I. Recent Phenomena on Nuclear Non-Proliferation

In August 1998, the Conference on Disarmament in Geneva decided to establish an *ad hoc* committee which shall negotiate a treaty banning the production of fissile material for nuclear weapons. A so-called cut-off treaty would stop a quantitative nuclear arms race, while the CTBT was intended to stop a qualitative one.

The scope of such a treaty, that is, what activities shall be prohibited, is not clear. It will prohibit only future production, or provide some measures of control or transparency on stockpiles. The modalities of verification is not clear yet, however, the IAEA is sure to be an active player to verify the obligations of a cut-off treaty. It may be a traditional measure of safeguards, or beyond it. The negotiation will take a long time because so many things are left open.

In May 1988, India and Pakistan conducted a series of underground nuclear tests, which defied an international nuclear non-proliferation regime. As neither country is a party to the Nuclear Non-Proliferation Treaty (NPT), only a part of their nuclear activities are under IAEA safeguards. They have enough nuclear materials which are not safeguarded to conduct nuclear tests, without violating, in a strict legal sense, any rule of international law. However, they were severely criticized and condemned because the tests were thought to be violating a fundamental norm in international society.

The recent nuclear tests by India and Pakistan are a great challenge to the international nuclear non-proliferation regime, an important component of which is safeguards. Efforts to apply full-scope safeguards to India and Pakistan have not succeeded. International society has failed to involve India and Pakistan in the non-proliferation regime technically as well as politically.

The tests also made it clear that the nuclear non-proliferation regime contained a characteristic which could be seen as discriminatory unless nuclear disarmament measures were taken in parallel by declared nuclear-weapon states.
II. Nuclear Non-Proliferation and Safeguards

Safeguards are indispensable for nuclear non-proliferation. Full-scope safeguards are applied to every non-nuclear-weapon state which is a party to the NPT according to an INFCIRC/153-type safeguards agreement with the IAEA, which was recently strengthened. INFCIRC/66/Rev.2-type safeguards agreements have been concluded between the IAEA and de facto nuclear-weapon states, that is, India, Israel and Pakistan. They are not full-scope, but cover only a part of their nuclear activities. As was shown in the recent nuclear tests, this type of safeguards is not wide and tight enough to prevent states concerned from conducting nuclear tests. The third category of safeguards is applied to a few of nuclear facilities in the declared nuclear-weapon states according to agreements concluded with the IAEA on the basis of voluntary offers. It has no logical base from the viewpoint of non-proliferation, but was introduced to mitigate a sense of discrimination felt by non-nuclear-weapon states in commercial and political fields.

III. Nuclear Non-proliferation and Nuclear Disarmament

Nuclear non-proliferation is very important for international peace and security in preventing a state from going nuclear. The NPT and the treaties establishing nuclear-weapon-free zones are key elements of the international nuclear non-proliferation regime. More than 180 non-nuclear-weapon states are parties to the former, and around 100 non-nuclear-weapon states are parties to the latter. Although some non-nuclear-weapon states think nuclear weapons are necessary for national security, many non-nuclear-weapon states support the regime even though they are prohibited from developing and obtaining nuclear weapons. There are two reasons for their support of the nuclear non-proliferation regime. Some states do not need nuclear weapons from national security point of view, either because they are under nuclear umbrella or because they have established a nuclear-weapon-free zone. The second and more important reason is that they think that the smaller the number of nuclear-weapon states is, the better it is for international security and the easier for proceeding to nuclear disarmament.

Nuclear disarmament, that is, effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament according to the phrase in Article VI of the NPT, should be taken in parallel with measures of nuclear non-proliferation, in order to reduce discriminatory elements contained in the NPT and to eventually lead to a nuclear-weapon-free world.
According to the advisory opinion of the International Court of Justice on legality of the threat or use of nuclear weapons on July 8, 1996, “There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.”

In the process of the negotiations on the Comprehensive Nuclear Test Ban Treaty (CTBT), which had originally been thought to be a nuclear disarmament measure because it would stop a qualitative nuclear arms race, some criticized that it was transformed into a nuclear non-proliferation measure. It is because the nuclear-weapon states strongly pushed for the inclusion of India, Israel and Pakistan into the treaty by making their ratification as the condition of its entry into force, and because the treaty has a loophole which allows technically advanced nations to conduct sub-critical tests and computer simulations which would make it possible for them to develop new and sophisticated nuclear weapons.

A cut-off treaty, which is originally thought to be a measure to stop a quantitative nuclear arms race, may become a non-proliferation measure, if its main focus is adjusted on basis of the three de facto nuclear-weapon states, as the five declared nuclear-weapon states have already stopped producing nuclear fissile material for weapon purposes. Not only a nuclear non-proliferation perspective but also a nuclear disarmament perspective should be taken into account during coming negotiations.

