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## **Verification and the International Atomic Energy Agency\***

*Mitsuru KUROSAWA\*\**

Entering into the twenty-first century and in particular after the terrorist attacks on September 11, 2001, situations surrounding proliferation of weapons of mass destruction have come to the central stage of international political and security challenges. In March 2003, the United States and the United Kingdom started bombing on Iraq, the main reason of which was the threatening possession of weapons of mass destruction by Iraq. North Korea withdrew from the Nuclear Non-Proliferation Treaty (NPT) in January 2003 and has continuously developed its nuclear weapons program. Iran also has been criticized on its clandestinely developed uranium enrichment program since August 2002. Finally, Libya agreed in December 2003 to stop and dismantle all of its programs on weapons of mass destruction.

All the four countries mentioned above are/were parties to the NPT and violated their safeguards agreements with the International Atomic Energy Agency (IAEA). Since the revelation of Iraqi clandestine nuclear weapons program after the 1991 Gulf War, the IAEA, recognizing the shortcomings of its safeguards system, started its effort to strengthen its system. As a result, the Board of Governors of the Agency in 1997 adopted a Model Additional Protocol, which purports to secure not only of the correctness of declarations but also the completeness of declarations.

In order to deal with the issue of non-compliance, Mohamed Elbaradei, Director General of the Agency emphasizes the importance of "verification and diplomacy". In this paper, first I briefly touch upon the issue of how to maintain and improve international peace and security and what is the position of disarmament and non-proliferation in this regard. Secondly, I analyze the relationship between nuclear disarmament and non-proliferation, and then examine the measures to strengthen

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the nuclear non-proliferation regime and the role of nuclear-weapon-free zone treaties to complement the regime. After examining the intimate relationship between verification and disarmament and non-proliferation, finally, I emphasize the importance of IAEA safeguards agreements and additional protocols for international peace and security.

### **International Peace and Security**

In order to maintain and improve international peace and security, the following four elements are at a minimum necessary. The four elements exist in current international community, but they are neither strong enough nor effectively implemented. They are interdependent each other and the progress in one element will promote the progress in the other. All of the four elements must be strengthened as much as and as soon as possible in order to create more peaceful and secure international community.

#### *No-use of armed force*

According to the current rules of international law, the use of armed force is in principle prohibited, with two exceptions. The first exception is the collective use of force by the United Nations itself, or the use of force by states with the authorization by the United Nations Security Council.<sup>1)</sup> The second exception is the use of force by an individual state for self-defense.<sup>2)</sup> In practice, states sometimes have recourse to armed force even though those conditions are not fulfilled. The first imperative is to strengthen the norm against the use of armed force.

#### *Peaceful settlement of disputes*

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- 1) In February 2003, the United States, the United Kingdom and Spain circulated their draft resolution that authorized the use of force by the UN Security Council, but France, Russia, China, Germany and other countries opposed to the draft resolution. As a result, the U.S. and the U.K. decided to attack Iraq without a resolution.
  - 2) According to the National Security Strategy of the United States of America of September 2002, "The greater the threat, the greater is the risk of inaction—and the more compelling the case for taking anticipatory action to defend ourselves, even if uncertainty remains as to the time and place of the enemy's attack. To forestall or prevent such hostile acts by our adversaries the United States will, if necessary, act preemptively." [<http://www.whitehouse.gov/nsc/nss.pdf>] However, this statement seems to clearly expand the concept of the traditionally defined right of self-defense, that requires the imminent threat as an indispensable condition.

