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## MODALITIES OF APPLICATION OF AGENCY SAFEGUARDS IN THE MIDDLE EAST

### Note by the Director General

1. In operative paragraph 6 of resolution GC(XXXII)/RES/487 adopted by the General Conference in September 1988, the Conference requested the Director General to prepare a technical study on different modalities of application of IAEA safeguards in the Middle East, taking into account the Agency's experience in applying its safeguards.

2. In response to the Conference's request, document GOV/INF/568 was circulated to members of the Board of Governors in June 1989. Some comments were made on it at the June session of the Board, and others have been made since then. The attached document reflects those comments. Changes have been made to paragraphs 18, 38, 39, 42, 50, 51, 52 and 53 of document GOV/INF/568; also, three paragraphs have been added (paragraphs 49, 63 and 64 in the attached document), with consequent relettering of sub-paragraphs in paragraph 18 and renumbering of paragraphs from paragraph 49 onwards.

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**TECHNICAL STUDY ON DIFFERENT MODALITIES  
OF THE APPLICATION OF SAFEGUARDS  
IN THE MIDDLE EAST**



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## INTRODUCTION

### Origin of the study

1. On 23 September 1988 the IAEA General Conference adopted resolution GC(XXXII)/RES/487, which requested the Director General inter alia to prepare a technical study on different modalities of the application of IAEA safeguards in the Middle East region, taking into account the Agency's experience in applying its safeguards.

2. The present study prepared by the IAEA Secretariat deals with the safeguards agreements concluded between the Agency and the States concerned and possible developments of those safeguards. It compares certain aspects of the different types of safeguards agreements under which the Agency applies safeguards

3. Resolution GC(XXXII)/RES/487 does not define the Middle East region. The Secretariat could not trace any official definition of the Middle East as a region in United Nations documents or in resolutions adopted by the United Nations General Assembly. For the purpose of the present study the region has been taken as including the area extending from the Libyan Arab Jamahiriya in the west, to the Islamic Republic of Iran in the east, and from Syria in the north to the People's Democratic Republic of Yemen in the south. This selection carries no political significance and it is purely geographical.

### Nature of safeguards

4. The Agency is authorized by its Statute to establish and administer safeguards designed to ensure that special fissionable and other materials, services, equipment, facilities, and information made available by the Agency or at its request or under its supervision or control are not used in such a way as to further any military purpose; and to apply safeguards, at the request of the parties, to any bilateral or multilateral arrangement, or at the request of a State, to any of that State's activities in the field of atomic energy.

5. The Agency cannot carry out safeguards within the jurisdiction of a State without the latter's consent. Such consent must be recorded in a specific safeguards agreement which the State negotiates and concludes with the Agency on a voluntary basis. The Agency's Statute alone cannot replace the required safeguards agreement and ratification or acceptance of the Statute by a Member State does not mean that a Member has submitted to Agency safeguards.

6. The objective of Agency safeguards is to verify in an independent, technically correct and reliable manner that States are complying with their safeguards undertakings, pursuant to the safeguards agreements concluded with the Agency; and, thereby, to provide meaningful evidence from which all Member States can draw conclusions regarding the assurance of non-diversion of nuclear material or, where appropriate, of non-misuse of nuclear installations, and to assist individual States or groups of States to provide valid evidence, on a continuing basis, that they are complying with their safeguards undertakings.

7. The Agency's safeguards measures consist of inspections and material accountancy and include supplementary measures such as containment and surveillance methods and destructive and non-destructive analysis of nuclear material.

8. The inspection activities are performed to verify, inter alia, the nuclear material inventory and its changes, the flow of nuclear material and the operator's measurement system. The surveillance devices are human, optical, movement monitors, radiation monitors and power monitors. The containment devices are mainly seals.

9. The inspection goals are mainly accountancy verification goals, to be able to confirm that the records at a facility are correct, and a timeliness goal, to perform certain inspection activities in a timely manner.

Comparison of safeguards agreements

10. Agency safeguards are implemented pursuant to the Statute and, in general, in accordance with INFCIRC/66/Rev. 2 or INFCIRC/153. Safeguards agreements containing variations on these documents have also been approved by the IAEA Board of Governors to take account of different basic undertakings by Member States<sup>1/</sup>.

11. The basic undertaking of States with INFCIRC/66/Rev. 2-type agreements is to accept Agency safeguards on specified facilities or materials with a view to enabling the Agency to verify that these items are not used in such a way as to further any military purpose. While the approach is facility oriented, the requirement to safeguard special nuclear material produced by the use of such facilities is also recognized.

12. The entry into force of the NPT in 1970 resulted in the development of document INFCIRC/153. This document reflected a shift in emphasis in the application of Agency safeguards from facility-specific arrangements to a full fuel cycle system based on the verification of nuclear material at certain strategic points. The basic undertaking of the States with INFCIRC/153-type agreements is to accept safeguards on all source or special fissionable material in all peaceful activities within their territory, under their jurisdiction or carried out under their control anywhere, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or to other nuclear explosive devices.

13. The undertakings by those States which have concluded with the Agency safeguards agreements which cannot be strictly characterized as either INFCIRC/66/Rev. 2 or INFCIRC/153 vary somewhat. In broad terms, however, the safeguards applied under these agreements are consistent with the general thrust of the provisions of these documents.

<sup>1/</sup> Examples of agreements based on those documents are given in the Annexes to the present document.

II. CURRENT STATUS OF PEACEFUL NUCLEAR ACTIVITIES AND SAFEGUARDS IN THE MIDDLE EAST

14. According to information supplied to the Agency — most of it recorded in the Agency's Annual Report — the following Member States in the Middle East have nuclear facilities, non-proliferation commitments and safeguards agreements as described below:

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Bahrain

The Agency knows of no nuclear activities in Bahrain which would be relevant to the application of safeguards. Bahrain adhered to the NPT on 3 November 1988. A safeguards agreement has not yet been concluded. The Agency has communicated to the Government of Bahrain a draft NPT safeguards agreement based on the standard text approved by the Board of Governors (GOV/INF/276, see Annex A).

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Democratic Yemen

The Agency knows of no nuclear activities in Democratic Yemen which would be relevant to the application of safeguards. Democratic Yemen adhered to the NPT on 1 June 1979. A safeguards agreement has not yet been concluded. The Agency has communicated to the Government of the People's Democratic Republic of Yemen a draft NPT safeguards agreement based on the standard text GOV/INF/276 (see Annex A).

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Egypt

Egypt has a 2 MW WWR-C research reactor, which uses 10% enriched uranium. Egypt adhered to the NPT on 26 February 1981. It has concluded (see Annex B) an NPT safeguards agreement with the Agency (INFCIRC/302), which has been in force since 30 June 1982. This agreement is based on the standard text GOV/INF/276 (see Annex A).

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Iran

Iran has a 5 MW TSPRR pool type research reactor, using 93% enriched uranium. A Project Agreement has been concluded by which Argentina has agreed to supply to Iran fuel for this reactor with approximately 20% enrichment. Iran has under construction a nuclear power station in Bushehr with two units, 1300 MW each. Iran ratified the NPT on 2 February 1970. It has concluded (see Annex C) an NPT safeguards agreement with the Agency (INFCIRC/214), which has been in force since 15 May 1974. This agreement is based on the standard text GOV/INF/276 (see Annex A).

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Iraq

Iraq has a 5 MW IRT-5000 pool type research reactor, using 80% enriched uranium. Iraq also has a Tamuz 2, 500 kw pool type reactor, using 93% enriched uranium. Iraq also operates an experimental fuel fabrication plant (ERLFF) and a separate storage facility. Iraq ratified the NPT on 29 October 1969. It has concluded (see Annex D) an NPT safeguards agreement with the Agency (INFCIRC/172), which has been in force since 29 February 1972. This agreement is based on the standard text GOV/INF/276 (see Annex A).

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Israel

Israel operates the following nuclear facilities:<sup>2/</sup>

- 5 MW IRR-1 pool type research reactor, using 93% enriched uranium
- IRR-2 research reactor, natural uranium, heavy water moderator, 26 MW (Negev Nuclear Research Centre)
- Hot cell laboratories and auxiliary installations at Soreq and Negev Centres
- Isotope production and labelling laboratories at Soreq and Negev Centres
- Pilot plant for extracting uranium from phosphates at Negev Centre

Safeguards are applied under a safeguards agreement (INFCIRC/249 and INFCIRC/249/Add.1), in force as of 4 April 1975 and 7 April 1977 respectively (see Annex E), to the 5 MW IRR-1 pool type research reactor and to a quantity of heavy water supplied by the USA.

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Jordan

Jordan has no nuclear activities which would be relevant to the application of safeguards. Jordan ratified the NPT on 11 February 1970. It has concluded (see Annex F) an NPT safeguards agreement with the Agency (INFCIRC/258), which has been in force since 21 February 1978. This agreement is based on the standard text GOV/INF/276 (see Annex A).

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<sup>2/</sup> Information obtained from GOV/2390 and GC(XXXII)/849.

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Kuwait

The Agency knows of no nuclear activities in Kuwait which would be relevant to the application of safeguards. Kuwait signed the NPT on 15 August 1968 but it has not yet ratified it and, thus, is not a party to the NPT.

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Lebanon

Lebanon has no nuclear activities which would be relevant to the application of safeguards. Lebanon adhered to the NPT on 15 July 1970. It has concluded (see Annex G) an NPT safeguards agreement with the Agency (INFCIRC/191), which has been in force since 5 March 1973. This agreement is based on the standard text GOV/INF/276 (see Annex A).

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Libyan Arab  
Jamahiriya

Libya has an IRT Tajura 10 MW research reactor, which uses 80% enriched uranium. Libya adhered to the NPT on 26 May 1975. It has concluded (see Annex H) an NPT safeguards agreement with the Agency (INFCIRC/282) which has been in force since 8 July 1980. This agreement is based on the standard text GOV/INF/276 (see Annex A).

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Oman

The Agency knows of no nuclear activities in Oman which would be relevant to the application of safeguards. It has not concluded a safeguards agreement with the Agency.

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Qatar

The Agency knows of no nuclear activities in Qatar which would be relevant to the application of safeguards. Qatar adhered to the NPT on 3 April 1989. A safeguards agreement has not yet been concluded. The Agency has communicated to the Government of Qatar a draft NPT safeguards agreement based on the standard text GOV/INF/276 (see Annex A).

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Saudi Arabia The Agency knows of no nuclear activities in Saudi Arabia which would be relevant to the application of safeguards. Saudi Arabia adhered to the NPT on 3 October 1988. A safeguards agreement has not yet been concluded. The Agency has communicated to the Government of Saudi Arabia a draft NPT safeguards agreement based on the standard text GOV/INF/276 (see Annex A).

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Syrian Arab Republic The Agency knows of no nuclear activities in the Syrian Arab Republic which would be relevant to the application of safeguards. Syria ratified the NPT on 24 September 1969. A safeguards agreement has not yet been concluded. The Agency has communicated to the Government of the Syrian Arab Republic a draft safeguards agreement based on the standard text GOV/INF/276 (see Annex A).

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United Arab Emirates The Agency knows of no nuclear activities in the United Arab Emirates which would be relevant to the application of safeguards. United Arab Emirates has not concluded a safeguards agreement with the Agency.

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Yemen Arab Republic The Agency knows of no nuclear activities in the Yemen Arab Republic which would be relevant to the application of safeguards. Yemen Arab Republic adhered to the NPT on 14 May 1986. The Agency has communicated to the Government of Yemen Arab Republic a draft safeguards agreement based on the standard text GOV/INF/276 (see Annex A).

NOTE: The NPT safeguards agreements mentioned above and concluded on the basis of GOV/INF/276 are identical to the text of this document with variations limited to the provisions of privileges and immunities, finance, suspension of prior safeguards agreements and entry into force. The first three types of variations depend on the specific situation in each country; whether the country has accepted the Privileges and Immunities Agreement of the Agency; whether it is a Member State of the Agency; and whether it has previously concluded any other safeguards agreement with the Agency. The last type of variation depends on the constitutional requirement of each country. In addition, a Protocol to the Agreement is concluded only in the cases of those countries which do not possess any nuclear material relevant to the application of safeguards.

III. EXPERIENCE IN APPLYING SAFEGUARDS: TYPES OF AGREEMENTS

15. In the following paragraphs the different types of safeguards agreements are examined under the following headings; the basic undertaking, coverage, duration, non-explosive military use, explosive use, initial inventory, method of application. For the purpose of this study, basic undertaking means the legal commitment made by the State to accept safeguards and the extent to which safeguards are accepted on nuclear activities. Non-exclusive military use means any non-proscribed military use (e.g. nuclear propulsion). Explosive use means use for nuclear explosive devices. Initial inventory is the nuclear material inventory declared by the State at the time the agreement comes into force. Method of application means the technological methods followed by the Agency to perform its safeguards activities under the agreements.

A: INFCIRC/66/Rev. 2

16. The safeguards document INFCIRC/66/Rev.2 was developed to implement those provisions of the Statute, in Articles II, III.A.5, XI F.4 and XII, which deal with the safeguards functions of the Agency and which give the Agency authority to establish and implement a safeguards system.

17. The safeguards agreements concluded under INFCIRC/66/Rev.2 fall under one or more of the following categories:

(a) Project Agreements which provide for the supply by or through the Agency of materials, services, equipment, facilities and information and for the application of safeguards.

(b) Bilateral Safeguards Agreements between the Agency and a State, based on unilateral submission by a State and concluded at the request of that State, for the application of safeguards to any or all of that State's activities in the field of nuclear energy (Article III.A.5 of the Statute and Sections 15 (c), 19 (c) and 82 (c) of the Safeguards Document). Such "activities" may consist of a nuclear facility which the State has built on its own, but usually consist of facilities, equipment and/or material supplied or otherwise made available by a supplier State under an agreement for co-operation.

(c) Multilateral Safeguards Agreements between the Agency and two or more States, which provide for the application of safeguards to materials, services, equipment, facilities or information supplied under a bilateral or multilateral arrangement between such States (Article III.A.5 of the Statute and Sections 15 (b) and 82 (a) of the Safeguards Document). Usually, the bilateral or multilateral arrangement between a supplier State and the receiver State is an agreement on co-operation in the field of nuclear energy.

CHARACTERISTICS: INFCIRC/66/Rev. 2

18. The main characteristics of safeguards agreements concluded under INFCIRC/66/Rev.2 are as follows:

(a) The basic undertaking

The basic undertaking of the State or States parties to these agreements is "not to use specified items in such a way as to further any military purpose" (Article III.A.5 of the Statute, Section 82 of the Safeguards Document INFCIRC/66/Rev. 2). In the February 1975 Board meeting the Director General stated that this undertaking included the obligation not to use safeguarded items for the development, manufacture or testing of nuclear explosive devices of any kind. From then on many agreements approved by the Board have contained the explicit undertaking not to use such items for the manufacture of any nuclear weapon or to further any military purpose or the manufacture of any other explosive device. The basic undertaking covers the items which are listed on the Inventory as provided for in those agreements. In some agreements the coverage is extended to technological information transferred with the supplied items. Under INFCIRC/66/Rev. 2-type agreements, safeguards continue to cover subsequent generations of special fissionable material produced, processed or used in or by the use of any supplied items.

(b) Duration

In 1973, the Board agreed that, in order to achieve a greater degree of standardization, the duration of the INFCIRC/66/Rev.2-type agreements should be related to the period of actual use of the items in the State. The Board further agreed that the provisions for terminating the agreement should be formulated in such a way that the rights and obligations of the parties continue to apply in connection with supplied nuclear material and with special fissionable material produced, processed or used in or in connection with supplied nuclear material, equipment, facilities or non-nuclear material, until such time as the Agency has terminated the application of safeguards thereto, in accordance with the provisions of paragraph 26 or 27 of the Agency's Safeguards Document.

(c) Explosive or non-explosive military use

As described in paragraph 18 (a) above, States with INFCIRC/66/Rev.2-type agreements have undertaken not to use safeguarded items in such a way as to further any military purpose, whether explosive or non-explosive.

(d) Initial Inventory

The Initial Inventory, based on information provided by the recipient State or sometimes by both the recipient and the supplier State, contains all items placed under Agency safeguards. Under INFCIRC/66/Rev. 2-type agreements the Agency establishes and maintains the Inventory, which is then divided into three parts:

- (i) The Main Part of the Inventory contains all items which are initially submitted to safeguards (usually supplied items), as well as items produced, processed or used on the basis of supplied information (if applicable) and any subsequent generation of special fissionable material produced, processed or used in or by the use of any item in the inventory and any substituted items.
- (ii) The Subsidiary Part of the Inventory contains any facility not listed in the main part of the Inventory while it stores or uses or processes any nuclear material of the main part of the inventory and
- (iii) The Inactive Part of the Inventory contains any nuclear material which is not included in the Main Part of the Inventory because it is exempted or suspended from safeguards in accordance with the relevant provision of the Safeguards Document INFCIRC/66/Rev. 2.

(e) Method of application

The objectives of safeguards pursuant to agreements concluded on the basis of INFCIRC/66/Rev. 2 are set forth in Part I of that document. In order to satisfy the safeguards objectives, a safeguards approach is developed consisting of a system of nuclear material accountancy, containment, surveillance and other measures chosen for implementation of safeguards in a given situation.

The technical objective of safeguards is defined by the timely detection of any diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and the deterrence of any such diversion by the risk of early detection.

Safeguards are applied in accordance with an agreed set of safeguards procedures, described in Part III of INFCIRC/66/Rev.2. Part III, "Safeguards Procedures", describes the technical means of applying safeguards. It specifies the control procedures to be applied to nuclear materials and facilities under safeguards. Provision is made for the design review of facilities, for the keeping of records with respect to facilities and to nuclear material, for reports with respect to the production, processing and use of safeguarded nuclear material and for the inspection of safeguarded nuclear material and facilities.

