VIEWS ON REGIONAL NON-PROLIFERATION ARRANGEMENTS

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1. INTRODUCTION

The overwhelming majority of States have made a political commitment - carefully reached and strongly held - against the acquisition of nuclear weapons. This commitment is given legal expression through treaties for the exclusively peaceful use of nuclear materials and technology. The most important of these treaties - because it is almost universal - is the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

The establishment of a credible verification mechanism, to provide confidence that all parties are honouring their treatv commitments, plays a vital part in reinforcing commitments. The principal those verification mechanism is IAEA safeguards. Non-Nuclear-Weapon States (NNWS) Party to the NPT accept IAEA safeguards on all their existing and future nuclear activities full scope or comprehensive safeguards.

Safeguards fulfil an essential political objective - to exercise a positive influence on the behaviour of States, by:

- providing assurance to reinforce nonproliferation commitments; and
- deterring non-compliance through the risk of timely detection.

Importantly, safeguards serve to assist States who recognise it is in their own interest to demonstrate their compliance to others. Thus safeguards can be seen as a vital confidencebuilding measure (CBM) - in their own right, and as a major complement to the broader range of international CBMs.

As will be outlined in this paper, these other CBMs include regionally-based non-

proliferation arrangements. IAEA safeguards are an essential component of regional arrangements, and such arrangements can be a valuable complement to IAEA safeguards.

Historically, regional arrangements have been important in establishing the confidence necessary to underpin non-proliferation commitments: in the case of Euratom, predating NPT safeguards; in the case of ABACC, laying the foundation for the States concerned to join the NPT. In the future, we can expect regional arrangements to continue to play an important role:

- complementing IAEA safeguards, particularly as new safeguards mechanisms evolve, as new nuclear programs are established, and especially with the increasing importance of *transparency* in nuclear programs;
- meeting particular confidence-building needs in areas such as South Asia, the Middle East, and perhaps also the Korean Peninsula;
- possibly, providing additional confidencebuilding to complement new regimes such FMCT (the Fissile Material Cut-off Treaty);
- another possibility is the establishment and operation of sensitive stages of the fuel cycle on a regional basis.

It should be noted that this paper reflects the views of the author and does not necessarily represent Australian Government policy.

2. EXISTING REGIONAL NON-PROLIFERATION ARRANGEMENTS

There are two broad categories of regional arrangements that are relevant to nuclear nonproliferation: those which establish political non-proliferation commitments; and those which establish regional safeguards arrangements.

In the first category are the nuclear weaponfree zone treaties, of which there are currently four: the Treaty of Tlatelolco, the Treaty of Rarotonga, the Treaty of Pelindaba, and the Bangkok Treaty. Reference might also be made to the Antarctic Treaty, which proscribes military activities, nuclear explosions and disposal of radioactive waste in Antarctica. Although the nuclear weapontreaties contain free zone verification provisions, it is notable that they do not establish separate safeguards systems but rely on IAEA safeguards.

In the second category are the Euratom Treaty, establishing the European Atomic Energy Community, and the Bilateral Agreement between Brazil and Argentina establishing ABACC, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials.

3. NUCLEAR WEAPON-FREE ZONES

The concept of such zones was first developed in the late 1950s, as a possible complementary measure to the efforts of the international community towards establishing a global nuclear non-proliferation regime. From the outset of the NPT negotiations the NNWS sought assurance from the NWS to guarantee their security from nuclear attack. Formal security assurances are not included in the NPT itself. However, the right to conclude nuclear weapon-free zone treaties is incorporated in the NPT - Article VII reaffirms "the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories."

The existing nuclear weapon-free zone treaties are outlined below. In addition, there is a comparative table of their principal provisions in the Attachment to this paper.

A. Treaty of Tlatelolco

The Treaty for the Prohibition of Nuclear Weapons in Latin America predates the NPT, being signed on 14 February 1967 at a regional meeting of Latin American countries at Tlatelolco, Mexico City. The Treaty of was the first international Tlatelolco agreement that aimed at excluding nuclear weapons from an inhabited region of the globe (the first such agreement, the Antarctic Treaty of 1959, applies to an area that has no permanent population). It was also the first treaty to make explicit provision for what have come to be termed *challenge inspections* - that is, inspections initiated at the request of a Party - to verify compliance with the Treaty.

