4. Safety of nuclear material

In international transport

A major step towards reducing the risks of diversion of nuclear material to non-peaceful purposes was made in 1987 with the entry into force of the 1980 Convention on the Physical Protection of Nuclear Material. The provisions of the Convention oblige the parties to ensure that, during international transport across their territory or on ships or aircraft under their jurisdiction, nuclear material for peaceful purposes, as categorized in a special annex (plutonium, uranium-235, uranium-233 and irradiated fuel), is protected at the agreed level.[39] Furthermore, the parties have undertaken not to export or import nuclear material or allow its transit through their territory unless they have received assurances that this material will be protected during international transport in accordance with the levels of protection determined by the Convention. The parties to the Convention have agreed to share information on missing nuclear material to facilitate recovery operations. Robbery, embezzlement or extortion in relation to nuclear material, and acts without lawful authority involving nuclear material, which cause or are likely to cause death or serious injury to any person or substantial damage to property, are to be treated as punishable offences.

By July 1992, 39 states had become parties to the Physical Protection Convention. This figure includes the nuclear weapon states, Japan and, since September 1991, the members of the European Community where shipments of nuclear material are very intensive.[40] Each party must inform the depositary (IAEA Director General) of its laws and regulations giving effect to the Convention. So far, however, very few countries have done so.

In domestic use

The responsibility for physical protection of nuclear materials and facilities within states rests with the governments of these states, but it is also a matter of world-wide concern. There is a need for international co-operation in situations where the effectiveness of physical protection in one state depends on the behaviour of and the measures taken by another state. The possibility exists that the theft of plutonium or highly enriched uranium would lead to the construction of a nuclear explosive

[39] The review conferences of the parties envisaged by the Convention may revise the categorization of nuclear materials set out in the annex.

[40] IAEA document GC(XXXV)/INF/296/Mod.1

device by a group of competent technicians, and even a crude nuclear explosive is capable of causing mass destruction. Moreover, an act of sabotage against a nuclear facility (nuclear reactor, separate irradiated fuel storage, reprocessing plant, fuel fabrication facility utilizing plutonium) or against a shipment of nuclear material within one country could create a radiological hazard to the populations of many countries.

To deal with these problems, the IAEA published, in 1975, recommendations as to what can be done by member States to establish national systems for the protection of nuclear facilities and of nuclear materials in use, transit and storage, or to improve the quality and the effectiveness of the existing systems.[41] These recommendations have been subsequently revised and updated, and their latest version was issued in 1989.[42] It would be desirable to make them legally binding through incorporation in an international treaty, and to give the IAEA the responsibility to verify compliance.

Safety of nuclear weapons

There are no means to prevent nuclear weapon-usable material or nuclear weapons themselves from falling into the hands of sub-national political groups when law and order break down. Such an anarchic situation could arise in the course of the disintegration of the Soviet Union. The appeals made at the 1990 NPT Review Conference, and addressed to the nuclear weapon states, to maintain the highest standards of security and physical protection of their nuclear weapon systems and materials, may not suffice.

The awareness of the danger of nuclear terrorism or an accidental nuclear explosion should speed up further substantial cuts in nuclear arsenals, whereas the remaining weapons should be all fitted with a mechanism rendering their unauthorized use impossible. Tactical nuclear warheads, which because of their small size are more difficult to control, would have to be eliminated altogether. Fissionable material from the dismantled weapons should be removed from the military stockpile to make the weapon elimination process hard to reverse.

5. Nuclear supplies

From the political perspective, the threat of nuclear weapons proliferation has receded since the entry into force of the NPT, but from a technical perspective it may have increased, because it has

[41] IAEA document INFCIRC/225.
[42] IAEA document INFCIRC/225/Rev.2

become easier for states to develop nuclear weapons. The nuclear weapon technology is no more a secret shared by a few, and most non-nuclear components of the weapons are available in international commerce. Hence the need for ever stricter measures of control over nuclear supplies.

