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## I

*(Acts whose publication is obligatory)*

## COMMISSION REGULATION (EURATOM) No 3227/76

of 19 October 1976

concerning the application of the provisions on Euratom safeguards

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Articles 77, 78, 79 and 81 thereof,

Having regard to the approval of the Council,

Whereas Commission of the European Atomic Energy Community Regulation No 7 established the implementing procedures for the declarations required by Article 78 of the Treaty <sup>(1)</sup>,

Whereas Commission of the European Atomic Energy Community Regulation No 8 <sup>(2)</sup> defined the nature and the extent of the requirements referred to in Article 79 of the Treaty;

Whereas, in view of the increasing quantities of nuclear materials produced, used and carried in the Community and the development of trade in these materials, it is essential, in order to ensure the effectiveness of safeguards, that the nature and the extent of the requirements referred to in Article 79 of the Treaty and laid out in Regulation No 8 referred to above, be defined and brought up to date in the light of experience particularly with regard to the transportation of, or commerce in these materials;

Whereas, moreover, the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of

Germany, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands and the European Atomic Energy Community (Euratom) concluded on 5 April 1973 an Agreement (hereinafter called 'the Agreement') with the International Atomic Energy Agency in implementation of Article III (1) and (4) of the Treaty on the non-proliferation of nuclear weapons;

Whereas the Agreement contains a particular undertaking entered into by the Community concerning the application of safeguards on source and special fissile materials on the territories of the Community. Member States which have no nuclear weapons of their own and which are parties to the Treaty on the non-proliferation of nuclear weapons and, in conjunction with the Community, to the Agreement signed on 5 April 1973 with the International Atomic Energy Agency (hereinafter called 'the Member States party to the Agreement');

Whereas the implementation of this undertaking requires the establishment of particular procedures for the application of safeguards on the territories of the Member States party to the Agreement in order to amplify the provisions of the aforementioned Regulations No 7 and No 8;

Whereas, moreover, the procedures foreseen by this Agreement are in conformity with those devised in the course of a very wide-ranging international negotiation conducted, in view of the provisions of paragraphs 1 and 4 of Article III of the Treaty on the non-proliferation of nuclear weapons, with the International Atomic Energy Agency, the result of which has been approved by the Board of Governors of that organization, and that these procedures are based on the most modern developments in the field of safeguards;

<sup>(1)</sup> OJ No 15, 12. 3. 1959, p. 298/59, and communication on the numbering of EAEC Regulations (OJ No 34, 29. 5. 1959, p. 649/59).

<sup>(2)</sup> OJ No 34, 29. 5. 1959, p. 651/59.

Whereas, accordingly, it is opportune to define new procedures for the application of the provisions of Chapter VII of the Treaty;

Whereas the Community, the United Kingdom and the International Atomic Energy Agency have signed on 6 September 1976 an Agreement comprising a particular commitment which concerns the application of safeguards to source and special fissile materials on the territory of the United Kingdom;

Whereas it is appropriate to arrange for particular provisions relative to the accounting system and the presentation of records concerning ores;

Whereas, on the territories of the Member States not party to the Agreement, some installations or parts thereof as well as certain materials are liable to be involved in the production cycle for defence needs, therefore it is appropriate to specify particular safeguard procedures to take account of these circumstances;

Whereas, for clarity's sake, and particularly to make the respect of safeguard Regulations easier for those concerned, it is appropriate to codify these Regulations in a single text,

HAS ADOPTED THIS REGULATION:

## PART I

### BASIC TECHNICAL CHARACTERISTICS AND PARTICULAR SAFEGUARD PROVISIONS

#### DECLARATION OF THE TECHNICAL CHARACTERISTICS

##### *Article 1*

Any person or undertaking 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 installation, on the basis of the relevant questionnaire given in Annex I hereto.

Any person or undertaking responsible for the storage of source materials or special fissile materials shall be subject to the provisions of the first paragraph.

##### *Article 2*

Where the basic technical characteristics of an installation have already been communicated to the Commission, the declarations specified in the said Article 1 may be made by reference to such earlier communication, provided that any additional information required by the questionnaire referred to

in Article 1 is supplied within 30 days from the date on which this Regulation comes into force.

The basic technical characteristics of new installations shall be declared as laid down in Article 1 at least 45 days before the first consignment of nuclear material is due to be received.

##### *Article 3*

The 'particular safeguard provisions' referred to in Article 7 shall specify those important changes in the basic technical characteristics for which advance notification is required.

Any other changes in the basic technical characteristics shall be communicated to the Commission, together with the first inventory change report made after the modification is complete.

##### *Article 4*

On receipt of a reasoned request, the Commission may allow additional time for the completion of the declarations required in the preceding Articles.

*Article 5*

The provisions of Article 1 shall not apply to persons or undertakings holding only nuclear materials exempted from the declaration requirements as provided for by Article 22.

**PROGRAMME OF ACTIVITIES***Article 6*

The persons or undertakings referred to in Article 1 shall also communicate to the Commission, for the planning of its safeguard activities, the following information:

- (a) annually, an outline programme of activities drawn up in accordance with the 'particular safeguard provisions' referred to in Article 7, the first communication being made on the basis of the guidelines given in Annex X, at the same time as that of the basic technical characteristics referred to in Article 1;
- (b) at least 40 days before beginning the taking of a physical inventory, the programme for such work;
- (c) at least 40 days before starting to shut down a batch-loaded reactor for reloading, the programme in respect of such shutting down unless otherwise provided in the 'particular safeguard provisions' referred to in Article 7.

Any change affecting programmes for the taking of physical inventories or for the shutting down of reactors to reload shall be communicated to the Commission without delay.

**PARTICULAR SAFEGUARD PROVISIONS***Article 7*

Acting on the declarations of basic technical characteristics and on the information communicated in pursuance of Article 6, the Commission shall specify in the 'particular safeguard provisions' the procedures by which the persons or undertakings concerned shall meet the requirements in relation

to safeguards imposed on them. Among others these procedures shall include:

- (a) the designation of the material balance areas and the selection of those strategic points which are key measurement points for determining the flow and stocks of nuclear materials;
- (b) the procedures for keeping records of nuclear materials for each material balance area and for drawing up reports;
- (c) the frequency of and procedures for drawing up physical inventories for accounting purposes as part of safeguard measures;
- (d) containment and surveillance measures, in accordance with the modalities agreed upon with the plant operators;
- (e) sample-taking by the plant operator solely for safeguard purposes.

The 'particular safeguard provisions' shall also lay down the content of subsequent communications required under Article 6 of this Regulation as well as the conditions requiring advance notification of shipments and receipts of nuclear material.

The Commission will reimburse the person or undertaking concerned the cost of those special services which are provided for in the 'particular safeguard provisions', or which are provided because of a special request of the Commission or of the inspectors and on the basis of an agreed estimate. The extent and modality of the reimbursement will be fixed between the parties concerned and will be reviewed periodically as necessary.

*Article 8*

The 'particular safeguard provisions' referred to in Article 7 shall be drawn up by means of an individual decision of the Commission after consultation with the person or undertaking concerned and the appropriate Member State.

The person or undertaking affected by any individual decision of the Commission will be notified thereof, and a copy of such notification will be transmitted to the Member State concerned.

## PART II

## ACCOUNTING SYSTEM

*Article 9*

The persons and undertakings referred to in Article 1 shall maintain a system of accounting for and control of nuclear materials. This system shall include accounting and operating records and, in particular, information on the quantities, nature, form and composition of these materials in accordance with the requirements of Article 21, their actual location, the particular safeguarding obligation, and the way in which the persons or undertakings concerned have stated that they intend to use such materials, in accordance with their own decisions, as well as the shipper or recipient when materials are transferred.

The system of measurements on which the records are based shall comply with the most recent international standards or shall be equivalent in quality to those standards. On the basis of these records it must be possible to establish and justify the communications addressed to the Commission in the form and at the intervals laid down in Articles 12 to 21. Records shall be retained for a period of at least five years.

## ACCOUNTING RECORDS

*Article 10*

The accounting records shall show 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 and counting results that are used for determination of the physical inventory;
- (c) all corrections that have been made in respect of inventory changes, book inventories and physical inventories.

For all inventory changes and physical inventories the accounting records shall show, in respect of each batch of nuclear material, material identification, batch data and source data. These records shall account separately for uranium, thorium and plutonium in each batch of nuclear material. Moreover for each inventory change, the date of the

inventory change and, when appropriate, the dispatching material balance area and the receiving material balance area or the recipient, shall be indicated.

## OPERATING RECORDS

*Article 11*

The operating records shall include, if appropriate, for each material balance area:

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

## ACCOUNTING AND SPECIAL REPORTS

*Article 12*

The persons and undertakings referred to in Article 1 shall provide the Commission with accounting reports and, when appropriate, with special reports.

The accounting reports shall set forth the information available on the date of reporting and must be corrected at a later date if necessary.

On a reasoned request by the Commission, further details or explanations in connection with these reports shall be supplied normally within three weeks of that request.

**Initial inventory****Article 13**

The persons and undertakings referred to in Article 1 shall transmit to the Commission an initial book inventory of all nuclear materials which for any reason they have in their possession within 15 days of the last day of the month in which this Regulation comes into force. This inventory shall describe the situation on the last day of that month. The form set out in Annex IV to this Regulation shall be used for this purpose.

**Inventory change report****Article 14**

For each material balance area, the persons and undertakings referred to in Article 1 shall transmit to the Commission inventory change reports in respect of all nuclear materials in accordance with the specimen set out in Annex II. The reports shall identify the materials and give batch data for each batch thereof, the date of the inventory change and, when appropriate, the dispatching material balance area and the receiving material balance area or the recipient.

