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**SESSION 3: REGIONAL NUCLEAR NON-PROLIFERATION  
ARCHITECTURE: AN IAEA PERSPECTIVE**

Piet de Klerk  
Director  
Office of External Relations and Policy Coordination  
International Atomic Energy Agency

**Introduction**

In the course of the 20th century the world has truly become globally interconnected. Long before high mobility and instant, electronic communication gave rise to globalized economies, the development of nuclear weapons in combination with long range aircraft but especially with intercontinental ballistic missiles had given a global dimension to international security issues.

In such a world global, regional, national and local arrangements need to co-exist. In a globalized world the United Nations and UN Organizations are necessary. They need to be in a dynamic equilibrium with national governments on the one hand and with regional (security) arrangements on the other. In Europe, for example, a complex web of relationships has developed in the former Yugoslavia, in which the UN, the OSCE, NATO and the EU all play their part, along with the countries concerned. In Brussels, we see in the developing European Union the constant struggle to find the right balance between the mandate given to 'Brussels' (mainly: the European Commission) and national governments and subnational regions. Against that background I will address global and regional nuclear non-proliferation architectures and their interaction. I will come back to this metaphor of "architecture" from time to time, because it seems to me appropriate for describing the infrastructure we currently have and the tasks ahead of us.

**Tlatelolco**

A crisis of global powers with a potentially global impact, the Cuban missile crisis of October 1962, gave the original impetus to the denuclearization of the Latin American region. The stationing of ballistic missiles in Cuba would not only have affected the United States of America. As President Kennedy said in the middle of the crisis: "Additional sites not yet completed appear to be designed for intermediate range ballistic missiles and thus capable of striking most of the major cities in the Western Hemisphere, ranging as far north as Hudson Bay, Canada, and as far south as Lima, Peru."<sup>1</sup> The crisis prompted Brazil to introduce

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<sup>1</sup> Televised address on Cuban Missile Crisis, Washington DC, October 22, 1962

a draft resolution (without putting it to a vote), supported by Bolivia, Chile and Ecuador, in the (17th) UN General Assembly that fall, advocating the denuclearization of Latin America. In December the President of Mexico announced that his Government would be prepared to sign a denuclearization commitment if a substantial number or all of the Latin American Republics would also be prepared to undertake the same, either unilaterally or by a specific multilateral agreement.<sup>2</sup> Then, in March 1963, President Lopez Mateos wrote to the Presidents of Bolivia, Brazil, Chile and Ecuador, which in turn led to the Joint Declaration of 29 April 1963 on the Denuclearization of Latin America. Four years later this initiative, in a testimony to visionary leadership, was crowned with success and the Treaty of Tlatelolco was born (14 February 1967).

For the International Atomic Energy Agency (IAEA) the Treaty of Tlatelolco was and still is of great significance. Up to that point arrangements to safeguard nuclear material had been concluded in relation to particular nuclear transactions, be they transactions involving the IAEA directly, or bilateral transactions stipulating that the material had to be safeguarded by the IAEA. In the Treaty of Tlatelolco States Parties agreed to negotiate agreements with the Agency for the application of safeguards to their (in the sense of: all of their) nuclear activities. For the first time a group of States committed themselves to concluding comprehensive safeguards agreements.

Even by the time of the Cuban missile crisis, the concept of a world-wide international agreement in which nuclear-weapon States would refrain from handing over the control of these weapons to any nations not possessing them, and those States not possessing such weapons would refrain from manufacturing them, had already been under consideration for some years. The first resolution was adopted by the UN General Assembly on 20 November 1959<sup>3</sup> but until 1964 deliberations on a global nuclear non-proliferation treaty remained entangled in the broader issues of general and complete disarmament. Negotiations started in earnest when the United States introduced a draft treaty at the Eighteen Nations Disarmament Conference in August 1965. The US, but also Canada, Italy and others, stressed the need for IAEA safeguards. It is interesting, historically, that the first proposals for the comprehensive application of IAEA safeguards under a global nuclear non-proliferation treaty were made at the same time, in July and August of 1965, when Latin American countries agreed that the proposed control system would be “mainly based on the Revised Safeguards System of the International Atomic Energy Agency”.<sup>4</sup> It is here not the place to trace back the entire history of the Non-Proliferation Treaty (NPT). Suffice it to say that the NPT and the Treaty of Tlatelolco are the prime examples of synergy between the global and the regional level, and that they have remained complementary non-proliferation instruments for countries in Latin America and the Caribbean.