The safeguards procedures may include such additional procedures resulting from technological developments as may be agreed upon between the Agency and the safeguarded State. The method of safeguards application is provided for in the Subsidiary Arrangements concluded between the State and the Agency. In recent Subsidiary Arrangements, the procedures specifically refer to certain containment and surveillance measures which may be required for the effective application of safeguards.

The number of inspections performed depends generally on the amount of nuclear material under safeguards. Under certain conditions, the Agency may have access at all times to the facility under safeguards.

A provision concerning physical protection of nuclear material was not initially included in INFCIRC/66/Rev. 2-type agreements. However, such a provision has been included since 1978 in most agreements of this type although they vary in formulation.

B: INFCIRC/153

19. Document INFCIRC/153 was developed as a further amplification of the safeguards provisions of the Statute in the context of Article III.I of the NPT, under which non-nuclear-weapon States party to the Treaty undertake to accept safeguards to verify the fulfillment of their safeguards obligations under the Treaty.

20. Article III.1 of the NPT provides that 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 fulfillment 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.

21. The safeguards arrangements under INFCIRC/153 differ from those agreements concluded by the Agency under INFCIRC/66/Rev. 2 since their purpose is to cover the whole range of peaceful nuclear activities of a State rather than being limited to those items which the State or States concerned choose to submit to safeguards.

22. In contrast to INFCIRC/66/Rev.2, document INFCIRC/153 spells out in great detail the provisions to be included in the safeguards agreements. It contains detailed guidance for the Agency's use when drafting such an agreement.

CHARACTERISTICS: INFCIRC/153

23. The main characteristics of safeguards agreements concluded under INFCIRC/153 are as follows:

(a) The basic undertaking

The State undertakes to accept safeguards on all source and fissionable material in all peaceful nuclear activities within its territory, under its jurisdiction or carried out under its control anywhere, for the purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices. The application of Agency safeguards is extended to all source and fissionable material (except in mining or ore processing activities) within the State's territory, under its jurisdiction or control anywhere. This means that all peaceful nuclear activities in a non-nuclear-weapon State with an INFCIRC/153-type agreement are covered by Agency safeguards .

(b) Duration

An INFCIRC/153 agreement foresees that the agreement will remain in force as long as the State is a party to NPT.

(c) Non-explosive military use

If a State intends to use safeguarded nuclear material in a non-proscribed nuclear activity (such as nuclear propulsion), certain requirements have to be met, including the conclusion of an arrangement with the Agency so that safeguards are not applied while the nuclear material is in such an activity. No such arrangement has been made by the Agency.

(d) Explosive use

INFCIRC/153 agreements contain an undertaking that no safeguarded nuclear material in the State concerned will be diverted to nuclear weapons or other nuclear explosive devices.

(e) Initial Inventory

The Agency is provided by the State concerned with an initial report on all nuclear material subject to safeguards under the agreement. On the basis of this report the Agency establishes a unified inventory of all nuclear material in the State concerned, irrespective of its origin. The Agency maintains this inventory on the basis of subsequent reports received from the State concerned and by the results of the Agency's verification activities.

(f) Method of application

The technical objective of safeguards is defined as the timely detection of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and deterrence of such diversion by the risk of early detection.

Safeguards are applied in accordance with the safeguards procedures described in Part II of INFCIRC/153. This part contains provisions on the purpose and scope of inspections, access to facilities for inspectors, and the frequency and intensity of inspections. An agreement may also take account of the fact that a State party to the NPT does not have any nuclear material in significant quantities or any material in facilities. For such States, an additional Protocol provides that most of Part II of the Agreement is held temporarily in abeyance.

Other provisions enable the Agency to make full use of the State's system of accounting and control of all nuclear material.

Safeguards procedures are specified in Subsidiary Arrangements concluded with the State concerned. They describe in detail the purpose of design information review as well as the purpose and the scope of inspections and access for inspections.

C: EURATOM/IAEA/NNWS Safeguards Agreement

24. The ten non-nuclear-weapon States Members of the European Atomic Energy Community (EURATOM) are parties to the NPT. These States exercised the option provided by Article III.4 of the NPT to conclude an Agreement "together with other States" rather than individually. This resulted in the conclusion of an agreement (INFCIRC/193) between the Agency, EURATOM and the non-nuclear-weapon States of EURATOM, which follows closely the provisions of INFCIRC/153. There are, however, certain variations from INFCIRC/153, mainly with respect to EURATOM's safeguards system and the need to define the respective responsibilities of the Community and its Member States.\* As it is a party to the agreement, EURATOM itself has given an additional undertaking to co-operate with the Agency in ascertaining that nuclear material is not diverted to nuclear weapons or other nuclear explosive devices.

(a) The basic undertaking

The basic undertaking and coverage are the same as in INFCIRC/153. Geographically, the territories of the ten non-nuclear-weapon States Members of EURATOM are treated as a single area for the purpose of the application of safeguards by the Agency.

(b) Duration - Non-explosive military use - explosive use

The provisions governing duration, non-explosive military use and explosive uses in INFCIRC/193 are the same as those in other INFCIRC/153-type agreements.

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\* There are similar variations in the agreement with Japan (INFCIRC/255).

(c) Method of application

In accordance with the EURATOM Treaty, safeguards are applied by EURATOM in the territories of its Member States, where the Community's organs have regulatory and judicial powers which are applied directly and are exercised independently of the States' control. As a consequence, there is a difference between the EURATOM safeguards system and other States' systems of accounting for and control of nuclear material. Consequently the Agency, in applying its safeguards, takes account of EURATOM's safeguards accounting system instead of requiring the establishment of individual State systems of accounting and control.

Since the territories of States party to the agreement are treated as a single area, no advance notifications are required of transfers of nuclear material between the Member States nor are ad hoc inspections required in relation thereto.

A protocol to the agreement specifies in detail the way in which EURATOM co-operates with the Agency in the application of safeguards within the territory of States party to the Agreement, and the role that EURATOM plays in co-operation with the Agency in the provision of information and reports and in inspections.

Information on all facilities containing nuclear material under safeguards and on nuclear material outside facilities is collected by EURATOM and transmitted to the Agency where it is examined in co-operation with EURATOM. Similarly, accounting reports on nuclear material are collected by EURATOM from operators and, after checking and analysis, are provided to the Agency in conformity with the requirements of INFCIRC/153, in the form of input for the Agency's computer.

The protocol establishes a detailed framework for co-ordinating the routine inspection activities of EURATOM and of the Agency.

On the basis of these rules and methods, routine inspections by the Agency are carried out simultaneously with certain, but not all, inspections by EURATOM. Whenever the Agency can achieve the purposes of its routine inspections by observation of EURATOM's inspection activities, it is to do so. It is, however, provided in Article 14 of the protocol that:

- "(a) With respect to inspection activities of Agency inspectors to be implemented other than through the observation of the inspection activities of the Community inspectors, which can be foreseen, these shall be specified in the subsidiary arrangements; and
- "(b) In the course of an inspection, Agency inspectors may carry out inspection activities other than through the observation of the inspection activities of the Community inspectors where they find this to be essential and urgent, if the Agency could not otherwise achieve the purposes of its routine inspections and this was unforeseeable."

To ensure that the Agency's inspectors are able to derive full benefit from the activities of EURATOM's inspectors, the Agency will receive detailed advance information about the technical aspects of EURATOM's inspection plans (including numbers, types and contents of items to be inspected), as well as EURATOM's working papers on inspections at which the Agency inspectors were also present and reports on all other inspections made by EURATOM under the Agreement. The detailed framework for co-ordination set out in the protocol is completed in the subsidiary arrangements in respect of each individual facility.

D: Agreements under the Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco)

25. Under Article 13 of the Treaty of Tlatelolco, each State party is to conclude a safeguards agreement with the Agency for the application of safeguards to that State's nuclear activities.

26. At present only two agreements have been concluded solely on the basis of the Treaty of Tlatelolco; the other States party to the Treaty of Tlatelolco have concluded agreements pursuant to both the NPT and the Treaty of Tlatelolco. Two States with de jure or de facto international responsibility for territories within the zone of application of the Treaty of Tlatelolco have also concluded safeguards agreements, pursuant to Protocol I of the Treaty, covering such territories, one of which is based solely on the Treaty of Tlatelolco and the other concluded pursuant to both the NPT and the Treaty of Tlatelolco.

27. INFCIRC/153 has been used as a guide to enable the Agency to negotiate agreements with States party to the Tlatelolco Treaty and with States which have territorial responsibilities under Protocol I of the Treaty.

28. The main characteristics of the safeguards agreements concluded under the Treaty of Tlatelolco alone are as follows:

(a) The basic undertaking

The basic undertaking is not to use nuclear material in peaceful nuclear activities for nuclear weapons or other nuclear explosive devices.

Agency safeguards are applied to nuclear material in all peaceful nuclear activities which are under the jurisdiction of a State party, or carried out under its control. Similar coverage is extended in territories covered by safeguards agreements concluded under Protocol I of the Treaty of Tlatelolco.

(b) Duration

An agreement concluded under the Treaty of Tlatelolco only remains in force for as long as the State concerned is a party to the Treaty.

(c) Non-explosive military use

Agreements concluded solely on the basis of the Treaty of Tlatelolco have contained no provision for the use of safeguarded nuclear material for non-explosive military purposes.

(d) Explosive use

There is no provision in any agreement concluded between the Agency and a State party to the Treaty of Tlatelolco for the explosive use of nuclear material.

(e) Initial inventory

As in INFCIRC/153-type agreements.

(f) Method of application

As in INFCIRC/153-type agreements.

E. Agreements under the Treaty of Tlatelolco and the NPT

29. Many countries in Latin America are also party to the NPT. In such cases, the main characteristics of safeguards agreements concluded under INFCIRC/153 also apply to agreements concluded under Tlatelolco and the NPT at the same time, with the exception of the duration of those agreements. A Tlatelolco/NPT type-agreement foresees that it will remain in force as long as as the State is party to either the NPT or the Treaty of Tlatelolco.

F: Comprehensive/Full Scope Agreements

30. The Agency, at the request of any Member State not Party to the NPT, can conclude a comprehensive safeguards agreement with that State on the basis of a model drafted by the Secretariat in October 1976 in response to a request made by the Board in February 1976 (Resolution GOV/DEC/88/(XIX)). This model was not submitted at that time to the Board of Governors for approval. Until now Albania is the only country which has requested the Agency to conclude this type of agreement.

31. The model agreement of October 1976, which has combined features of INFCIRC/66/Rev. 2 and of INFCIRC/153, was used as the basis for a comprehensive safeguards agreement with Albania, approved by the Board in 1988 (INFCIRC/359).

32. The main characteristics of this safeguards agreement are as follows:

(a) Basic undertaking

The State undertakes that no nuclear material or facility within its territory, or under its jurisdiction or control anywhere shall be used for the manufacture of any nuclear weapon or to further any other military purpose or for the manufacture of any other nuclear explosive device. Safeguards cover all nuclear material and nuclear facilities in the State.

(b) Duration

The Agreement is of a fixed duration with possible extensions. Provision is also made for the continued application of safeguards to all items subject to the basic undertaking even after the termination of the agreement.

(c) Non-explosive military use

The agreement contains no provision for the withdrawal of safeguarded material for use in non-proscribed military applications.

(d) Explosive use

As in the case of INFCIRC/153

(e) Initial Inventory

As in the case of INFCIRC/153

(f) Method of Application

As in the case of INFCIRC/153 with the addition of provisions relating to physical protection and safeguards on nuclear exports.

As to the former, a provision contained in many INFCIRC/66/Rev.2-type agreements recently approved by the Board, was included.

As to the latter, a clause corresponding to Article III.2 of the NPT and to paragraph 28 of INFCIRC/66/Rev. 2 requiring safeguards on exports is also included.

G: Voluntary Offer Agreements with Nuclear-Weapon States

33. The five nuclear-weapon States, China, France, the United States, the Soviet Union, and the United Kingdom, have concluded safeguards agreements with the IAEA. The coverage of the agreements extend to the civil facilities designated by the States. In the case of the United States and the United Kingdom, only facilities of national security significance are excluded from the list of designated facilities.

34. The Voluntary Offer Agreements are divided into two main categories:

(a) Voluntary Offer Agreements with NWS members of the European Community  
(U.K., France)

(b) Voluntary Offer Agreements with NWS, non-members of the European Community (China, USA, USSR)

35. There is no need, for the purpose of the present study, to analyse extensively the main characteristics of each of the voluntary offer agreements with nuclear-weapon States. They are types of agreements modelled on INFCIRC/153 and use the same safeguarding techniques and approaches.

36. In general, all five of the agreements follow the structure and content of agreements between the Agency and non-nuclear-weapon States party to the NPT, but incorporate modifications needed to take account of the fact that the States are nuclear-weapon States and that their offers are subject to

exclusions on grounds of national security. Accordingly, under voluntary offer agreements with nuclear-weapon States, nuclear material or facilities may be withdrawn from safeguards and used in the military cycle.

37. The duration clause of the voluntary offer agreements with NWS parties to the NPT follows the line of agreements with non-NWS parties to the NPT. However, in the agreements with NWS not party to the NPT, it is provided that they shall remain in force for an indefinite period until no nuclear material under safeguards in those States is usable for any nuclear activity relevant from the point of view of safeguards or the nuclear material is withdrawn from safeguards.

IV. REGIONAL TREATIES

(A) Treaty for the Prohibition of Nuclear Weapons in Latin America  
(Treaty of Tlatelolco)

38. Under the Treaty of Tlatelolco, the Latin American States which have signed and ratified it undertake to use exclusively for peaceful purposes the nuclear material and facilities which are under their jurisdiction and to prohibit and prevent in their respective territories the testing, use, manufacture, production or acquisition of any nuclear weapons by any means whatsoever. The régime of Tlatelolco consists of three instruments: the Treaty paper and two Additional Protocols. Reference to the latter is made in paragraphs 44 to 45.

39. The Treaty has so far been signed by 27 Latin American States: Antigua and Barbuda, Argentina, Bahamas, Barbados, Bolivia, Brazil, Colombia, Costa Rica, Chile, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

40. Of these States, Argentina, which signed the Treaty, has not yet ratified it, while Brazil and Chile, which have signed and ratified the Treaty, are not yet parties to it as they have not so far made the declaration provided for in article 28 of the Treaty. The Treaty of Tlatelolco thus has been in force to date for 23 members.

Requirement for Safeguards under the Treaty

41. Article 13 of the Treaty states:

"Each Contracting Party shall negotiate multilateral or bilateral agreements with the International Atomic Energy Agency for the application of its safeguards to its nuclear activities. Each Contracting Party shall initiate negotiations within a period of

180 days after the date of the deposit of its instrument of ratification of this Treaty. These agreements shall enter into force, for each Party, not later than eighteen months after the date of the initiation of such negotiations except in case of unforeseen circumstances or force majeure".

#### Peaceful Nuclear Explosions

42. Article 18 of the Treaty states:

- "1. The Contracting Parties may carry out explosions of nuclear devices for peaceful purposes – including explosions which involve devices similar to those used in nuclear weapons – or collaborate with third parties for the same purpose, provided that they do so in accordance with the provisions of this article and the other articles of the Treaty, particularly articles 1 and 5.
  
2. Contracting Parties intending to carry out, or co-operate in the carrying out of such, an explosion shall notify the Agency and the International Atomic Energy Agency, as far in advance as the circumstances require, of the date of the explosion and shall at the same time provide the following information:
  - (a) The nature of the nuclear device and the source from which it was obtained,
  - (b) The place and purpose of the planned explosion,
  - (c) The procedures which will be followed in order to comply with paragraph 3 of this article,
  - (d) The expected force of the device,
  - (e) The fullest possible information on any possible radioactive fall-out that may result from the explosion or explosions, and the measures which will be taken to avoid danger to the population, flora and fauna, and territories of any other Party or Parties.

3. The General Secretary and the technical personnel designated by the Council and the International Atomic Energy Agency may observe all the preparations, including the explosion of the device, and shall have unrestricted access to any area in the vicinity of the site of the explosion in order to ascertain whether the device and the procedures followed during the explosion are in conformity with the information supplied under paragraph 2 of the present article and the other provisions of this Treaty.
4. The Contracting Parties may accept the collaboration of third parties for the purpose set forth in paragraph 1 of the present article, in accordance with paragraphs 2 and 3 thereof."

Non-explosive military use

43. Article 1 of the Treaty states:

"1. The Contracting Parties hereby undertake to use exclusively for peaceful purposes the nuclear material and facilities which are under their jurisdiction, and to prohibit and prevent in their territories:

- (a) 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
- (b) 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.

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

Protocol for States with territories in the region

44. Four countries which are, de jure or de facto, internationally responsible for territories which lie within the limits of the geographical zone established by the Treaty (France, the Netherlands, UK and USA) have signed Protocol I of the Treaty of Tlatelolco, and three of them (UK, USA and Netherlands) have ratified it. Under this Protocol the countries have agreed as follows:

- To undertake to apply the statute of denuclearization in respect of warlike purposes as defined in articles 1, 3, 5 and 13 of the Treaty for the Prohibition of Nuclear Weapons in Latin America in such territories; and
- That the duration of the Protocol shall be the same as that of the Treaty for the Prohibition of Nuclear Weapons in Latin America and that the provisions regarding ratification and denunciation contained in the Treaty shall be applicable to it.

Protocol for Nuclear-Weapon States

45. All NWS (China, France, USSR, UK and USA) have ratified Protocol II of the Tlatelolco Treaty, which calls for such parties to respect the statute of denuclearization of Latin America in respect of warlike purposes. They have agreed as follows:

- The statute of denuclearization of Latin America in respect of warlike purposes, as defined, delimited and set forth in the Treaty for the Prohibition of Nuclear Weapons in Latin America shall be fully respected in all its express aims and provisions.