IV. A U.S.-Russia Bilateral Treaty

It is very good news that the Conference on Disarmament in Geneva agreed to establish an ad hoc committee for negotiating a cut-off treaty. However, it seems to me that negotiation will take a long time, and even the agreement on the scope of prohibition will be difficult to attain soon. In parallel with the multilateral negotiations at the CD, the United States and Russia should begin bilateral negotiations on transparency and irreversibility of the process of nuclear disarmament, including prohibition of future production of nuclear fissile material.

As a precedent, President Bush and President Gorbachev concluded an Agreement on Destruction and Non-Production of Chemical Weapons and on Measures to Facilitate the Multilateral Convention on Banning Chemical Weapons in June 1990. This bilateral agreement was an important and necessary step towards a multilateral, comprehensive and global Chemical Weapon Convention (CWC), and increased political pressure on those still reluctant to support a global
convention. It also constituted a basis upon which meaningful multilateral negotiations could be built. The agreement played an important role as a precursor for the multilateral CWC.

There exist preconditions for bilateral negotiations. First, on September 23, 1997, Vice President Al Gore and Prime Minister Viktor Chernomyrdin agreed on cooperation regarding plutonium production reactors. Under the agreement, they will not restart any of their plutonium production reactors that have already been shut down, and Russia will convert by December 31, 2000, with U.S. assistance, its three operating reactors so that they cease all production of non-reactor-grade plutonium. In the U.S. all 14 such reactors were shut down by 1989, and in Russia, as mentioned above, 3 are still operating of a total 13 reactors.

In addition, verification on shutdown reactors and converted reactors will be introduced. For shutdown reactors, U.S. and Russia monitors will install and periodically check seals or other monitoring equipment to provide assurance that the reactors could not be restarted without detection. For converted reactors, U.S. monitors will measure random samples of fresh fuel to determine that the fuel is the intended type, and they will install monitoring devices in the fuel discharge areas to ensure that fuel is discharged only when scheduled.

With these agreements, they could transform their non-production moratorium into legally binding obligations which include bilateral verification measures. If highly enriched uranium production plants, currently active as well as closed, were included in the verification system, it would be tantamount to a cut-off treaty.

Second, since President Clinton’s September 1993 policy statement, the U.S. has placed about 12 metric tons of excess plutonium and HEU under IAEA safeguards. At the 1996 IAEA General Conference, Secretary Hazel O’Leary offered to make an additional 26 metric tons of HEU available for Agency inspection within three years, and at the 1997 IAEA General Conference, Secretary Federico Pena offered a further 52 tons of excess materials for IAEA inspection. A total of 90 metric tons of fissile material has been committed to be under IAEA inspection.

Third, in December 1997, the IAEA began the independent verification of excess highly enriched uranium downblending operations at the Portsmouth gaseous diffusion plant in Ohio. This is a part of the policy of the Clinton Administration, which has declared 226 metric tons of weapon usable fissile materials excess to U.S. defense needs and would submit this material to inspection by the IAEA. The IAEA carries out verification activities at Portsmouth that provide international confidence that the approximately 3.5 metric tons of highly
enriched uranium being downblended has indeed been removed irreversibly from U.S. defense uses.

Fourth, under the Trilateral Initiative, launched on September 17, 1996, by Minister of Atomic Energy of the Russian Federation, Viktor Mikhailov, Secretary of Energy of the U.S. Hazal O’Leary and Director General of the IAEA, Hans Blix, the U.S., Russia and the IAEA are considering practical measures for the application of IAEA verification to weapon-origin fissile material. The aim was to fulfill the commitment made by Presidents Clinton and Yeltsin concerning IAEA verification of weapon-origin fissile materials and to complement their commitments regarding the transparency and irreversibility of nuclear arms reduction.

Fifth, on July 24, 1998, the U.S. and Russia concluded an agreement on scientific and technical cooperation in the management of plutonium that has been withdrawn from nuclear military programs. Management of plutonium means the transformation of plutonium, which has been withdrawn from nuclear military programs and is no longer required for defense purposes, into spent fuel or other forms equally unusable for nuclear weapons. In September 1998, at Moscow summit, Presidents Clinton and Yeltsin have agreed that United States and Russia will each remove approximate 50 metric tons of plutonium from their respective nuclear weapon program and convert it into a form that will assure it can never again be used in such weapons.

Sixth, in May 1997, the IAEA Board of Governors approved the Model Protocol for the Part 2 of Program 93+2, or the Strengthened Safeguards System, which mainly focuses on completeness of IAEA safeguards to find out undeclared facilities and activities by adopting expanded declaration and access. Although this Protocol is additional to the comprehensive safeguards agreements concluded between the IAEA and non-nuclear-weapon states, universality of its application, that is, its applicability to nuclear-weapon states was one of the most controversial issues during its negotiation. All five nuclear powers have announced their intention to apply some of new safeguards to their commercial nuclear facilities. In particular, the White House, on May 16, 1997, announced that it would accept the new measures in their entirety except where they involve information and locations of direct national security significance.