All disputes must be solved by peaceful means, such as negotiation, mediation, good offices, conciliation, arbitration or judicial settlement. States in dispute should at all times search for peaceful means for resolution. As the mechanism for solving disputes peacefully is not sufficiently developed or institutionalized in international community, it is necessary to develop and institutionalize the mechanism for it.<sup>3)</sup>

#### *Collective security*

As the norm against the use of armed force is not strong enough and the mechanism for peaceful resolution of disputes is not sufficient enough, arbitrary use of armed force may happen. In order to deal with such a situation, collective security system under the United Nations or a regional organization should be adequately established, because current systems are not well functioning. Director General of the IAEA, Mohamed ElBaradei states that “As a starting point, we must recognize that current crisis of international insecurity will not be resolved by anything short of a functional system of collective security, as clearly hoped for in the United Nations Charter. The Security Council must be able and ready to engage effectively in both preventive diplomacy and enforcement measures, with the tools and methods in place necessary to cope with existing and emerging threats to international peace and security.”<sup>4)</sup>

#### *Disarmament and non-proliferation*

In order to make the world more safe and peaceful, the limitation, reduction and elimination of weapons are indispensable. The practical purpose of disarmament and non-proliferation is to decrease the chance of weapon's use. The chance of using some kind of weapons would be decreased not only by prohibiting their use

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- 3) In the case of Libya, the issue of nuclear and other weapons of mass destruction was resolved through the negotiation between Libya and the U.S. and the U.K. which started in March and ended in December 2003. Although the U.S. and U.K. attack on Iraq may give impact on Libya, the desire to come back to international community by Libya appeared in the late 1990s as shown in the reparation in Lockerbie case. In the case of North Korea, the six-party talks among North Korea, South Korea, China, the U.S., Russia and Japan sporadically continues, but the prospect is not necessarily clear. Iranian case has been mainly dealt with in the Board of Governors of the IAEA and the U.K., France and Germany are playing a central role for peaceful settlement.
- 4) Mohamed ElBaradei, “Nuclear Non-Proliferation: Global Security in a Rapidly Changing World,” Keynote Address, Carnegie International Non-Proliferation Conference, Washington, D.C., 21 June 2004. [<http://www.ceip.org/files/projects/npp/resouces/2004conference/speeches/elbaradei.doc>]

under international law of arms conflicts, but also by limiting, reducing and eliminating of their possession by international law of disarmament. However, more important and fundamental role of disarmament and non-proliferation is to decrease and eliminate not only their military but also political salience or value. To establish a world where the rule of law dominates instead of the rule of power, it is urgent to decrease the military and political usefulness of weapons.

### **Nuclear Disarmament and Non-Proliferation**

Nuclear weapons, as the most destructive and inhuman weapons, should be regulated, limited, reduced, and eventually eliminated in order to promote international peace and security. Nuclear disarmament purports to reduce and eliminate nuclear weapons, while nuclear non-proliferation aims to prevent further proliferation of nuclear weapons. As a result, nuclear non-proliferation must be defined as means to the end of nuclear disarmament.<sup>5)</sup>

#### *The nuclear non-proliferation treaty (NPT) and Article VI*

The main obligation under the NPT is no-receipt and no-production of nuclear weapons by non-nuclear-weapon states. The five nuclear-weapon states are permitted to possess nuclear weapons under the Treaty as the status quo was maintained. That situation seems to be discriminatory. In order to soften the discrimination, the NPT includes the obligation to pursue negotiations in good faith on nuclear disarmament under Article VI, as well as to cooperate in peaceful uses of nuclear energy under Article IV. Nuclear non-proliferation obligation is to be implemented immediately when it enters into force, while nuclear disarmament obligation is to be implemented gradually.<sup>6)</sup> In order to gauge the progress in

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5) According to the UN General Assembly resolution 59/76 of 3 December 2004 that was sponsored by Japan, the General Assembly reaffirms the crucial importance of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) as the cornerstone of the international regime for nuclear non-proliferation and as an essential foundation for the pursuit of nuclear disarmament, and also reaffirms the conviction that further advancement in nuclear disarmament will contribute to consolidating the international regime for nuclear non-proliferation, ensuring international peace and security.

6) According to UN General Assembly resolution 59/75 of 3 December 2004 sponsored by the New Agenda Coalition, the General Assembly, recalling the unequivocal undertaking by the nuclear-weapon states to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament in accordance with commitments under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons, calls upon all states to fully comply with commitments made to nuclear disarmament and nuclear non-proliferation.

nuclear disarmament, a review conference has been held every five years.