- They undertake not to contribute in any way to the performance of acts involving a violation of the obligations of article 1 of the Treaty in the territories to which the Treaty applies.
- They also undertake not to use or threaten to use nuclear weapons against the Contracting Parties of the Treaty for the Prohibition of Nuclear Weapons in Latin America.
- The duration of the Protocol is the same as that of the Treaty for the Prohibition of Nuclear Weapons in Latin America and the definitions of territory and nuclear weapons set forth in the Treaty are applicable to the Protocol, as well as the provisions regarding ratification, reservations, denunciation, authentic texts and registration contained in the Treaty.

#### Transit and Transport of Nuclear Weapons

46. In respect of transit and transport of nuclear weapons, the five nuclear-weapon States have made the following declarations:

- (i) China stated that it would not use or threaten to use, test, manufacture, produce, stockpile, install or deploy nuclear weapons in the countries covered by the Treaty or in the zone covered by the Treaty or send its means of transportation and delivery carrying nuclear weapons to cross the territory, territorial sea or air space of Latin American countries.
- (ii) The French Government took note of the interpretation of the Treaty given by the Preparatory Commission and reproduced in the Final Act, which states that the Treaty does not apply to transit, authorization or denial of which is within the exclusive competence of each State party, in conformity with the relevant rules and principles of international law.

- (iii) The Soviet Union stated that, in the Final Act adopted by the Preparatory Commission for Denuclearization in Latin America, the Treaty is interpreted to mean that the granting of permission for the transit of nuclear weapons at the request of States not parties to the Treaty falls within the competence of each individual State party to the Treaty. In that connection the Soviet Union reaffirmed its position to the effect that to grant permission for the transit of nuclear weapons in any form would violate the spirit of the Treaty, which - as expressly stated in its preamble is - that Latin America should be wholly free from nuclear weapons; and would be incompatible with the non-nuclear status of States parties to the Treaty and with their obligations as defined in Article 1 of the Treaty.
  
- (iv) The United States took note of the Preparatory Commission's interpretation of the Treaty, as set forth in the Final Act, that, governed by the principles and rules of international law, each of the Contracting Parties retains exclusive power and legal competence, unaffected by the terms of the Treaty, to grant or deny non-Contracting Parties transit and transport privileges.
  
- (v) The Government of the United Kingdom would, in the event of any act of aggression by a Contracting Party to the Treaty in which that party was supported by a nuclear-weapon State, be free to consider the extent to which they could be regarded as committed by the provisions of Additional Protocol II.

Special Provisions for Entry into Force

47. In accordance with article 28, the Treaty shall enter into force among the States that have ratified it as soon as the following requirements have been met:

"1...

- (a) Deposit of the instruments of ratification of the Treaty with the Depositary Government by the Governments of the States mentioned in article 25 which are in existence on the date when this Treaty is opened for signature and which are not affected by the provisions of article 25, paragraph 2;
  - (b) Signature and ratification of Additional Protocol I ... by all extra-continental or continental States having de jure or de facto international responsibility for territories situated in the zone of application of the Treaty;
  - (c) Signature and ratification of the Additional Protocol II ... by all powers possessing nuclear weapons;
  - (d) Conclusion of bilateral or multilateral agreements on the application of the Safeguards System of the International Atomic Energy Agency in accordance with article 13 of this Treaty.
2. All signatory States shall have the imprescriptible right to waive, wholly or in part, the requirements laid down in the preceding paragraph. They may do so by means of a declaration which shall be annexed to their respective instrument of ratification and which may be formulated at the time of deposit of the instrument or subsequently. For those States which exercise this right, this Treaty shall enter into force upon deposit of the declaration, or as soon as those requirements have been met which have not been expressly waived.

3. As soon as this Treaty has entered into force in accordance with the provisions of paragraph 2 [of Article 28] for eleven States, the Depositary Government shall convene a preliminary meeting of those States in order that the Agency may be set up and commence its work.
4. After the entry into force of this Treaty for all the countries of the zone, the rise of a new power possessing nuclear weapons would have the effect of suspending the execution of the Treaty for those countries which had ratified it without waiving requirements of paragraph 1, sub-paragraph (c) of this article, and which request such suspension; the Treaty shall remain suspended until the new power, on its own initiative or upon a request by the General Conference, ratifies the annexed Additional Protocol II."

#### Special Inspections

48. Article 16 of the Treaty authorizes the IAEA and the Council of the Tlatelolco Treaty, to carry out special inspections as follows:

- "1. (a) In the case of the International Atomic Energy Agency, in accordance with the agreements referred to in article 13 of the Treaty;
- (b) In the case of the Council:
  - (i) When so requested, the reasons for the request being stated, by any Party which suspects that some activity prohibited by this Treaty has been carried out or is about to be carried out, either in the territory of any other Party or in any other place on such latter Party's behalf, the Council shall immediately arrange for such an inspection in accordance with article 10, paragraph 5;

- (ii) When requested by any Party which has been suspected of or charged with having violated this Treaty, the Council shall immediately arrange for the special inspection requested in accordance with article 10, paragraph 5.

The above requests will be made to the Council through the General Secretary.

...

- 4. The Contracting Parties undertake to grant the inspectors carrying out such special inspections full and free access to all places and all information which may be necessary for the performance of their duties and which are directly and intimately connected with the suspicion of violation of the Treaty.
- 5. The Council shall immediately transmit to all the Parties, through the General Secretary, a copy of any report resulting from special inspections.
- 6. Similarly, the Council shall send through the General Secretary to the Secretary-General of the United Nations, for transmission to the United Nations Security Council and General Assembly, and to the Council of the Organization of American States, for its information, a copy of any report resulting from any special inspection carried out in accordance with paragraph 1, subparagraph (b), sections (i) and (ii) of this article."

(B) South Pacific Nuclear Free Zone Treaty (Rarotonga Treaty)

49. The Treaty of Rarotonga provides, inter alia, that States which have signed and ratified it shall not develop, manufacture, acquire or receive from others any nuclear explosive device and shall not permit the testing or stationing of nuclear explosive devices in their territory. The control

system for verifying compliance with the Treaty includes the requirement that Parties accept the application of IAEA safeguards to all source or special fissionable material in all peaceful nuclear activities within the territory of the Party, under its jurisdiction or carried out under its control anywhere. There are three Protocols to the Treaty. Reference to these is made in paragraphs 55 to 60.

50. The Rarotonga Treaty entered into force on 11 December 1986 and has been ratified by ten Members of the South Pacific Forum. As of February 1989, it had been signed and ratified by Australia, the Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Niue, Solomon Islands, Tuvalu and Western Samoa. It has been signed, but not yet ratified, by Papua New Guinea.

51. Of the ten Parties to the Treaty, two (Australia and New Zealand) are Agency Member States. Eight (Australia, Fiji, Kiribati, Nauru, New Zealand, Solomon Islands, Tuvalu and Western Samoa) are party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), all but two of them (Kiribati and Solomon Islands) having concluded an NPT safeguards agreement with the Agency. Papua New Guinea, which has signed, but not yet ratified the Rarotonga Treaty, is not an Agency Member State, but is a Party to the NPT and has concluded an NPT Safeguards agreement with the Agency. The Cook Islands and Niue, which are self-governing States in free association with New Zealand, are covered by the provisions of the NPT and NPT safeguards by virtue of New Zealand's ratification of the NPT in 1969.

#### Requirement for Safeguards under the Treaty

52. Two articles of the Rarotonga Treaty (Articles 4 and 8) and Annex 2 of the Treaty foresee that the Agency might be requested to perform safeguards functions. The parties to the Treaty agreed that the safeguards agreement to be concluded with the Agency should be equivalent in scope and effect to an NPT safeguards agreement based on document INFCIRC/153. Existing nuclear

activities in the countries of the region party to the Treaty are, in fact, already covered by safeguards agreements concluded pursuant to NPT. The Agency's role under the Rarotonga Treaty was discussed and acknowledged by the IAEA Board of Governors in September 1987. Under Article 4 (b) of the Treaty Parties undertake to support the continued effectiveness of the international non-proliferation system based on the NPT and the IAEA safeguards system.

#### Peaceful Nuclear Explosions

53. The Rarotonga Treaty provides for the renunciation of all nuclear explosive devices, irrespective of whether they are intended for military or other use. According to Article 3 of the Treaty, each party undertakes:

- (a) 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;
- (b) not to seek or receive any assistance in the manufacture or acquisition of any nuclear explosive device;
- (c) not to take any action to assist or encourage the manufacture or acquisition of any nuclear explosive device by any State.

In Article 6 of the Treaty, each party undertakes:

- (a) to prevent in its territory the testing of any nuclear explosive device;
- (b) not to take any action to assist or encourage the testing of any nuclear explosive device by any State.

Non-explosive use

54. As provided in Article 4 of the Treaty, each party undertakes 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 for peaceful purposes to:

- (a) any non-nuclear-weapon State unless subject to the safeguards required by Article III.1 of the NPT, or
- (b) any nuclear-weapon State unless subject to applicable safeguards agreements with the IAEA.

The application of these safeguards are to be accompanied by the assurance of exclusively peaceful, non-explosive use.

Protocols for Nuclear Weapon States

55. There are three additional protocols to the Treaty but Protocol 2 and Protocol 3 are related to the five nuclear-weapon States (France, China, USSR, UK and USA). Protocol 1 is related to the States with territories within the zone for which they are internationally responsible (France, UK and USA).

56. Under Protocol 2 each nuclear-weapon State undertakes not to use or threaten to use any nuclear explosive device against:

- (a) Parties to the Treaty; or
- (b) Any territory within the South Pacific Nuclear Free Zone for which a State that has become a Party to Protocol 1 is internationally responsible.

57. Each nuclear-weapon State also undertakes not to contribute to any act of a Party to the Treaty which constitutes a violation of the Treaty, or to any act of another Party to a Protocol which constitutes a violation of a Protocol.

58. Under Protocol 3 each nuclear-weapon State undertakes not to test any nuclear explosive device anywhere within the South Pacific Nuclear Free Zone.

59. Each nuclear-weapon State may also indicate its acceptance, from the date of a notification to the depositary, of any alteration to its obligation under Protocol 3 brought about by the entry into force of an amendment to the Treaty pursuant to Article 11 of the Treaty or by the extension of the South Pacific Nuclear Free Zone pursuant to Article 12 (3) of the Treaty.

60. Protocols 2 and 3 have been signed and ratified by China and the USSR. The USA and UK have indicated their willingness to abide by the provisions of the Treaty and its Protocols but have refrained from signing the two Protocols, as has France, which considers that the provisions relating to nuclear testing discriminates against its rights in France's territories.

#### Transit and Transport of Nuclear Weapons

61. Under Article 5 of the Rarotonga Treaty, each Party undertakes to prevent the stationing of any nuclear explosive device in its territory. Stationing is defined as emplantation, emplacement, transportation on land or inland waters, stockpiling, storage, installation and deployment.

62. Each Party in the exercise of its sovereign rights remains free to decide for itself whether to allow visits by foreign ships and aircraft to its ports and airfields, transit of its airspace by foreign aircraft, and navigation by foreign ships in its territorial sea or archipelagic waters in a manner not covered by the rights of innocent passage, archipelagic sea lane passage or transit passage of straits.

Special Inspections

63. Annex 4 of the Treaty sets out a Complaints Procedure, which allows for the appointment of inspectors to carry out a special inspection of the territory of a Party alleged to be in breach of its obligations under the Treaty. The Party complained of is required to take all appropriate steps to facilitate the special inspection and grant inspectors privileges and immunities necessary for the performance of their functions. The special inspectors report to the Consultative Committee, which reports to all Members of the South Pacific Forum, giving its decision as to whether the Party complained of is in breach of its obligations under the Treaty.

Duration

64. Article 13 of the Rarotonga Treaty refers to the permanent nature of the Treaty and provides that it shall remain in force indefinitely, provided that in the event of a violation by any Party of a provision essential to achievement of the objectives of the Treaty or of the spirit of the Treaty, every other Party shall have the right to withdraw.

(C) Treaty establishing the European Atomic Energy Community  
(EURATOM)

65. The European Atomic Energy Community was created by the EURATOM Treaty in 1957. It was the first regional multinational safeguards system. Of the present twelve members of EURATOM, two are nuclear-weapon states and ten non-nuclear-weapon States. Eleven Member States are party to the NPT.

66. The task of the Community (EURATOM) is to:

"

- (a) promote research and ensure the dissemination of technical information;

- (b) establish uniform safety standards to protect the health of workers and of the general public and ensure that they are applied;
- (c) facilitate investment and ensure, particularly by encouraging ventures on the part of undertakings, the establishment of the basic installations necessary for the development of nuclear energy in the Community;
- (d) ensure that all users in the Community receive a regular and equitable supply of ores and nuclear fuels;
- (e) make certain, by appropriate supervision, that nuclear materials are not diverted to purpose other than those for which they are intended;
- (f) exercise the right of ownership conferred upon it with respect to special fissile materials;
- (g) ensure wide commercial outlets and access to the best technical facilities by the creation of a common market in specialised materials and equipment, by the free movement of capital for investment in the field of nuclear energy and by freedom of employment for specialists within the Community;
- (h) establish with other countries and international organizations such relations as will foster progress in the peaceful uses of nuclear energy".

Requirement for safeguards under EURATOM Treaty

67. Article 78 of the EURATOM Treaty states that: "Anyone setting up or operating an installation for the production, separation or other use of source materials or special fissile materials or for the processing of irradiated nuclear fuels shall declare to the Commission the basic technical characteristics of the installations,..."

### The undertaking

68. The undertaking under the EURATOM Treaty is different from that of the NPT. Article 77 of the Treaty states that: "In accordance with the provisions of this chapter, the Commission shall satisfy itself that ... (a) ores, source materials and special fissile materials are not diverted from their intended use as declared by the users; ... ". Article 84 states that

"In the application of safeguards, no discrimination shall be made on grounds of the use for which ores, source materials and specific fissile materials are intended... The safeguards may not extend to materials intended to meet defence requirements which are in the course of being specially processed for this purpose or which, after being so processed, are, in accordance with an operational plan, placed or stored in a military establishment.

### Military use

69. Nothing in the EURATOM Treaty expressly prohibits the use of nuclear material or facilities for military purposes. The purpose of EURATOM safeguards is to verify the intended use as declared by the user,

Article 77 of the Treaty states:

"In accordance with the provisions of this chapter, the Commission shall satisfy itself that, in the territories of Member States,

(a) ores, sources materials and special fissile materials are not diverted from their intended uses as declared by the users;....."

### Inspections

70. EURATOM inspection rights are somewhat broader than those of the IAEA.

Article 81 of the EURATOM Treaty specifies that:

"....inspectors shall at all times have access to all places and data and to all persons who, by reason of their occupation, deal with materials, equipment or installations subject to the safeguards provided for in this Chapter, to the extent necessary in order to apply such safeguards to ores, source materials and special fissile materials and to ensure compliance with provisions of Article 77..."

#### Procedures

71. The general safeguards approach is similar to that of the IAEA in that verification of material is the key element of the approach. In general, reports are required monthly to indicate both inventory changes and the final inventory.

72. The Commission may also require that all fissile material not immediately needed be stored by the Commission. According to Article 86 of the EURATOM Treaty, all special fissile materials which are produced or imported by a Member State, a person or an undertaking are the property of the Community.

V. MODALITIES OF THE APPLICATION OF SAFEGUARDS IN THE MIDDLE EAST

73. The Agency applies safeguards in the region to six research reactors and some supporting nuclear research facilities. Of the sixteen States listed on the table below, six have concluded comprehensive safeguards agreements with the Agency, under the NPT; six are parties to the NPT but have not concluded a safeguards agreement; one has signed the NPT but has not yet ratified; one has an INFCIRC/66-type safeguards agreement; two have neither adhered to the NPT nor concluded any type of safeguards agreement.

74. The following table provides information available to the IAEA:

<u>Country</u>	<u>Facilities under safeguards</u>	<u>Party to NPT</u>	<u>Safeguards Agreement in force</u>
Bahrain	-	+	-
Democratic Yemen	-	+	-
Egypt	A 2 MW WWR-C research reactor, using 10% enriched uranium	+	INFCIRC/302
Iraq	A 5 MW IRT-5000 pool type research reactor, using 80% enriched uranium	+	INFCIRC/172
	A Tamuz 2, 500 KW pool type reactor, using 93% enriched uranium		
	Experimental fuel fabrication plant (ERLFF)		
	Separate storage facility		

<u>Country</u>	<u>Facilities under safeguards</u>	<u>Party to NPT</u>	<u>Safeguards Agreement in force</u>
Iran	A 5 MW TSPRR pool type research reactor originally using 93% enriched uranium.	+	INFCIRC/214
Israel	A 5 MW IRR-1 pool type research reactor using 93% enriched uranium	-	INFCIRC/249 and INFCIRC/249/Add. 1
Jordan	-	+	INFCIRC/258
Kuwait	-	-	-
Lebanon	-	+	INFCIRC/191
Libya	An IRT Tajura 10 MW research reactor using 80% enriched uranium	+	INFCIRC/282
Oman	-	-	-
Qatar	-	+	-
Saudi Arabia	-	+	-
Syrian Arab Republic	-	+	-
United Arab Emirates	-	-	-
Yemen Arab Republic	-	+	-

75. As the table in the paragraph above shows, there is no common pattern of safeguards application on which to base any future regional agreement. The Agency Secretariat can take no initiative to suggest the conclusion of new safeguards agreements, but the Member States in the region might find the following sub-paragraphs, which list certain actions for their consideration, of some use:

(a) Conclusion of Safeguards Agreement by those Parties to the NPT which have not done so

Six States in the region, parties to the NPT, have not yet concluded the relevant safeguards agreement with the Agency, namely Bahrain, Democratic Yemen, Qatar, Saudi Arabia, Syria and the Yemen Arab Republic. If they were to do so, the number of States in the region with comprehensive, INFCIRC/153-type agreements would rise from six to twelve.