On June 11, 1998, the IAEA Board of Governors approved additional protocols for the United States, France and the United Kingdom. They are going to provide much more information on nuclear activities.

Based on these recent progress, it would be possible to negotiate and conclude a
bilateral U.S.-Russia treaty which not only prohibits future production of fissile material but also ensures transparency and irreversibility of nuclear reduction. It would be of a great utility as an example for other nuclear-weapon states and de facto nuclear-weapon states. A treaty should include following measures regarding safeguards and verification.

Parties should undertake not to produce nuclear fissile material for weapon purposes, which has been implemented so far voluntarily and unilaterally. In order to verify this obligation, all HEU and plutonium production plants for both peaceful and military purposes, either currently active or closed, should be under safeguards or verification conducted by the IAEA. Safeguards on peaceful nuclear activities should be conducted as short-notice random inspections taking into account of the principle of cost-effectiveness.

The parties should put their excess nuclear materials from dismantled nuclear weapons under the IAEA safeguards and verification. They should agree on a schedule for transformation from military to peaceful uses of fissile material in a legally binding form, otherwise, the transformation would take a long time and security of the fissile material would be jeopardized. Some of the U.S. fissile material is under IAEA inspection and some more, up to 90 metric tons, is scheduled to come under the inspection. Russia has declared at the IAEA General Conference on September 26, 1997 that 500 tons of HEU and 50 tons of plutonium would be excess in the process of nuclear disarmament. So far, no Russian fissile material is under IAEA inspection. There must be an agreed schedule for the dismantlement and transformation of nuclear weapons into peaceful uses.

Parties should inform the international society how much fissile materials is in the process of transformation, that is, how much is still in weapons form though they have been removed from weapons system, or how much is in pits designated to be dismantled. Hopefully, they should register the number of their nuclear weapons currently deployed and reserved to show how nuclear reduction is proceeding and ensure its irreversibility. The IAEA safeguards and verification should be applied at as early a stage of the process as possible. For example, the IAEA could monitor the storage of pits at its portal to make it sure that they do not go back to weapons but only go to a dismantlement plant.

On these measures, though the U.S. and Russia would prefer a bilateral verification system, the IAEA should take initiative for international safeguards and verification, because these measures should afford an example to other nuclear-weapon states and de facto nuclear-weapon states.
V. Conclusion

The 1995 NPT Review and Extension Conference decided to extend the NPT indefinitely in political linkage with the adoption of two important documents. The one is the decision on Strengthening the Review Process for the Treaty, and the other is the decision on Principles and Objectives for Nuclear Non-Proliferation and Disarmament. In the latter documents, a series of important issues were listed in connection with the indefinite extension of the NPT. On nuclear disarmament, it stipulates as follows;

The achievement of the following measures is important in the full realization and effective implementation of article VI, including the programme of action as reflected below;

(a) The completion by the Conference on Disarmament of the negotiations on a universal and internationally and effectively verifiable Comprehensive Nuclear-Test Ban Treaty no later than 1996.

(b) The immediate commencement and early conclusion of negotiations on a non-discriminatory and universally applicable convention banning the production of fissile material for nuclear weapons or other nuclear explosive device, in accordance with the statement of the Special Coordinator of the Conference on Disarmament and the mandate contained therein;

(c) The determined pursuit by the nuclear-weapon states of systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goals of eliminating those weapons, and by all states of general and complete disarmament under strict and effective international control.

The first measure, that is, a Comprehensive Nuclear Test Ban Treaty, was adopted by the United Nations General Assembly in September 1996 and opened for signature. The first measure was accomplished successfully and the Treaty was signed by more than 150 states so far, although the entry into force of the Treaty will be difficult because all 44 states including 5 nuclear weapons, India, Pakistan, Israel and North Korea which are listed in Annex 2 to the Treaty, have to ratify.

The second measure, that is, a universal cut-off treaty, is supposed to begin negotiation from January 1999 under the Geneva Conference on Disarmament. Under the 1995 decision, the immediate commencement and early conclusion of negotiations of a treaty was recommended. One reason of its delay is that the
Conference on Disarmament concentrated its efforts on the conclusion of the CTBT. Another reason is that India has been linking the negotiation on a cut-off treaty with a negotiation on a nuclear weapon elimination convention with strict time-bound framework, and Pakistan has been emphasizing to deal with not only a future production but also a stockpile of nuclear material within a cut-off treaty.

Two years after the adoption of the CTBT, a negotiation on a cut-off treaty was agreed because India and Pakistan changed their respective position after they conducted nuclear tests in May 1998. They yielded their position partly because they wanted to mitigate international criticism on their testing.

A U.S.-Russia bilateral treaty which not only prohibits future production of nuclear material for weapon purposes but also deals with nuclear material which comes out of dismantled nuclear weapons, would be very useful as it would provide an example for other states on the one hand, and as it would include not only prohibition of future production but also transparency and irreversibility of U.S.-Russia nuclear disarmament on the other hand.