*1995 NPT review conference—indefinite extension and principles and objectives*

The NPT, because of its discriminatory nature, initially provided for the duration of twenty-five years. In 1995, twenty-five years after its entry into force, the states parties hold a review and extension conference and decided to extend the treaty indefinitely. As a package with the extension decision, the conference adopted “strengthening the review process for the treaty” and “the principles and objectives for nuclear non-proliferation and disarmament”. Under the latter document, they agreed to the completion of the negotiation of a Comprehensive Nuclear-Test-Ban Treaty (CTBT) no later than 1996, the immediate commencement and early conclusion of the negotiation of a Fissile Material Cut-Off Treaty (FMCT), and the determined pursuit of systematic and progressive efforts to reduce nuclear weapons globally.<sup>7)</sup>

*2000 NPT review conference—final document, 13+2 steps*

The final document adopted by consensus at the 2000 NPT review conference provides for the following thirteen steps for nuclear disarmament.

1. importance and urgency to achieve the early entry into force of the CTBT
2. a moratorium on nuclear-weapon-test explosions
3. necessity of negotiations on a FMCT
4. necessity of establishing a subsidiary body to deal with nuclear disarmament
5. the principle of irreversibility to apply to nuclear disarmament
6. an unequivocal undertaking to accomplish total elimination of nuclear weapons
7. early entry into force of START II and conclusion of START III
8. completion and implementation of Trilateral Initiative
9. steps by all the nuclear-weapon states leading to nuclear disarmament
  - further efforts to reduce their nuclear arsenals unilaterally
  - increased transparency
  - further reduction of non-strategic nuclear weapons

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7) For the analysis of this conference, see, Lewis A. Dunn, “High Noon for the NPT,” *Arms Control Today*, Vol.25, No.6, July/August 1995, pp.3-9; John Simpson, “The Birth of a New Era? The 1995 NPT Conference and the Politics of Nuclear Disarmament,” *Security Dialogue*, Vol.26, No.3, September 1995, pp.247-256; Mitsuru Kurosawa, “Beyond the 1995 NPT Review Conference: A Japanese View,” *Osaka University Law Review*, No.43, February 1996, pp.1-12.

- further reduce the operational status of nuclear weapons systems
  - a diminishing role for nuclear weapons in security policies
  - engagement of all the nuclear-weapon states in the process
10. to place fissile material no longer required for military purposes under IAEA
  11. the ultimate objective is general and complete disarmament
  12. regular report on the implementation of article VI
  13. further development of the verification capability

In addition, the conference calls upon the Preparatory Committee to make recommendations on legally binding negative security assurances, and reaffirms the conviction that the establishment of nuclear-weapon-free zones enhances global and regional peace and security.<sup>8)</sup>

#### *2005 NPT review conference—Current situation of nuclear disarmament*

Strategic Offensive Reduction Treaty was signed on May 24, 2002 between the United States and the Russian Federation. Each party shall reduce and limit strategic nuclear warheads, so that by December 31, 2012 the aggregate number of such warheads does not exceed 1,700-2,200 for each party. The conclusion of the treaty should be praised but their reduction pace is too slow, transparency is not ensured, the warheads and delivery systems withdrawn from operational deployment are not destroyed but kept for possible redeployment.

The CTBT, which was strenuously opposed by the United States, has not entered into force. The negotiation of a FMCT has not started. The military and political salience of nuclear weapons has increased because U.S. nuclear policy based on the Nuclear Posture Review of January 2002<sup>9)</sup> and the National Security Strategy of the United States of America of September 2002<sup>10)</sup> emphasizes the political and