(b) Adherence to the NPT and conclusion of the relevant Safeguards Agreement

Of the sixteen countries mentioned in the list in the previous chapter, four are not parties to the NPT. Of these, Kuwait has signed but not ratified as yet, and has no nuclear activity; United Arab Emirates and Oman have no nuclear activities; Israel has an INFCIRC/66/Rev. 2-type agreement on one research reactor, but not on its other nuclear facilities. If these four States were to adhere to the NPT and conclude an INFCIRC/153-type agreement, and if (a) above were to happen, all sixteen States would have comprehensive safeguards.

(c) Conclusion of voluntary full-scope agreements

Countries which wished to conclude a full-scope safeguards agreement, but did not wish to adhere to the NPT, could conclude a comprehensive safeguards agreement (see paragraph 30 above). This, together with a mixture of (a) and (b) above could also produce full coverage by comprehensive safeguards agreements.

(d) Application of INFCIRC/66/Rev. 2-type agreements to all nuclear installations

This would be a de facto alternative to sub-paragraph (c) for those States which are not parties to the NPT, and offers yet another way, in conjunction with (a), (b) and (c), if necessary, of achieving full coverage by means of safeguards agreements. However, agreement to continue to apply similar agreements to all future nuclear installations would probably be necessary.

(e) All States in the region to make similar or identical legally binding unilateral declarations

This could produce some degree of uniformity, possibly on the basis of an agreed declaration to be made by all States, regardless of the type of safeguards agreement in force.

(f) Establishment of a Nuclear-Weapon-Free Zone

Following the example of the Treaties of Tlatelolco and Rarotonga, States in the region might decide to base their safeguards agreements with the Agency upon a Nuclear-Weapon-Free Zone agreement. Some of the possible practical steps in this direction are outlined in sub-paragraphs (a) – (e) above.

ANNEX A

STANDARD TEXT OF AN AGREEMENT  
(BASED ON INFCIRC/153)

AGREEMENT BETWEEN

.....  
AND THE INTERNATIONAL ATOMIC ENERGY AGENCY FOR THE  
APPLICATION OF SAFEGUARDS IN CONNECTION WITH  
THE TREATY ON THE NON-PROLIFERATION OF  
NUCLEAR WEAPONS

WHEREAS.....(hereinafter referred to as.....) is a party to the Treaty on the Non-Proliferation of Nuclear Weapons (hereinafter referred to as "the Treaty") opened for signature at London, Moscow and Washington on 1 July 1968 and which entered into force on 5 March 1970;

WHEREAS paragraph 1 of Article III of the Treaty reads as follows:

"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".

WHEREAS the International Atomic Energy Agency (hereinafter referred to as "the Agency") is authorized, pursuant to Article III of its Statute, to conclude such agreements;

NOW THEREFORE..... and the Agency have agreed as follows:

PART I

BASIC UNDERTAKING

Article 1

..... undertakes, pursuant to paragraph 1 of Article III of the Treaty, to accept safeguards, in accordance with the terms of this Agreement, on all source or special fissionable material in all peaceful nuclear activities within its territory, under its jurisdiction or carried out under its control anywhere, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices.

APPLICATION OF SAFEGUARDS

Article 2

The Agency shall have the right and the obligation to ensure that safeguards will be applied, in accordance with the terms of this Agreement, on all source or special fissionable

material in all peaceful nuclear activities within the territory of . . . . . , under its jurisdiction or carried out under its control anywhere, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices.

CO-OPERATION BETWEEN . . . . . AND THE AGENCY

Article 3

. . . . . and the Agency shall co-operate to facilitate the implementation of the safeguards provided for in this Agreement.

IMPLEMENTATION OF SAFEGUARDS

Article 4

The safeguards provided for in this Agreement shall be implemented in a manner designed:

- (a) To avoid hampering the economic and technological development of . . . . . or international co-operation in the field of peaceful nuclear activities, including international exchange of nuclear material;
- (b) To avoid undue interference in . . . . . 's peaceful nuclear activities, and in particular in the operation of facilities; and
- (c) To be consistent with prudent management practices required for the economic and safe conduct of nuclear activities.

Article 5

- (a) The Agency shall take every precaution to protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of this Agreement.
- (b)
  - (i) The Agency shall not publish or communicate to any State, organization or person any information obtained by it in connection with the implementation of this Agreement, except that specific information relating to the implementation thereof may be given to the Board of Governors of the Agency (hereinafter referred to as "the Board") and to such Agency staff members as require such knowledge by reason of their official duties in connection with safeguards, but only to the extent necessary for the Agency to fulfil its responsibilities in implementing this Agreement.
  - (ii) Summarized information on nuclear material subject to safeguards under this Agreement may be published upon decision of the Board if the States directly concerned agree thereto.

Article 6

- (a) The Agency shall, in implementing safeguards pursuant to this Agreement, take full account of technological developments in the field of safeguards, and shall make every effort to ensure optimum cost-effectiveness and the application of the principle of safeguarding effectively the flow of nuclear material subject to safeguards under this Agreement by use of instruments and other techniques at certain strategic points to the extent that present or future technology permits.
- (b) In order to ensure optimum cost-effectiveness, use shall be made, for example, of such means as:

- (i) Containment as a means of defining material balance areas for accounting purposes;
- (ii) Statistical techniques and random sampling in evaluating the flow of nuclear material; and
- (iii) Concentration of verification procedures on those stages in the nuclear fuel cycle involving the production, processing, use or storage of nuclear material from which nuclear weapons or other nuclear explosive devices could readily be made, and minimization of verification procedures in respect of other nuclear material, on condition that this does not hamper the Agency in applying safeguards under this Agreement.

## NATIONAL SYSTEM OF MATERIALS CONTROL

### Article 7

- (a) ..... shall establish and maintain a system of accounting for and control of all nuclear material subject to safeguards under this Agreement.
- (b) The Agency shall apply safeguards in such a manner as to enable it to verify, in ascertaining that there has been no diversion of nuclear material from peaceful uses to nuclear weapons or other nuclear explosive devices, findings of ..... 's system. The Agency's verification shall include, inter alia, independent measurements and observations conducted by the Agency in accordance with the procedures specified in Part II of this Agreement. The Agency, in its verification, shall take due account of the technical effectiveness of ..... 's system.

## PROVISION OF INFORMATION TO THE AGENCY

### Article 8

- (a) In order to ensure the effective implementation of safeguards under this Agreement, ..... shall, in accordance with the provisions set out in Part II of this Agreement, provide the Agency with information concerning nuclear material subject to safeguards under this Agreement and the features of facilities relevant to safeguarding such material.
- (b)
  - (i) The Agency shall require only the minimum amount of information and data consistent with carrying out its responsibilities under this Agreement.
  - (ii) Information pertaining to facilities shall be the minimum necessary for safeguarding nuclear material subject to safeguards under this Agreement.
- (c) If ..... so requests, the Agency shall be prepared to examine on premises of ..... design information which ..... regards as being of particular sensitivity. Such information need not be physically transmitted to the Agency provided that it remains readily available for further examination by the Agency on premises of .....

## AGENCY INSPECTORS

### Article 9

- (a)
  - (i) The Agency shall secure the consent of ..... to the designation of Agency inspectors to .....

- (ii) If ....., either upon proposal of a designation or at any other time after a designation has been made, objects to the designation, the Agency shall propose to ..... an alternative designation or designations.
  - (iii) If, as a result of the repeated refusal of..... to accept the designation of Agency inspectors, inspections to be conducted under this Agreement would be impeded, such refusal shall be considered by the Board, upon referral by the Director General of the Agency (hereinafter referred to as "the Director General"), with a view to its taking appropriate action.
- (b) ..... shall take the necessary steps to ensure that Agency inspectors can effectively discharge their functions under this Agreement.
- (c) The visits and activities of Agency inspectors shall be so arranged as:
- (i) To reduce to a minimum the possible inconvenience and disturbance to ..... and to the peaceful nuclear activities inspected; and
  - (ii) To ensure protection of industrial secrets or any other confidential information coming to the inspectors' knowledge.

## PRIVILEGES AND IMMUNITIES

### Article 10

#### Alternative A [1]

..... shall apply to the Agency (including its property, funds and assets) and to its inspectors and other officials, performing functions under this Agreement, the relevant provisions of the Agreement on the Privileges and Immunities of the International Atomic Energy Agency.

#### Alternative B [2]

..... shall accord to the Agency (including its property, funds and assets) and to its inspectors and other officials, performing functions under this Agreement, the same privileges and immunities as those set forth in the relevant provisions of the Agreement on the Privileges and Immunities of the International Atomic Energy Agency.

## TERMINATION OF SAFEGUARDS

### Article 11

#### Consumption or dilution of nuclear material

Safeguards shall terminate on nuclear material upon determination by the Agency that the material has been consumed, or has been diluted in such a way that it is no longer usable for any nuclear activity relevant from the point of view of safeguards, or has become practically irrecoverable.

- 
- [1] For States which have accepted the Agreement on the Privileges and Immunities of the Agency.
  - [2] For States which have not accepted that agreement.

Article 12

Transfer of nuclear material out of .....

..... shall give the Agency advance notification of intended transfers of nuclear material subject to safeguards under this Agreement out of ....., in accordance with the provisions set out in Part II of this Agreement. The Agency shall terminate safeguards on nuclear material under this Agreement when the recipient State has assumed responsibility therefor, as provided for in Part II of this Agreement. The Agency shall maintain records indicating each transfer and, where applicable, the re-application of safeguards to the transferred nuclear material.

Article 13

Provisions relating to nuclear material to be used in non-nuclear activities

Where nuclear material subject to safeguards under this Agreement is to be used in non-nuclear activities, such as the production of alloys or ceramics, ..... shall agree with the Agency, before the material is so used, on the circumstances under which the safeguards on such material may be terminated.

NON-APPLICATION OF SAFEGUARDS TO NUCLEAR MATERIAL TO BE  
USED IN NON-PEACEFUL ACTIVITIES

Article 14

If ..... intends to exercise its discretion to use nuclear material which is required to be safeguarded under this Agreement in a nuclear activity which does not require the application of safeguards under this Agreement, the following procedures shall apply:

- (a) ..... shall inform the Agency of the activity, making it clear:
  - (i) That the use of the nuclear material in a non-proscribed military activity will not be in conflict with an undertaking ..... may have given and in respect of which Agency safeguards apply, that the material will be used only in a peaceful nuclear activity; and
  - (ii) That during the period of non-application of safeguards the nuclear material will not be used for the production of nuclear weapons or other nuclear explosive devices;
- (b) ..... and the Agency shall make an arrangement so that, only while the nuclear material is in such an activity, the safeguards provided for in this Agreement will not be applied. The arrangement shall identify, to the extent possible, the period or circumstances during which safeguards will not be applied. In any event, the safeguards provided for in this Agreement shall apply again as soon as the nuclear material is reintroduced into a peaceful nuclear activity. The Agency shall be kept informed of the total quantity and composition of such unsafeguarded material in ..... and of any export of such material; and
- (c) Each arrangement shall be made in agreement with the Agency. Such agreement shall be given as promptly as possible and shall relate only to such matters as, inter alia, temporal and procedural provisions and reporting arrangements, but shall not involve any approval or classified knowledge of the military activity or relate to the use of the nuclear material therein.

FINANCE

Article 15

Alternative A [3]

..... and the Agency will bear the expenses incurred by them in implementing their respective responsibilities under this Agreement. However, if ..... or persons under its jurisdiction incur extraordinary expenses as a result of a specific request by the Agency, the Agency shall reimburse such expenses provided that it has agreed in advance to do so. In any case the Agency shall bear the cost of any additional measuring or sampling which inspectors may request.

Alternative B [4]

..... shall fully reimburse to the Agency the safeguards expenses which the Agency incurs under this Agreement. However, if ..... or persons under its jurisdiction incur extraordinary expenses as a result of a specific request by the Agency, the Agency shall reimburse such expenses provided that it has agreed in advance to do so. In any case the Agency shall bear the cost of any additional measuring or sampling which inspectors may request.

THIRD PARTY LIABILITY FOR NUCLEAR DAMAGE

Article 16

..... shall ensure that any protection against third party liability in respect of nuclear damage, including any insurance or other financial security, which may be available under its laws or regulations shall apply to the Agency and its officials for the purpose of the implementation of this Agreement in the same way as that protection applies to nationals of.....

INTERNATIONAL RESPONSIBILITY

Article 17

Any claim by ..... against the Agency or by the Agency against ..... in respect of any damage resulting from the implementation of safeguards under this Agreement, other than damage arising out of a nuclear incident, shall be settled in accordance with international law.

MEASURES IN RELATION TO VERIFICATION OF NON-DIVERSION

Article 18

If the Board, upon report of the Director General, decides that an action by ..... is essential and urgent in order to ensure verification that nuclear material subject to safeguards under this Agreement is not diverted to nuclear weapons or other nuclear explosive devices, the Board may call upon ..... to take the required action without delay, irrespective of whether procedures have been invoked pursuant to Article 22 of this Agreement for the settlement of a dispute.

---

[3] For Member States of the Agency.

[4] For States which are not members of the Agency.

Article 19

If the Board, upon examination of relevant information reported to it by the Director General, finds that the Agency is not able to verify that there has been no diversion of nuclear material required to be safeguarded under this Agreement, to nuclear weapons or other nuclear explosive devices, it may make the reports provided for in paragraph C of Article XII of the Statute of the Agency (hereinafter referred to as "the Statute") and may also take, where applicable, the other measures provided for in that paragraph. In taking such action the Board shall take account of the degree of assurance provided by the safeguards measures that have been applied and shall afford.....every reasonable opportunity to furnish the Board with any necessary reassurance.

INTERPRETATION AND APPLICATION OF THE AGREEMENT  
AND SETTLEMENT OF DISPUTES

Article 20

.....and the Agency shall, at the request of either, consult about any question arising out of the interpretation or application of this Agreement.

Article 21

..... shall have the right to request that any question arising out of the interpretation or application of this Agreement be considered by the Board. The Board shall invite..... to participate in the discussion of any such question by the Board.

Article 22

Any dispute arising out of the interpretation or application of this Agreement, except a dispute with regard to a finding by the Board under Article 19 or an action taken by the Board pursuant to such a finding, which is not settled by negotiation or another procedure agreed to by.....and the Agency shall, at the request of either, be submitted to an arbitral tribunal composed as follows: ..... and the Agency shall each designate one arbitrator, and the two arbitrators so designated shall elect a third, who shall be the Chairman. If, within thirty days of the request for arbitration, either ..... or the Agency has not designated an arbitrator, either..... or the Agency may request the President of the International Court of Justice to appoint an arbitrator. The same procedure shall apply if, within thirty days of the designation or appointment of the second arbitrator, the third arbitrator has not been elected. A majority of the members of the arbitral tribunal shall constitute a quorum, and all decisions shall require the concurrence of two arbitrators. The arbitral procedure shall be fixed by the tribunal. The decisions of the tribunal shall be binding on..... and the Agency.

SUSPENSION OF APPLICATION OF AGENCY SAFEGUARDS  
UNDER OTHER AGREEMENTS

Article 23[5]

The application of Agency safeguards in..... under other safeguards agreements with the Agency shall be suspended while this Agreement is in force. If..... has received assistance from the Agency for a project,.....'s undertaking in the Project Agreement not to use items which are subject thereto in such a way as to further any military purpose shall continue to apply.

---

[5] This Article may be omitted if not relevant.

AMENDMENT OF THE AGREEMENT

Article 24 [6]

- (a) .....and the Agency shall, at the request of either, consult each other on amendment to this Agreement.
- (b) All amendments shall require the agreement of ..... and the Agency.
- (c) Amendments to [Part I of] this Agreement shall enter into force in the same conditions as entry into force of the Agreement itself [or in accordance with a simplified procedure].
- (d) Amendments to Part II of this Agreement may, if convenient to ....., be achieved by recourse to a simplified procedure.
- (e) The Director General shall promptly inform all Member States of the Agency of any amendment to this Agreement.

ENTRY INTO FORCE AND DURATION

Article 25

This Agreement shall enter into force

Alternative A [7] on the date upon which the Agency receives from ..... written notification that ..... 's statutory and constitutional requirements for entry into force have been met.

Alternative B [7] upon signature by the representatives of ..... and the Agency.

The Director General shall promptly inform all Member States of the Agency of the entry into force of this Agreement.

Article 26

This Agreement shall remain in force as long as ..... is party to the Treaty.

PART II

INTRODUCTION

Article 27

The purpose of this part of the Agreement is to specify the procedures to be applied in the implementation of the safeguards provisions of Part I.

- [6] The choice of the combination of the variants possible under this Article will depend on the requirements or preferences of the State concerned.
- [7] The choice of alternative will depend upon the preference of the State concerned.

## OBJECTIVE OF SAFEGUARDS

### Article 28

The objective of the safeguards procedures set forth in this part of the Agreement is the timely detection of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and deterrence of such diversion by the risk of early detection.

### Article 29

For the purpose of achieving the objective set forth in Article 28, material accountancy shall be used as a safeguards measure of fundamental importance, with containment and surveillance as important complementary measures.

### Article 30

The technical conclusion of the Agency's verification activities shall be a statement, in respect of each material balance area, of the amount of material unaccounted for over a specific period, and giving the limits of accuracy of the amounts stated.

## NATIONAL SYSTEM OF ACCOUNTING FOR AND CONTROL OF NUCLEAR MATERIAL

### Article 31

Pursuant to Article 7 the Agency, in carrying out its verification activities, shall make full use of.....'s system of accounting for and control of all nuclear material subject to safeguards under this Agreement and shall avoid unnecessary duplication of.....'s accounting and control activities.