The reports concerning transfers shall also indicate for receipts the intended use, pursuant to Article 9, and for dispatches the use made of the nuclear materials in the reporting installation. Unless otherwise defined in the 'particular safeguard provisions' referred to in Article 7, no declaration of use is mandatory for transfers between different material balance areas of the same installation.

These reports showing inventory changes, book inventories and corrections shall be sent as soon as possible and, in any case, within 15 days after the end of the month in which the inventory changes occur or are known, either periodically in a consolidated list or individually. For months in which no inventory changes occur, the persons or undertakings concerned may simply send in the form intended for the inventory change report carrying the indication that the situation remained unchanged. Small inventory changes, such as transfers of samples for purposes of analysis, may be grouped, as laid down in the 'particular safeguard provisions' referred to in Article 7 for the installation concerned, in order that they may be reported as a single inventory change.

**Article 15**

The reports referred to in Article 14 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 in Article 11 (a) of this Regulation;
- (b) describing as specified in the 'particular safeguard provisions' referred to in Article 7, the planned operational programme for the installation concerned and, in particular, the taking of a physical inventory.

If the required information is contained in documents which already exist, copies of such documents may take the place of the concise notes.

**Material balance report and physical inventory listing****Article 16**

For each material balance area, the persons and undertakings referred to in Article 1 shall transmit to the Commission, in accordance with the specimen set out in Annex III to this Regulation, material balance reports showing:

- (a) beginning physical inventory;
- (b) inventory changes (first increases, then decreases);
- (c) ending book inventory;
- (d) ending physical inventory;
- (e) material unaccounted for.

A physical inventory, in accordance with the specimen set out in Annex IV, listing all batches separately giving, *inter alia*, identification of the materials and giving batch data for each batch thereof and the use, pursuant to Article 9, which the persons or undertakings concerned intend to make of the materials, shall be attached to each material balance report.

These reports shall be transmitted as soon as possible and in any case within 30 days from the date on

which a physical inventory was taken, unless otherwise specified in the 'particular safeguard provisions' referred to in Article 7.

### Special reports

#### Article 17

The persons and undertakings referred to in Article 1 shall transmit to the Commission a special report whenever the circumstances mentioned in Articles 18 and 27 arise.

The type of information to be dealt with in such reports shall be specified in the 'particular safeguard provisions' referred to in Article 7.

The special reports and further details or explanations which may be requested by the Commission in connection with these reports shall be supplied without delay.

#### Article 18

A special report must be made without delay:

- (a) if, as a result of any unusual incident or circumstances, it is believed that there has been or might be a loss of nuclear material in excess of the limits specified for these purposes in the 'particular safeguard provisions' referred to in Article 7; or
- (b) if the containment has unexpectedly changed from that specified in the 'particular safeguard provisions' referred to in Article 7, to a point where an unauthorized removal of nuclear material has become possible.

The abovementioned obligations shall devolve upon the persons and undertakings concerned as soon as they have become aware of any such loss or sudden change in the containment conditions, or of anything which leads them to believe that there has been such an occurrence. The causes shall also be stated as soon as they are known.

### Detailed rules of application

#### Article 19

In respect of reactors, the obligations laid down in Articles 10 to 16 shall apply under the following conditions.

As far as nuclear transformations are concerned, calculated data will be reported in the inventory change report at the latest when irradiated fuel is transferred from the reactor material balance area. In addition, where appropriate, other procedures for recording and reporting nuclear transformations shall be specified in the 'particular safeguard provisions' referred to in Article 7.

#### Article 20

Nuclear materials subject to particular safeguard obligations entered into by the Community in an Agreement concluded with a non-Member State or an international organization shall, unless otherwise stipulated by such Agreement, be identified separately for each obligation in the following notifications:

- (a) initial book inventory (Article 13);
- (b) inventory change reports, but excluding book inventories (Article 14);
- (c) physical inventory listings (Article 16); and
- (d) intended imports and exports (Articles 24 and 25).

Unless specifically prohibited in the Agreement referred to above, such separation shall not preclude the physical mixing of materials.

This Article shall not apply to the Agreement or to any other Agreement concluded by the Community and a Member State with the International Atomic Energy Agency.

#### Article 21

- (a) In any notification referred to in this Regulation, quantities of source materials shall be expressed in kilogrammes and quantities of special fissile materials in grammes.
- (b) The corresponding material accounting records shall be kept in the units referred to in (a) of this Article or in smaller units. They shall be kept in such a manner as to render them trustworthy and, in particular, to comply with current practices in the Member States.
- (c) In the notifications provided for above, quantities may be rounded down to the nearest unit when the first decimal is 0 to 4 and rounded up when the first decimal is 5 to 9.

(d) Unless otherwise provided for in the 'particular safeguard provisions' referred to in Article 7:

- (i) notifications shall indicate the total weight of the elements contained: uranium, thorium or plutonium and also, for enriched uranium, the total weight of the fissile isotopes. The isotopic composition of plutonium, if recorded at the installation for operational needs, shall be made available to the Commission on request;
- (ii) separate line entries in inventory change reports and in physical inventory listings and separate material balance reports must be used for the following categories of nuclear material:
  - depleted uranium,
  - natural uranium,
  - uranium enriched up to 20%,
  - uranium enriched above 20%,
  - plutonium,
  - thorium.

#### DEROGATIONS AND EXEMPTIONS

##### Article 22

- (a) In order to take account of any particular circumstances in which safeguarded materials are used or produced, the Commission may, in the 'particular safeguard provisions' referred to in Article 7, grant producers and users of nuclear materials a derogation from the rules governing

the form and frequency of notification provided for in this Regulation.

The Commission may so decide especially in the case of installations holding only small quantities which are kept in the same state for long periods.

- (b) At the request of the persons or undertakings concerned in accordance with the form set out in Annex VIII, the Commission may exempt the following materials from declaration, provided that they are not processed or stored together with non-exempted nuclear materials:

- special fissile materials which are used in quantities of the order of a gramme or less as sensing components in instruments,
- plutonium with an isotopic concentration of plutonium-238 in excess of 80%,
- nuclear materials which are used exclusively in non-nuclear activities.

If the conditions for exemption cease to be fulfilled, the exemption shall be rescinded. The person or undertaking concerned shall inform the Commission in accordance with the form set out in Annex IX that the conditions for exemption no longer exist.

##### Article 23

This Regulation shall not apply to holders of finished products used for non-nuclear purposes which incorporate nuclear materials that are virtually irrecoverable.

### PART III

#### TRANSFERS: IMPORTS/EXPORTS

##### Article 24

- (a) The persons and undertakings referred to in Article 1 which export source or special fissile materials to a non-Member State shall give advance notification to the Commission of every such export. Similarly, advance notification shall be given to the Commission:

- in the case of any export from a Member State party to the Agreement to a Member State not party to the Agreement; and

- in the case of any export from the United Kingdom to a Member State party to the Agreement.

However, advance notification is required only:

- (i) where the consignment exceeds one effective kilogramme;
- (ii) where the 'particular safeguard provisions' referred to in Article 7 so specify, in the case of installations habitually transferring

large total quantities of materials to the same State, even though no single consignment exceeds one effective kilogramme.

- (b) Such notification shall be given after the conclusion of the contractual arrangements leading to the transfer and in any case in time to reach the Commission eight working days before the material is to be prepared for shipment.
- (c) Such notification shall be given in accordance with the form set out in Annex V to this Regulation and shall state, *inter alia*,
  - the identification and, if possible, the expected quantity and composition of the material to be transferred, and the material balance area from which it will come,
  - the State to which the nuclear material is to be sent,
  - the dates on and locations at which the nuclear material will be prepared for shipment,
  - the approximate dates of dispatch and arrival of the nuclear material,
  - the use which the persons or undertakings concerned had made of the nuclear material.
- (d) If so required for reasons of physical protection, special arrangements concerning the form and transmission of such notification may be agreed upon with the Commission.

#### Article 25

- (a) The persons and undertakings referred to in Article 1 which import source or special fissile materials from a non-member State shall give advance notification to the Commission of every such import. Similarly, advance notification shall be given to the Commission:
  - in the case of any import into a Member State party to the Agreement from a Member State not party to the Agreement, and
  - in the case of any import into the United Kingdom from a Member State party to the Agreement.

However, advance notification is required only:

- (i) where the consignment exceeds one effective kilogramme;
- (ii) where the 'particular safeguard provisions' referred to in Article 7 so specify, in the case of installations to which large total quantities of materials are habitually

transferred from the same State, even though no single consignment exceeds one effective kilogramme.

- (b) Such notification shall be given as far in advance as possible of the expected arrival of the nuclear material and, in any case, on the date of receipt and in time to reach the Commission five working days before the material is unpacked.
- (c) Such notification shall be given in accordance with the form set out in Annex VI and shall state, *inter alia*:
  - the identification and, if possible, the expected quantity and composition of the material,
  - the expected date of arrival, the location where and the date on which the nuclear material is expected to be unpacked.
- (d) If so required for reasons of physical protection, special arrangements concerning the form and transmission of such notification may be agreed upon with the Commission.

#### Article 26

When persons or undertakings not subject to Article 1 decide to export or import nuclear materials referred to in Articles 24 and 25, these persons or undertakings are required to make the notifications foreseen in Articles 24 and 25.

#### Article 27

A special report as provided for in Article 17 shall be prepared by the persons or undertakings covered by Articles 24 and 25 if, following exceptional circumstances or an incident, they have received information that nuclear materials have been or appear to be lost, particularly when there has been a considerable delay during transfer. In the same circumstances persons or undertakings covered by Article 26 are also required to inform the Commission.

#### Article 28

Any change of date in the preparation for shipment, in the shipment or in the unpacking of nuclear materials with respect to the dates given in the notifications provided for in Articles 24 and 25, but not a change that gives rise to special reports, shall be communicated without delay, with an indication of the revised dates, if known.