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8) For the analysis of this conference, see, Tariq Rauf, "An Unequivocal Success? Implications of the NPT Review Conference," *Arms Control Today*, Vol.30, No.6, July/August 2000, pp.9-16; Rebecca Johnson, "The 2000 NPT Review Conference: A Delicate, Hard Won Compromise," *Disarmament Diplomacy*, No.46, May 2000, pp.2-21; Thomas Graham, Jr., "Surviving the Storm: the NPT after the 2000 Review Conference," *Disarmament Diplomacy*, No.46, May 2000, pp.22-25; Jayantha Dhanapala, "Eliminating Nuclear Arsenals: the NPT Pledge and What It Means," *Disarmament Diplomacy*, No.47, July 2000, pp.3-6; Mitsuru Kurosawa, "The 2000 NPT Review Conference and Nuclear Disarmament," *Osaka University Law Review*, No.48, February 2001, pp.1-38.

9) Special Briefing on the Nuclear Posture Review, J. D. Crouch, ASD ISP, January 9, 2002 with Slides, [[http://www.defenselink.mil/news/Jan2002/t01092002\\_t0109npr.html](http://www.defenselink.mil/news/Jan2002/t01092002_t0109npr.html)]

10) <http://www.whitehouse.gov/nsc/nss.pdf>

military usefulness of nuclear weapons. It argues for new kinds of nuclear weapons, in particular bunker busters and mini-nukes, prepares for the shortening of the preparation time for resumption of nuclear test, and proclaims for first attack to non-nuclear-weapon states with nuclear weapons.

### **Strengthening the Nuclear Non-Proliferation Regime**

Since the end of the Cold War, a number of measures to strengthen the nuclear non-proliferation regime have been taken, because, on the one hand, irresponsible states such as Iraq, North Korea, Iran, and Libya tried to develop nuclear weapons illegally and clandestinely, and on the other hand, the possibility that terrorist groups may steal, obtain, develop or use nuclear weapons has increased since the terrorist attacks on September 11, 2001.

#### *Legal measures—NWFZs, Additional protocols, CTBT, FMCT, UNSC Res. 1540*

The NPT is at the center of the regime and the treaties establishing regional nuclear-weapon-free zones (NWFZs) are complementary to the NPT. These treaties obligate states parties to conclude safeguards agreements with the IAEA, which play a fundamental verification function mainly to verify the correctness of declaration. Later, in order to detect clandestine nuclear material and activities, a model additional protocol was adopted in 1997 to verify the completeness of declaration.

The CTBT that has not entered into force and a FMCT whose negotiation has not started are intended to buttress the non-proliferation regime by involving outsiders such as India, Pakistan and Israel in the regime as well as by complementing the NPT. In this sense, the entry into force of the CTBT and the immediate commencement and early conclusion of the negotiation of a FMCT is extremely urgent.

United Nations Security Council resolution 1540 adopted unanimously on April 28, 2004, decides that all states shall adopt and enforce appropriate effective laws which prohibit any non-state actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons, and decides that all states shall take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons.

#### *Technical measures—Export control, Nuclear suppliers group (NSG)*

The members of the nuclear suppliers group, originally established in 1970s as a



response to the Indian nuclear test in 1974, agreed on a guideline for export of nuclear-related material and technology. In addition, after the revelation of Iraqi clandestine nuclear weapons program conducted by using imported dual-use items, they agreed on a guideline part 2 in 1992 in order to restrict export of dual-use items. On the one hand, as these regulations are not legally binding and implemented by national laws and regulations of participating states, they sometimes lack effective implementation. On the other hand, as these regulations are adopted only by industrialized countries and applied to the export to developing countries, they are criticized from a viewpoint of legitimacy.

Recent revelation of a nuclear black market mainly by A. Q. Khan procurement network witnesses the incompleteness and weakness of the current export control system. Trading in nuclear materials, equipment and weapons designs was conducted and these goods were sold to Iran, Libya and the DPRK.

*Cooperative measures—Cooperative threat reduction (CTR), G8 Global partnership*

Since 1991, the United States under Nunn-Lugar Cooperative Threat Reduction program has provided funds to shore up nuclear safety and to facilitate weapon dismantlement, after facing a dangerous new threat in the sudden collapse of Soviet-era controls over its far-flung nuclear infrastructure.