### Article 32

.....'s system of accounting for and control of all nuclear material subject to safeguards under this Agreement shall be based on a structure of material balance areas, and shall make provision, as appropriate and specified in the Subsidiary Arrangements, for the establishment of such measures as:

- (a) A measurement system for the determination of the quantities of nuclear material received, produced, shipped, lost or otherwise removed from inventory, and the quantities on inventory;
- (b) The evaluation of precision and accuracy of measurements and the estimation of measurement uncertainty;
- (c) Procedures for identifying, reviewing and evaluating differences in shipper/receiver measurements;
- (d) Procedures for taking a physical inventory;
- (e) Procedures for the evaluation of accumulations of unmeasured inventory and unmeasured losses;
- (f) A system of records and reports showing, for each material balance area, the inventory of nuclear material and the changes in that inventory including receipts into and transfers out of the material balance area;

- (g) Provisions to ensure that the accounting procedures and arrangements are being operated correctly; and
- (h) Procedures for the provision of reports to the Agency in accordance with Articles 59-69.

#### STARTING POINT OF SAFEGUARDS

##### Article 33

Safeguards under this Agreement shall not apply to material in mining or ore processing activities.

##### Article 34

- (a) When any material containing uranium or thorium which has not reached the stage of the nuclear fuel cycle described in paragraph (c) is directly or indirectly exported to a non-nuclear-weapon State, . . . . . shall inform the Agency of its quantity, composition and destination, unless the material is exported for specifically non-nuclear purposes;
- (b) When any material containing uranium or thorium which has not reached the stage of the nuclear fuel cycle described in paragraph (c) is imported, . . . . . shall inform the Agency of its quantity and composition, unless the material is imported for specifically non-nuclear purposes; and
- (c) When any nuclear material of a composition and purity suitable for fuel fabrication or for isotopic enrichment leaves the plant or the process stage in which it has been produced, or when such nuclear material, or any other nuclear material produced at a later stage in the nuclear fuel cycle, is imported into . . . . ., the nuclear material shall become subject to the other safeguards procedures specified in this Agreement.

#### TERMINATION OF SAFEGUARDS

##### Article 35

- (a) Safeguards shall terminate on nuclear material subject to safeguards under this Agreement, under the conditions set forth in Article 11. Where the conditions of that Article are not met, but . . . . . considers that the recovery of safeguarded nuclear material from residues is not for the time being practicable or desirable, . . . . . and the Agency shall consult on the appropriate safeguards measures to be applied.
- (b) Safeguards shall terminate on nuclear material subject to safeguards under this Agreement, under the conditions set forth in Article 13, provided that . . . . . and the Agency agree that such nuclear material is practicably irrecoverable.

#### EXEMPTIONS FROM SAFEGUARDS

##### Article 36

At the request of . . . . ., the Agency shall exempt nuclear material from safeguards, as follows:

- (a) Special fissionable material, when it is used in gram quantities or less as a sensing component in instruments;

- (b) Nuclear material, when it is used in non-nuclear activities in accordance with Article 13, if such nuclear material is recoverable; and
- (c) Plutonium with an isotopic concentration of plutonium-238 exceeding 80%.

#### Article 37

At the request of . . . . . the Agency shall exempt from safeguards nuclear material that would otherwise be subject to safeguards, provided that the total quantity of nuclear material which has been exempted in . . . . . in accordance with this Article may not at any time exceed:

- (a) One kilogram in total of special fissionable material, which may consist of one or more of the following:
  - (i) Plutonium;
  - (ii) Uranium with an enrichment of 0.2 (20%) and above, taken account of by multiplying its weight by its enrichment; and
  - (iii) Uranium with an enrichment below 0.2 (20%) and above that of natural uranium, taken account of by multiplying its weight by five times the square of its enrichment;
- (b) Ten metric tons in total of natural uranium and depleted uranium with an enrichment above 0.005 (0.5%);
- (c) Twenty metric tons of depleted uranium with an enrichment of 0.005 (0.5%) or below; and
- (d) Twenty metric tons of thorium;

or such greater amounts as may be specified by the Board for uniform application.

#### Article 38

If exempted nuclear material is to be processed or stored together with nuclear material subject to safeguards under this Agreement, provision shall be made for the re-application of safeguards thereto.

### SUBSIDIARY ARRANGEMENTS

#### Article 39

. . . . . and the Agency shall make Subsidiary Arrangements which shall specify in detail, to the extent necessary to permit the Agency to fulfil its responsibilities under this Agreement in an effective and efficient manner, how the procedures laid down in this Agreement are to be applied. The Subsidiary Arrangements may be extended or changed by agreement between . . . . . and the Agency without amendment of this Agreement.

#### Article 40

The Subsidiary Arrangements shall enter into force at the same time as, or as soon as possible after, the entry into force of this Agreement. . . . . and the Agency shall make every effort to achieve their entry into force within ninety days of the entry into force of this Agreement; an extension of that period shall require agreement between . . . . . and the Agency. . . . . shall provide the Agency promptly with the information required for completing the Subsidiary Arrangements. Upon the entry into force of this

Agreement, the Agency shall have the right to apply the procedures laid down therein in respect of the nuclear material listed in the inventory provided for in Article 41, even if the Subsidiary Arrangements have not yet entered into force.

## INVENTORY

### Article 41

On the basis of the initial report referred to in Article 62, the Agency shall establish a unified inventory of all nuclear material in..... subject to safeguards under this Agreement, irrespective of its origin, and shall maintain this inventory on the basis of subsequent reports and of the results of its verification activities. Copies of the inventory shall be made available to..... at intervals to be agreed.

## DESIGN INFORMATION

### General provisions

#### Article 42

Pursuant to Article 8, design information in respect of existing facilities shall be provided to the Agency during the discussion of the Subsidiary Arrangements. The time limits for the provision of design information in respect of the new facilities shall be specified in the Subsidiary Arrangements and such information shall be provided as early as possible before nuclear material is introduced into a new facility.

#### Article 43

The design information to be provided to the Agency shall include, in respect of each facility, when applicable:

- (a) The identification of the facility, stating its general character, purpose, nominal capacity and geographic location, and the name and address to be used for routine business purposes;
- (b) A description of the general arrangement of the facility with reference, to the extent feasible, to the form, location and flow of nuclear material and to the general layout of important items of equipment which use, produce or process nuclear material;
- (c) A description of features of the facility relating to material accountancy, containment and surveillance; and
- (d) A description of the existing and proposed procedures at the facility for nuclear material accountancy and control, with special reference to material balance areas established by the operator, measurements of flow and procedures for physical inventory taking.

#### Article 44

Other information relevant to the application of safeguards shall also be provided to the Agency in respect of each facility, in particular on organizational responsibility for material accountancy and control. .... shall provide the Agency with supplementary information on the health and safety procedures which the Agency shall observe and with which the inspectors shall comply at the facility.

Article 45

The Agency shall be provided with design information in respect of a modification relevant for safeguards purposes, for examination, and shall be informed of any change in the information provided to it under Article 44, sufficiently in advance for the safeguards procedures to be adjusted when necessary.

Article 46

Purposes of examination of design information

The design information provided to the Agency shall be used for the following purposes:

- (a) To identify the features of facilities and nuclear material relevant to the application of safeguards to nuclear material in sufficient detail to facilitate verification;
- (b) To determine material balance areas to be used for Agency accounting purposes and to select those strategic points which are key measurement points and which will be used to determine flow and inventory of nuclear material; in determining such material balance areas the Agency shall, inter alia, use the following criteria:
  - (i) The size of the material balance area shall be related to the accuracy with which the material balance can be established;
  - (ii) In determining the material balance area advantage shall be taken of any opportunity to use containment and surveillance to help ensure the completeness of flow measurements and thereby to simplify the application of safeguards and to concentrate measurement efforts at key measurement points;
  - (iii) A number of material balance areas in use at a facility or at distinct sites may be combined in one material balance area to be used for Agency accounting purposes when the Agency determines that this is consistent with its verification requirements; and
  - (iv) A special material balance area may be established at the request of ..... around a process step involving commercially sensitive information;
- (c) To establish the nominal timing and procedures for taking of physical inventory of nuclear material for Agency accounting purposes;
- (d) To establish the records and reports requirements and records evaluation procedures;
- (e) To establish requirements and procedures for verification of the quantity and location of nuclear material; and
- (f) To select appropriate combinations of containment and surveillance methods and techniques and the strategic points at which they are to be applied.

The results of the examination of the design information shall be included in the Subsidiary Arrangements.

Article 47

Re-examination of design information

Design information shall be re-examined in the light of changes in operating conditions, of developments in safeguards technology or of experience in the application of verification procedures, with a view to modifying the action the Agency has taken pursuant to Article 46.

Article 48

Verification of design information

The Agency, in co-operation with....., may send inspectors to facilities to verify the design information provided to the Agency pursuant to Articles 42-45, for the purposes stated in Article 46.

INFORMATION IN RESPECT OF NUCLEAR MATERIAL OUTSIDE FACILITIES

Article 49

The Agency shall be provided with the following information when nuclear material is to be customarily used outside facilities, as applicable:

- (a) A general description of the use of the nuclear material, its geographic location, and the user's name and address for routine business purposes; and
- (b) A general description of the existing and proposed procedures for nuclear material accountancy and control, including organizational responsibility for material accountancy and control.

The Agency shall be informed, on a timely basis, of any change in the information provided to it under this Article.

Article 50

The information provided to the Agency pursuant to Article 49 may be used, to the extent relevant, for the purposes set out in Article 46(b)-(f).

RECORDS SYSTEM

General provisions

Article 51

In establishing its system of materials control as referred to in Article 7, ..... shall arrange that records are kept in respect of each material balance area. The records to be kept shall be described in the Subsidiary Arrangements.

Article 52

..... shall make arrangements to facilitate the examination of records by inspectors, particularly if the records are not kept in English, French, Russian or Spanish.

Article 53

Records shall be retained for at least five years.

Article 54

Records shall consist, as appropriate, of:

- (a) Accounting records of all nuclear material subject to safeguards under this Agreement; and
- (b) Operating records for facilities containing such nuclear material.

Article 55

The system of measurements on which the records used for the preparation of reports are based shall either conform to the latest international standards or be equivalent in quality to such standards.

Accounting records

Article 56

The accounting records shall set forth the following in respect of each material balance area:

- (a) All inventory changes, so as to permit a determination of the book inventory at any time;
- (b) All measurement results that are used for determination of the physical inventory; and
- (c) All adjustments and corrections that have been made in respect of inventory changes, book inventories and physical inventories.

Article 57

For all inventory changes and physical inventories the records shall show, in respect of each batch of nuclear material: material identification, batch data and source data. The records shall account for uranium, thorium and plutonium separately in each batch of nuclear material. For each inventory change, the date of the inventory change and, when appropriate, the originating material balance area and the receiving material balance area or the recipient, shall be indicated.

Article 58

Operating records

The operating records shall set forth, as appropriate, in respect of each material balance area:

- (a) Those operating data which are used to establish changes in the quantities and composition of nuclear material;
- (b) The data obtained from the calibration of tanks and instruments and from sampling and analyses, the procedures to control the quality of measurements and the derived estimates of random and systematic error;
- (c) A description of the sequence of the actions taken in preparing for, and in taking, a physical inventory, in order to ensure that it is correct and complete; and
- (d) A description of the actions taken in order to ascertain the cause and magnitude of any accidental or unmeasured loss that might occur.

REPORTS SYSTEM

General provisions

Article 59

..... shall provide the Agency with reports as detailed in Articles 60-69 in respect of nuclear material subject to safeguards under this Agreement.

Article 60

Reports shall be made in English, French, Russian or Spanish, except as otherwise specified in the Subsidiary Arrangements.

Article 61

Reports shall be based on the records kept in accordance with Articles 51-58 and shall consist, as appropriate, of accounting reports and special reports.

Accounting reports

Article 62

The Agency shall be provided with an initial report on all nuclear material subject to safeguards under this Agreement. The initial report shall be dispatched by ..... to the Agency within thirty days of the last day of the calendar month in which this Agreement enters into force, and shall reflect the situation as of the last day of that month.

Article 63

..... shall provide the Agency with the following accounting reports for each material balance area:

- (a) Inventory change reports showing all changes in the inventory of nuclear material. The reports shall be dispatched as soon as possible and in any event within thirty days after the end of the month in which the inventory changes occurred or were established; and
- (b) Material balance reports showing the material balance based on a physical inventory of nuclear material actually present in the material balance area. The reports shall be dispatched as soon as possible and in any event within thirty days after the physical inventory has been taken.

The reports shall be based on data available as of the date of reporting and may be corrected at a later date, as required.

Article 64

Inventory change reports shall specify identification and batch data for each batch of nuclear material, the date of the inventory change and, as appropriate, the originating material balance area and the receiving material balance area or the recipient. These reports shall be accompanied by concise notes:

- (a) Explaining the inventory changes, on the basis of the operating data contained in the operating records provided for under Article 58(a); and
- (b) Describing, as specified in the Subsidiary Arrangements, the anticipated operational programme, particularly the taking of a physical inventory.

Article 65

..... shall report each inventory change, adjustment and correction, either periodically in a consolidated list or individually. Inventory changes shall be reported in terms of batches. As specified in the Subsidiary Arrangements, small changes in inventory of nuclear material, such as transfers of analytical samples, may be combined in one batch and reported as one inventory change.

Article 66

The Agency shall provide ..... with semi-annual statements of book inventory of nuclear material subject to safeguards under this Agreement, for each material balance area, as based on the inventory change reports for the period covered by each such statement.

Article 67

Material balance reports shall include the following entries, unless otherwise agreed by..... and the Agency:

- (a) Beginning physical inventory;
- (b) Inventory changes (first increases, then decreases);
- (c) Ending book inventory;
- (d) Shipper/receiver differences;
- (e) Adjusted ending book inventory;
- (f) Ending physical inventory; and
- (g) Material unaccounted for.

A statement of the physical inventory, listing all batches separately and specifying material identification and batch data for each batch, shall be attached to each material balance report.

Article 68

Special reports

.....shall make special reports without delay:

- (a) If any unusual incident or circumstances lead ..... to believe that there is or may have been loss of nuclear material that exceeds the limits specified for this purpose in the Subsidiary Arrangements; or
- (b) If the containment has unexpectedly changed from that specified in the Subsidiary Arrangements to the extent that unauthorized removal of nuclear material has become possible.

Article 69

Amplification and clarification of reports

If the Agency so requests, ..... shall provide it with amplifications or clarifications of any report, in so far as relevant for the purpose of safeguards.

INSPECTIONS

Article 70

General provisions

The Agency shall have the right to make inspections as provided for in Articles 71-82.

Purposes of inspections

Article 71

The Agency may make ad hoc inspections in order to:

- (a) Verify the information contained in the initial report on the nuclear material subject to safeguards under this Agreement;
- (b) Identify and verify changes in the situation which have occurred since the date of the initial report; and
- (c) Identify, and if possible verify the quantity and composition of, nuclear material in accordance with Articles 93 and 96, before its transfer out of or upon its transfer into .....

Article 72

The Agency may make routine inspections in order to:

- (a) Verify that reports are consistent with records;
- (b) Verify the location, identity, quantity and composition of all nuclear material subject to safeguards under this Agreement; and
- (c) Verify information on the possible causes of material unaccounted for, shipper/receiver differences and uncertainties in the book inventory.

Article 73

Subject to the procedures laid down in Article 77, the Agency may make special inspections:

- (a) In order to verify the information contained in special reports; or
- (b) If the Agency considers that information made available by..... including explanations from .....and information obtained from routine inspections, is not adequate for the Agency to fulfil its responsibilities under this Agreement.

An inspection shall be deemed to be special when it is either additional to the routine inspection effort provided for in Articles 78-82 or involves access to information or locations in addition to the access specified in Article 76 for ad hoc and routine inspections, or both.

Scope of inspections

Article 74

For the purposes specified in Articles 71-73, the Agency may:

- (a) Examine the records kept pursuant to Articles 51-58;
- (b) Make independent measurements of all nuclear material subject to safeguards under this Agreement;
- (c) Verify the functioning and calibration of instruments and other measuring and control equipment;
- (d) Apply and make use of surveillance and containment measures; and

- (e) Use other objective methods which have been demonstrated to be technically feasible.

#### Article 75

Within the scope of Article 74, the Agency shall be enabled:

- (a) To observe that samples at key measurement points for material balance accountancy are taken in accordance with procedures which produce representative samples, to observe the treatment and analysis of the samples and to obtain duplicates of such samples;
- (b) To observe that the measurements of nuclear material at key measurement points for material balance accountancy are representative, and to observe the calibration of the instruments and equipment involved;
- (c) To make arrangements with . . . . . that, if necessary:
  - (i) Additional measurements are made and additional samples taken for the Agency's use;
  - (ii) The Agency's standard analytical samples are analysed;
  - (iii) Appropriate absolute standards are used in calibrating instruments and other equipment; and
  - (iv) Other calibrations are carried out;
- (d) To arrange to use its own equipment for independent measurement and surveillance, and if so agreed and specified in the Subsidiary Arrangements to arrange to install such equipment;
- (e) To apply its seals and other identifying and tamper-indicating devices to containments, if so agreed and specified in the Subsidiary Arrangements; and
- (f) To make arrangements with . . . . . for the shipping of samples taken for the Agency's use.

#### Access for inspections

#### Article 76

- (a) For the purposes specified in Article 71(a) and (b) and until such time as the strategic points have been specified in the Subsidiary Arrangements, the Agency inspectors shall have access to any location where the initial report or any inspections carried out in connection with it indicate that nuclear material is present;
- (b) For the purposes specified in Article 71(c) the inspectors shall have access to any location of which the Agency has been notified in accordance with Articles 92(d)(iii) or 95(d)(iii);
- (c) For the purposes specified in Article 72 the inspectors shall have access only to the strategic points specified in the Subsidiary Arrangements and to the records maintained pursuant to Articles 51-58; and
- (d) In the event of . . . . . concluding that any unusual circumstances require extended limitations on access by the Agency, . . . . . and the Agency shall promptly make arrangements with a view to enabling the Agency to discharge its safeguards responsibilities in the light of these limitations. The Director General shall report each such arrangement to the Board.