The Treaty entered into force on 22 April 1968, and has 33 Parties.

Parties to the Treaty of Tlatelolco undertake to use the nuclear material and facilities which are under their jurisdiction exclusively for peaceful purposes, and to prohibit and prevent in their respective territories:

- the testing, use, manufacture, production, or acquisition by any means whatsoever of any nuclear weapons, by the Parties themselves, directly or indirectly, on behalf of anyone else or in any other way; and
- the receipt, storage, installation, deployment, and any form of possession of any nuclear weapons, directly or indirectly, by the Parties themselves, by anyone on their behalf or in any other way.

The Parties also undertake to refrain from engaging in, encouraging or authorising, directly or indirectly, or in any way participating in the testing, use, manufacture, production, possession, or control of any nuclear weapon.

The Treaty establishes an international organisation, OPANAL (the Agency for the Prohibition of Nuclear Weapons in Latin America), to supervise compliance with treaty obligations. The Treaty requires each Party to conclude a safeguards agreement with the IAEA, and provides for two forms of verification activity: IAEA safeguards pursuant to these safeguards agreements, or "special inspections" undertaken by OPANAL at the request of another Party if a breach of the Treaty were suspected. In 1992 the Treaty was amended to designate the IAEA as having the sole authority to conduct such special inspections.

An important aspect of the Treaty, which potentially compromised its value as a nonproliferation instrument, was its provision for Parties to have the right to develop and carry out "peaceful nuclear explosions" (PNEs), provided this was done under the supervision of the IAEA and OPANAL. Fortunately no Party availed itself of this right, and over the course of time all Parties except Cuba have also joined the NPT, so the development of PNEs is no longer a possibility.

B. Treaty of Rarotonga

The South Pacific Nuclear Free Zone Treaty, which declares a nuclear weapon-free zone covering most of the Pacific territories south of the equator, entered into force on 11 December 1986. The Treaty has 13 Parties, members of the South Pacific Forum.

The Treaty commits its Parties:

- not to manufacture or otherwise acquire, possess or have control over any nuclear explosive device by any means anywhere inside or outside the South Pacific Nuclear Free Zone;
- not to seek or receive any assistance in the manufacture or acquisition of any nuclear explosive device;

 not to take any action to assist or encourage the manufacture or acquisition of any nuclear explosive device by any State.

Other undertakings by the Parties include:

- not to provide source or special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material, except for exclusively peaceful non-explosive purposes under strict non-proliferation measures;
- to support the continued effectiveness of the international non-proliferation system based on the NPT and the IAEA safeguards system;
- to prevent the stationing or testing on their territories of any nuclear explosive device;
- to prevent the dumping of radioactive wastes at sea within the South Pacific Nuclear Free Zone.

The basic verification mechanism under the Treaty is provided by a requirement for Parties to conclude safeguards agreements with the IAEA equivalent to NPT safeguards. This is complemented by the following measures, coordinated by the Director of the South Pacific Bureau for Economic Cooperation:

- a requirement for each Party to report on "any significant event within its jurisdiction affecting the implementation of this Treaty"; and
- a complaints procedure which can be invoked if a Party believes there is a breach, including provision for special inspection by inspectors appointed by a Consultative Committee.

C. Treaty of Pelindaba

The Treaty of Pelindaba creates an African nuclear weapon-free zone - the territory of the continent of Africa, islands States members of the Organisation of African Unity (OAU) and all islands considered by the OAU in its resolutions to be part of Africa. The Treaty was signed in Cairo on 11 April 1996, but has not yet gained the number of ratifications necessary (28) for entry into force.

The Treaty commits its Parties:

- not to conduct research on, develop, stockpile or otherwise acquire, possess or have control over any nuclear explosive device by any means anywhere;
- not to seek or receive any assistance in the research on, development, manufacture, stockpiling or acquisition, or possession of any nuclear explosive device;
- not to take any action to assist or encourage the research on, development, manufacture, stockpiling or acquisition, or possession of any nuclear explosive device.