In June 2002, at G8 Kananaskis summit, mainly responding to the danger that terrorists are prepared to use any means to cause terror as demonstrated by the attacks of September 11, the member states agreed to launch a new G8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction. They committed to raise up to \$20 billion to support the projects over the next ten years.

*Non-cooperative measures—Proliferation Security Initiative (PSI), Iraq war*

On May 31, 2003, President Bush announced the Proliferation Security Initiative (PSI) to prevent the flow of weapons of mass destruction to and from states and non-state actors of proliferation concern. At the third meeting of the PSI in September 2003, eleven states adopted the statement of interdiction principle. The PSI envisions the interdiction of the shipment of weapons of mass destruction, by taking actions to board and search any vessel that is reasonably suspected of transporting such cargoes, and to seize such cargoes.

Iraq war in 2003 is the implementation of non-proliferation measures by force, based on counter-proliferation policy of the United States and the United Kingdom

using military means. Main cause of initiating an armed attack was the threat of possessing and possible using weapons of mass destruction by Iraq. However, later it became clear that Iraq did not possess any weapons of mass destruction.<sup>11)</sup>

### **Nuclear-Weapon-Free Zones**

Nuclear-weapon-free zones established by the initiative of regional states contribute to the efforts of non-proliferation, build confidence and trust among the participating states, and help improve regional and international peace and security. The efforts to establish NWFZs worldwide should be encouraged.

#### *Tlatelolco, Rarotonga, Bangkok, Pelindaba, Mongolia*

Treaty of Tlatelolco for Latin America and the Caribbean was signed in 1967 and entered into force in 1968, Treaty of Rarotonga for the South Pacific was signed in 1985 and entered into force in 1986, Treaty of Bangkok for South East Asia was signed in 1995 and entered into force in 1997, and Treaty of Pelindaba for Africa was signed in 1996 but not yet entered into force. As a result, almost all part of Southern Hemisphere is now covered by the NWFZs.

Mongolia is recognized as a nuclear-weapon-free status by the United Nations General Assembly resolution in 1998.

#### *Middle East, South Asia*

Since 1994, the initiative to establish nuclear-weapon-free zones in the Middle East and South Asia has been pursued, mainly by adopting UN General Assembly resolutions. However, there has been no progress in either region. Israel is believed to have around two hundreds nuclear weapons though Israel never declares itself as a nuclear-possessing state. India and Pakistan conducted nuclear explosions in 1998 and continue development and deployment of nuclear weapons.

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11) On this point, the Director General of the IAEA, Dr. Mohamed ElBaradei sharply criticized the United States by saying, "Our recent experience in verifying undeclared nuclear programmes has yielded a number of important lessons, which are worth noting here. Perhaps the most important lesson is that verification and diplomacy, used in conjunction, can be effective. When inspections are accompanied by adequate authority, aided by all available information, backed by a credible compliance mechanism, and supported by international consensus, the system works. The Iraq experience has demonstrated that inspections – while requiring time and patience – can be effective even when the country under inspection is providing less than active cooperation." (Statement to the Forty-eighth Regular Session of the IAEA General Conference, 20 September 2004 [<http://www.iaea.org/NewsCenter/Statements/2004/ebsp2004n008.html>])

*Central Asia, North East Asia, Central and Eastern Europe*

A Central Asia nuclear-weapon-free zone has been negotiated since the summit meeting and the meeting of foreign ministers in 1997 among Kazakhstan, Kyrgyz, Tajikistan, Turkmenistan, and Uzbekistan. Negotiations continued and in September 2002, the five countries agreed to sign a treaty.

There has been no formal negotiation on establishing a nuclear-weapon-free zone in North East Asia yet, though there are some discussions and proposals among academics and experts. Once North Korean nuclear issue is resolved, negotiations for that purpose should be started. Central and Eastern Europe, where once there were many nuclear weapons deployed and withdrawn with the end of the Cold War, now represents a de facto nuclear-weapon-free zone.