Article 7.7

In circumstances which may lead to special inspections for the purposes specified in Article 73 . . . . . and the Agency shall consult forthwith. As a result of such consultations the Agency may:

- (a) Make inspections in addition to the routine inspection effort provided for in Articles 78-82; and
- (b) Obtain access, in agreement with . . . . ., to information or locations in addition to those specified in Article 76. Any disagreement concerning the need for additional access shall be resolved in accordance with Articles 21 and 22; in case action by . . . . . is essential and urgent, Article 18 shall apply.

Frequency and intensity of routine inspections

Article 78

The Agency shall keep the number, intensity and duration of routine inspections, applying optimum timing, to the minimum consistent with the effective implementation of the safeguards procedures set forth in this Agreement, and shall make the optimum and most economical use of inspection resources available to it.

Article 79

The Agency may carry out one routine inspection per year in respect of facilities and material balance areas outside facilities with a content or annual throughput, whichever is greater, of nuclear material not exceeding five effective kilograms.

Article 80

The number, intensity, duration, timing and mode of routine inspections in respect of facilities with a content or annual throughput of nuclear material exceeding five effective kilograms shall be determined on the basis that in the maximum or limiting case the inspection regime shall be no more intensive than is necessary and sufficient to maintain continuity of knowledge of the flow and inventory of nuclear material, and the maximum routine inspection effort in respect of such facilities shall be determined as follows:

- (a) For reactors and sealed storage installations the maximum total of routine inspection per year shall be determined by allowing one sixth of a man-year of inspection for each such facility;
- (b) For facilities, other than reactors or sealed storage installations, involving plutonium or uranium enriched to more than 5%, the maximum total of routine inspection per year shall be determined by allowing for each such facility  $30 \times \sqrt{E}$  man-days of inspection per year, where E is the inventory or annual throughput of nuclear material, whichever is greater, expressed in effective kilograms. The maximum established for any such facility shall not, however, be less than 1.5 man-years of inspection; and
- (c) For facilities not covered by paragraphs (a) or (b), the maximum total of routine inspection per year shall be determined by allowing for each such facility one third of a man-year of inspection plus  $0.4 \times E$  man-days of inspection per year, where E is the inventory or annual throughput of nuclear material, whichever is greater, expressed in effective kilograms.

. . . . . and the Agency may agree to amend the figures for the maximum inspection effort specified in this Article, upon determination by the Board that such amendment is reasonable.

Article 81

Subject to Articles 78-80 the criteria to be used for determining the actual number, intensity, duration, timing and mode of routine inspections in respect of any facility shall include:

- (a) The form of the nuclear material, in particular, whether the nuclear material is in bulk form or contained in a number of separate items; its chemical composition and, in the case of uranium, whether it is of low or high enrichment; and its accessibility;
- (b) The effectiveness of . . . . . 's accounting and control system, including the extent to which the operators of facilities are functionally independent of . . . . . 's accounting and control system; the extent to which the measures specified in Article 32 have been implemented by . . . . . ; the promptness of reports provided to the Agency; their consistency with the Agency's independent verification; and the amount and accuracy of the material unaccounted for, as verified by the Agency;
- (c) Characteristics of . . . . . 's nuclear fuel cycle, in particular, the number and types of facilities containing nuclear material subject to safeguards, the characteristics of such facilities relevant to safeguards, notably the degree of containment; the extent to which the design of such facilities facilitates verification of the flow and inventory of nuclear material; and the extent to which information from different material balance areas can be correlated;
- (d) International interdependence, in particular, the extent to which nuclear material is received from or sent to other States for use or processing; any verification activities by the Agency in connection therewith; and the extent to which . . . . . 's nuclear activities are interrelated with those of other States; and
- (e) Technical developments in the field of safeguards, including the use of statistical techniques and random sampling in evaluating the flow of nuclear material.

Article 82

. . . . . and the Agency shall consult if . . . . . considers that the inspection effort is being deployed with undue concentration on particular facilities.

Notice of inspections

Article 83

The Agency shall give advance notice to . . . . . before arrival of inspectors at facilities or material balance areas outside facilities, as follows:

- (a) For ad hoc inspections pursuant to Article 71(c), at least 24 hours; for those pursuant to Article 71(a) and (b) as well as the activities provided for in Article 48, at least one week;
- (b) For special inspections pursuant to Article 73, as promptly as possible after . . . . . and the Agency have consulted as provided for in Article 77, it being understood that notification of arrival normally will constitute part of the consultations; and
- (c) For routine inspections pursuant to Article 72, at least 24 hours in respect of the facilities referred to in Article 80(b) and sealed storage installations containing plutonium or uranium enriched to more than 5%, and one week in all other cases.

Such notice of inspections shall include the names of the inspectors and shall indicate the facilities and the material balance areas outside facilities to be visited and the periods during which they will be visited. If the inspectors are to arrive from outside ..... the Agency shall also give advance notice of the place and time of their arrival in .....

#### Article 84

Notwithstanding the provisions of Article 83, the Agency may, as a supplementary measure, carry out without advance notification a portion of the routine inspections pursuant to Article 80 in accordance with the principle of random sampling. In performing any unannounced inspections, the Agency shall fully take into account any operational programme provided by ..... pursuant to Article 64(b). Moreover, whenever practicable, and on the basis of the operational programme, it shall advise ..... periodically of its general programme of announced and unannounced inspections, specifying the general periods when inspections are foreseen. In carrying out any unannounced inspections, the Agency shall make every effort to minimize any practical difficulties for ..... and for facility operators, bearing in mind the relevant provisions of Articles 44 and 89. Similarly ..... shall make every effort to facilitate the task of the inspectors.

#### Designation of inspectors

#### Article 85

The following procedures shall apply to the designation of inspectors:

- (a) The Director General shall inform ..... in writing of the name, qualifications, nationality, grade and such other particulars as may be relevant, of each Agency official he proposes for designation as an inspector for .....
- (b) ..... shall inform the Director General within thirty days of the receipt of such a proposal whether it accepts the proposal;
- (c) The Director General may designate each official who has been accepted by ..... as one of the inspectors for ....., and shall inform ..... of such designations; and
- (d) The Director General, acting in response to a request by ..... or on his own initiative, shall immediately inform ..... of the withdrawal of the designation of any official as an inspector for .....

However, in respect of inspectors needed for the activities provided for in Article 48 and to carry out ad hoc inspections pursuant to Article 71(a) and (b) the designation procedures shall be completed if possible within thirty days after the entry into force of this Agreement. If such designation appears impossible within this time limit, inspectors for such purposes shall be designated on a temporary basis.

#### Article 86

..... shall grant or renew as quickly as possible appropriate visas, where required, for each inspector designated for .....

#### Conduct and visits of inspectors

#### Article 87

Inspectors, in exercising their functions under Articles 48 and 71-75, shall carry out their activities in a manner designed to avoid hampering or delaying the construction, commissioning or operation of facilities, or affecting their safety. In particular inspectors shall not operate any facility themselves or direct the staff of a facility to carry out any

operation. If inspectors consider that in pursuance of Articles 74 and 75, particular operations in a facility should be carried out by the operator, they shall make a request therefor.

#### Article 88

When inspectors require services available in....., including the use of equipment, in connection with the performance of inspections,.....shall facilitate the procurement of such services and the use of such equipment by inspectors.

#### Article 89

..... shall have the right to have inspectors accompanied during their inspections by representatives of....., provided that inspectors shall not thereby be delayed or otherwise impeded in the exercise of their functions.

### STATEMENTS ON THE AGENCY'S VERIFICATION ACTIVITIES

#### Article 90

The Agency shall inform .....of:

- (a) The results of inspections, at intervals to be specified in the Subsidiary Arrangements; and
- (b) The conclusions it has drawn from its verification activities in ....., in particular by means of statements in respect of each material balance area, which shall be made as soon as possible after a physical inventory has been taken and verified by the Agency and a material balance has been struck.

### INTERNATIONAL TRANSFERS

#### Article 91

##### General provisions

Nuclear material subject or required to be subject to safeguards under this Agreement which is transferred internationally shall, for purposes of this Agreement, be regarded as being the responsibility of .....

- (a) In the case of import into ....., from the time that such responsibility ceases to lie with the exporting State, and no later than the time at which the material reaches its destination; and
- (b) In the case of export out of ....., up to the time at which the recipient State assumes such responsibility, and no later than the time at which the nuclear material reaches its destination.

The point at which the transfer of responsibility will take place shall be determined in accordance with suitable arrangements to be made by the States concerned. Neither ..... nor any other State shall be deemed to have such responsibility for nuclear material merely by reason of the fact that the nuclear material is in transit on or over its territory, or that it is being transported on a ship under its flag or in its aircraft.

##### Transfers out of .....

#### Article 92

- (a) .....shall notify the Agency of any intended transfer out of ..... of nuclear material subject to safeguards under this Agreement if the shipment

exceeds one effective kilogram, or if, within a period of three months, several separate shipments are to be made to the same State, each of less than one effective kilogram but the total of which exceeds one effective kilogram.

- (b) Such notification shall be given to the Agency after the conclusion of the contractual arrangements leading to the transfer and normally at least two weeks before the nuclear material is to be prepared for shipping.
- (c) ..... and the Agency may agree on different procedures for advance notification.
- (d) The notification shall specify:
  - (i) The identification and, if possible, the expected quantity and composition of the nuclear material to be transferred, and the material balance area from which it will come;
  - (ii) The State for which the nuclear material is destined;
  - (iii) The dates on and locations at which the nuclear material is to be prepared for shipping;
  - (iv) The approximate dates of dispatch and arrival of the nuclear material; and
  - (v) At what point of the transfer the recipient State will assume responsibility for the nuclear material for the purpose of this Agreement, and the probable date on which that point will be reached.

#### Article 93

The notification referred to in Article 92 shall be such as to enable the Agency to make, if necessary, an ad hoc inspection to identify, and if possible verify the quantity and composition of, the nuclear material before it is transferred out of ..... and, if the Agency so wishes or ..... so requests, to affix seals to the nuclear material when it has been prepared for shipping. However, the transfer of the nuclear material shall not be delayed in any way by any action taken or contemplated by the Agency pursuant to such a notification.

#### Article 94

If the nuclear material will not be subject to Agency safeguards in the recipient State, ..... shall make arrangements for the Agency to receive, within three months of the time when the recipient State accepts responsibility for the nuclear material from ....., confirmation by the recipient State of the transfer.

#### Transfers into .....

#### Article 95

- (a) ..... shall notify the Agency of any expected transfer into ..... of nuclear material required to be subject to safeguards under this Agreement if the shipment exceeds one effective kilogram, or if, within a period of three months, several separate shipments are to be received from the same State, each of less than one effective kilogram but the total of which exceeds one effective kilogram.
- (b) The Agency shall be notified as much in advance as possible of the expected arrival of the nuclear material, and in any case not later than the date on which ..... assumes responsibility for the nuclear material.
- (c) ..... and the Agency may agree on different procedures for advance notification.

- (d) The notification shall specify:
- (i) The identification and, if possible, the expected quantity and composition of the nuclear material;
  - (ii) At what point of the transfer .....will assume responsibility for the nuclear material for the purpose of this Agreement, and the probable date on which that point will be reached; and
  - (iii) The expected date of arrival, the location where, and the date on which, the nuclear material is intended to be unpacked.

#### Article 96

The notification referred to in Article 95 shall be such as to enable the Agency to make, if necessary, an ad hoc inspection to identify, and if possible verify the quantity and composition of, the nuclear material at the time the consignment is unpacked. However, unpacking shall not be delayed by any action taken or contemplated by the Agency pursuant to such a notification.

#### Article 97

##### Special reports

..... shall make a special report as envisaged in Article 68 if any unusual incident or circumstances lead ..... to believe that there is or may have been loss of nuclear material, including the occurrence of significant delay, during an international transfer.

#### DEFINITIONS

#### Article 98

For the purposes of this Agreement:

- A. Adjustment means an entry into an accounting record or a report showing a shipper/receiver difference or material unaccounted for.
- B. Annual throughput means, for the purposes of Articles 79 and 80, the amount of nuclear material transferred annually out of a facility working at nominal capacity.
- C. Batch means a portion of nuclear material handled as a unit for accounting purposes at a key measurement point and for which the composition and quantity are defined by a single set of specifications or measurements. The nuclear material may be in bulk form or contained in a number of separate items.
- D. Batch data means the total weight of each element of nuclear material and, in the case of plutonium and uranium, the isotopic composition when appropriate. The units of account shall be as follows:
  - (a) Grams of contained plutonium;
  - (b) Grams of total uranium and grams of contained uranium-235 plus uranium-233 for uranium enriched in these isotopes; and
  - (c) Kilograms of contained thorium, natural uranium or depleted uranium.

For reporting purposes the weights of individual items in the batch shall be added together before rounding to the nearest unit.

E. Book inventory of a material balance area means the algebraic sum of the most recent physical inventory of that material balance area and of all inventory changes that have occurred since that physical inventory was taken.

F. Correction means an entry into an accounting record or a report to rectify an identified mistake or to reflect an improved measurement of a quantity previously entered into the record or report. Each correction must identify the entry to which it pertains.

G. Effective kilogram means a special unit used in safeguarding nuclear material. The quantity in effective kilograms is obtained by taking:

- (a) For plutonium, its weight in kilograms;
- (b) For uranium with an enrichment of 0.01 (1%) and above, its weight in kilograms multiplied by the square of its enrichment;
- (c) For uranium with an enrichment below 0.01 (1%) and above 0.005 (0.5%), its weight in kilograms multiplied by 0.0001; and
- (d) For depleted uranium with an enrichment of 0.005 (0.5%) or below, and for thorium, its weight in kilograms multiplied by 0.00005.

H. Enrichment means the ratio of the combined weight of the isotopes uranium-233 and uranium-235 to that of the total uranium in question.

I. Facility means:

- (a) A reactor, a critical facility, a conversion plant, a fabrication plant, a re-processing plant, an isotope separation plant or a separate storage installation; or
- (b) Any location where nuclear material in amounts greater than one effective kilogram is customarily used.

J. Inventory change means an increase or decrease, in terms of batches, of nuclear material in a material balance area; such a change shall involve one of the following:

- (a) Increases:
  - (i) Import;
  - (ii) Domestic receipt: receipts from other material balance areas, receipts from a non-safeguarded (non-peaceful) activity or receipts at the starting point of safeguards;
  - (iii) Nuclear production: production of special fissionable material in a reactor; and
  - (iv) De-exemption: re-application of safeguards on nuclear material previously exempted therefrom on account of its use or quantity.
- (b) Decreases:
  - (i) Export;
  - (ii) Domestic shipment: shipments to other material balance areas or shipments for a non-safeguarded (non-peaceful) activity;

- (iii) Nuclear loss: loss of nuclear material due to its transformation into other element(s) or isotope(s) as a result of nuclear reactions;
- (iv) Measured discard: nuclear material which has been measured, or estimated on the basis of measurements, and disposed of in such a way that it is not suitable for further nuclear use;
- (v) Retained waste: nuclear material generated from processing or from an operational accident, which is deemed to be unrecoverable for the time being but which is stored;
- (vi) Exemption: exemption of nuclear material from safeguards on account of its use or quantity; and
- (vii) Other loss: for example, accidental loss (that is, irretrievable and inadvertent loss of nuclear material as the result of an operational accident) or theft.

K. Key measurement point means a location where nuclear material appears in such a form that it may be measured to determine material flow or inventory. Key measurement points thus include, but are not limited to, the inputs and outputs (including measured discards) and storages in material balance areas.

L. Man-year of inspection means, for the purposes of Article 80, 300 man-days of inspection, a man-day being a day during which a single inspector has access to a facility at any time for a total of not more than eight hours.

M. Material balance area means an area in or outside of a facility such that:

- (a) The quantity of nuclear material in each transfer into or out of each material balance area can be determined; and
- (b) The physical inventory of nuclear material in each material balance area can be determined when necessary, in accordance with specified procedures,

in order that the material balance for Agency safeguards purposes can be established.

N. Material unaccounted for means the difference between book inventory and physical inventory.

O. Nuclear material means any source or any special fissionable material as defined in Article XX of the Statute. The term source material shall not be interpreted as applying to ore or ore residue. Any determination by the Board under Article XX of the Statute after the entry into force of this Agreement which adds to the materials considered to be source material or special fissionable material shall have effect under this Agreement only upon acceptance by .....

P. Physical inventory means the sum of all the measured or derived estimates of batch quantities of nuclear material on hand at a given time within a material balance area, obtained in accordance with specified procedures.

Q. Shipper/receiver difference means the difference between the quantity of nuclear material in a batch as stated by the shipping material balance area and as measured at the receiving material balance area.

R. Source data means those data, recorded during measurement or calibration or used to derive empirical relationships, which identify nuclear material and provide batch data. Source data may include, for example, weight of compounds, conversion factors to determine weight of element, specific gravity, element concentration, isotopic ratios, relationship between volume and manometer readings and relationship between plutonium produced and power generated.

S. Strategic point means a location selected during examination of design information where, under normal conditions and when combined with the information from all strategic points taken together, the information necessary and sufficient for the implementation of safeguards measures is obtained and verified; a strategic point may include any location where key measurements related to material balance accountancy are made and where containment and surveillance measures are executed.

DONE in ..... on the ..... day of ..... 197..  
.....

STANDARD TEXT OF A PROTOCOL TO AN AGREEMENT

PROTOCOL

..... (hereinafter referred to as ".....") and the International Atomic Energy Agency (hereinafter referred to as "the Agency") have agreed as follows:

I. (1) Until such time as ..... has, in peaceful nuclear activities within its territory or under its jurisdiction or control anywhere,

(a) Nuclear material in quantities exceeding the limits stated, for the type of material in question, in Article 36 of the Agreement between ..... and the Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (hereinafter referred to as "the Agreement"), or

(b) Nuclear material in a facility as defined in the Definitions,

the implementation of the provisions in Part II of the Agreement shall be held in abeyance, with the exception of Articles 32, 33, 38, 41 and 90.