In addition, Parties are required:

- to conduct all activities for the peaceful use of nuclear energy under strict nonproliferation measures to provide assurance of exclusively peaceful uses;
- to conclude a comprehensive safeguards agreement with IAEA for the purpose of verifying compliance with the above undertakings;
- not to provide source or special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any nonnuclear-weapon State unless subject to a comprehensive safeguards agreement concluded with the IAEA.

For the purpose of ensuring compliance with the undertakings under the Treaty, the Treaty establishes the African Commission on Nuclear Energy. The Parties are required:

• to submit an annual report to the Commission on its nuclear activities as

well as other matters relating to the Treaty. These reports are collated and circulated by the Commission;

• to include in this annual report a copy of the overall conclusions of the most recent report by the IAEA on its inspection activities in the territory of the Party concerned, and advise the Commission promptly of any change in those conclusions.

If a Party considers that another Party is in breach of Treaty obligations, there is a complaints procedure, which may include technical visits agreed upon between the Parties. If the matter is not resolved, the complaint may be brought to the Commission. The Commission may request the IAEA to conduct a special inspection. The Commission may also establish its own inspection mechanism.

D. Bangkok Treaty

The Southeast Asia Nuclear Weapon Free Zone Treaty (SEANWFZ) was signed on 15 December 1995 in Bangkok, at the fifth ASEAN summit. The Treaty entered into force on 27 March 1997. There are 10 Parties, the 7 members of ASEAN and 3 ASEAN observer nations.

Each Party undertakes not to, anywhere inside or outside the Zone:

- develop, manufacture or otherwise acquire, possess or have control over nuclear weapons;
- station or transport nuclear weapons by any means; or
- test or use nuclear weapons.

Each Party also undertakes not to allow, in its territory, any other State to:

- develop, manufacture or otherwise acquire, possess or have control over nuclear weapons;
- station nuclear weapons; or

• test or use nuclear weapons.

In addition, each Party undertakes:

- to use nuclear material and facilities which are within its territory and areas under its jurisdiction and control exclusively for peaceful purposes; and
- to support the continued effectiveness of the international non-proliferation system based on the NPT and the IAEA safeguards system.

The basic verification mechanism is provided by IAEA safeguards - each Party is required to conclude a full scope safeguards agreement with the IAEA. The Treaty establishes a Commission for the Southeast Asia Nuclear Weapon-Free Zone, with the function of overseeing the implementation of the Treaty and ensuring compliance with its provisions.

Each Party shall submit reports to the Commission on any significant event within its territory and areas under its jurisdiction and control affecting the implementation of the Treaty. The Parties may exchange information on matters arising under or in relation to the Treaty.

A Party has the right to request another Party for clarification concerning any situation which may be considered ambiguous or which may give rise to doubts about compliance with the Treaty, and shall inform the Commission of such a request. A Party may request the Commission to seek such clarification from another Party. The Commission may send a fact-finding mission, consisting of three inspectors from the IAEA who are neither nationals of the requesting nor receiving State, to another Party in order to clarify and resolve a such a situation.

4. REGIONAL SAFEGUARDS ARRANGEMENTS

A. Euratom

The Treaty establishing the European Atomic Energy Community, or Euratom, was concluded in Rome in 1957. Euratom has two principal objectives: to provide assurance of nuclear fuel supply; and to provide assurance that nuclear materials are not diverted from their intended uses as declared by the users.

Under the Euratom Treaty, all *special fissile materials* in the Community are owned by Euratom itself. Ores, source materials and special fissile materials are subject to Euratom safeguards, except materials intended to meet defence requirements. Euratom safeguards involve inspections to verify accounts maintained by the operators of nuclear installations.

It is noteworthy that the Euratom Treaty does not contain specific non-proliferation commitments. The purpose of safeguards is to verify that nuclear materials are not diverted from their declared uses - these can include military use, in which case safeguards cease to apply to the material concerned. Euratom safeguards therefore can be seen as having a transparency rather than a nonproliferation function, presumably on the assumption that non-proliferation objectives achieved through could be political intervention where necessary. It was not until the conclusion of the NPT, and until all the Euratom Member States became parties to the NPT, that non-proliferation commitments were secured directly and in a legally binding way.

The Euratom Treaty was concluded in the same year - 1957 - as the establishment of the IAEA, and the Euratom and IAEA safeguards systems developed in parallel. The formal relationship between the two organisations was established when Euratom and its Member States concluded an NPT safeguards agreement with the IAEA, in 1973.