### **Other regions**

Since the conclusion of the Treaty of Tlatelolco in 1967, three more Nuclear-Weapon-Free Zones (NWFZs) have been agreed upon: Rarotonga (1985), Bangkok (1995), Pelindaba (1996). The first two of these are in force; the Treaty of Pelindaba still has some ways to go (28 instruments of ratification required; the present number of ratifications is just over the half way mark). While the basic concept of a NWFZ is the same in all four cases, the four are different in ways that reflect the particular security concerns of the individual regions.

The Treaty of Rarotonga, which encompasses the island states in the South Pacific, including Australia and New Zealand, was the product of mounting concern in the early '80s about French nuclear tests in the region. As a result of this concern, Protocol 3 of the Treaty prohibits testing any nuclear explosive device

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<sup>2</sup> Alfonso García Robles, *The Denuclearization of Latin-American*, Carnegie Endowment for International Peace, 1967

<sup>3</sup> RES 1380

<sup>4</sup> Document COPREDAL/19

anywhere within the region. This protocol has been signed by all of the nuclear - weapon States but not yet ratified by the US. Unlike the Treaty of Tlatelolco, the Treaty of Rarotonga prohibits the so-called “peaceful nuclear explosions.” In addition to the outright ban on the manufacture, acquisition, possession or control of any nuclear explosive device, the Treaty of Rarotonga explicitly forbids the dumping of radioactive material within the zone’s waters.

The initiative for the Bangkok Treaty, which covers the states of Southeast Asia, has origins that go back to 1971, with the Declaration on the Zone of Peace, Freedom and Neutrality by ASEAN, the Association of Southeast Asian Nations. It was not until the United States closed its military bases in the Philippines in the first half of the ‘90s that this initiative generated sufficient support to become a reality. The Bangkok Treaty entered into force in 1997, and, like Tlatelolco and Rarotonga, forbids the development, testing, acquisition, possession or control of nuclear weapons. Furthermore, in addition to banning the disposal of radioactive material at sea, the Bangkok Treaty mandates that any radioactive material disposed of on land must conform to IAEA regulations. Like the Treaty of Tlatelolco, the Bangkok Treaty recognizes the right of all States to develop nuclear technologies for peaceful purposes, provided that all nuclear facilities are subject to comprehensive safeguards. Moreover the Treaty stipulates that each State Party, prior to embarking on a peaceful nuclear energy programme, must subject that programme to rigorous nuclear safety assessments conforming to guidelines and standards recommended by the IAEA.

The roots of the Treaty of Pelindaba, which has not yet entered into force, pre-date the creation of the Tlatelolco Treaty. In 1961, after the first nuclear weapon tests in the Sahara, the UN General Assembly called on Member States to refrain from such tests in Africa, and not to use Africa for the storage or transport of nuclear weapons. Three years later, the Organization of African Unity declared that it was committed to formally negotiating such an agreement. It was not until 1991, however, when South Africa decided to join the NPT, that substantial negotiations started. South Africa’s 1993 announcement that it had dismantled its nuclear weapons capabilities – including six nuclear explosive devices – prior to joining the NPT, gave these negotiations a strong impulse. In addition to the ban on manufacturing, testing, stockpiling, acquiring, possessing or controlling any nuclear explosive device, the Pelindaba Treaty also prohibits research on and development of these devices, including seeking assistance to do so. Furthermore, Article 6 of the Treaty of Pelindaba, implicitly acknowledging South Africa’s nuclear weapons program, requires States party to the Treaty to dismantle and destroy any nuclear explosive device they had manufactured before the Treaty’s entry into force, as well as to destroy facilities for the manufacture of such devices or convert them to peaceful uses. In this same Article, the IAEA and the African Commission on Nuclear Energy are authorized “to verify the processes of dismantling and destruction of the nuclear explosive devices, as well as the destruction or conversion of the facilities for their production.” In this respect, a precedent has been set to establish parameters for nuclear disarmament, which can be applied to future NWFZs, or similar agreements.