(2) The information to be reported pursuant to paragraphs (a) and (b) of Article 33 of the Agreement may be consolidated and submitted in an annual report, similarly, an annual report shall be submitted, if applicable, with respect to the import and export of nuclear material described in paragraph (c) of Article 33.

(3) In order to enable the timely conclusion of the Subsidiary Arrangements provided for in Article 38 of the Agreement, ..... shall notify the Agency sufficiently in advance of its having nuclear material in peaceful nuclear activities within its territory or under its jurisdiction or control anywhere in quantities that exceed the limits or six months before nuclear material is to be introduced into a facility, as referred to in section 1 hereof, whichever occurs first.

II. This Protocol shall be signed by the representatives of ..... and the Agency and shall enter into force on the same date as the Agreement.

DONE in ..... on the ..... day of ..... 197..





ANNEX B

B

International Atomic Energy Agency

# BOARD OF GOVERNORS

GOV/2050  
28 August 1981

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Item 2(a) of the provisional agenda  
(GOV/2048)

## SAFEGUARDS

### (a) THE CONCLUSION OF SAFEGUARDS AGREEMENTS

#### An agreement with Egypt in connection with the Treaty on the Non-Proliferation of Nuclear Weapons

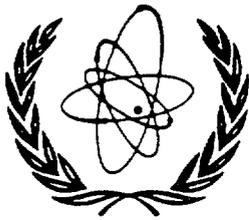
1. A safeguards agreement has been negotiated with the Government of the Arab Republic of Egypt in relation to the obligations which Egypt has assumed under Article III of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).
2. The draft agreement is in line with document INFCIRC/153 (corrected) and is based on the standard text of safeguards agreements in connection with NPT.<sup>1/</sup> The Annex hereto indicates changes from the standard text that have been made and which of the alternative versions of certain Articles provided for in that text have been chosen.
3. Article 18 of the draft agreement is in accordance with document GOV/INF/276, Annex A. The Article provides that, if the Board, upon report of the Director General, decides that an action by Egypt is essential and urgent in order to ensure verification that nuclear material subject to safeguards under the agreement is not diverted, the Board may call upon Egypt to take the required action without delay, irrespective of whether dispute procedures have been invoked pursuant to Article 22 of the draft agreement. During negotiations Egypt sought assurance that compliance by Egypt with a Board request made under the provisions of Article 18 would not, of itself, be prejudicial to Egypt's

<sup>1/</sup> GOV/INF/276, Annex A.

interests during proceedings provided for in Article 22. The Secretariat is of the view that, although it is beyond its scope to interpret document INFCIRC/153 (corrected), it is reasonable that compliance with a Board request made pursuant to Article 18 should not prejudice the position of the State concerned during proceedings provided for in Article 22. Therefore, unless the Board indicates otherwise, the Secretariat would consider that authorization for the Director General to conclude and implement this safeguards agreement would provide the assurance sought by Egypt.

**RECOMMENDED ACTION BY THE BOARD**

4. It is recommended that the Board authorize the Director General to conclude with Egypt and subsequently implement the safeguards agreement which is the subject of this note.



International Atomic Energy Agency

**BOARD OF GOVERNORS**

GOV/1591

10 April 1973

RESTRICTED Distr.

Original: ENGLISH

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## SAFEGUARDS

## THE APPLICATION OF SAFEGUARDS BY THE AGENCY

An agreement with Iran in connection with the  
Treaty on the Non-Proliferation of Nuclear  
Weapons

1. The Secretariat has recently completed with the Iranian authorities negotiation of an agreement to enable Iran to meet its obligations under Article III of the Treaty on the Non-Proliferation of Nuclear Weapons<sup>1/</sup>. The text of the resulting draft agreement is set forth in the Annex hereto; it is based on the material which the Board has asked the Director General to use in negotiating safeguards agreements of this nature<sup>2/</sup>.
2. It is to be noted that Article 23 provides for suspension of the application of safeguards by the Agency in Iran under other agreements while the new agreement is in force. This provision will affect the Project Agreement between the Agency and the Government of Iran in connection with the Agency's assistance to that Government in establishing a research reactor project and the Safeguards Transfer Agreement between the Agency, Iran and the United States of America<sup>3/</sup>.
3. In relation to Article 40, which deals with the entry into force of the Subsidiary Arrangements, discussion of the details of those Arrangements has been started with the Iranian authorities.

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<sup>1/</sup> Reproduced in document INFCIRC/140.

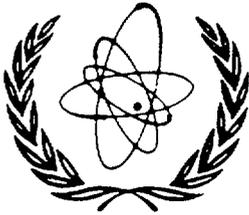
<sup>2/</sup> Set forth in document INFCIRC/153.

<sup>3/</sup> Reproduced in documents INFCIRC/97, part II and INFCIRC/127 respectively.

4. Lastly, the Director General wishes to point out that application of the new agreement is not expected to involve the Agency in greater expenditure in the foreseeable future than it is at present incurring under the agreements referred to in paragraph 2 above.

RECOMMENDED ACTION BY THE BOARD

5. The Board is recommended to authorize the Director General to conclude with Iran and subsequently implement the safeguards agreement set forth in the Annex.



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International Atomic Energy Agency

## BOARD OF GOVERNORS

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Item 2(a) of the provisional agenda  
(GOV/1503)

### SAFEGUARDS

#### (a) THE APPLICATION OF SAFEGUARDS BY THE AGENCY

##### An agreement with Iraq in connection with the Treaty on the Non-Proliferation of Nuclear Weapons

Note by the Director General

1. The Secretariat has completed with the Iraqi authorities negotiation of an agreement which would enable Iraq to fulfil its obligations under Article III of the Treaty on the Non-Proliferation of Nuclear Weapons<sup>1/</sup>. The text of the resulting draft agreement is set forth in the Annex hereto.
2. The agreement is based on the material which the Board has asked the Director General to use in negotiating safeguards agreements of this nature<sup>2/</sup>. Brief comments may be helpful on Articles 22 and 23. In the former Article, which regulates the settlement of disputes, provision is made for recourse, if necessary, to the Secretary-General of the United Nations to appoint the second and third arbitrator; the Director General has obtained the agreement of the Secretary-General to act in that capacity, should this ever prove necessary. Article 23 provides for the suspension of the application of safeguards by the Agency under other agreements while the agreement under consideration is in force. Although there is no other agreement at present, the Iraqi authorities wish to have this provision included as a declaration of intent.

<sup>1/</sup> Reproduced in document INFCIRC/140.

<sup>2/</sup> Set forth in document INFCIRC/153.

3. With regard to Article 40, which deals with the entry into force of the Subsidiary Arrangements, plans have been made to start discussion of the details of those Arrangements with the Iraqi authorities in the early weeks of the current year.

4. As to the financial implications which this agreement will have for the Agency it is tentatively estimated that the first full year of its application will involve the Agency in an additional expenditure of approximately \$400.

RECOMMENDED ACTION BY THE BOARD

5. The Board is recommended to authorize the Director General to conclude and subsequently implement the safeguards agreement with Iraq set forth in the Annex hereto.

AGREEMENT BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY,  
THE GOVERNMENT OF ISRAEL AND THE GOVERNMENT OF THE UNITED STATES  
OF AMERICA FOR THE APPLICATION OF SAFEGUARDS  
(BASED ON INFCIRC/66/REV.2)

WHEREAS the Government of the United States of America and the Government of Israel have agreed to continue co-operating on the civil uses of atomic energy under their Agreement for Co-operation of 12 July 1955, [2] as amended (hereinafter called the "Agreement for Co-operation") which requires that equipment, devices and materials made available to Israel by the United States of America be used solely for peaceful purposes and establishes a system of safeguards to that end;

WHEREAS the Agreement for Co-operation reflects the mutual recognition of the two Governments of the desirability of arranging for the International Atomic Energy Agency (hereinafter called the "Agency") to administer safeguards;

WHEREAS the Agency is, pursuant to its Statute and the action of its Board of Governors, in a position to continue to apply safeguards in accordance with the Agency's Safeguards Document and Inspectors Document;

WHEREAS the two Governments have reaffirmed their desire that equipment, devices and materials supplied by the United States of America under the Agreement for Co-operation or produced by their use or otherwise subject to safeguards under that Agreement shall not be used for any military purpose and have requested the Agency to apply safeguards to such materials, equipment and facilities as are covered by this Agreement; and

WHEREAS the Board of Governors of the Agency approved that request on 25 February 1975;

NOW, THEREFORE, the Agency and the two Governments agree as follows:

PART I

Definitions

Section 1. For the purposes of this Agreement:

- (a) "Agency" means the International Atomic Energy Agency;
- (b) "Board" means the Board of Governors of the Agency;
- (c) "Agreement for Co-operation" means the Agreement for Co-operation between the Government of the United States of America and the Government of Israel concerning Civil Uses of Atomic Energy of 12 July 1955, as amended;
- (d) "Government" includes appropriate agencies thereof;
- (e) "Inspectors Document" means the Annex to Agency document GC(V)/INF/39, which was placed in effect by the Board on 29 June 1961;
- (f) "Inventory" means either of the lists of material, equipment and facilities described in Section 10;
- (g) "Nuclear material" means any source or special fissionable material as defined in Article XX of the Agency's Statute;

- (h) "Safeguards Document" means Agency document INFCIRC/66/Rev. 2, which contains provisions approved by the Board on 28 September 1965, 17 June 1966 and 13 June 1968;
- (i) "Agreement for the Application of Safeguards" means the Agreement between the International Atomic Energy Agency, the Government of Israel and the Government of the United States of America for the Application of Safeguards signed on 18 June 1965.

## PART II

### Undertakings by the Governments and the Agency

Section 2. The Government of Israel undertakes that it will not use in such a way as to further any military purpose any material, equipment or facility while it is listed in the Inventory for the Government of Israel.

Section 3. The Government of the United States of America undertakes that it will not use in such a way as to further any military purpose any special fissionable material, equipment or facility while it is listed in the Inventory for the Government of the United States of America.

Section 4. The Agency undertakes to apply its safeguards system in accordance with the provisions of this Agreement to materials, equipment and facilities while they are listed in the Inventories to ensure so far as it is able that they will not be used in such a way as to further any military purpose.

Section 5. The Government of Israel and the Government of the United States of America undertake to facilitate the application of safeguards and to co-operate with the Agency and each other to that end.

Section 6. The Government of the United States of America agrees that its rights under the Agreement for Co-operation to apply safeguards to equipment, devices and materials subject to that Agreement will be suspended with respect to material, equipment and facilities while they are listed in the Inventory for the Government of Israel, provided, however, that such rights shall cease to be suspended with respect to any such materials, equipment or facilities transferred pursuant to Section 15 of this Agreement. It is understood that no other rights and obligations of the Government of Israel and the Government of the United States of America between themselves under the Agreement for Co-operation will be affected by this Agreement.

Section 7. If the Agency is relieved, pursuant to Section 23(a), of its undertaking in Section 4, or if for any other reason the Board determines that the Agency is unable to ensure that any material, equipment or facility listed in an Inventory is not being used for any military purpose, the material, equipment or facility involved shall thereby automatically be removed from such Inventory until the Board determines that the Agency is again able to apply safeguards thereto. When, under this Section, an item is removed from the Inventory for either Government, the Agency may, at the request of the other Government, provide it with information available to the Agency about such material, equipment or facility in order to enable that Government to exercise effectively its rights thereto.

Section 8. The provisions of this Agreement shall also apply, if the Government of Israel and the Government of the United States of America notify the Agency, with respect to any other Agreements for Co-operation concerning civil uses of atomic energy between the Government of Israel and the Government of the United States of America. The Government of Israel and the Government of the United States of America shall promptly notify the Agency of any amendment to any Agreement for Co-operation to which this Agreement applies and of any notice of termination given with respect to any such Agreement for Co-operation.

## PART III

## Inventories and Notifications

## Section 9.

- (a) The inventories of the materials, equipment and facilities within the jurisdiction of the Government of Israel and the Government of the United States of America which are, at the time this Agreement enters into force, subject to Agency safeguards under the Agreement for the Application of Safeguards between the International Atomic Energy Agency, the Government of Israel and the Government of the United States of America signed on 18 June 1965, shall constitute the initial inventories for the respective Governments under this Agreement and the Agency will continue to apply safeguards to such materials, equipment and facilities.
- (b) Thereafter the Government of Israel and the Government of the United States of America shall jointly notify the Agency of:
  - (1) Any transfer from the United States of America to Israel under the Agreement for Co-operation of materials, equipment or facilities;
  - (2) Any transfer from Israel to the United States of America of any special fissionable material which has been included in the Inventory for Israel pursuant to Section 10(a)(3).
- (c) Either the Government of Israel or the Government of the United States of America, whichever is concerned, shall also thereafter notify the Agency of any other equipment and facilities which are required to be listed in an Inventory in accordance with Section 10(b) or (e).
- (d) The Agency shall, within 30 days of its receipt of a notification under this Section, advise both Governments either:
  - (1) That the items covered by the notification are listed in the appropriate Inventory as of the date of the Agency's advice; or
  - (2) That the Agency is unable to apply safeguards to such items, in which case, however, it may indicate at what future time or under which conditions it would be able to apply safeguards thereto if the Governments so desire.

Section 10. The Agency shall establish and maintain the Inventory with respect to each Government which shall be divided into three Categories.

- (a) Category I of the Inventory with respect to the Government of Israel shall list:
  - (1) Equipment and facilities transferred to Israel;
  - (2) Material transferred to Israel or material substituted therefor in accordance with paragraph 25 or 26(d) of the Safeguards Document, with the exception of material referred to in (3) below;
  - (3) Special fissionable materials produced in Israel, as specified in Section 12, or any material substituted therefor in accordance with paragraph 25 or 26(d) of the Safeguards Document, together with any special fissionable material subject to Agency safeguards produced in another jurisdiction and transferred to Israel under the Agreement for Co-operation; and

- (4) Nuclear materials, other than those which are listed under (2) or (3) above, which are processed or used in any of the materials, equipment or facilities listed under (1), (2) or (3) above, or any material substituted therefor in accordance with paragraph 25 or 26(d) of the Safeguards Document.
- (b) Category II of the Inventory with respect to the Government of Israel shall list:
    - (1) Any facility while it incorporates any equipment listed in Category I of the Inventory for the Government of Israel; and
    - (2) Any equipment or facility while it is containing, using, fabricating or processing any material listed in Category I of the Inventory for the Government of Israel.
  - (c) Category III of the Inventory with respect to the Government of Israel shall list any nuclear material which would normally be listed in Category I of the Inventory for the Government of Israel but which is not so listed because:
    - (1) It is exempt from safeguards in accordance with the provisions of paragraph 21, 22 or 23 of the Safeguards Document; or
    - (2) Safeguards thereon are suspended in accordance with the provisions of paragraph 24 or 25 of the Safeguards Document.
  - (d) Category I of the Inventory with respect to the Government of the United States of America shall list:
    - (1) Special fissionable material of whose transfer from Israel the Agency has been notified pursuant to Section 9(b)(2) or material substituted therefor in accordance with paragraph 25 or 26(d) of the Safeguards Document; or
    - (2) Special fissionable material produced in the United States of America as specified in Section 12, or any material substituted therefor in accordance with paragraph 25 or 26(d) of the Safeguards Document.
  - (e) Category II of the Inventory with respect to the Government of the United States of America shall list any equipment or facility while it is containing, using, fabricating or processing any material listed in Category I of the Inventory for the Government of the United States of America.
  - (f) Category III of the Inventory with respect to the Government of the United States of America shall list any material which would normally be listed in Category I of the Inventory for the Government of the United States of America but which is not so listed because:
    - (1) It is exempt from safeguards in accordance with the provisions of paragraph 21, 22 or 23 of the Safeguards Document; or
    - (2) Safeguards thereon are suspended in accordance with the provisions of paragraph 24 or 25 of the Safeguards Document.

The Agency shall send copies of both Inventories to both Governments every twelve months and also at any other times specified by either Government in a request communicated to the Agency at least two weeks in advance.

Section 11. The notification by the two Governments provided for in Sections 9(b)(1) and 14 shall normally be sent to the Agency not more than two weeks after the material, equipment or facility arrives in Israel or the United States of America respectively, except that shipments of source material in quantities not exceeding one metric ton shall not be subject to the two-week notification requirement but shall be reported to the Agency at intervals not exceeding three months. All notifications under Section 9 shall include, to the extent relevant, the nuclear and chemical composition, the physical form, and the quantity of the material and/or the type and capacity of the equipment or facility involved, the date of shipment, the date of receipt, the identity of the consignor and consignee, and any other relevant information. The two Governments also undertake to give the Agency as much advance notice as possible of the transfer of large quantities of nuclear materials or major equipment or facilities.

Section 12. Each Government shall notify the Agency, by means of its reports pursuant to the Safeguards Document, of any special fissionable material it has produced, during the period covered by the report, in or by the use of any of the materials, equipment or facilities described in Section 10(a), 10(b)(1) or 10(d). Upon receipt by the Agency of the notification, such produced material shall be listed in Category I of the Inventory, provided that any material so produced shall be deemed to be listed and therefore shall be subject to safeguards by the Agency from the time it is produced. The Agency may verify the calculations of the amounts of such material; appropriate adjustment in the Inventory shall be made by agreement of the Parties; pending final agreement of the Parties, the Agency's calculations shall be used.

Section 13. The Government of Israel shall notify the Agency, by means of its reports pursuant to the Safeguards Document, of any nuclear materials required to be listed in Category I of its Inventory pursuant to Section 10(a)(4). Upon receipt by the Agency of the notification, such nuclear material shall be listed in Category I of the Inventory, provided that any material so processed or used shall be deemed to be listed and therefore shall be subject to safeguards by the Agency from the time it is processed or used.