While in many ways Euratom and IAEA safeguards are very similar, there are some significant differences of approach. One is

that the Euratom Safeguards Office (ESO) regularly assigns staff to inspection duties in their own countries, which is totally contrary to IAEA practice. ESO maintains there are language and observational advantages in doing this. Another is that both the performance and the evaluation of IAEA safeguards are relatively transparent to Member States, through documents such as the Safeguards Implementation Report (SIR) and the Safeguards Technical Report (STR). There are no corresponding documents from ESO. A third difference is emerging - some Member States are not prepared to give ESO the widened authority being given to the under the Additional IAEA Protocol and (INFCIRC/540), the allocation of responsibilities in this regard is still being resolved.

New Partnership Approach

As has been noted, the Euratom and IAEA safeguards systems have developed in parallel. Over the years this led to significant duplication and inefficiencies, a situation which was becoming of increasing concern at the policy level in both organisations. In 1992 ESO and the IAEA reached agreement on a New Partnership Approach, under which the two organisations undertook to optimise practical arrangements and to use commonly agreed:

- safeguards approaches;
- inspection planning and procedures;
- inspection activities; and
- inspection instruments, measures and techniques.

They agreed that inspection activities would be performed on the basis of the "one-jobone-man" principle, supplemented by quality control measures to enable both organisations to satisfy their respective obligations to reach their own independent conclusions.

Current developments

As indicated above, the development of strengthened IAEA safeguards and the introduction of the Additional Protocol have disturbed the *status quo* in the implementation of safeguards in the European Union. The European Commission is reportedly considering a proposal for transferring a number of safeguards activities from ESO to the Member States. It is not clear whether this will be agreed, nor is it clear what further changes may be in prospect, but it is understood a number of EU Members are questioning the need to maintain two safeguards systems.

B. ABACC - Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials

ABACC is an international organisation set up under the Bilateral Agreement between Brazil and Argentina covering the Exclusively Peaceful Use of Nuclear Energy, which entered into force on 12 December 1991.

The main function of ABACC is to administer and apply the Common System for Accounting and Control of Nuclear Materials (SCCC) to all nuclear materials in all nuclear activities in Brazil and Argentina, in order to ensure that these materials are not improperly used for purposes not authorised under the Bilateral Agreement. Through the Bilateral Agreement Brazil and Argentina agree to submit to the SCCC all nuclear materials used in all nuclear activities carried out within their respective territories, or under their jurisdiction or control.

Additionally both States agree to abstain from holding, encouraging or authorising, either directly and indirectly, or participating in any manner in any testing, use, fabrication, production or acquisition through any means whatsoever of any nuclear explosive device. The Agreement does not proscribe nonexplosive military applications of nuclear energy, such as naval propulsion. ABACC fulfils its functions by applying safeguards to all nuclear materials subject to SCCC in Brazil and Argentina. the Verification is concentrated at the nuclear fuel cycle stages that involve the production. processing, use or storage of nuclear material from which a nuclear weapon could be made. Verification efforts are to be sufficient for ABACC to achieve the objective of the safeguards: timely detection of any diversion of significant quantities of nuclear material.

Quadripartite Agreement

In March 1994 Brazil and Argentina joined with ABACC and the IAEA in concluding the Quadripartite Agreement. Under this agreement, Brazil and Argentina agreed to accept the application of IAEA safeguards covering all nuclear materials in all nuclear activities carried out within their respective territories, or at any place under their jurisdictional control, with the sole objective of ensuring that such materials are not improperly used for applications in nuclear weapons or other explosive nuclear explosive devices.

Principles regulating the implementation of the Quadripartite Agreement include *inter alia*:

- the IAEA has the right and the obligation to ensure that safeguards are applied on all nuclear material in all nuclear activities within the territories of the States Parties, under their jurisdiction or carried out under their control anywhere;
- ABACC undertakes, in applying its safeguards, to cooperate with the IAEA;
- the IAEA applies its safeguards in such a manner as to enable itself, in ascertaining that there has been no diversion of nuclear material to nuclear weapons or other nuclear explosive devices, to verify findings of the SCCC;

- the IAEA's verification activities include independent measurements and observations;
- however, the IAEA, in its verification activities, takes due account of the technical effectiveness of the SCCC;
- ABACC and the IAEA are to coordinate their activities in order to avoid unnecessary duplication of safeguards efforts; and
- ABACC and the IAEA, as far as possible, are to work together, according to compatible safeguards criteria issued by both agencies. However, ABACC and the IAEA are required to draw independent conclusions.