Guidelines for nuclear transfers

In 1977 a group of nuclear suppliers forming the so-called London Club drew up a list of materials, equipment and technology which should "trigger" IAEA safeguards when exported for peaceful purposes to any non-nuclear weapon state. The Guidelines for Nuclear Transfers agreed by the London Club require the recipients of the trigger-list items to provide effective physical protection of these items, and to pledge not to use them for the manufacture of nuclear explosives. The safeguards requirements apply to any "replicated" facility--that is, of the same type as the imported facility but constructed indigenously within a specified period. Retransfers of trigger-list items are to be subject to the same conditions as those attached to the original transfer. In the event of the diversion of materials or violation of the supplier/recipient understandings, the members of the Club should consult promptly on possible common action. Restraint is recommended in the transfer of facilities sensitive in terms of proliferation, such as uranium enrichment or plutonium reprocessing plants. This restraint is generally understood to mean no transfer. In 1978 the United States adopted a Nuclear Non-Proliferation Act, which imposed even sterner restrictions on nuclear supplies. It required the renegotiation of all US nuclear co-operation agreements with a view to ensuring US right to withhold consent to reprocessing and re-exporting nuclear fuel of US origin.

The London Club had been dormant for a long time, until it reconvened in the Hague in 1991 to discuss, among other things, ways of attracting new members. In March-April 1992 twenty-seven adherents to the Nuclear Suppliers Guidelines,[43] meeting in Warsaw with a view to filling certain gaps in the controls of nuclear exports, decided to clarify parts of the trigger-list incorporated in the 1977 Guidelines.[44] They also adopted Guidelines for transfers of nuclear-related dual-use equipment, material and related technology. Items subject to controls are listed in an annex under the following rubrics: industrial equipment; materials; uranium isotope separation equipment and components; heavy water production plant related equipment; implosion systems development equipment; explosives and related equipment; nuclear testing equipment and components; and other

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[43] Australia, Austria, Belgium, Bulgaria, Canada, Czech and Slovak Federal Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russia, Spain, Sweden, Switzerland, the United Kingdom and the United States.

[44] IAEA document INFCIRC/254/Rev.1/Part 1.

items (neutron generator systems, tritium, etc.). An appendix contains detailed machine tools specifications.[45]

The suppliers undertook not to authorize nuclear-related dual-use transfers for use in a non-nuclear weapon state in a nuclear explosive activity or an unsafeguarded nuclear fuel cycle activity or, in general, when there is an unacceptable risk of diversion to such an activity, or when the transfers are contrary to the objective of averting the proliferation of nuclear weapons. Export licensing procedures for the transfer of items identified in the annex, which are to be adopted by the suppliers, should include enforcement measures for violations. In considering whether transfers should be authorized, the most important factor to be taken into account is whether the recipient state is party to the NPT, or to a similar international legally binding nuclear non-proliferation agreement, and has an IAEA safeguards agreement in force applicable to all its peaceful nuclear activities. Before authorizing a transfer, the supplier should obtain a statement from the end-user specifying the uses and end-use locations of the projected transfer, as well as an assurance that the transfer or any replica thereof will not be used in any nuclear explosive activity or unsafeguarded nuclear fuel cycle activity. In case of transfer to a non-adherent to the Guidelines, suppliers should obtain an assurance that their consent will be secured prior to any retransfer of the relevant items or replica thereof to a third country. The suppliers may apply the Guidelines to other items of significance in addition to those specified in the annex. They may also apply other conditions for transfer in addition to those provided for in the Guidelines.[46] In a separate declaration, the Warsaw meeting participants agreed that enhanced reporting of nuclear material, relevant equipment and non-nuclear material transfers, should be actively pursued as a means of supporting the safeguards of the IAEA. Japan is to serve as a point of contact for administering--through its permanent Mission to the IAEA in Vienna--the transfer control arrangement. All countries have been invited to adhere to the Nuclear Suppliers Guidelines.

Several important suppliers, including China and Argentina, have not yet formally committed themselves to observing the rules described above. Nevertheless, in a statement called "Interim guidelines related to weapons of mass destruction", made on 29 May 1992 together with France, Russia, the United Kingdom and the United States, China promised to exercise restraint in the transfer of sensitive nuclear facilities, technology and weapon-usable material, promptly notify the IAEA of exports to a non-nuclear weapon state of any nuclear materials, equipment or facilities,

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[45] IAEA document INFCIRC/254/Rev 1/Part 2.

