No. 13637

INTERNATIONAL ATOMIC ENERGY AGENCY
and
IRAN

Agreement for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons. Signed at Vienna on 19 June 1973

Authentic text: English.

Registered by the International Atomic Energy Agency on 4 November 1974.

AGENCE INTERNATIONALE DE L'ÉNERGIE ATOMIQUE
et
IRAN

Accord relatif à l'application de garanties dans le cadre du Traité sur la non-prolifération des armes nucléaires. Signé à Vienne le 19 juin 1973

Texte authentique : anglais.

Enregistré par l'Agence internationale de l'énergie atomique le 4 novembre 1974.

AGREEMENT[1] BETWEEN IRAN AND THE INTERNATIONAL ATOMIC ENERGY AGENCY FOR THE APPLICATION OF SAFEGUARDS IN CONNECTION WITH THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS[2]

Whereas Iran 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[2] 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[3] 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 the Government of Iran and the Agency have agreed as follows:

PART I

BASIC UNDERTAKING

Article 1

The Government of Iran 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.

[1] Came into force on 15 May 1974, the date upon which the Agency received from the Government of Iran written notification that its statutory and constitutional requirements had been met, in accordance with article 25.

[2] United Nations, *Treaty Series*, vol. 729, p. 161.

[3] *Ibid.*, vol. 276, p. 3, and vol. 471, p. 334.

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 Iran, 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 THE GOVERNMENT OF IRAN AND THE AGENCY

Article 3

The Government of Iran 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 Iran or international co-operation in the field of peaceful nuclear activities, including international exchange of nuclear material;

(*b*) to avoid undue interference in Iran'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*) The Government of Iran 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 Iran'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 Iran's system.

PROVISION OF INFORMATION TO THE AGENCY

Article 8

(*a*) In order to ensure the effective implementation of safeguards under this Agreement, the Government of Iran shall, in accordance with the provisions set out in part II of this Agreement, provide the Agency with information concern-

ing 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 the Government of Iran so requests, the Agency shall be prepared to examine on premises of Iran design information which the Government of Iran 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 Iran.

AGENCY INSPECTORS

Article 9

(*a*) (i) The Agency shall secure the consent of the Government of Iran to the designation of Agency inspectors to Iran.

(ii) If the Government of Iran, 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 the Government of Iran an alternative designation or designations.

(iii) If, as a result of the repeated refusal of the Government of Iran 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*) The Government of Iran 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 the Government of Iran 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

The Government of Iran 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.[1]

[1] United Nations, *Treaty Series*, vol. 374, p. 147.

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.

Article 12

Transfer of nuclear material out of Iran

The Government of Iran shall give the Agency advance notification of intended transfers of nuclear material subject to safeguards under this Agreement out of Iran, 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, the Government of Iran 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 the Government of Iran 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*) The Government of Iran 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 the Government of Iran 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*) The Government of Iran 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 Iran 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

The Government of Iran and the Agency will bear the expenses incurred by them in implementing their respective responsibilities under this Agreement. However, if the Government of Iran 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

The Government of Iran 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 Iran.

INTERNATIONAL RESPONSIBILITY

Article 17

Any claim by the Government of Iran against the Agency or by the Agency against the Government of Iran 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 the Government of Iran 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 the Government of Iran 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.

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 the Government of Iran every reasonable opportunity to furnish the Board with any necessary reassurance.

INTERPRETATION AND APPLICATION OF THE AGREEMENT AND SETTLEMENT OF DISPUTES

Article 20

The Government of Iran 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

The Government of Iran 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 the Government of Iran 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 the Government of Iran and the Agency shall, at the request of either, be submitted to an arbitral tribunal composed as follows: the Government of Iran 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 the Government of Iran or the Agency has not designated an arbitrator, either the Government of Iran 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 the Government of Iran and the Agency.

SUSPENSION OF APPLICATION OF AGENCY SAFEGUARDS UNDER OTHER AGREEMENTS

Article 23

The application of Agency safeguards in Iran under other safeguards agreements with the Agency shall be suspended while this Agreement is in force; provided, however, that Iran's undertaking in those and other agreements not to use items which are subject thereto in such a way as to further any military purpose shall continue to apply.

AMENDMENT OF THE AGREEMENT

Article 24

(*a*) The Government of Iran 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 the Government of Iran and the Agency.