Essentially the ABACC regime can be seen as a system of <u>mutual inspection</u>, complementing IAEA safeguards:

- ABACC maintains a panel of persons available for inspections, who are nominated by the Argentine and Brazilian national safeguards authorities – these may be national inspectors, or industry experts;
- joint inspections are carried out by the IAEA, the relevant national authority, and ABACC inspectors, ie persons drawn from the ABACC panel (Argentine personnel are chosen to inspect in Brazil, and vice versa).

5. PROPOSED REGIONAL ARRANGEMENTS

A number of further regional arrangements have been proposed, perhaps the most advanced being the Central Asia Nuclear Weapon-Free Zone. The principles for this zone were set out in the Almaty Declaration made in February 1997 by Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. It is understood the drafting of the proposed treaty text is substantially finalised, but has yet to be agreed. Brazil and others have proposed a Southern Hemisphere Nuclear Weapon-Free Zone, linking together the existing zones under the Tlatelolco, Raratonga, Bangkok, Pelindaba and Antarctic Treaties, but the legal complexities raised by the differing treaty provisions have not been resolved, and there is opposition to the proposal on the basis that it would be inconsistent with the freedom of the high seas.

Proposals have been advanced for nuclear weapon-free zones in South Asia and the Middle East, but political circumstances do not favour progress in the near future. In the case of the Middle East, such a zone is unlikely to be agreed except in the context of an overall peace settlement which would encompass other weapons of mass destruction and perhaps conventional weapons. Another possible area for a regional arrangement is the Korean Peninsula, where joint inspection procedures are called for under the 1992 Joint Declaration on the Denuclearisation of the Korean Peninsula. To date there has been no substantive discussion on developing these procedures.

6. WHAT LESSONS CAN BE DRAWN FROM THE EXISTING REGIONAL ARRANGEMENTS?

IAEA safeguards are central to all of the nuclear weapon-free zone treaties, in a sense IAEA safeguards complement these treaties rather than vice versa. There are some where important ways however the advantages flow in both directions. First, the Treaty of Tlatelolco should be given special mention - that Treaty predated the NPT, and although the non-proliferation commitment was not as rigorous as under the NPT development of (because **PNEs** was permitted), the Treaty fulfilled an important role in introducing comprehensive safeguards to a region where not all Parties were prepared to subscribe to the NPT.

In terms of complementing IAEA safeguards, a number of aspects are important:

- the treaties enhance mutual confidence in their respective regions, by providing for additional non-proliferation commitments (eg no stationing of nuclear weapons);
- they promote transparency by providing mechanisms for dissemination of information, eg reports on national nuclear activities, and the results of IAEA inspections;
- they also enhance confidence by providing a mechanism for seeking clarification of Parties' activities;
- another important common provision is the commitment to support the nonproliferation regime and IAEA safeguards

 this commitment is particularly relevant to the current program to strengthen IAEA safeguards, including through the conclusion of Additional Protocols.

Looking at the two existing regional safeguards systems, it is important to appreciate that IAEA safeguards are recognised as having an independent role. Although the activities of the regional systems are important to the participants, the international community expects that the IAEA will reach independent conclusions. The regional safeguards organisations and the IAEA have developed cooperative working relationships to promote efficiency in the operation of the respective safeguards systems.

The regional safeguards systems have also been important in complementing the IAEA system. In the case of Euratom safeguards, their development paralleled the development of the IAEA system, and no doubt the competitive environment, though it eventually led to duplication and inefficiencies, on many occasions provided a mutually beneficial stimulus. Now the New Partnership Approach offers opportunities for significant efficiency gains without detracting from the required level of assurance. It is unclear however how certain aspects of strengthened safeguards will operate in Europe, eg if IAEA inspectors are authorised to carry out a wider range of verification activities than Euratom inspectors. Strengthened safeguards also place a greater emphasis on <u>unannounced</u> inspections – it is not clear how these will operate in practice where there are two inspectorates involved. As has been noted, ongoing changes in IAEA safeguards have prompted a review of the Euratom system.