[46] For a more extensive discussion of the Warsaw Guidelines, see R. Timerbaev, "A major milestone in controlling nuclear exports" in *Eye On Supply*. No 6-spring 1992. Monterey Institute of International Studies.

and place them under IAEA safeguards.[47] Also Argentina, which did not participate in the Warsaw meeting, declared that it would establish effective controls over its exports of nuclear equipment and materials.[48]

Another international grouping, the NPT Exporters Committee (also called the Zangger Committee), established in 1974 a safeguards trigger list valid for non-parties to the NPT, and has been active since then in bringing the list up to date. Once non-parties definitively cease to receive nuclear supplies from the parties, there will be no reason for the continued existence of this body.

Spokesmen of some Third World countries criticize the restrictive measures taken by the suppliers as an infringement of the right to nuclear supplies implied in the NPT. Their argument is that, since governments have accepted the safeguards required by the Treaty, no further limitation should be placed on their peaceful nuclear programmes. However, under the NPT, the right of parties to obtain equipment, material and technology for peaceful uses of nuclear energy is not unlimited: any such supplies are subordinated to non-proliferation goals. This means that they must not in any way facilitate the acquisition of nuclear weapons. In case of a collision between arms control objectives and economic or other interests of the suppliers or recipients, the arms control aspect must prevail. Thus, for example, there can be no justification for shipments of significant quantities of weapon-grade nuclear material, or of equipment capable of producing such material, to NPT parties with a nuclear industry in an embryonic state, full-scope IAEA safeguards notwithstanding.

Nuclear trade

The nuclear export controls--an important component of the non-proliferation regime--have slowed the pursuit of nuclear weapons at least by some "problem" states. As far as is known, no adherent to the Nuclear Suppliers Guidelines has deliberately transgressed the agreed rules. There were, however, cases of illegal exports of nuclear material and equipment by private exporters. More often, national export legislations were circumvented due to loopholes.[49] Some of these loopholes had been taken advantage of by Iraq so that the country could embark on a clandestine nuclear weapon programme and disregard its obligations under the NPT.

It is imperative that the parties to the NPT should shore up their nuclear export legislations and possibly render them uniform. They should improve their licensing procedures, the quality of

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[47] *Daily Bulletin*, United States Mission in Geneva, EUR 515, 05/29/92.

[48] IAEA document INFCIRC/404.

[49] For a thorough discussion of the loopholes in the nuclear export legislations, see H. Müller, "The Nuclear Trade Regime: A Case for Strengthening the Rules" in M. P. Fry, N. P. Keatinge and J. Rotblat (Eds.), *Nuclear Non-Proliferation and the Non-Proliferation Treaty*, Springer-Verlag, Berlin, Heidelberg, New York, 1990.

customs control as well as the exchange of information regarding dubious industrial and commercial activities. In a move exceeding the requirements of the existing safeguards agreements, the IAEA has recently invited its members to report to it, on a voluntary basis, all exports and imports of nuclear material as well as of relevant equipment and non-nuclear material.[50]

6. Nuclear- capable missiles

The control regime

A recommendation frequently made to strengthen the non-proliferation regime was to complement the existing restraints on supplies of nuclear material and equipment by restraints on supplies of dual-capable weapon systems, that is, systems capable of delivering both conventional and nuclear weapons. This recommendation was partly put into practice in April 1987 when seven governments--those of Canada, France, FR Germany, Italy, Japan, the United Kingdom and the United States--established a Missile Technology Control Regime (MTCR) by adopting identical Guidelines for sensitive missile-relevant transfers. These rules, originally meant to control only transfers of equipment and technology which "could make a contribution" to missile systems capable of delivering a nuclear weapon, were amended in July 1992 to cover also missiles capable of delivering biological and chemical weapons.