**PART IV****SPECIFIC PROVISIONS****ORE PRODUCERS***Article 29*

Any person or undertaking extracting ores on the territory of a Member State shall keep accounting records thereof. These records must indicate, in particular, the tonnage and average uranium and thorium content of the ore extracted and of the stock at the mine, and proof of shipment, stating the date, consignee, and quantity. Such records shall be kept for at least five years.

*Article 30*

No later than the end of January each year, producers of ores shall inform the Commission, in accordance with the form set out in Annex VII, of the amount of material dispatched from each mine during the previous year.

*Article 31*

Any person or undertaking exporting ores to non-Member States shall inform the Commission thereof, in accordance with the form set out in Annex VII, on the actual date of dispatch.

**CARRIERS***Article 32*

Any person or undertaking engaged, within the territories of the Member States, in carrying or temporarily storing source or special fissile materials during shipment may accept them or hand them over only against a duly signed and dated receipt. This shall state the names of the parties handing over and receiving the materials and the quantities carried,

together with the nature, form and composition of the materials.

If so required for reasons of physical protection, the specification of the materials transferred may be replaced by a suitable identification of the consignment. Such identification shall be traceable to records held by the persons and undertakings referred to in Article 1 and showing the specification mentioned.

Such documents shall be kept by the contracting parties for at least one year.

*Article 33*

Documents and papers already held and compiled by persons or undertakings in accordance with existing regulations which apply to them on the territory of the Member States in which they operate may take the place of the documents and receipts provided for in Article 32, provided that such documents and papers contain all the required information.

**INTERMEDIARIES***Article 34*

Every intermediary whatsoever, in particular authorized agents, brokers, commission or business agents, taking part in the conclusion of any contract for the supply of nuclear materials shall keep all documents relating to the transactions performed by him or on his behalf for at least one year after the expiry of the contract. Such documents shall mention the names of the contracting parties, the date of the contract, the quantity, nature, form and composition together with the origin and destination of the materials.

## PART V

## SPECIFIC PROVISIONS APPLICABLE IN THE TERRITORIES OF MEMBER STATES WHICH ARE NUCLEAR WEAPON STATES

*Article 35*

1. The provisions of this Regulation shall not apply:

(a) to installations or parts of installations which have been assigned to meet defence requirements and which are situated on the territory of a Member State not party to the Agreement; or

(b) to nuclear materials which have been assigned to meet defence requirements by that Member State.

2. For nuclear materials, installations or parts of installations which are liable to be assigned to meet defence requirements and which are situated on the territory of a Member State not party to the Agreement, the extent of the application of this Regulation and the procedures under it shall be defined by the Commission in consultation and in agreement with the Member State concerned, taking into account the provisions of the second paragraph of Article 84 of the Treaty.

3. It is understood in any event that:

(a) the provisions of Articles 1 to 4, 7 and 8 shall apply to installations or parts of installations which at certain times are operated exclusively with nuclear materials liable to be assigned to meet defence requirements but at other times are operated exclusively with civil nuclear materials;

(b) the provisions of Articles 1 to 4, 7 and 8 shall apply, with exceptions for reasons of national security, to installations or parts of installations to which access could be restricted for such reasons but which produce, treat, separate, reprocess or use in any other way simultaneously both civil nuclear materials and nuclear materials assigned or liable to be assigned to meet defence requirements;

(c) the provisions of Articles 6, and 9 to 37 shall apply in relation to all civil nuclear materials situated in installations or parts of installations as referred to in subparagraphs (a) and (b) above.

## PART VI

## FINAL PROVISIONS

## DEFINITIONS

*Article 36*

For the purposes of this Regulation:

(a) 'The Agreement' means the Agreement concluded on 5 April 1973 between the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of Germany, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands and the European Atomic Energy Community (Euratom) with the International Atomic Energy Agency, in implementation of paragraphs 1 and 4 of Article III of the Treaty on the non-proliferation of nuclear weapons.

(b) 'Member State party to the Agreement' means the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of Germany, Ireland, the Italian Republic, the Grand Duchy of Luxembourg or the Kingdom of the Netherlands.

(c) 'Member State not party to the Agreement' means France or the United Kingdom.

(d) 'Non-Member State' means any State which is not a member of the European Atomic Energy Community.

(e) 'Special fissile materials' means plutonium-239; uranium-233; uranium enriched in uranium-235 or uranium-233, and any substance containing

one or more of the foregoing isotopes and such other fissile materials as may be specified by the Council, acting by a qualified majority on a proposal from the Commission; the expression 'special fissile materials' does not, however, include source materials nor ores or ore waste.

- (f) 'Uranium enriched in uranium-235 or uranium-233' means uranium containing uranium-235 or uranium-233 or both in an amount such that the abundance ratio of the sum of these isotopes to isotope 238 is greater than the ratio of isotope 235 to isotope 238 occurring in nature. 'Enrichment' means the ratio of the combined weight of uranium-233 and uranium-235 to the total weight of the uranium under consideration.
- (g) 'Source materials' means uranium containing the mixture of isotopes occurring in nature; uranium whose content in uranium-235 is less than the normal; thorium; any of the foregoing in the form of metal, alloy; chemical compound or concentrate; any other substance containing one or more of the foregoing in such a concentration as shall be specified by the Council, acting by a qualified majority on a proposal from the Commission, and any other material which the Council may determine, acting by a qualified majority on a proposal from the Commission. The words 'source materials' shall not be taken to include ores or ore waste.
- (h) 'Ores' means any ore containing, in such average concentration as shall be specified by the Council acting by a qualified majority on a proposal from the Commission, substances from which the source materials defined above may be obtained by the appropriate chemical and physical processing.
- (i) 'Nuclear materials' means any ore, source and special fissile material as defined in paragraphs (e), (f), (g) and (h) above.
- (j) 'Nature' of a material means natural uranium, depleted uranium, uranium enriched in uranium-235 or uranium-233, thorium or plutonium, depending on the case.
- (k) '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 identifiable items.
- (l) '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. For reporting purposes the weights of individual items in the batch shall be added together before rounding to the nearest unit.
- (m) '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.
- (n) 'Correction' means an entry in 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.
- (o) 'Effective kilogramme' means a special unit used in safeguarding nuclear material. The quantity in effective kilogrammes is obtained by taking:
- (i) for plutonium, its weight in kilogrammes;
  - (ii) for uranium with an enrichment of 0.01 (1%) and above, its weight in kilogrammes multiplied by the square of its enrichment;
  - (iii) for uranium with an enrichment below 0.01 (1%) and above 0.005 (0.5%), its weight in kilogrammes multiplied by 0.0001; and
  - (iv) for depleted uranium with an enrichment of 0.005 (0.5%) or below, and for thorium, its weight in kilogrammes multiplied by 0.00005.
- (p) 'Inventory change' means an increase or decrease, in terms of batches, of nuclear material in a material balance area.
- (q) 'Key measurement point' means 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, inputs and outputs (including measured discards) and storages in material balance areas.

(r) 'Material balance area' means an area such that:

- (i) the quantity of nuclear material in each transfer into or out of each material balance area can be determined; and
- (ii) 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 may be established.

(s) 'Material unaccounted for' means the difference between physical inventory and book inventory.

(t) '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.

(u) '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.

(v) '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.

(w) '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 safeguard measures under the Agreement is obtained and verified; a 'strategic point' may include any location where key measurements related to material accountancy are made and where containment and surveillance measures are executed.

#### INSTALLATIONS CONTROLLED FROM OUTSIDE THE COMMUNITY

##### Article 37

Where an installation is controlled by a person or undertaking established outside the Community, any obligations imposed by this Regulation shall devolve upon the local management of the installation.

#### ANNEXES

##### Article 38

The Annexes to this Regulation form an integral part thereof. The Commission may make minor technical adjustments thereto.

#### ENTRY INTO FORCE

##### Article 39

This Regulation shall enter into force 15 days after its publication in the *Official Journal of the European Communities*.

Without prejudice to Article 40, Commission of the European Atomic Energy Community Regulations No 7 and No 8 are hereby repealed.

##### Article 40

Articles 9 to 16, 19 and 21 of this Regulation shall apply as from the adoption of the 'particular safeguard provisions' referred to in Article 7.

Until the adoption of those provisions, Articles 2, 5, 7, 8 and 10 of the abovementioned Regulation No 8 shall continue to apply.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 19 October 1976.

*For the Commission*

*The President*

François-Xavier ORTOLI

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## ANNEX I

QUESTIONNAIRE FOR THE DECLARATION OF THE BASIC TECHNICAL  
CHARACTERISTICS OF THE INSTALLATIONS

## A. REACTORS

Date .....

## IDENTIFICATION OF THE INSTALLATION

1. Name.
2. Location, exact address with telephone and telex numbers.
3. Owner (legally responsible body or individual).
4. Operator (legally responsible body or individual).
5. Present status (in operation or expected date of entry into operation).
6. Purpose and type of installation.
7. Operating mode of installation influencing its throughput. (Shift system adopted, approximate dates of operating periods in year, etc.)
8. Layout of installation site. Map showing perimeters and premises of the installation in the form of a site layout; buildings, roads, rivers, railways, etc.
9. Layout of installation:
  - (a) structural containment, fences and access routes;
  - (b) incoming material storage area;
  - (c) reactor area;
  - (d) test and experiment area, laboratories;
  - (e) outgoing material storage area;
  - (f) nuclear material waste disposal.

NB: 1. Pursuant to Article 79 of the Treaty those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communication they make to the Commission pursuant to Article 78.

2. The reply 'not applicable' can be given to questions which are not applicable. The Commission is still entitled to request any additional information it considers necessary in connection with the relevant questionnaire.

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This questionnaire, duly completed and signed, should be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirchberg, Luxembourg (Grand Duchy of Luxembourg).