It will also be necessary to address some of these practical issues in the case of ABACC, eg will ABACC have the same widened authority as the IAEA, and how will unannounced inspections be performed when there are two – or even three (having regard to the respective national safeguards authorities) – inspectorates involved?

More generally, ABACC has also played an essential confidence-building role, enabling the introduction of comprehensive safeguards in Argentina and Brazil ahead of the time when the conditions were right for both States to be prepared to join the NPT. This confidence-building role will continue to be important, providing a mechanism for mutual transparency in national nuclear activities. ABACC's activities establish a valuable precedent for other countries - particularly India and Pakistan - which are not yet prepared to embrace the multilateral model of comprehensive safeguards.

7. CONCLUSIONS - SOME THOUGHTS FOR THE ASIA-PACIFIC REGION

Without attempting to define the Asia-Pacific region (for the purposes of this discussion North and Latin America and South Asia have not been included), the region has a number of key characteristics:

• current nuclear power programs in the region continue to grow, and a number of

countries are considering the introduction of nuclear power;

- the region includes some of the world's largest, most advanced and most vigorous nuclear programs, including sensitive stages of the fuel cycle (enrichment and reprocessing);
- the region includes Nuclear-Weapon States (China and Russia), and one State yet to come into compliance with its safeguards agreement.

As would be apparent from this brief outline, there are many issues and challenges within the region in respect of which appropriate regional mechanisms could make a very constructive contribution. There is a mechanism for dialogue on nuclear issues generally - the Forum for Nuclear Cooperation in Asia – but as yet no mechanism for cooperation on specifically non-proliferation/safeguards matters.

At various times a number of different concepts have been floated for an Asian or Asian-Pacific regional nuclear arrangement, variously termed "Asiatom" or "Pacificatom". These concepts have ranged from a simple framework for exchange of ideas and information, to the establishment of an Asian Atomic Energy Community, along Euratom lines.

Euratom as a precedent In considering the extent to which Euratom may offer a precedent, it should be noted there are substantial differences between the conditions in Post-War Europe and those of the contemporary Asia-Pacific region. The Asian and Pacific countries represent a wide diversity of historical, political and economic backgrounds, and a wide diversity in their degree of nuclear development. Security of supply is not an issue as it was in the 1950s - there is a mature market for uranium and fuel cycle services, and the rapid expansion of nuclear power which has occurred in Asia is possible because of the availability of well-

proven technology, which is far from the situation when Euratom was formed.

Most importantly, as we have seen, Euratom safeguards were developed in parallel with the IAEA system - now, with four decades of experience with IAEA safeguards, not only is there no point in "re-inventing the wheel", it is essential to avoid detracting from or competing with the IAEA system.

While there seems no justification for seeking establish а multilateral safeguards to inspectorate for the Asia-Pacific region, it is clear that regional arrangements have an important role in complementing IAEA This role could become even safeguards. more worthwhile in current circumstances. where substantial changes to IAEA safeguards are in progress – and where further growth in programs existing nuclear and the establishment of new programs are in prospect.

If a regional safeguards system does eventuate in the Asia-Pacific region (say, based on mutual inspection along ABACC lines), one aspect relevant in the context of integrated safeguards - the combination of "classical" and strengthened safeguards now under development – is the concept of greater use by the IAEA of national, but especially regional, safeguards authorities, particularly in the implementation of safeguards on lesssensitive nuclear material.

Transparency One key aspect of the changes taking place in safeguards is the transparency. increasing importance of Safeguards are no longer seen as an exclusively technical system applied at declared facilities. An essential part of safeguards is greater transparency in States' nuclear programs, not only vis-à-vis the IAEA, but also to other States, particularly neighbours. Transparency is regional essential not only to assist the IAEA in reaching its evaluations, but clearly is a vital ingredient in the confidence which safeguards are intended to provide to the international community as a whole. In this respect, closer regional cooperation could play a significant complementary role to IAEA safeguards.