The Guidelines are accompanied by an Annex specifying two categories of items, which term includes equipment and technology. Category I items, all of which are in Annex Items 1 and 2, are those items of greatest sensitivity. If a Category I item is included in a system, that system will also be considered as Category I, except when the incorporated item cannot be separated, removed or duplicated. Particular restraint will be exercised in the consideration of Category I transfers regardless of their purpose, and there will be a strong presumption to deny such transfers. Particular restraint will also be exercised in the consideration of transfers of any items in the Annex, or of any missiles (whether or not in the Annex), if the supplier government judges, on the basis of available information, that they are intended to be used for the delivery of weapons of mass destruction; there will be a strong presumption to deny such transfers. Until further notice, the transfer of Category I production facilities will not be authorized. The transfer of other Category I items will be authorized only on rare occasions and where the supplying government obtains appropriate assurances from the recipient government and takes all steps necessary to ensure that the transferred

[50] Letter of 7 July 1992 from the Director General to IAEA member states.

item is put only to its stated end-use. Concern about the proliferation of weapons of mass destruction occupies a prominent place among the factors that must be taken into account in the evaluation of all transfer applications.

Assessment of the MTCR

Since 1987 the number of adherents to the MTCR has increased considerably.[51] Russia has indicated its intention formally to adhere to the regime,[52] whereas China and Israel have pledged to abide by the MTCR Guidelines. (China has also promised to cancel certain controversial missile sales.)[53] However, the MTCR restrictions came somewhat late. Companies from France, Germany and Italy had been collaborating for a long time with Third World missile producers,[54] and both the USA and the Soviet Union had provided different types of missile to several countries. The MTCR may have slowed the Brazilian missile programme and contributed to stopping the Argentine programme, but it has not affected the programmes of India or Israel, which have already acquired indigenous missile production capabilities. Nor has the MTCR rendered impossible the upgrading by several countries of the Soviet-designed missiles. The MTCR is focused on large missiles and rockets; it is not designed to constrain smaller, more sophisticated weapons. It ignores such an important, but less costly and relatively easily available nuclear delivery vehicle as aircraft.

Although missiles can carry all kinds of weapons, the acquisition of missiles in regions of tension may engender pressure for the acquisition of weapons of mass destruction, in particular, nuclear weapons, or arouse suspicion that the recipient country plans to acquire such weapons. Indeed, if a nuclear-capable country decided to "go nuclear" it would have readily available nuclear delivery vehicles even more dangerous than aircraft: once launched, missiles cannot be recalled and are very difficult to intercept. Moreover, most missiles that have been so far acquired by the developing countries are known to be relatively inaccurate, as exemplified by the Scud missile used by Iraq in the Gulf War. They could be militarily more effective if they were equipped with weapons of mass destruction rather than with conventional weapons intended to destroy specific targets. For these reasons it is essential that the MTCR be strengthened.

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[51] In July 1992 the list of MTCR adherents included: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.

[52] UN document A/47/77 and S/23486.

[53] J. B. Wolfsthal, "China Promises to Join NPT by March, Will Follow Missile Export Guidelines" in *Arms Control Today*, Vol.21, No.10, December 1991.

[54] *Financial Times*, 8 June 1988.

To make it significantly more complicated and more costly for countries to acquire sensitive missile technology, the MTCR must be adhered to by all missile-producing states. Also the MTCR rules must be tightened. In particular, the thresholds for the range (300 km) and the weight of payloads (500 kg) of the controlled missiles should be lowered. It would, furthermore, be advisable to render the restrictions legally binding and to establish an international body to monitor compliance. So far, compliance has been checked unilaterally by the parties, mainly by the United States which threatens to impose trade sanctions on non-complying companies.[55] In the long run, however, sanctions may not help. World-wide proliferation of missiles designed for the delivery of weapons of mass destruction could stop only if also the production of such missiles were brought to an end. In the meantime, limitations might be imposed on the numbers, types and ranges, as well as tests, of missiles which are in the possession of *all* states, without discrimination, and without hampering the development of technologies for peaceful uses of outer space.[56]

7. Arms control

The arms control obligations under the NPT are generally considered to be of particular consequence. In signing the NPT the parties agreed that the self-imposed arms denial of one side--the non-nuclear weapon states--was to be matched, ultimately, by corresponding acts of the other side--the nuclear weapon powers. The parties have therefore undertaken to pursue negotiations "in good faith" to halt the nuclear arms race at an early date and to bring about nuclear disarmament. As a matter of fact, the NPT is the only existing international legal document under which the major nuclear powers are specifically committed to negotiating nuclear disarmament.