10. Additional main installation data:
- (a) rated thermal output per reactor for continuous operation;
  - (b) source and special fissionable material;
  - (c) initial core enrichments;
  - (d) moderator;
  - (e) coolant.

**GENERAL ARRANGEMENT OF THE INSTALLATION, INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTANCY, CONTAINMENT AND SURVEILLANCE**

**Description of nuclear material (\*)**

11. Fuel element and/or assembly outline drawing in sufficient detail to indicate general structure with overall dimensions. (Element is the smallest contained fuel unit; assembly is the combination of elements to a handling unit such as cluster or bundle. Provisions for element exchange should be shown if applicable and indication given if this is a routine operation.)
12. Fuel material (including material in control or shim assemblies if applicable):
- (a) chemical composition or major alloy constituents;
  - (b) average enrichment per assembly;
  - (c) nominal weight of fuel material per assembly with design tolerances.
13. Cladding material.
14. Method of identifying individual fuel elements and/or assemblies if applicable.
15. Other nuclear material used in the installation (state briefly material, purpose and way of using material, e.g. booster rods).

**Flow of nuclear material**

16. Flowsheet showing points where nuclear material is identified or measured, material balance areas and inventory locations used for material accountancy and estimated range of inventories of nuclear material in these areas under normal operating conditions.
17. Expected nominal fuel cycle data including (as applicable):
- (a) reactor core loading;
  - (b) expected burn-up;
  - (c) annual refuelling amount;
  - (d) refuelling interval (on-load or off-load);
  - (e) approximate forecast of throughput and inventory and of receipts and shipments.

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(\*) Items 11 to 14 are to be answered for each type of assembly in the installation. Terminology consistent with item 11 should be used.

**Handling of nuclear material**

18. Layout and general arrangement drawings of fresh fuel storage, and description of packaging.
19. Layout and general arrangement drawings of fresh fuel preparation and/or assay room and reactor loading area.
20. General arrangement drawings of fuel transfer equipment for fresh and irradiated fuel, including refuelling machines or equipment.
21. General arrangement drawing of reactor vessel, location of core and openings in vessel, method of fuel handling in vessel.
22. Sketch of core showing the general disposition, lattice, form, pitch and dimensions of core, reflector, location, shapes and dimensions of control elements, experimental and/or irradiation positions.
23. Number and size of channels for fuel elements or assemblies and for control elements in the core.
24. Spent fuel storage:
  - (a) general arrangement drawings of storage site;
  - (b) method of storage;
  - (c) design capacity of storage;
  - (d) equipment for handling irradiated fuel;
  - (e) minimum cooling time before shipment of irradiated fuel;
  - (f) drawing and description of shipping cask for irradiated fuel (as required to explore the possibility of sealing).
25. Nuclear material testing area (if applicable):
  - (a) brief description of the nature of the activities performed;
  - (b) description of major equipment (e.g. hot cell, fuel element decladding and dissolution equipment);
  - (c) description of shipping containers for nuclear material and packaging of waste and scrap (as required to explore the possibility of sealing);
  - (d) storage of unirradiated and irradiated nuclear material;
  - (e) layout and general arrangement drawings for the above, if not covered elsewhere.

**Coolant data**

26. Coolant flow diagrams as required for heat balance calculations (indicating pressure, temperatures and mass flow rates at major points).

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL****Accountancy system**

27. Nuclear material control and accountancy system (describe item and/or mass accountancy system, including relevant assay measurement methods used with assessed accuracies, supplying specimen blank forms used in all control and accountancy procedures). Length of preservation of such records should be stated.

**Physical inventory**

28. Description of procedures, scheduled frequency, methods of operator's physical inventory taking (both for item and/or mass accountancy including main assay methods), expected accuracy; access to nuclear material in the core and to irradiated nuclear material outside the core, expected radiation levels.

**OTHER INFORMATION RELEVANT TO APPLICATION OF SAFEGUARDS**

29. Organization of material accountancy and control.
30. Information on the health and safety rules which have to be observed and with which the inspectors must comply at the installation.

**B. CRITICAL (AND ZERO ENERGY) INSTALLATIONS**

Date .....

**IDENTIFICATION OF THE INSTALLATION**

1. Name.
2. Location, exact address with telephone and telex numbers.
3. Owner (legally responsible body or individual).
4. Operator (legally responsible body or individual).
5. Present status (in operation or expected date of entry into operation).
6. Purpose and type of installation.
7. Operating mode of installation influencing its throughput. (Shift system adopted, approximate dates of operating periods in year, etc.)
8. Layout of installation site. Map showing perimeters and premises of the installation in the form of site layout; buildings, roads, rivers, railways, etc.
9. Layout of installation:
  - (a) structural containment, fences and access routes;
  - (b) nuclear material storage area(s);
  - (c) fuel element assembling area, laboratories, etc.;
  - (d) critical assembly proper (\*).
10. Additional main installation data (\*):
  - (a) maximum expected operating power and/or neutron flux;
  - (b) main type(s) of nuclear material and enrichment;
  - (c) moderator;
  - (d) reflector, blanket;
  - (e) coolant.

**GENERAL ARRANGEMENT OF THE INSTALLATION, INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTANCY, CONTAINMENT AND SURVEILLANCE****Description of nuclear material**

11. Description by means of drawings or otherwise of all nuclear material in the installation showing:
  - (a) all types of units including normal handling units;
  - (b) chemical composition or main alloy constituents;

---

(\*) To be provided for each critical assembly if more than one in the installation.

- (c) form and dimensions;
- (d) enrichment;
- (e) nominal weight of nuclear material with design tolerances;
- (f) cladding material; and
- (g) method(s) of identifying units.

#### **Location and handling of nuclear material**

12. Description by means of layout and general arrangement drawings or otherwise of:
  - (a) nuclear material storage and assembly areas and critical assembly(ies) proper (inventory locations);
  - (b) the estimated range of inventories of nuclear material in these locations;
  - (c) the physical arrangement of equipment used for assembling, testing and measuring nuclear material; and
  - (d) the routes of nuclear material.
13. Sketch of critical assembly core showing core support structure, shielding and heat removal arrangements with description (to be provided for each critical assembly if more than one in the installation).

#### **NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

##### **Accountancy system**

14. Description of the nuclear material control and accountancy system (describe item and/or mass accountancy system, including main assay methods used with assessed accuracies), supplying specimen blank forms used in all control and accountancy procedures. Length of preservation of such records should be stated.

##### **Physical inventory**

15. Description of procedures, scheduled frequency, methods of operator's physical inventory taking (both for item and/or mass accountancy including main assay methods), expected accuracy; access to nuclear material in the core and to irradiated nuclear material outside the core, expected radiation levels.

#### **OTHER INFORMATION RELEVANT TO APPLICATION OF SAFEGUARDS**

16. Organization of material accountancy and control.
17. Information on the health and safety rules which have to be observed and with which the inspectors must comply at the installation.

**C. CONVERSION, FABRICATION AND REPROCESSING PLANTS**

Date .....

**IDENTIFICATION OF THE INSTALLATION**

1. Name.
2. Location, exact address with telephone and telex numbers.
3. Owner (legally responsible body or individual).
4. Operator (legally responsible body or individual).
5. Present status (in operation or expected date of entry into operation).
6. Purpose and type of installation.
7. Operating mode of installation influencing its throughput. (Shift system adopted, approximate dates of operating times in year, etc.)
8. Layout of installation site. Map showing perimeters and premises of the installation in the form of a site layout; buildings, roads, rivers, railways, etc.
9. Layout of installation:
  - (a) structural containment, fences and access routes;
  - (b) routes followed by nuclear material;
  - (c) incoming nuclear material storage;
  - (d) each main processing area and process laboratory;
  - (e) test or experimental areas;
  - (f) outgoing nuclear material storage;
  - (g) waste disposal facilities;
  - (h) analytical laboratory.

**GENERAL ARRANGEMENT OF THE INSTALLATION, INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTANCY, CONTAINMENT AND SURVEILLANCE****Flow, location and handling of nuclear material**

10. Flowsheet showing points where nuclear material is identified or measured, material balance areas and inventory locations used for material accountancy and estimated range of inventories of nuclear material in these areas under normal operating conditions. The description should include (if applicable):
  - (a) batch size or flow rate;
  - (b) method of storage or packing;
  - (c) storage capacity;
  - (d) general forecasts of throughput and inventory and of receipts and shipments.

11. In addition to item 10 above, feed storage areas for reprocessing plants should be described by a general arrangement drawing showing:
  - (a) locations for fuel elements and handling equipment;
  - (b) type of fuel elements including nuclear material content and enrichment.
12. In addition to item 10 above, the description of the recycle stage of the process should include if available:
  - (a) duration of temporary storage;
  - (b) schedules for external recycling (if applicable).
13. In addition to item 10 above, the description of the discard stage of the process should include the discard method (disposal or storage).
14. Under equilibrium conditions for each flowsheet referred to in items 10 and 16 and assuming the modes of operation in item 7, state:
  - (a) the nominal throughput per year;
  - (b) the in-process inventory based on design capacity.
15. Describe the normal procedures adopted for complete or partial clean-out of the plant. Include description of special sampling and measurement points associated with the clean-out procedure and subsequent physical inventory taking, if not described in item 10 above.

#### Description of nuclear material

16. Describe, by means of flowsheets or otherwise, the estimated flow and inventory of all nuclear material for storage and process areas. The description should include:
  - (a) physical and chemical form;
  - (b) content range or expected upper limits for each category of solid or liquid discard material;
  - (c) enrichment range.

#### NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL

##### Accounting system

17. Description of the accountancy system used to record and report accountancy data and establish material balances, supplying specimen forms used in all procedures. Length of preservation of such records should be stated.
18. Indicate when and how often material balances are made, including any during campaigns. Describe method and procedure for adjustment of accounts after a physical inventory taking.
19. Describe procedure for handling shipper/receiver differences and method of adjustment of accounts.
20. Describe procedure for making corrections to accounts due to procedural or clerical mistakes and the effect on shipper/receiver differences, if applicable.