Section 14. The two Governments shall jointly notify the Agency of the transfer to the United States of America of any materials, equipment or facilities listed in the Inventory for the Government of Israel. Upon receipt thereof by the United States of America:

- (a) Materials described in Section 9(b)(2) shall be transferred from the Inventory for the Government of Israel to Category I of the Inventory for the Government of the United States of America;
- (b) Other materials, and equipment or facilities shall be deleted from the Inventory.

Section 15. The two Governments shall jointly notify the Agency of any transfer of materials, equipment or facilities listed in Category I of the Inventory to a recipient which is not under the jurisdiction of either of the two Governments. Such materials, equipment or facilities may be transferred and shall thereupon be deleted from the Inventory, provided that:

- (a) Arrangements have been made by the Agency to safeguard such materials, equipment or facilities; or
- (b) The materials, equipment or facilities will be subject to safeguards other than those of the Agency but generally consistent with such safeguards and accepted by the Agency.

Section 16. Whenever either Government intends to transfer material or equipment, listed in Category I of its Inventory, to a facility within its jurisdiction which the Agency has not previously accepted for listing in that Government's Inventory, any notification that will be required pursuant to Section 9(c) shall be made to the Agency before such transfer is effected. The Government may make the transfer to that facility only after the Agency has accepted that notification.

Section 17. The notifications provided for in Sections 15 and 16 shall be sent to the Agency sufficiently in advance so as to enable the Agency to make any arrangements required by these Sections before the transfer is effected. The Agency shall take any necessary action promptly. The contents of these notifications shall conform, as far as appropriate, to the requirements of Section 11.

Section 18. The Agency shall exempt from safeguards nuclear material under the conditions specified in paragraph 21, 22 or 23 of the Safeguards Document and shall suspend safeguards with respect to nuclear material under the conditions specified in paragraph 24 or 25 of the Safeguards Document.

Section 19. The Agency shall terminate safeguards under this Agreement with respect to those items deleted from an Inventory as provided in Sections 14(b) and 15. Nuclear material other than that covered by the preceding sentence shall be deleted from the Inventory and Agency safeguards thereon shall be terminated as provided in paragraphs 26 and 27 of the Safeguards Document. Materials other than nuclear materials, equipment or facilities listed in Category I of the Inventory (other than such materials, equipment or facilities transferred in accordance with Section 14(b) or 15), shall be deleted from the Inventory and Agency safeguards thereon shall be terminated, when and as the Agency determines that such materials, equipment or facilities have been consumed, are no longer usable for any nuclear activity relevant from the point of view of safeguards or have become practicably irrecoverable.

Section 20. The two Governments and the Agency shall agree on the conditions for exemption, suspension or termination of safeguards on items not covered by Sections 18 and 19.

#### PART IV

##### Safeguards Procedures

Section 21. In applying safeguards, the Agency shall observe the principles set forth in paragraphs 9 through 14 of the Safeguards Document.

Section 22. The safeguards to be applied by the Agency to the items listed in the Inventories are those procedures specified in the Safeguards Document. The Agency shall make subsidiary arrangements with each Government concerning the implementation of safeguards procedures which shall include any necessary arrangements for the application of safeguards to non-nuclear materials and equipment. The Agency shall have the right to request the information referred to in paragraph 41 of the Safeguards Document and to make the inspections referred to in paragraphs 51 and 52 of the Safeguards Document.

Section 23. If the Board determines that there has been any non-compliance with this Agreement, the Board shall call upon the Government concerned to remedy such non-compliance forthwith, and shall make such reports as it deems appropriate. If the Government fails to take fully corrective action within a reasonable time:

- (a) The Agency shall be relieved of its undertaking to apply safeguards under Section 4 for such time as the Board determines that the Agency cannot effectively apply the safeguards provided for in this Agreement; and
- (b) The Board may take any measures provided for in Article XII.C of the Statute.

The Agency shall promptly notify both Governments in the event of any determination by the Board pursuant to this Section.

## PART V

## Agency Inspectors

Section 24. Agency inspectors performing functions pursuant to this Agreement shall be governed by paragraphs 1 through 7 and 9, 10, 12 and 14 of the Inspectors Document. However, paragraph 4 of the Inspectors Document shall not apply with regard to any facility or to nuclear material to which the Agency has access at all times. The actual procedures to implement paragraph 50 of the Safeguards Document in the United States of America and in Israel shall be agreed between the Agency and the Government concerned before the facility or material is listed in the Inventory.

Section 25. The Government of Israel shall apply the relevant provisions of the Agreement on the Privileges and Immunities of the Agency<sup>[3]</sup> to the Agency inspectors performing functions under this Agreement and to any property of the Agency used by them.

Section 26. The provisions of the International Organizations Immunities Act of the United States of America<sup>[4]</sup> shall apply to Agency inspectors performing functions in the United States of America under this Agreement and to any property of the Agency used by them.

## PART VI

## Finance

Section 27. Each Party shall bear any expense incurred in the implementation of its responsibilities under this Agreement. The Agency shall reimburse each Government for any special expenses, including those referred to in paragraph 6 of the Inspectors Document, incurred by the Government or persons under its jurisdiction at the written request of the Agency, if the Government notified the Agency before the expense was incurred that reimbursement would be required. These provisions shall not prejudice the allocation of expenses attributable to a failure by a Party to comply with this Agreement.

Section 28.

- (a) In carrying out its functions under this Agreement within the United States of America, the Agency and its personnel shall be covered to the same extent as United States of America nationals by any protection against third-party liability provided under the Price-Anderson Act, including insurance or other indemnity coverage that may be required by the Price-Anderson Act with respect to nuclear incidents within the United States of America.
- (b) The Government of Israel shall ensure that any protection against third-party liability, including any insurance or other financial security, in respect of a nuclear incident occurring in a nuclear installation under its jurisdiction shall apply to the Agency and its inspectors when carrying out their functions under this Agreement as that protection applies to nationals of Israel.

## PART VII

## Settlement of Disputes

Section 29. Any dispute arising out of the interpretation or application of this Agreement which is not settled by negotiation or as may otherwise be agreed by the Parties concerned shall on the request of any Party be submitted to an arbitral tribunal composed as follows:

[3] INFCIRC/9/Rev. 2.

[4] Statutes of the United States of America, Vol. 59, p. 669 (Public Law 291, approved 1945).

- (a) If the dispute involves only two of the Parties to this Agreement, all three Parties agreeing that the third is not concerned, the two Parties involved shall each designate one arbitrator, and the two arbitrators so designated shall elect a third, who shall be the Chairman. If within thirty days of the request for arbitration either Party has not designated an arbitrator, either Party to the dispute may request the President of the International Court of Justice to appoint an arbitrator. The same procedure shall apply if, within thirty days of the designation or appointment of the second arbitrator, the third arbitrator has not been elected; or
- (b) If the dispute involves all three Parties to this Agreement, each Party shall designate one arbitrator, and the three arbitrators so designated shall by unanimous decision elect a fourth arbitrator, who shall be the Chairman and a fifth arbitrator. If within thirty days of the request for arbitration any Party has not designated an arbitrator, any Party may request the President of the International Court of Justice to appoint the necessary number of arbitrators. The same procedure shall apply if, within thirty days of the designation or appointment of the third of the first three arbitrators, the Chairman or the fifth arbitrator has not been elected.

A majority of the members of the arbitral tribunal shall constitute a quorum, and all decisions shall be made by majority vote. The arbitral procedure shall be fixed by the tribunal. The decisions of the tribunal, including all rulings concerning its constitution, procedure, jurisdiction and the division of the expenses of arbitration between the Parties shall be binding on all Parties. The remuneration of the arbitrators shall be determined on the same basis as that of ad hoc judges of the International Court of Justice.

Section 30. Decisions of the Board concerning the implementation of this Agreement, except such as relate only to Part VI, shall, if they so provide, be given effect immediately by the Parties, pending the final settlement of any dispute.

## PART VIII

### Amendment, Modifications, Entry into Force and Duration

Section 31. The Parties shall, at the request of any one of them, consult about amending this Agreement. If the Board modifies the Safeguards Document, or the scope of the safeguards system, this Agreement shall be amended if the Governments so request to take account of any or all such modifications. If the Board modifies the Inspectors Document, this Agreement shall be amended if the Governments so request to take account of any or all such modifications.

Section 32. This Agreement shall enter into force upon signature by or for the Director General of the Agency and by the authorized representative of each Government and shall thereupon supersede the Agreement for the Application of Safeguards signed on 18 June 1965[5].

Section 33. This Agreement shall remain in force during the term of the Agreement for Co-operation, unless terminated sooner by any Party upon six months' notice to the other Parties or as may otherwise be agreed. It may be prolonged for further periods as agreed by the Parties and may be terminated sooner by any Party on six months' notice to the other Parties or as may be otherwise agreed. However, this Agreement shall remain in force with regard to any nuclear material referred to in Section 10(a) or 10(d) until the Agency has notified both Governments that it has terminated safeguards on such material in accordance with Section 19.

---

[5] INFCIRC/84.

DONE in Vienna, this fourth day of April 1975, in triplicate in the English language.

For the INTERNATIONAL ATOMIC ENERGY AGENCY:

(signed) Helio F. S. Bittencourt

For the GOVERNMENT OF ISRAEL:

(signed) Dr. Yehuda Eden

For the GOVERNMENT OF THE UNITED STATES OF AMERICA:

(signed) Dwight J. Porter



. PROTOCOL PROLONGING THE AGREEMENT BETWEEN THE  
INTERNATIONAL ATOMIC ENERGY AGENCY,  
THE GOVERNMENT OF ISRAEL AND THE GOVERNMENT OF  
THE UNITED STATES OF AMERICA FOR THE  
APPLICATION OF SAFEGUARDS

WHEREAS the Agreement between the International Atomic Energy Agency, the Government of Israel and the Government of the United States of America for the Application of Safeguards[2] signed on 4 April 1975 (hereinafter referred to as the "Safeguards Transfer Agreement") provides that it will remain in force during the term of the Agreement for Co-operation between the Government of Israel and the Government of the United States of America signed on 12 July 1955, [3] as amended by the agreements signed on 20 August 1959, [4] 11 June 1960, [5] 22 June 1962, [6] 19 August 1964, [7] 2 April 1965, [8] 23 August 1966[9] and 13 January 1975 (hereinafter referred to as the "Agreement for Co-operation");

WHEREAS the Agreement for Co-operation will, by its terms, expire on 11 April 1977;

WHEREAS Section 33 of the Safeguards Transfer Agreement provides that it may be prolonged for further periods as agreed by the parties;

NOW, THEREFORE, the International Atomic Energy Agency (hereinafter referred to as the "Agency"), the Government of Israel and the Government of the United States of America have agreed as follows:

1. The undertakings by the Government of Israel and the Government of the United States of America in Sections 2 and 3 of the Safeguards Transfer Agreement preclude the use of any item subject to the Safeguards Transfer Agreement for the manufacture of any nuclear weapon or to further any other military purpose or for the manufacture of any other nuclear explosive device.
2. The Safeguards Transfer Agreement shall continue in force until the Agency has, in accordance with the terms of that Agreement, terminated safeguards on all items subject to that Agreement.
3. This Protocol shall enter into force upon signature by or for the Director General of the Agency and by the authorized representatives of the Government of Israel and the Government of the United States of America.

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[3] United Nations Treaty Series, Vol. 219, No. 2974.

[4] Ibid., Vol. 368, No. 2974.

[5] Ibid., Vol. 377, No. 2974.

[6] Ibid., Vol. 448, No. 2974.

[7] Ibid., Vol. 533, No. 2974.

[8] Ibid., Vol. 573, No. 2974.

[9] Ibid., Vol. 606, No. 2974.

DONE in Vienna, this 7th day of April 1977, in triplicate in the English language.

For the INTERNATIONAL ATOMIC ENERGY AGENCY:

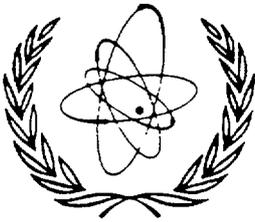
(signed) Helio F. S. Bittencourt

For the GOVERNMENT OF ISRAEL:

(signed) Ehud Avivi

For the GOVERNMENT OF THE UNITED STATES OF AMERICA:

(signed) Galen L. Stone



International Atomic Energy Agency

# BOARD OF GOVERNORS

GOV/1659

10 May 1974

RESTRICTED Distr.

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## SAFEGUARDS

### THE APPLICATION OF SAFEGUARDS BY THE AGENCY

#### An agreement with Jordan in connection with the Treaty on the Non-Proliferation of Nuclear Weapons

Note by the Director General

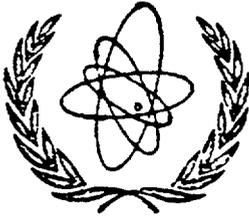
1. The Secretariat has recently completed with the Jordanian authorities negotiation of an agreement to enable Jordan to meet its obligations under Article III of the Treaty on the Non-Proliferation of Nuclear Weapons<sup>1/</sup>. The text of the resulting draft agreement and of an accompanying protocol are set forth in the Annex hereto.
2. The agreement is based on the material which the Board has asked the Director General to use in negotiating safeguards agreements of this nature<sup>2/</sup>. As regards the protocol, the Jordanian authorities have informed the Secretariat that Jordan only has at present, in peaceful nuclear activities within its territory or under its jurisdiction or control anywhere, nuclear material in quantities below the limits stated in Article 36 of the agreement, and that this material is not in a facility. The Secretariat and the Jordanian authorities have accordingly agreed on a protocol which, whilst maintaining the Agency's basic rights and obligations to apply safeguards under the agreement, will reduce to a minimum the safeguards procedures, provided for in Part II of the agreement, to be implemented as long as this situation obtains.
3. With the present structure and staffing of the Department of Safeguards and Inspection, it is expected that while the protocol is in force the application of this agreement will not involve the Agency in any readily identifiable extra cost.

<sup>1/</sup> Reproduced in document INFCIRC/140.

<sup>2/</sup> Set forth in document INFCIRC/153 (corrected).

RECOMMENDED ACTION BY THE BOARD

4. The Board is recommended to authorize the Director General to conclude with Jordan and subsequently implement the safeguards agreement and accompanying protocol which are set forth in the Annex.



International Atomic Energy Agency

## BOARD OF GOVERNORS

GOV/1580

14 February 1973

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and FRENCH

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Item 2(a) of the provisional agenda  
(GOV/1577)

### SAFEGUARDS

#### (a) THE APPLICATION OF SAFEGUARDS BY THE AGENCY

##### An agreement with Lebanon in connection with the Treaty on the Non-Proliferation of Nuclear Weapons

Note by the Director General

1. The Secretariat has recently completed with the Lebanese authorities negotiation of an agreement to enable Lebanon to meet its obligations under Article III of the Treaty on the Non-Proliferation of Nuclear Weapons<sup>1/</sup>. The text of the resulting draft agreement and of an accompanying protocol are set forth in the Annex hereto.
2. The agreement is based on the material which the Board has asked the Director General to use in negotiating safeguards agreements of this nature<sup>2/</sup>. As regards the protocol, the Lebanese authorities have informed the Secretariat that Lebanon only has at present, in peaceful nuclear activities within its territory or under its jurisdiction or control anywhere, nuclear material in quantities below the limits stated in Article 36 of the agreement, and that this material is not in a facility. The Secretariat and the Lebanese authorities have accordingly agreed on a protocol which, whilst maintaining the Agency's basic rights and obligations to apply safeguards under the agreement, will reduce to a minimum the safeguards procedures, provided for in Part II of the agreement, to be implemented as long as this situation obtains.

<sup>1/</sup> Reproduced in document INFCIRC/140.

<sup>2/</sup> Set forth in document INFCIRC/153.

3. With the present structure and staffing of the Department of Safeguards and Inspection, it is expected that while the protocol is in force the application of this agreement will not involve the Agency in any readily identifiable extra cost.

RECOMMENDED ACTION BY THE BOARD

4. The Board is recommended to authorize the Director General to conclude with Lebanon and subsequently implement the safeguards agreement and accompanying protocol which are set forth in the Annex.



International Atomic Energy Agency  
**BOARD OF GOVERNORS**

GOV/1963  
 16 November 1979  
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Item 3(b) of the provisional agenda  
 (GOV/1962)

SAFEGUARDS

(b) THE CONCLUSION OF SAFEGUARDS AGREEMENTS

An agreement with the Socialist People's Libyan Arab Jamahiriya in connection with the Treaty on the Non-Proliferation of Nuclear Weapons

Note by the Director General

1. The Secretariat and the Government of the Socialist People's Libyan Arab Jamahiriya have recently completed negotiations on a safeguards agreement in relation to the obligations which the Socialist People's Libyan Arab Jamahiriya has assumed under Article III of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)<sup>1/</sup>.
2. The draft agreement is in line with document INFICIRC/153 (corrected) and is based on the standard text of safeguards agreements in connection with NPT<sup>2/</sup>, with certain modifications found to be necessary to meet the requirements of the legislation and procedures of the Socialist People's Libyan Arab Jamahiriya.
3. The Annex to this note lists which of the alternative versions of certain articles provided for in the standard text of the NPT Safeguards Agreement (GOV/INF/276, Annex A) have been chosen as well as the differences between the draft agreement and the standard text. It will be observed that the differences do not relate to the substance of the agreement.

RECOMMENDED ACTION BY THE BOARD

4. The Board is recommended to authorize the Director General to conclude with the Socialist People's Libyan Arab Jamahiriya and subsequently to implement the proposed safeguards agreement which is the subject of the present note.

<sup>1/</sup> Reproduced in document INFICIRC/140.

<sup>2/</sup> GOV/INF/276, Annex A.