*NWFZs—non-proliferation, no-stationing, negative security assurances*

Merit or virtue of nuclear-weapon-free zones is far superior to nuclear non-proliferation. Because the concept of nuclear-weapon-free zones includes not only the concept of nuclear non-proliferation, that is, no-receipt and no-production of nuclear weapons, but also no-stationing of nuclear weapons owned by nuclear-weapon states. It represents the total absence of nuclear weapons in the region. In addition, the concept of nuclear-weapon-free zones includes the provision of legally binding negative security assurances to the member states of the zone by nuclear-weapon states.

Based on such a legal structure, establishment of nuclear-weapon-free zones would promote peace and security of member states as well as the regional peace and security.

**Verification and Disarmament and Non-Proliferation**

To verify is to make sure or demonstrate that something is true, accurate, or justified. Every undertaking or promise needs to be verified to some degree, but an agreement on disarmament and non-proliferation which deeply affects the national security of states parties necessarily requires verification.

*Verification is an indispensable element of disarmament and non-proliferation*<sup>12</sup>

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12) However, the current Bush administration takes a quite different position. In the case of Strategic Offensive Reduction Treaty (Moscow Treaty) of 2002, which codified the unilaterally planned reduction of operationally deployed strategic nuclear warheads by the United States, it contains no provision on verification, in sharp contrast with previous SALT and START treaties. The

The process of treaty negotiation on disarmament and non-proliferation is simultaneously the process of verification negotiation. As treaties of disarmament and non-proliferation deeply affect party's national security and interest, historically the scope of measures for disarmament and non-proliferation has been decided by the availability or acceptability of verification measures for it. Disarmament and non-proliferation measures that can not be verified can not be agreed upon as treaty provisions. For example, Partial Test Ban Treaty does not prohibit underground nuclear tests, because the United States and the Soviet Union could not agree on on-site inspection. The SALT Treaty and the START Treaty limit the number of delivery systems in stead of warheads, because it was impossible to verify the number of warheads.

#### *National technical means of verification and on-site inspection*

Generally speaking there are two kinds of verification: one is national technical means of verification that are conducted individually by each party without coming close to the place of concern or without cooperation of other parties, and the other is on-site inspection that is conducted at the place of concern on mutual base or by international or regional organizations.

During the Cold War era, verification under the treaties between the United States and the Soviet Union/the Russian Federation exclusively depends on national technical means, that is, through satellite surveillance. However, after the late 1980s, they include several kinds of on-site inspections. The Partial Test Ban Treaty of 1963 depends on national technical means of verification, but the Comprehensive Test-Ban Treaty of 1996 has established international monitoring system including challenge on-site inspection.

Verification activities conducted by the IAEA for non-proliferation are mainly on-site inspections. The basic verification method used by the IAEA is nuclear material accountancy with containment and surveillance as important complementary measures. Complementary access is authorized under the additional protocol.

#### *Purposes—Confirmation, deterrence, early detection, confidence-building*

The main and principal purpose of verification is to confirm and provide

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draft verification protocol to the Biological Weapons Convention that was negotiated for several years was destroyed by the rejected by one country, that is, the United States in 2001. In addition, the U.S. agreed to start negotiations on a FMCT in 2004, but strongly argued against a treaty with verification provisions.

assurance that parties are in compliance with treaty obligations. Mutual confirmation in the case of bilateral treaties, and organizational confirmation in the case of multilateral treaties are indispensable for the treaties to survive. If the verification is strong enough, it would deter a possible violator because of high probability of detection. The second purpose is deterrence from a possible violation. It is necessary to detect as early as possible for the integration of the treaty or for the security of other parties. The third purpose is an early detection of a possible violation. If there is a material breach of treaty obligations, the integrity of the treaty would be lost. The fundamental purpose of verification is to build confidence among states parties by confirming and giving assurance to their compliance with the treaty obligations.

### **IAEA Safeguards Agreements and Additional Protocols**

IAEA safeguards agreements and additional protocols play an extremely important role of verification in the sphere of nuclear non-proliferation.