**Physical inventory**

21. Reference is made to item 15. Identify the items of equipment on the flowsheets of items 10 and 16 to be regarded as containers for nuclear material under physical inventory conditions. State the timing of physical inventory taking during the campaign.

**Methods for measurement, sampling and analysis**

22. Method of establishing each measurement at the point indicated should be described; equations or tables used and calculations made to determine actual quantities of weights or volumes should be identified. Recording of data automatically or manually should be stated. Method of and practical procedures for sampling for each point indicated should be described.
23. Analytical methods used for accountancy purposes should be described. Reference to a manual or report would be suitable.

**Control of measurement accuracy**

24. Describe measurement quality control programme relevant for material accounting including programmes (together with accuracy values) for the continuing appraisal of analytical, weight, volume and sampling precisions and biases, and for the calibration of associated equipment; method of calibrating the measuring equipment referred to in item 23; type and quality of standards used for analytical methods referred to in item 23; type of analytical equipment used, method of calibration and frequency.

**Statistical evaluation**

25. Describe methods of statistical evaluation of data accumulated in measurement control programmes for the evaluation of precision and accuracy of measurements and the estimation of measurement uncertainty (i.e. determination of the random and systematic errors of the measurements and the associated limits of error; statistical procedures used to combine individual measurement error estimates to obtain the overall limits of error for S/R differences, the book inventory, the physical inventory and MUF).

**OTHER INFORMATION RELEVANT TO APPLICATION OF SAFEGUARDS**

26. Organization of material accountancy and control.
27. Information on the health and safety rules which have to be observed and with which the inspectors must comply at the installation.

**D. STORAGE INSTALLATIONS (\*)**

Date .....

**IDENTIFICATION OF THE INSTALLATION**

1. Name.
2. Location, exact address with telephone and telex numbers.
3. Owner (legally responsible body or individual).
4. Operator (legally responsible body or individual).
5. Present status (in operation or expected date of entry into operation).
6. Purpose and type of installation.
7. Layout of installation. Structural containment, fences and access routes, if appropriate.

**GENERAL ARRANGEMENT OF THE INSTALLATION, INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTANCY, CONTAINMENT AND SURVEILLANCE****Description of nuclear material**

8. Description by means of drawings or otherwise of all nuclear material in the installation showing:
  - (a) all types of units including normal handling units;
  - (b) chemical composition or main alloy constituents;
  - (c) form and dimensions;
  - (d) enrichment;
  - (e) nominal weight of nuclear material with design tolerances;
  - (f) cladding materials;
  - (g) methods of identifying units.

**Locations and handling of nuclear material**

9. Description by means of layout and general arrangement drawings or otherwise of:
  - (a) nuclear material storage areas (inventory locations);
  - (b) the estimated range of inventories of nuclear material in these locations;
  - (c) nuclear material storage and/or shipping containers;
  - (d) the routes and equipment used for movement of nuclear material, if applicable.

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(\*) Separate installations not normally associated with enrichment, conversion, fabrication, reactors, and chemical re-processing and recovery installations.

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL****Accountancy system**

10. Description of the nuclear material control and accountancy system (describe item and/or mass accountancy system, including main assay methods used with assessed accuracies), supplying specimen blank forms used in all control and accountancy procedures.

**Physical inventory**

11. Description of procedures, scheduled frequency, methods of operator's physical inventory taking (both for item and/or mass accountancy including main assay methods), and expected accuracy.

**OTHER INFORMATION RELEVANT TO APPLICATION OF SAFEGUARDS**

12. Organization of material accountancy and control.
13. Information on the health and safety rules which have to be observed and with which the inspectors must comply at the installation.

**E. ISOTOPE SEPARATION PLANTS**

Date .....

**IDENTIFICATION OF THE INSTALLATION**

1. Name.
2. Location, exact address with telephone and telex numbers.
3. Owner (legally responsible body or individual).
4. Operator (legally responsible body or individual).
5. Present status (in operation or expected date of entry into operation).
6. Building schedule (if installation not in operation):
  - (a) date building starts;
  - (b) date of installation acceptance;
  - (c) commissioning date.
7. Purpose and type of installation (nominal separation capacity, enrichment facilities, etc.).
8. Operating mode of installation influencing its throughput. (Shift system adopted, approximate dates of operating times in year, etc.)
9. Layout of installation site. Map showing perimeters and premises of the installation in the form of a site layout; buildings, roads, rivers, railways, etc.
10. Layout of installation:
  - (a) structural containment, fences and access routes;
  - (b) containment of certain parts of the installation;
  - (c) routes followed by nuclear material;
  - (d) incoming nuclear material storage;
  - (e) each main processing area and process laboratory, including weighing and sampling area, decontamination, purification and feed areas, etc.;
  - (f) test or experimental areas;
  - (g) outgoing nuclear material storage;
  - (h) waste disposal facilities;
  - (i) analytical laboratory.

**GENERAL ARRANGEMENT OF THE INSTALLATION, INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTANCY, CONTAINMENT AND SURVEILLANCE****Flow, location and handling of nuclear material**

11. Description by means of diagrams or otherwise of storage areas and process areas. The description should include (if applicable):

- (a) sampling and measuring points;
  - (b) batch size and/or flow rate;
  - (c) method of storage or packing;
  - (d) storage capacities.
12. In addition to item 11 above, the description of the installation should include:
- (a) separation capacity;
  - (b) enrichment techniques or methods;
  - (c) possible points for feed, product and tails;
  - (d) recycling facilities;
  - (e) type and size of UF<sub>6</sub> cylinders used and filling and emptying methods.
13. Power consumption should be given, where necessary.
14. Each diagram should indicate, under equilibrium conditions:
- (a) nominal throughput per year;
  - (b) physical inventory of in-process materials;
  - (c) material loss rate owing to leakage, decomposition, deposition, etc.;
  - (d) arrangements for regular plant maintenance (periodic shutdown or continuous component replacement, etc.).
15. Describe special sampling and measurement points associated with decontamination of off-process equipment for maintenance or replacement.
16. Describe process waste disposal point, including disposal method, storage period, type of disposal, etc.

#### Description of nuclear material

17. Describe, by means of flowsheets or otherwise, the estimated flow and inventory of all nuclear material for storage and process areas. The description should include:
- (a) physical and chemical form;
  - (b) enrichment range for feed, product and tails;
  - (c) content range or expected upper limits for each category of solid or liquid discard material.

#### NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL

##### Accountancy system

18. Description of the accountancy system used to record and report accountancy data and to establish material balances, supplying specimen forms used in all procedures.
19. Indicate when and how often material balances are made, including any during campaigns. Describe method and procedure for adjustment of accounts after a physical inventory taking.
20. Describe procedure for handling shipper/receiver differences and method of adjustment of accounts.

21. Describe procedure for making corrections to accounts due to procedural or clerical mistakes and the effect on shipper/receiver differences, if applicable.

#### Physical inventory

22. Identify the items of equipment on the flowsheets of items 11 and 17 to be regarded as containers for nuclear material under physical inventory conditions. State the timing of physical inventory taking.

#### Methods for measurement, sampling and analysis

23. Refer to the flowsheets of items 11 and 17 for location of sampling and measurement points.
24. Method of establishing each measurement at the point indicated should be described; equations or tables used and calculations made to determine actual quantities of weights or volumes should be identified. Recording of data automatically or manually should be stated. Method of and practical procedures for sampling for each point indicated should be described. Indicate number of samples taken and rejection criteria.
25. Analytical methods used for accountancy purposes should be described. Reference may be made to a manual or report.

#### Control of measurement accuracy

26. Describe programmes for the continuous appraisal of weight, volume and sampling precision and biases and for the calibration of associated equipment.
27. Describe type and quality of standards used for analytical methods referred to in paragraph 25, type of analytical equipment used, method of calibration and frequency.

#### Statistical evaluation

28. Describe statistical evaluation programmes for data accumulated in control programmes for weight, volume, sampling and analytical measurements (i.e. determination of the random and systematic errors of the measurements and associated limits of error); statistical methods used to combine individual measurement error estimates to obtain the overall limits of error for S/R differences, the book inventory, the physical inventory and MUF.

#### OTHER INFORMATION RELEVANT TO APPLICATION OF SAFEGUARDS

29. Organization of material accountancy and control.
30. Information on the health and safety rules which have to be observed and with which the inspectors must comply at the installation.

**F. INSTALLATIONS USING NUCLEAR MATERIAL IN QUANTITIES EXCEEDING ONE  
EFFECTIVE KILOGRAMME**

Date .....

For any installation of a type not referred to in Sections A to E using more than one effective kilogramme per annum, the questionnaire includes the following:

- identification of the installation;
- general arrangement of the installation, including features relating to material accountancy, containment and surveillance;
- nuclear material accountancy and control system, including techniques for physical inventory taking;
- other information relevant to the application of safeguards.

The information required under these headings is, as applicable, the same as described in the questionnaires for the types of installations coming under Sections C, D and E.

**G. OTHER INSTALLATIONS (\*)**

Date .....

**IDENTIFICATION OF THE INSTALLATION AND OF THE NUCLEAR MATERIAL**

1. Name
2. Location, exact address with telephone and telex numbers.
3. Owner (legally responsible body or individual).
4. Operator (legally responsible body or individual).
5. Type of nuclear material.
6. Description of containers used for storage and handling (as required to explore the possibility of sealing).
7. Description of the use of the nuclear material.

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

8. General description of the existing and proposed procedures for nuclear material accountancy and control, including procedures for physical inventory taking.
9. Organization of material accountancy and control.

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(\*) The term 'other' denotes all the installations not covered by Sections A to F, and where nuclear material in quantities not exceeding one effective kilogramme is habitually used.