Within the next ten years the numbers of nuclear weapons deployed by Russia and the United States are expected to diminish dramatically. Following the elimination of their ground-launched missiles with a range of 500 to 5 500 km, in accordance with the 1987 INF Treaty, and the unilateral withdrawals of their short-range, land- and sea-based tactical missiles, the two sides will

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[55] According to the information published in June 1992 by the US Department of Commerce, 21 countries are subject to US exports controls intended to prevent proliferation of missile technology. The countries listed are: Brazil, China, India, Iran, North Korea, Pakistan, South Africa, Bahrain, Egypt, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates and Yemen. (*Daily Bulletin*, United States Mission in Geneva, No.110, June 17, 1992)

In May 1992, in response to an agreement between Moscow and New Delhi on deliveries of Russia's missile technology to India, the United States declared a two-year ban on US-licensed exports to Glavkosmos and the Indian Space Research Organization, as well as a ban on any imports from those organizations into the United States. (*Press Bulletin*, Permanent Mission of the Russian Federation in Geneva, No. 38, 14 May 1992.

[56] For a discussion of the weaknesses of the MTCR, see J. R. Harvey and U Rubin, "Controlling Ballistic Missiles: How Important? How To Do It?" in *Arms Control Today*, Vol.22, No.2, March 1992, and Hu Yumin, "Proliferation of Guided Missiles and Control over Missile Transfer" in *International Strategic Studies*, No.4, 1991, Beijing.

reduce the arsenals of strategic nuclear delivery vehicles with a range in excess of 5 500 km in accordance with the 1991 START Treaty. They will also eliminate all land-based intercontinental ballistic missiles with multiple independently targetable warheads, once the Joint Understanding on further significant cuts of strategic nuclear weapons, signed by Presidents Bush and Yeltsin in June 1992, has been codified into a treaty and ratified. The British and French nuclear weapon programmes, too, are being scaled down. The July 1992 announcement by President Bush that the United States would not produce any more plutonium or highly enriched uranium has opened the way to an agreed global cut-off of production of fissionable material for weapon purposes.[57] The expected full entry into force of the 1967 Treaty of Tlatelolco prohibiting nuclear weapons in Latin America, as well as the projected establishment of nuclear weapon-free zones in Africa and on the Korean Peninsula,[58] may help expand the denuclearized areas of the globe. Also the Treaty on the reduction of conventional armed forces in Europe, which is about to enter into force, and the projected multilateral convention prohibiting chemical weapons will go a long way towards meeting the disarmament goals set by the NPT.

Nevertheless, no effective steps have been taken to constrain the qualitative improvement of nuclear weapons. For this purpose a comprehensive nuclear test-ban treaty (CTBT) would be essential. This is why the preamble to the NPT reiterated the determination of the parties to the 1963 Partial Test Ban Treaty (PTBT) to achieve the discontinuation of all test explosions of nuclear weapons for all time. A total ban on nuclear explosions would help accelerate nuclear disarmament. It would also check the spread of nuclear weapons, in particular, thermonuclear weapons, which cannot be developed without testing. It would, moreover, alleviate the concerns about the harmful environmental effects of nuclear testing.

8. Suggested procedures

Nuclear non-proliferation has become a norm of international behaviour which can be internationally enforced. However, to ensure that the NPT continue in force indefinitely, the problems described above would have to be expeditiously solved. It may seem that the best way

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[57] Conference on Disarmament document CD/1158.

[58] It is worth noting that in the Joint Declaration on the denuclearization of the Korean Peninsula, signed in January 1992, North Korea and South Korea undertook not to possess nuclear reprocessing and uranium enrichment facilities (Conference on Disarmament document CD/1147). This undertaking goes further than the denuclearization obligations assumed by the parties to the 1968 Treaty of Tlatelolco prohibiting nuclear weapons in Latin America, or to the 1985 Treaty of Rarotonga which has established a nuclear-free zone in the South Pacific.