### **Nuclear Non-Proliferation Architecture**

The theme of my presentation is regional nuclear non-proliferation architecture from the perspective of the IAEA. Up to now I have described achievements in the different regions against the background of global developments. Let me use the metaphor of ‘architecture’ to describe the ‘buildings’ of the nuclear non-proliferation architecture more in general. I will mention 12 such buildings:

1. (as already mentioned) Commitments not to manufacture or otherwise acquire nuclear weapons as embodied in the NPT and the in NWFZ treaties;
2. Commitments not to test nuclear weapons;
3. International verification organizations’ and State’s commitments to accept such verification;

4. Bilateral or multinational verification arrangements complementary to international multilateral verification;
5. National rules, international conventions and guidelines with regard to the physical protection of nuclear material and nuclear facilities;
6. National efforts and international co-operation to improve border controls and other means of export/import controls;
7. National laws and regulations that limit the spread of sensitive nuclear knowledge within and outside a country;
8. National rules and international coordination thereof to regulate the export of sensitive items;
9. Agreements in place and efforts underway to limit and reduce vertical proliferation;
10. International efforts to arrive at international legal norms to limit the use of nuclear weapons;
11. International arrangements to reduce incentives to acquire nuclear weapons: nuclear umbrella's; security assurances; and assistance programme in other fields; and
12. National and multilateral efforts in particular by the IAEA, to implement Article IV of the NPT, the article that says that all Parties undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific & technological information for the peaceful uses of nuclear energy.

In point 1 about NPT and NWFZs treaties, there is a dynamic interaction between the global and regional efforts. I have already pointed to the historical interaction, but it didn't stop in that phase. OPANAL has remained an important forum over the decades. Last week's General Conference has proven its value, and the value of the Treaty again. Regular contact exists between the IAEA and OPANAL, underpinned by the cooperation agreement of 1972.

Interaction between the regional and the global level also appears in point 2: the explicit commitment not to test nuclear weapons in the Treaty of Tlatelolco (Article I.1.a) preceded Latin American commitments under the CTBT by some 30 years. The main difference between the regional and the global instruments is that the Treaty of Tlatelolco, as noted before, kept open the possibility (in Article 18) of explosions for peaceful purpose, while the CTBT does not.

Points 3 and 4 represent the global and the regional level with regard to international inspections. 'Regional level' in this case does not primarily refer to the Treaty of Tlatelolco and OPANAL, but to the inspections of ABACC, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials, based on the 1991 Agreement between the Republic of Argentina and the Federative Republic of Brazil for the Exclusively Peaceful Uses of Nuclear Energy<sup>5</sup>. Cooperation between the IAEA and ABACC is firmly anchored through the Quadripartite Agreement, signed by Argentina, Brazil, ABACC and the IAEA on 13

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<sup>5</sup> INFCIRC/395, November 1991.

December 1991, which entered into force on 4 March 1994<sup>6</sup>. I will not go further into this cooperation and how it has developed, but I am sure that Mr. Feu Alvim will have more to say on the subject. Let me just say that ABACC provides an excellent example how bilateral inspections can, in a manner complementary to global inspections, reduce tensions and build confidence by providing transparency. Here the region might be an example for other regions. Let me also say that in the past decade ABACC has built up an impressive technical competence. On that basis, the IAEA sees opportunities to further strengthen cooperation between the IAEA and ABACC.

Such strengthening can be the result of different factors. One is the Additional Protocol, which I will speak about in a few minutes. In Europe the States of the European Union signed Additional Protocols in September 1998: one for the 13 Non-Nuclear Weapon States, one for France and one for the UK. They have not entered into force yet, even though more than half of the States concerned have finalised their ratification process. Those Additional Protocols will no doubt strengthen the Agency's relationship with Euratom. To some extent that process is taking place already, as implementation trials are underway.

Point 5, the physical protection of nuclear material, has become even more important since the events in New York and Washington on September 11. Of course, the hijacking of four passenger planes in the US had in itself nothing to do with nuclear material, but it raised again the specter of terrorists, aiming at mass murder, willing to commit suicide in carrying out such atrocities. That focused attention on weapons of mass destruction, and the cases of anthrax in the US and elsewhere sharpened that focus. In the nuclear area the threat is fourfold: 1) acquisition of nuclear weapons; 2) acquisition of nuclear material to make a weapon; 3) acquisition of other radioactive material, particularly in combination with large conventional explosives; 4) attacks on nuclear facilities to cause a radiological hazard. At the global level the main instrument we have at present is the Convention on the Physical Protection of Nuclear Material, which was opened for signature in 1980 (and entered into force in 1987). It was the result of the first wave of concern about terrorist groups in the seventies. The Convention is mainly limited to nuclear material in international transport. This week an open-ended meeting of experts will be convened in Vienna to consider the drafting of possible amendments to the Convention. It is not for me to say whether the regime could be strengthened at the regional level, but I note that Latin American countries have been concerned for years about the safety of nuclear and other radioactive material in international transport. What is the relationship between safety provisions and security provisions? (With the latter I mean provisions that physically protect nuclear material against malicious acts.) In my view the two are not always identical. In fact – they can at times compete with one another: measures to inform all parties affected by the transport – to increase safety – can in fact negatively impact the security of the shipment.