## INVENTORY CHANGE REPORT

|                        |                     |
|------------------------|---------------------|
| Reporting installation | Reporting period    |
| (1) .....              | from ..... to ..... |

[illegible]

| Remarks (25) | Isotopic data (23) |        |        |        |
|--------------|--------------------|--------|--------|--------|
|              | U-233              | U-234  | U-235  | U-236  |
|              | Pu-238             | Pu-239 | Pu-240 | Pu-241 |
|              | Concise notes (24) |        |        |        |
|              |                    |        |        |        |

Date and place of  
dispatch of report .....

Name and position of  
responsible signatory .....

Signature .....

## EXPLANATORY NOTES

(1) **Installation:**

Name and address of the reporting installation and, in the event of a transfer, name and address of the corresponding installation (receiver in the case of shipment and shipper in the case of receipt).

(2) **MBA:**

Code of the reporting material balance area. This code is notified to the installation concerned in the particular safeguard provisions.

(3) **Date:**

Day, month and year on which the change in inventory occurred.

(4) **KMP:**

Key measurement point. The codes are notified to the installation concerned in the particular safeguard provisions. The code relevant to the inventory change reported should be used.

(5) **Measurement:**

The basis on which the quantity of nuclear material reported was established has to be indicated. One of the following codes must be used as appropriate:

| Measured | Estimated | Explanation                                                                                                                                                                         |
|----------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M        | E         | In the reporting material balance area                                                                                                                                              |
| N        | F         | In another material balance area                                                                                                                                                    |
| T        | G         | In the reporting material balance area when the weights have already been given in a previous inventory change report or physical inventory listing                                 |
| L        | H         | In another material balance area when the weights have already been given in a previous inventory change report or physical inventory listing for the present material balance area |

(6) **Type of inventory change:**

The type of inventory change must be reported. One of the following codes must be used:

| Keyword | Code | Explanation                                                                   |
|---------|------|-------------------------------------------------------------------------------|
| Receipt | RD   | Receipt of nuclear material from a material balance area within the Community |

| Keyword                               | Code | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Import                                | RF   | Import of nuclear material from outside the Community                                                                                                                                                                                                                                                                                                                                                                                     |
| Receipt from non-safeguarded activity | RN   | Receipt of nuclear material from a non-safeguarded activity (Article 35)                                                                                                                                                                                                                                                                                                                                                                  |
| Shipment                              | SD   | Transfer of nuclear material to a material balance area within the Community                                                                                                                                                                                                                                                                                                                                                              |
| Export                                | SF   | Export of nuclear material outside the Community                                                                                                                                                                                                                                                                                                                                                                                          |
| Shipment to non-safeguarded activity  | SN   | Transfer of nuclear material to a non-safeguarded activity (Article 35)                                                                                                                                                                                                                                                                                                                                                                   |
| Measured discards                     | LD   | Quantity of nuclear material, measured or estimated on the basis of measurements, which has been disposed of from processing in such a way that it is not suitable for further nuclear use. The quantity of nuclear material involved is to be subtracted from the inventory of the material balance area                                                                                                                                 |
| Transfer to retained waste            | TW   | Quantity of waste, measured or estimated on the basis of measurements, which has been transferred to a specific location within the material balance area, from which it could be retrieved. The quantity of nuclear material involved is to be subtracted from the inventory of the material balance area. (Retained waste is understood to include nuclear material which is regarded economically irrecoverable by current technology) |
| Retransfer from retained waste        | FW   | Retransfer of a quantity of nuclear material from the retained waste category to the inventory of the material balance area. This applies whenever nuclear material in the retained waste category is removed from the specific location within the material balance area either for processing at the material balance area or for shipment from the material balance area                                                               |

| Keyword                         | Code | Explanation                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discard from retained waste     | WD   | Transfer of a quantity of nuclear material from the retained waste category to measured discards. This inventory change replaces the two inventory changes 'Retransfer from retained waste (FW)' and 'Measured discards (LD)'. The quantity of nuclear material involved does not affect the inventory of the material balance area |
| Accidental loss                 | LA   | Irretrievable and inadvertent loss of a known quantity of nuclear material as the result of an operational accident                                                                                                                                                                                                                 |
| Exemption                       | EU   | Exemption of a quantity of nuclear material from declaration (Article 22). The quantity of nuclear material involved is to be subtracted from the inventory of the material balance area                                                                                                                                            |
| De-exemption                    | DU   | De-exemption of a quantity of nuclear material previously exempted from declaration (Article 22). The quantity of nuclear material involved is to be added to the inventory of the material balance area                                                                                                                            |
| Category change                 | CC   | Accountancy transfer of a quantity of nuclear material from one category (Article 21) to another                                                                                                                                                                                                                                    |
| Rebatching                      | RB   | Accountancy transfer of a quantity of nuclear material from one batch to another. To be used only if batch-follow-up is required in the particular safeguard provisions                                                                                                                                                             |
| Change in particular obligation | CR   | Accountancy transfer of a quantity of nuclear material from one particular safeguard obligation (Article 20), to which the nuclear material is subject, to another                                                                                                                                                                  |
| Change in use                   | CU   | Accountancy transfer of a quantity of nuclear material from one use (Article 9), to which the material was assigned, to another                                                                                                                                                                                                     |
| Nuclear transformation          | NT   | Increase or decrease in the quantity of nuclear material due to nuclear transformation, e.g. by fission, capture or radioactive decay                                                                                                                                                                                               |

| Keyword                     | Code | Explanation                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shipper/receiver difference | DI   | Shipper/receiver difference (Article 36 (u))                                                                                                                                                                                                                                                                                                                                                      |
| New measurement             | NM   | Quantity of nuclear material accounted for in the material balance area being the difference between a newly measured quantity and the quantity formerly accounted for, and which is neither a shipper/receiver difference nor a correction<br><br>(Information under this heading will include differences resulting from physical inventories taken by the plant operator for his own purposes) |
| Roundings                   | RA   | Rounding adjustment to make the sum of rounded quantities reported in a given period coincide with the ending book inventory of the material balance area, if appropriate                                                                                                                                                                                                                         |
| Ending book inventory       | BA   | Book inventory at the end of a month, separate for each category of nuclear material                                                                                                                                                                                                                                                                                                              |
| No change                   | NC   | No inventory change during the month                                                                                                                                                                                                                                                                                                                                                              |

(7) **Corresponding MBA:**

For certain inventory changes listed below, the code of the corresponding material balance area must be reported.

(a) *Receipt (RD):*

Code of the shipping material balance area.

(b) *Import (RF):*

Code of the exporting material balance area (if unknown, the country code of the exporting State is sufficient).

(c) *Shipment (SD):*

Code of the receiving material balance area.

(d) *Export (SF):*

Code of the importing material balance area (if unknown, the country code of the importing State is sufficient).

(8) **Batch designation:**

The batch designation may be chosen by the operator, however:

(a) in the case of the inventory change 'Receipt (RD)', the batch designation chosen by the shipper must be used;

(b) a batch designation must not be used again for another batch in the same material balance area;

- (c) if batch-follow-up is required in the particular safeguard provisions, the same batch designation as previously used for that batch must be repeated. No two batches with the same batch designation must exist at the same time in the material balance area (the batch designation can be changed in this case using the inventory change 'Rebatching (RB)').

(9) Number of items:

The number of similar items of which the batch consists must be reported. If an inventory change consists of several entry lines, the number of items in the batch is given by the sum of the number of items in the single entry lines.

For concise notes consisting of several entry lines, these columns should be used for numbering in sequential order, see (24).

(10) Material description:

The following codes must be used. They must be used in the order of the following categories:

(a) *Form (columns 32 and 33):*

| Main category                            | Subcategory                                                | Code |
|------------------------------------------|------------------------------------------------------------|------|
| Ores                                     | —                                                          | OR   |
| Concentrates                             | —                                                          | YC   |
| Uranium hexafluoride (UF <sub>6</sub> )  | —                                                          | U6   |
| Uranium tetrafluoride (UF <sub>4</sub> ) | —                                                          | U4   |
| Solutions                                | Nitrate                                                    | LN   |
|                                          | Fluoride                                                   | LF   |
|                                          | Other                                                      | LO   |
| Powder                                   | Homogeneous                                                | PH   |
|                                          | Heterogeneous                                              | PN   |
| Ceramics                                 | Pellets                                                    | CP   |
|                                          | Spheres                                                    | CS   |
|                                          | Other                                                      | CO   |
| Metal                                    | Pure                                                       | MP   |
|                                          | Alloys                                                     | MA   |
| Fuel                                     | Rods, pins                                                 | ER   |
|                                          | Plates                                                     | EP   |
|                                          | Bundles                                                    | EB   |
|                                          | Assemblies                                                 | EA   |
|                                          | Other                                                      | EO   |
| Sealed sources                           | —                                                          | QS   |
| Small quantities                         | —                                                          | SS   |
| Samples                                  |                                                            |      |
| Scrap                                    | Homogeneous                                                | SH   |
|                                          | Heterogeneous (cleanouts, clinkers, sludges, fines, other) | SN   |

| Main category | Subcategory                            | Code |
|---------------|----------------------------------------|------|
| Solid waste   | Hulls                                  | AH   |
|               | Mixed (plastics, gloves, papers, etc.) | AM   |
|               | Contaminated equipment                 | AC   |
|               | Other                                  | AO   |
| Liquid waste  | Low active                             | WL   |
|               | Medium active                          | WM   |
|               | High active                            | WH   |

(b) *Type of container or fuel element (column 34):*

| Type of container       | Code |
|-------------------------|------|
| Cylinder                | C    |
| Pack                    | P    |
| Drum                    | D    |
| Discrete fuel unit      | S    |
| Bird cage               | B    |
| Bottle                  | F    |
| Tank or other container | T    |
| Other                   | O    |

(c) *State of nuclear material (column 35):*

| State                       | Code |
|-----------------------------|------|
| Fresh nuclear material      | F    |
| Irradiated nuclear material | I    |
| Retained waste              | W    |
| Irrecoverable material      | N    |
| Recoverable material        | R    |

**(11) Element:**

The following categories of nuclear material must be used:

| Category                                                     | Code |
|--------------------------------------------------------------|------|
| Depleted uranium                                             | D    |
| Natural uranium                                              | N    |
| Low enriched uranium<br>(up to and including 20% enrichment) | L    |
| High enriched uranium<br>(above 20% enrichment)              | H    |
| Plutonium                                                    | P    |
| Thorium                                                      | T    |

If a batch contains more than one category of nuclear material, separate entry lines must be used for each category.