#### *Article III of the NPT and Provisions under NWFZ Treaties*

According to Article III of the NPT, each non-nuclear-weapon state undertakes to accept safeguards and shall conclude agreements with the IAEA. Negotiation of such agreements shall commence not later than the date of the deposit and shall enter into force not later than eighteen months after the date of initiation of negotiations. Article 13 of the Tlatelolco Treaty, Article 8 of the Rarotonga Treaty, Article 5 of the Bangkok Treaty and Article 9 of the Pelindaba Treaty provide for the same requirement. It is a legal obligation for the parties to these treaties to conclude safeguards agreements with the IAEA within the fixed time. Otherwise, it is tantamount to non-compliance with the treaty obligations.

Under this safeguards agreement, states parties provide precise declarations on nuclear material and facilities, and the IAEA conducts inspections of nuclear material and verification of design information. This is qualitative verification and conclusion is on the non-diversion of nuclear material from declared activities.

In the case of the NPT, a state that has not concluded a safeguards agreement is not entitled to demand nuclear disarmament to nuclear-weapon states. In the case of the NWFZ Treaties, a state that has not concluded a safeguards agreement is not entitled to demand the signature and ratification of protocols including negative security assurances to nuclear-weapon states.

*Additional protocols and integrated safeguards*

Under the additional protocol, states parties provide descriptive declarations on relevant materials and activities, and the IAEA conducts complementary access to relevant locations. This is qualitative evaluation and conclusion is on the absence of undeclared nuclear material and activities in a state, so that non-proliferation obligation is more completely confirmed.

Conclusion of the additional protocol is not a legally binding obligation under the NPT, contrary to the case of a comprehensive safeguards agreement. It is a new undertaking voluntarily accepted by each party. However, there are strong recommendations to conclude an additional protocol by the 2000 NPT review conference, the UN General Assembly, and the IAEA General Conference. There is also a tendency to make the conclusion of the additional protocol as a condition for providing nuclear-related items and technology. The conclusion of the additional protocol is highly recommended from the viewpoint of transparency and confidence-building.<sup>13)</sup>

When the absence of clandestine nuclear material and activities in a state is confirmed by the IAEA, integrated safeguards are applied to the state. The integrated safeguards refer to the optimum combination of all safeguards measures available to the Agency under comprehensive safeguards agreements and additional protocols, which achieves maximum effectiveness and efficiency.

*Transparency, confidence-building, peace and security*

The verification system through comprehensive safeguards agreements and additional protocols, or integrated safeguards is indispensable to confirm the absence of non-compliance with the obligations under the NPT and the NWFZ Treaties. In order to make the verification system effectively function, states parties must submit enough information, and allow the Agency access to related information or facilities. The first element for the verification is the need of transparency.

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13) The importance of the additional protocol is emphasized by the Director-General, Mohamed ElBaradei by saying, "First, it should by now be obvious that the additional protocol is a sine qua non for effective verification. Without an additional protocol in force, the IAEA has little prospect of uncovering the increasingly sophisticated clandestine nuclear weapons programmes. I believe that, for the Agency to be able to fulfil its verification responsibilities in a credible manner, the additional protocol must become the standard for all countries that are party to the Nuclear Non-Proliferation Treaty (NPT)." (Introductory Statement to the Board of Governors, 8 March 2004. [<http://www.iaea.org/NewsCenter/Statements/2004/ebsp2004n002.html>])

Based on the transparency, the Agency can confirm that a state abides by the treaty obligations and there is no suspect of clandestine activities relating to nuclear weapons. The confirmation and assurance by the international organization, the International Atomic Energy Agency will build confidence among states in a region. The second element for the verification is the confidence-building.

Among the states with confidence and trust each other, any dispute would be resolved by peaceful means without having recourse to armed forces. This pattern of behavior is a base for international peace and security. The verification system under the Agency is one of the very important measures for maintaining and improving international peace and security.