I do not want to go through the whole list. I am not competent to address what arrangements exist in the region or in individual countries with regard to, for example, laws and regulations in force to protect sensitive knowledge.

But we can safely conclude this part by saying that the buildings in the nuclear non-proliferation architecture have many interconnections between the global and the regional level. In the case of Latin America the region has actually stimulated the construction of global buildings.

## **Reinforcing the Architecture**

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<sup>6</sup> It is interesting to note that this Bilateral Agreement between the two countries who were in the sixties most interested in Peaceful Nuclear Explosions states the following about testing: "Bearing in mind that at present no technical distinction can be made between nuclear explosive devices for peaceful purposes and those for military purposes, the Parties also undertake to prohibit and prevent in their respective territories (...) any nuclear device while the above-mentioned technical limitation exists."

At the regional and at the global level a more or less stable architecture now exists. That the global one is overarching seems natural and appropriate given the global character of the nuclear threat. But stability is not a given. To continue the metaphor, the buildings need constant maintenance and renovation; otherwise they may start to crumble. Enduring stability cannot exist in a world in which some States have nuclear weapons and others have not. Equilibrium in nuclear non-proliferation architecture is therefore always an unstable equilibrium. A marble may lie still in the middle of a room, but once it starts rolling it will have a tendency to roll downwards faster and faster.

In order to prevent this, two things are required. One is progress in nuclear arms control and disarmament. The other is strengthening the verification regime, so that States have the assurance that others are not producing nuclear weapons clandestinely. On the first point I will be brief. After a number of frustrating years, with only the consensus during the last NPT Review Conference as a positive point, recently some more hopeful developments have taken place. In particular the tentative agreement between the United States and the Russian Federation to reduce strategic arsenals to some 2000 each would be a step in the right direction. Its implementation in the coming decade is likely to increase the amounts of 'excess nuclear material' and might lead to pressure to conclude verification arrangements that provide assurances that such material remains removed from nuclear weapon programmes, an activity in which the Agency has been involved for some years. Other speakers will address nuclear disarmament issues in the common days.

The second point is really the key reason we are here. The present verification architecture dates from the early seventies, and it is not good enough anymore. It dates from a time that international inspections were a novelty. They were only acceptable then when they were strictly limited. Inspectors were only allowed to go to particular places in particular facilities. To some extent that is still the case, although in recent years the IAEA has started to implement safeguards strengthening measures that are implicitly provided for an INFCIRC/153 type safeguards agreements. Environmental monitoring at declared facilities is just one example. The strengthening measures are important, but they are patchwork; they do not structurally strengthen the non-proliferation building. The tool that can do that, is - you had guessed it already - the Additional Protocol, based on the Model Protocol Additional to Safeguards Agreements, approved by the Agency's Board of Governors in 1997. The conclusion of the Model Additional Protocol reflects a greater willingness in the international community to accept international inspections - and inspections with a broader scope for that matter, the same willingness that has been shown in other international agreements like the Chemical Weapons Convention.

I will not go into the substance of the Additional Protocol - my colleagues will do that later. I just would like to say here that, while it appears to be a complex document, the premise is fairly straightforward: to improve the tools available to the Agency to provide the necessary assurances regarding the peaceful uses of nuclear energy, in particular assurances regarding the absence of undeclared nuclear activities. As in the original model comprehensive safeguards agreement INFCIRC/153, there was also here a need to delineate precisely what the responsibilities of the State and of the Agency are, and to describe precisely what is required and why.

Some of the complexities in the text have given rise to questions during the negotiations the IAEA Secretariat has conducted with States that have concluded Additional Protocols already, mostly with States that have significant nuclear activities. For example: when is research and development at a university still nuclear-fuel cycle related and when is it not related anymore. But States without nuclear activities have also come to us, because in the present situation the implementation of most of the provisions in Part II of their safeguards agreement are held in abeyance if they have signed with their safeguards agreement a so-called Small Quantities Protocol. So regular reporting under the Additional Protocol, normally once a year, sometimes more, may be a novel situation for them. We will pay attention to the situation for this category of states in a later presentation.

## **Conclusion**

Let me conclude. We are here to see what we can do to strengthen the non-proliferation architecture. The global and regional architectures are interconnected at many levels. Strengthening the global regime will imply more solid assurances of States in the region towards each other and towards the world at large. A precondition is that States in the region sign up to the new legal instrument available, the Additional Protocol, following the example given by States like Peru and Ecuador. When that happens Latin America and the Caribbean will have written a new chapter in their proud non-proliferation history.