**(12) Weight of element:**

The weight of the element referred to in (11) must be reported. The following units should be used: at least grammes of plutonium and enriched uranium, at least kilogrammes of thorium, natural uranium and depleted uranium. Nevertheless, the decimal digits appearing in the accounting records could be reported. In the case of the inventory changes 'Nuclear transformation (NT)', 'Shipper/receiver difference (DI)', 'New measurement (NM)' and 'Roundings (RA)', the quantities decreasing the inventory must be marked with a minus in front of the figure.

**(13) Unit:**

The unit of the weight of element must be identified if it is different from the standard units indicated in (12). Use the code K for kilogrammes or the code G for grammes.

**(14) Isotope:**

This code indicates the kind of fissile isotopes involved and should only be reported in the case the weight of fissile isotopes is reported. The following codes should be used:

| Code | Explanation      |
|------|------------------|
| G    | U-235            |
| K    | U-233            |
| J    | U-235 plus U-233 |

**(15) Weight of fissile isotopes:**

Unless otherwise stated in the particular safeguard provisions, the weight of fissile isotopes must only be reported for enriched uranium and category changes involving enriched uranium. The same unit as for the corresponding weight of element should be used. The remarks under (12) concerning the sign of the figure apply also here.

**(16) Unit:**

The unit of the weight of fissile isotopes must be identified if it is different from the standard units indicated in (15). Use the code K for kilogrammes or the code G for grammes.

**(17) Obligation:**

Indication of the particular safeguard obligation assumed by the Community under an Agreement concluded with a third non-member State or an international organization, to which the nuclear material is subject (Article 20). The Commission will communicate to the installations the appropriate codes and any subsequent modifications.

**(18) Use:**

Indication, by means of a two character code, of the use of the nuclear material (Article 9). The indication of the use mandatory only for transfers into and out of an installation (Article 14). The code to be applied should be defined by the installation concerned under the following conditions:

- (a) all nuclear materials assigned to the same use must be identified by the same code;
- (b) the significance of a code which is used for the first time must be communicated to the Commission in advance;
- (c) different uses must be identified by means of different codes;
- (d) if, within the same installation, the nuclear material is assigned to another use than previously reported, this change has to be reported by means of the inventory change 'Change in use (CU)'.

**(19) Corresponding information:**

For certain inventory changes, listed below, corresponding information must be reported.

**(a) *Category change (CC):***

Code of the category of nuclear material before the change. (The corresponding code after the change must be reported in (11)).

**(b) *Change in particular obligation (CR):***

Code of the particular safeguard obligation, to which the nuclear material is subject, before the change. (The corresponding code after the change must be reported in (17)).

**(c) *Change in use (CU):***

Code of the use, to which the nuclear material was assigned, before the change. (The corresponding code after the change must be reported in (18)).

**(d) *Rebatching (RB):***

Batch designation before rebatching which applies only if batch-follow-up is required in the particular safeguard provisions and the operator wishes to change an existing batch designation. (The batch designation after the rebatching must be reported in (8)).

**(20) Entry:**

This column is provided solely for the indication of particular entry lines and must be completed only in the following cases:

| Code | Explanation                                                |
|------|------------------------------------------------------------|
| I    | The entry line contains the isotopic composition, see (23) |
| N    | The entry line contains a concise note, see (24)           |

**(21) Correction:**

Corrections have to be made by deleting the wrong entry line(s) and adding the correct one(s). The following codes must be used:

| Code | Explanation                                                                                                                                                                                           |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D    | Deletion. The entry line to be deleted must be repeated in its entirety (up to and including column 73), except (3) which must show the date on which the deletion was made in the accounting records |
| A    | Addition. The correct entry line must be reported in its entirety (up to and including column 73). In (3), the date on which the addition was made to the accounting records, must be reported        |

**(22) Original date:**

In the case of a correction, the day, month and year, on which the entry line to be corrected was originally made, must be reported.

**(23) Isotopic data:**

If so specified in the particular safeguard provisions, the percentage by weight of the isotopes should be reported. An accuracy of at least two decimal places is required. The information in (2) to (4), (6), and (8) to (11) of the entry line, to which the isotopic data refer, must be repeated in the relevant columns of this entry line.

**(24) Concise notes:**

An explanation of an inventory change should be given (Article 15 of this Regulation). The information in (2) to (6), (8), (10) and (11) of the entry line, to which the concise note refers, must be repeated in the relevant columns of this entry line.

Concise notes can also be reported under (25) on a separate sheet.

**(25) Remarks:**

Space available to the operator.

**GENERAL REMARKS CONCERNING THE COMPLETION OF THE REPORT FORMS**

1. In the case of transfer of nuclear material, the shipper must provide the receiver with all the necessary information for the inventory change report.
  2. In the cases referred to in (19), the differences are reported directly in a single entry line (direct accounting). However, the operator is free to report additional information as line entries for example to show the derivation of these differences provided that he codes this information in an agreed manner.
  3. All the appropriate columns should be completed. The information should be entered in the correct spaces.
  4. If the Commission has so agreed, reports may be produced by computer and may be sent to the Commission in computer readable form, provided that all the information required by this Regulation is included in them.
  5. If numerical data contain fractions of units, the decimal point should be used to separate the decimal places.
  6. The following 54 characters may be used: the 26 capital letters A to Z, figures 0 to 9 and the characters 'plus', 'minus', 'slash', 'asterisk', 'space', 'equal', 'greater than', 'less than', 'point', 'comma', 'open bracket', 'close bracket', 'colon', 'dollar', 'per cent', 'quotation mark', 'semi-colon' and 'question mark'. The letter 'O' should be slashed to avoid confusion with the figure '0'.
  7. Pursuant to Article 79 of the Treaty, those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communications they make to the Commission pursuant to that Article.
  8. The forms, duly completed and signed, should be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirchberg, Luxembourg (Grand Duchy of Luxembourg).
-

[illegible]

(3) Category : .....

[illegible]

Signature .....

## EXPLANATORY NOTES

(1) **Installation:**

Name and address of the reporting installation.

(2) **Start of reporting period:**

Date on which the reporting period starts, i.e. at 00.00 hrs on the day following the day on which the previous physical inventory was taken.

(3) **Category:**

Category of nuclear material, for which the material balance report is established.

(4) **MBA:**

Code of the reporting material balance area. This code is notified to the installation concerned in the particular safeguard provisions.

(5) **Date:**

Day, month and year on which the present physical inventory was taken. The reporting period closes at 24.00 hrs on that date.

(6) **Inventory information:**

The different types of inventory information should be entered, if appropriate, in the sequence indicated below. The following codes must be used:

| Keyword                                                                | Code | Explanation                                                                                                                                     |
|------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Beginning physical inventory                                           | PB   | Physical inventory at the beginning of the reporting period                                                                                     |
| Inventory changes (for codes see (6) of Explanatory Notes to Annex II) |      | For each type of inventory change, one consolidated entry line has to be made for the entire reporting period (first increases, then decreases) |
| Ending book inventory                                                  | BA   | Book inventory at the end of the reporting period                                                                                               |
| Ending physical inventory                                              | PE   | Physical inventory at the end of the reporting period                                                                                           |
| Material unaccounted for                                               | MF   | Material unaccounted for. Must be calculated as 'Ending physical inventory (PE)' minus 'Ending book inventory (BA)'                             |

**(7) Element:**

Separate material balance reports have to be established for each category of nuclear material. The codes given in (11) of the Explanatory Notes to Annex II must be used.

**(8) to (12):**

Explanatory Notes (12), (13), (14), (15) and (16) to Annex II are applicable.

**(13) Correction:**

Corrections have to be made by deleting the wrong entry line(s) and adding the correct one(s). The following codes must be used:

| Code | Explanation                                                                                             |
|------|---------------------------------------------------------------------------------------------------------|
| D    | Deletion. The entry line to be deleted must be repeated in its entirety (up to and including column 73) |
| A    | Addition. The correct entry line must be reported in its entirety (up to and including column 73)       |

**(14) Remarks:**

Space available to the operator.

**GENERAL REMARKS CONCERNING THE COMPLETION OF THE REPORT FORMS**

General remarks 3, 4, 5, 6, 7 and 8 at the end of the Explanatory Notes to Annex II are applicable *mutatis mutandis*.

## PHYSICAL INVENTORY LISTING

|    | MBA<br>(2) | Date |    |    |
|----|------------|------|----|----|
|    |            | D    | M  | Y  |
| 1  | 2          | 3    | 4  | 5  |
| 6  | 7          | 8    | 9  | 10 |
| 11 | 12         | 13   | 14 | 15 |

## (1) Installation .....

[illegible]

Date and place of dispatch of report ..

Name and position of responsible signatory ..

**Signature**

## EXPLANATORY NOTES

(1) **Installation:**

Name and address of the reporting installation.

(2) **MBA:**

Code of the reporting material balance area. This code is notified to the installation concerned in the particular safeguard provisions.

(3) **Date:**

Day, month and year on which the physical inventory was taken reflecting the situation at 24.00 hrs.