(*c*) Amendments to this Agreement shall enter into force in the same conditions as entry into force of the Agreement itself.

(*d*) 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 on the date upon which the Agency receives from the Government of Iran written notification that Iran's statutory and constitutional requirements for entry into force have been met. 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 Iran 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.

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 Iran's system of accounting for and control of all nuclear material subject to safeguards under this Agreement and shall avoid unnecessary duplication of Iran's accounting and control activities.

Article 32

Iran'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, the Government of Iran 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, the Government of Iran 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 Iran, 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 the Government of Iran considers that

the recovery of safeguarded nuclear material from residues is not for the time being practicable or desirable, the Government of Iran 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 the Government of Iran and the Agency agree that such nuclear material is practicably irrecoverable.

EXEMPTIONS FROM SAFEGUARDS

Article 36

At the request of the Government of Iran, 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 Government of Iran 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 Iran 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 reapplication of safeguards thereto.

SUBSIDIARY ARRANGEMENTS

Article 39

The Government of Iran 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 the Government of Iran 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. The Government of Iran 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 the Government of Iran and the Agency. The Government of Iran 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 Iran 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 the Government of Iran 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. The Government of Iran 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 the Government of Iran 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 the Government of Iran, 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, the Government of Iran 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

The Government of Iran 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

The Government of Iran 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 the Government of Iran 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

The Government of Iran 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 reveiving 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

The Government of Iran 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 the Government of Iran 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 the Government of Iran 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

The Government of Iran shall make special reports without delay:

(*a*) if any unusual incident or circumstances lead the Government of Iran 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, the Government of Iran 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 Iran.

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 the Government of Iran including explanations from the Government of Iran 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 the Government of Iran 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 the Government of Iran 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 the Government of Iran concluding that any unusual circumstances require extended limitations on access by the Agency, the Government of Iran 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 77

In circumstances which may lead to special inspections for the purposes specified in article 73 the Government of Iran 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 the Government of Iran, 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 the Government of Iran 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 of annual throughput of nuclear material, whichever is greater, expressed in effective kilograms.

The Government of Iran 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 Iran's accounting and control system*, including the extent to which the operators of facilities are functionally independent of Iran's accounting and control system; the extent to which the measures specified in article 32 have been implemented by the Government of Iran; 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 Iran'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 Iran'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

The Government of Iran and the Agency shall consult if the Government of Iran 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 the Government of Iran 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 the Government of Iran 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 Iran the Agency shall also give advance notice of the place and time of their arrival in Iran.

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 the Government of Iran pursuant to article 64 (*b*). Moreover, whenever practicable, and on the basis of the operational programme, it shall advise the Government of Iran 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 the Government of Iran and for facility operators, bearing in mind the relevant provisions of articles 44 and 89. Similarly the Government of Iran 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 the Government of Iran 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 Iran;

(*b*) The Government of Iran 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 the Government of Iran as one of the inspectors for Iran, and shall inform the Government of Iran of such designations; and

(*d*) The Director General, acting in response to a request by the Government of Iran or on his own initiative, shall immediately inform the Government of Iran of the withdrawal of the designation of any official as an inspector for Iran.

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

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

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

Article 89

The Government of Iran shall have the right to have inspectors accompanied during their inspections by representatives of the Government of Iran, 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 the Government of Iran 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 Iran, 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 the Government of Iran:

(*a*) in the case of import into Iran, 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 Iran, 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 Iran 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 IRAN

Article 92

(*a*) The Government of Iran shall notify the Agency of any intended transfer out of Iran 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*) The Government of Iran 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 Iran and, if the Agency so wishes or the Government of Iran 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, the Government of Iran shall make arrangements for the Agency to receive, within three months of the time when the recipient State accepts re-

sponsibility for the nuclear material from Iran, confirmation by the recipient State of the transfer.

TRANSFERS INTO IRAN

Article 95

(*a*) The Government of Iran shall notify the Agency of any expected transfer into Iran 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 the Government of Iran assumes responsibility for the nuclear material.

(*c*) The Government of Iran 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 the Government of Iran 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

The Government of Iran shall make a special report as envisaged in article 68 if any unusual incident or circumstances lead the Government of Iran 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 reprocessing 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 Iran.

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 Vienna on the 19th day of June 1973 in duplicate in the English language.

For the Government of Iran:
M. SADRI

For the International Atomic Energy Agency:
SIGVARD EKLUND