In a Joint Statement, made in June 1992 at the Summit Meeting, Russia and the United States welcomed the Korean Declaration and called for its full implementation. (Conference on Disarmament document CD/1162.)

to bring this about is to amend the NPT. Any amendment must be approved by a majority of the votes of all the parties to the Treaty, including the votes of all nuclear weapon parties and all other parties which, on the date the amendment is circulated, are members of the IAEA Board of Governors. These requirements would be very difficult to meet. It is especially unlikely that unanimity could be obtained on any significant amendment in such a large and heterogeneous group as the IAEA Board of Governors. Even an amendment adopted by the required majority may fail to enter into force if the parties decide not to ratify it.

It is safer for the integrity of the NPT--and certainly much simpler--to strengthen its provisions through common understandings, formal or informal, or supplementary agreements among the parties. Further improvement of nuclear safeguards--the principal instrument to ensure compliance with the NPT--can be achieved without tampering with the language of the Treaty.

Appendices

Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

Opened for signature at London, Moscow and Washington: 1 July 1968

Entered into force: 5 March 1970

* * *

The States concluding this Treaty, hereinafter referred to as the "Parties to the Treaty",

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war,

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to co-operate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for peaceful purposes to all Parties to the Treaty, whether nuclear-weapon or non-nuclear-weapon States,

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in co-operation with other States to, the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to undertake effective measures in the direction of nuclear disarmament,

Urging the co-operation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the

discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and the strengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national arsenals of nuclear weapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control,

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world's human and economic resources,

Have agreed as follows:

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses

to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.

3. The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.

4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

Article IV

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate

in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

Article V

Each Party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a non-discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

Article VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

Article VII

Nothing in this Treaty affects 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.

Article VIII

1. Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon, if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.

3. Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.

Article IX

1. This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January, 1967.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article X

1. Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty an to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

2. Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

Article XI

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate, at the cities of London, Moscow and Washington, the first day of July, one thousand nine hundred and sixty-eight.

Press statement of the Meeting of States adhering to the Nuclear Suppliers Guidelines

Warsaw, Poland, April 3, 1992

A meeting took place in Warsaw, Poland on March 31 - April 3, 1992 of the States adhering to the Nuclear Suppliers Guidelines. These twenty seven countries met to review current supplier arrangements and to consider further ways and means to strengthen the Nuclear Non-Proliferation regime, with particular emphasis on the Nuclear Suppliers Guidelines published by the International Atomic Energy Agency (IAEA) in Information Circular 254 (INFCIRC 254).

The participants adopted the most important export control initiative of recent years. At the 1991 suppliers meeting there was a recognition of the growing problems posed by the potential use of nuclear-related dual-use materials, equipment and technology in unsafeguarded nuclear programs or in nuclear weapons programs. Following a year of intensive negotiations, the participants adopted a comprehensive arrangement to control the export of these items. The arrangement, which consists of a set of guidelines and a list of some 65 items to be controlled, will be incorporated into the Nuclear Suppliers Guidelines. With the successful completion of this important initiative, a significant gap in the international nuclear export control regime has been filled.

A further major outcome of the Warsaw meeting was a declaration by all participants of a common policy of requiring the application of full-scope IAEA safeguards to all current and future nuclear activities as a necessary condition for all significant, new nuclear exports to non-nuclear weapon states.

In exceptional cases, the transfers of items essential for the safe operation of existing facilities may take place to non-nuclear weapons states where full-scope safeguards are not accepted, if safeguards are applied to these facilities.

The participants appealed to all states which export nuclear facilities, equipment, components, material or technology to adopt the same policy.

The participants reaffirmed their strong commitment to preventing the further spread of nuclear weapons which represents a grave threat to the peace and security of the world. They also reaffirmed the importance of the IAEA system of safeguards as a crucial element for ensuring the peaceful uses of nuclear energy. The participants agreed that enhanced reporting of nuclear material, relevant equipment and certain non-nuclear material transfers should be actively pursued within the IAEA as a means of supporting the Agency's safeguards program. There was a recognition by all

participants of the need to ensure that supplier co-operation does not contribute directly or indirectly to nuclear proliferation, as well as the need to ensure that commercial competition does not compromise their mutually shared non-proliferation objectives. The participants also affirmed their intention to support the peaceful uses of nuclear energy.

