as well.

The moratoria of tritium productions can also push the threshold nuclear-states to take active steps in nuclear arms control. India constantly urges the nuclear-states to set up a time-bound framework of nuclear disarmament and links this proposal to many other arms control agreements, for example CTBT. If the nuclear-states can make a timetable for nuclear disarmament as India requested, it will be helpful to remove some obstacles for India to join CTBT and other arms control agreements. This will

also have positive influences in Pakistan's policy toward arms control. Tritium can be regarded as a good clock to measure the rate of nuclear reductions because it loses half of its amount in every 12 years. If no new tritium is produced in the U.S. and Russia, their nuclear arsenals will naturally be reduced by half in every 12 years after their surplus tritium is consumed. The small nuclear-states will certainly be brought into such a process to negotiate very deep reductions or even completed elimination of nuclear weapons if the moratoria can be maintained for a certain period. The speed of nuclear reductions bounded by tritium decay may not be fast enough. But it is the first timetable of nuclear disarmament that responds to the India's request. We could take parallel and following steps to speed up the process of nuclear disarmament and to gradually balance the responsibilities of the nuclear and non-nuclear parties of Non-Proliferation Treaties.

MORATORIUM ON FISSILE PRODUCTION

We suggest that the small nuclear-states declare moratoria on the productions of fissile materials for weapons if the U.S. and Russia have moratoria on tritium productions and if the threshold nuclear-states have moratoria on tests of missile flight. Although the Ad Hoc Committee of the Cut-off Treaty has been established at the Conference on Disarmament, the future of the treaty is still uncertain because we can foresee some serious difficulties in the negotiations and the process of entry into force. Like the situation of CTBT, we expect that the moratoria on fissile productions can play a supplementary role before we have an effective Cut-off Treaty. All the three small nuclear-states have agreed to negotiate the Cut-off Treaty, that means they do not have fundamental difficulties to accept the moratoria on fissile productions.

A nuclear warhead needs a certain amount of weapon-grade fissile materials. Without new nuclear tests, it is difficult for a country to design new warheads that use much less fissile materials. So, if a country stops producing new fissile materials for weapons, it will put a ceiling of the quantitative development of nuclear weapons in the country. Before the nuclear reductions in the U.S. and the former Soviet Union, they had a prelude, that is the conclusions of their nuclear limitation treaties (SALT I and II). The small nuclear-states could follow this experience and start to be involved in nuclear disarmament by first limiting their quantitative nuclear development. The moratoria of fissile productions are a good way of setting nuclear limitations in these countries. The moratoria are beneficial to the nuclear reductions in the U.S. and Russia because they will not have to worry about the challenges of the small nuclear-states by their nuclear buildup.

The moratoria of fissile productions can also encourage the threshold nuclear-states to take more active attitudes toward global nuclear arms control. The qualitative nuclear developments in small nuclear-states have been constrained by their moratoria on nuclear tests. The quantitative nuclear in these countries developments will also be constrained if they are not to produce new weapon-grade fissile materials. The moratoria on fissile productions in addition to the moratoria on nuclear tests can send the threshold nuclear-states an explicit signal that the nuclear-states do not have interests in further nuclear development and that it is time to reverse the development.

MORATORIUM ON MISSILE FLIGHT TEST

We suggest that the threshold nuclear-states take moratoria on missile flight tests if the nuclear-states take their moratoria as we suggested above. Missile flight tests are important steps in the weaponization of nuclear devices. So the moratoria on the tests of missile flight will provide some constraints over the weaponization of nuclear devices in the threshold nuclear-states. The missile flight tests by Pakistan and India and the satellite launch by North Korea this year caused big concerns in the world. We must explore some quick ways to response these events. The moratoria of missile flights by these countries could be one of the possible ways.

Missile flight tests conducted by a threshold nuclear-states are always regarded by its rivals as provocative actions or possibly interpreted as nuclear attacks. The suspend of missile flight tests could help prevent arms race and the escalation of confrontations between the rivals among the threshold nuclear states.

PARALLEL AND FOLLOWING STEPS

The international community could take parallel and following steps besides the moratoria we suggested. The parallel steps include: (1) to negotiate the Cut-off Treaty; (2) to ratify the START II Treaty and to negotiate the START III Treaty; (3) to push forward the entry into force of the CTBT; and (4) to reach agreement on the declaration of missile launch.

We can also expand our proposal to have some stronger constraints. For example, we can suggest the U.S. and Russia permanently terminate their tritium production while the small nuclear-states declare an explicit date to join nuclear reductions. We hope these stronger constraints and some other possible following steps in arms control would create a more peaceful international environment.