The form regional arrangements might take Although, as mentioned, various ideas for a regional nuclear arrangement have been put forward at different times, it is noteworthy that so far no consensus has formed around any of these ideas. To some extent this may reflect the disparate programs and interests in the region, and it must also reflect that at this stage there is no generally held vision of the need for such an arrangement and the functions it would serve. Rather than attempting to introduce a broad-based institutional structure from the outset, it would seem more productive to progress in an evolutionary way. Small steps can build a nucleus around which broader concepts can coalesce over time.

One valuable step could be the idea discussed in the Japanese Study Group on Peaceful Uses of Nuclear Energy and Non-Proliferation, for the establishment of a regional "Non-Proliferation Study Centre". Such a Centre could have an important consciousnessraising role, and it certainly warrants serious attention.

Another useful step would be to establish arrangements for facilitating collaboration amongst national safeguards authorities. Such regional interaction could be valuable in providing mechanisms for exchanges of views, by safeguards experts and others working in this area, which should be helpful in securing support for new IAEA safeguards approaches and techniques, as well as more generally in reinforcing the NPT and in helping to promote informed policy-making on safeguards and non-proliferation matters.

The higher the level of technical competence of national safeguards authorities (SSACs), the greater the benefit to the IAEA in terms of cost-effective performance of its verification

responsibilities. Increased collaboration between national authorities in staff training, development opportunities, professional expert seminars, staff exchanges, etc would assist in this. Another possibility, promoting professional experience both and transparency, could be the inclusion in national safeguards activities of personnel from other regional States, again facilitated at the regional level – perhaps leading to a system of mutual inspection.

Another important benefit from regional interaction would be the encouragement of a "safeguards culture" within the region. At present there are some States with relatively limited exposure to practical safeguards issues. This is the case with States which have had limited nuclear activities and which are now contemplating nuclear power programs, but it also a factor with those States not currently subject to comprehensive safeguards.

A specific area where regional interaction could useful encouraging be is in collaboration and coordination of, on, safeguards R&D programs, particularly where these are undertaken in support of the IAEA. Regional interaction may also have a useful role in assisting to maintain standards of physical protection so as to minimise the risk of nuclear theft and smuggling.

How might regional interaction be While the progressed? secretariat arrangements under the two nuclear weaponfree zone treaties in our region (the Treaties of Rarotonga and Bangkok) could be of assistance in promoting activities of the kind outlined here, several States with major nuclear programs are outside the areas covered by these treaties.

Another possibility would be to build on the contacts which already take place under nuclear cooperation various bilateral agreements, and informally amongst national authorities. safeguards Initially such arrangements might operate on an informal basis, eg through the establishment of an association of nuclear safeguards authorities, with a part-time secretariat coordinating joint activities.

Given the growing importance of nuclear issues in our region, from both the peace and security and the energy perspective, it is clear regional arrangements can make a valuable contribution non-proliferation objectives. Despite a number of years of discussion, so far little tangible has emerged. It is hoped that the ideas outlined in this paper will lead to practical steps towards appropriate regional arrangements.

Attachment

NUCLEAF	X WEAPON-FREE	ZONE TREATIES	- SUMMARY
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	Treaty of Tlatelolco	Treaty of Rarotonga (SPNFZ)	Treaty of Pelindaba	Treaty of Bangkok (SEANWFZ)
EIF	1968	1986	Not yet in force	1997
Parties	33 parties, comprising most States of Central and South America and the Caribbean.	Australia, Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Niue, PNG, Solomon Islands, Tonga, Tuvalu, Vanuatu, Western Samoa	55 African States have signed, 13 have ratified.	Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam
No acquisition, testing or stationing of any nuclear explosive device	PNEs allowed	~	~	~
Verification – Parties to conclude IAEA safeguards agreement	~	V	~	V
Treaty organisation/ Secretariat	OPANAL	South Pacific Forum/ Director, South Pacific Bureau for Economic Cooperation	African Commission on Nuclear Energy	Commission for SEANWFZ
Reporting required from Parties:				
Confirming no proscribed activities	~			
Nuclear activities			~	
Significant events		~	~	~
IAEA inspection results		another Party	~	
Clarification:				
Party may request information directly from other party		~	~	V
Party may request information through Secretariat	V	~	V	v
Special inspections				
- by IAEA	~		~	~
- other mechanisms		inspection team appointed through Secretariat	by Commission	
Parties to support NPT/IAEA safeguards		~		~