The participants urged all non-nuclear weapons states which have not already done so, to make an international legally-binding commitment to place all of their nuclear activities under IAEA safeguards.

All supplier countries were invited by the participants to adhere to the Nuclear Suppliers Guidelines, which is the most widely adhered to export control regime. Further, the participants made a special appeal to the new states which have emerged from the former Soviet Union who have not yet done so, to accede to the Nuclear Non-Proliferation Treaty as non-nuclear weapon states, to adopt the IAEA full-scope safeguards, and to implement effective nuclear export controls through adherence to the Nuclear Suppliers Guidelines.

The participants agreed upon the need for regular consultations and decided to convene another meeting within the next year.

Guidelines for sensitive missile-relevant transfers

July 1992

1. The purpose of these Guidelines is to limit the risks of proliferation of weapons of mass destruction (*i.e.* nuclear, chemical and biological weapons), by controlling transfers that could make a contribution to delivery systems (other than manned aircraft) for such weapons. The Guidelines are not designed to impede national space programs or international co-operation in such programs as long as such programs could not contribute to delivery systems for weapons of mass destruction. These Guidelines, including the attached Annex, form the basis for controlling transfers to any destination beyond the Government's jurisdiction or control of all delivery systems (other that manned aircraft) capable of delivering weapons of mass destruction, and of equipment and technology relevant to missile whose performance in terms of payload and range exceeds stated parameters. Restraint will be exercised in the consideration of all transfers of items contained within the Annex and all such transfers will be considered on a case-by-case basis. The Government will implement the Guidelines in accordance with national legislation.

2. The Annex consists of two categories of items, which term includes equipment and technology. Category I items, all of which are in Annex Items 1 and 2, are those items of greatest sensitivity. If a Category I item is included in a system, that system will also be considered as Category I, except when the incorporated item cannot be separated, removed or duplicated. Particular restraint will be exercised in the consideration of Category I transfers regardless of their purpose, and there will be a strong presumption to deny such transfers. Particular restraint will also be exercised in the consideration of transfers of any items in the Annex, or of any missiles (whether or not in the Annex), if the Government judges, on the basis of all available, persuasive information, evaluated according to factors including those in paragraph 3, that they are intended to be used for the delivery of weapons of mass destruction, and there will be a strong presumption to deny such transfers. Until further notice, the transfer of Category I production facilities will not be authorized. The transfer of Category I items will be authorized only on rare occasions and where the Government (A) obtains binding government-to-government undertakings embodying the assurance from the recipient government called for in paragraph 5 of these Guidelines and (B) assumes responsibility for taking all steps necessary to ensure that the item is put only to its stated end-use. It is understood that the decision to transfer remains the sole sovereign judgement of the (blank) Government.

3. In the evaluation of transfer applications for Annex items, the following factors will be taken into account:

A. Concerns about the proliferation of weapons of mass destruction;
B. The capabilities and objectives of the missile and space programs of the recipient state;
C. The significance of the transfer in terms of the potential development of delivery systems (other than manned aircraft) for weapons of mass destruction;
D. The assessment of the end-use of the transfers, including the relevant assurances of the recipient states referred to in sub-paragraphs 5.A and 5.B below;
E. The applicability of relevant multilateral agreements.

4. The transfer of design and production technology directly associated with any items in the Annex will be subject to as great a degree of scrutiny and controls as will the equipment itself, to the extent permitted by national legislation.

5. Where the transfer could contribute to a delivery system for weapons of mass destruction, the Government will authorize transfers of items in the Annex only on receipt of appropriate assurances from the government of the recipient state that:

A. The items will be used only for the purpose stated and that such use will not be modified nor the items modified or replicated without the prior consent of the (blank) Government;
B. Neither the items nor replicas nor derivatives thereof will be retransferred without the consent of the (blank) Government.

6. In furtherance of the effective operation of the Guidelines, the (blank) Government will, as necessary and appropriated, exchange relevant information with other governments applying the same Guidelines.

7. The adherence of all States of these Guidelines in the interest of international peace and security would be welcome.

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