(4) **KMP:**

Key measurement point. The codes are notified to the installation concerned in the particular safeguard provisions.

(5) **Measurement:**

Explanatory Note (5) to Annex II is applicable.

(6) **Batch designation:**

If batch-follow-up is required in the particular safeguard provisions, the batch designation previously used for that batch in an inventory change report or in a previous physical inventory listing must be repeated.

## (7) to (16):

Explanatory Notes (9), (10), (11), (12), (13), (14), (15), (16), (17) and (18) to Annex II are applicable.

(17) **Correction:**

Corrections have to be made by deleting the wrong entry line(s) and adding the correct one(s). The following codes must be used:

| Code | Explanation                                                                                             |
|------|---------------------------------------------------------------------------------------------------------|
| D    | Deletion. The entry line to be deleted must be repeated in its entirety (up to and including column 73) |
| A    | Addition. The correct entry line must be reported in its entirety (up to and including column 73)       |

(18) **Remarks:**

Space available to the operator.

**GENERAL REMARKS CONCERNING THE COMPLETION OF THE REPORT FORMS**

If on the date the physical inventory was taken there is no nuclear material in the material balance area, only (1), (2), (3) and (9) above should be completed on the report.

General remarks 3, 4, 5, 6, 7 and 8 at the end of the Explanatory Notes to Annex II are applicable *mutatis mutandis*.

---

## ANNEX V

COMMISSION OF THE EUROPEAN COMMUNITIES  
EURATOM SAFEGUARDS

## ADVANCE NOTIFICATION OF EXPORTS OF NUCLEAR MATERIAL

- (1) Material balance area  
Code : .....
- (2) Installation: (Shipper) ..... Installation : (Receiver) .....  
.....  
.....
- (3) Quantities: .....
- (4) Chemical composition: .....
- (5) Enrichment or isotopic composition: .....
- (6) Physical form: .....
- (7) Number of items: .....
- (8) Description of containers and seals: .....
- (9) Shipment identification data: .....
- (10) Means of transport: .....
- (11) Location where material will be stored or prepared: .....
- (12) Last date when material can be identified: .....
- (13) Approximate dates of dispatch: .....  
Expected dates of arrival: .....
- (14) Use: .....
- (15) International agreement: .....  
— Commission authorization: .....  
— Intervention of Supply Agency: .....

Name and position of responsible signatory:  
.....Date and place of dispatch of notification:  
.....

Signature: .....

## EXPLANATORY NOTES

- (1) Code of the reporting material balance area notified to the installation concerned in the particular safeguard provisions.
- (2) Name, address and country of the installation shipping and of the installation receiving the nuclear material. In the case of export out of the United Kingdom, the receiver of ultimate destination should also be indicated where applicable.
- (3) The total weight of the elements shall be identified in kilogrammes for natural and depleted uranium and for thorium, and in grammes for enriched uranium and plutonium. The weight of fissile isotopes shall be identified, if applicable.
- (4) Chemical composition shall be identified.
- (5) If applicable, the degree of enrichment or the isotopic composition shall be identified.
- (6) Use the description of materials as laid out in Annex II (10) to this Regulation.
- (7) The number of items included in the shipment shall be identified.
- (8) Description (type) of containers, including features that would permit sealing.
- (9) Shipment identification data (e.g. container markings or numbers).
- (10) Indicate, as applicable, the means of transport.
- (11) Indicate the location within the material balance area where the nuclear material is prepared for shipping and can be identified, and where its quantity and composition can if possible be verified.
- (12) Last date when material can be identified and when its quantity and composition can if possible be verified.
- (13) Approximate dates of dispatch and of expected arrival at destination.
- (14) Indicate the use to which the nuclear material has been assigned.
- (15) Give in particular as appropriate :
  - the Agreement concluded by the Community with a non-Member State or an international organization under which the material is transferred;
  - the Commission authorization under Article 59 of the Treaty;
  - the date on which the contract was concluded or considered as concluded by the Supply Agency and any useful references;
  - for jobbing contracts (Article 75 of the Treaty) and for contracts for the supply of small quantities of material (Article 74 of the Treaty and Commission Regulation No 17/66/Euratom, as amended by Regulation (Euratom) No 3137/74), date of notification to the Supply Agency and any useful references.

---

**NB:** Pursuant to Article 79 of the Treaty, those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communications they make to the Commission pursuant to that Article.

This form, duly completed and signed, must be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirchberg, Luxembourg (Grand Duchy of Luxembourg).

## ANNEX VI

COMMISSION OF THE EUROPEAN COMMUNITIES  
EURATOM SAFEGUARDS

## ADVANCE NOTIFICATION OF IMPORTS OF NUCLEAR MATERIAL

- (1) Material balance area  
Code: .....
- (2) Installation:                      Installation:  
    (Receiver)                      (Shipper)  
.....  
.....
- (3) Quantities: .....
- (4) Chemical composition: .....
- (5) Enrichment or isotopic composition: .....
- (6) Physical form: .....
- (7) Number of items: .....
- (8) Description of containers and seals: .....
- (9) Means of transport: .....
- (10) Date of arrival: .....
- (11) Location where materials will be unpacked .....
- (12) Date(s) when material will be unpacked: .....
- (13) — International agreement: .....
- Intervention of Supply Agency: .....

Name and position of responsible signatory:

.....

Date and place of dispatch of notification:

.....

Signature: .....

## EXPLANATORY NOTES

- (1) Code of the reporting material balance area notified to the installation concerned in the particular safeguard provisions.
- (2) Name, address and country of the installation receiving and of the installation shipping the nuclear material.
- (3) The total weight of the elements shall be identified in kilogrammes for natural and depleted uranium and for thorium, and in grammes for enriched uranium and plutonium. The weight of fissile isotopes shall be identified if applicable.
- (4) Chemical composition shall be identified.
- (5) If applicable, the degree of enrichment or the isotopic composition shall be identified.
- (6) Use the description of materials as laid out in Annex II (10) to this Regulation.
- (7) The number of items included in the shipment shall be identified.
- (8) Description (type) of containers, and if possible, of the seals affixed.
- (9) Indicate as applicable, the means of transport.
- (10) Expected or actual date of arrival in the reporting material balance area.
- (11) Indicate the location within the material balance area where the material will be unpacked and can be identified and where its quantity and composition can be verified.
- (12) Date(s) when material will be unpacked.
- (13) Give in particular as appropriate:
  - the Agreement concluded by the Community with a non-Member State or an international organization under which the material is transferred;
  - the date on which the contract was concluded or considered as concluded by the Supply Agency and any useful references;
  - for jobbing contracts (Article 75 of the Treaty) and for contracts for the supply of small quantities of material (Article 74 of the Treaty and Commission Regulation No 17/66/Euratom, as amended by Regulation (Euratom) No 3137/74), date of notification to the Supply Agency and any useful references.

**NB:** Pursuant to Article 79 of the Treaty, those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communications they make to the Commission pursuant to that Article.

This form, duly completed and signed, must be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirchberg, Luxembourg (Grand Duchy of Luxembourg).

COMMISSION OF THE EUROPEAN COMMUNITIES  
EURATOM SAFEGUARDS

Year: .....

[illegible]

.....

.....

Signature: .....

#### EXPLANATORY NOTES

- (1) The declaration of shipments is to be made at the latest at the end of January of each year for the previous year separately for each consignee. The declaration of export is to be made for each export at the date of shipment.
- (2) Name and address of the reporting undertaking.
- (3) Name of the mine in respect of which the declaration is made.
- (4) Code of the mine as notified to the undertaking by the Commission.

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NB: Pursuant to Article 79 of the Treaty, those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communications they make to the Commission pursuant to that Article.

This form, duly completed and signed, must be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirch-Luxembourg (Grand Duchy of Luxembourg).

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## ANNEX VIII

COMMISSION OF THE EUROPEAN COMMUNITIES  
EURATOM SAFEGUARDS

## REQUEST FOR EXEMPTION FROM DECLARATION OF NUCLEAR MATERIAL

- (1) Date: .....
- (2) Installation: ..... (3) Material balance area  
..... Code: .....
- (4) Quantities: .....
- (5) Category of nuclear material: .....
- (6) Chemical composition: .....
- (7) Enrichment or isotopic composition: .....
- (8) Physical form: .....
- (9) Number of items: .....
- (10) Location where material is now present: .....
- (11) Reason: (a) sensing components  
(b) Pu with Pu-238 > 80 %  
(c) non-nuclear activities
- (12) Intended use: .....
- (13) Particular obligation: .....
- (14) Approximate date of transfer: .....  
Date and place of dispatch of request: .....  
Name and position of responsible signatory: .....  
.....
- Signature: .....

---

Exemption granted as above

Date: .....

Name and position of responsible signatory granting the exemption: .....  
.....

Signature: .....

(For the Commission)

## EXPLANATORY NOTES

- (1) Date on which the exemption is requested.
- (2) Name, address and country of the installation requesting the exemption.
- (3) Code of the requesting material balance area notified to the installation in the particular safeguard provisions.
- (4) Total weight of the elements in kilogrammes for natural and depleted uranium and thorium, and in grammes for enriched uranium and plutonium. Weight of fissile isotopes, if applicable.
- (5) Categories of nuclear materials as laid down in Annex II (11).
- (6) Chemical composition shall be identified.
- (7) Degree of enrichment or isotopic composition, if applicable.
- (8) Description of materials as laid down in Annex II (10).
- (9) Number of items constituting the materials.
- (10) Location within the material balance area where the nuclear material is now stored.
- (11) Delete the reasons which do not apply.
- (12) Indication of the intended use to which the nuclear material requested for exemption is assigned.
- (13) Indication of particular safeguard obligation to which the nuclear material is subject, if applicable. Use the codification as laid down in Annex II (17) to this Regulation.
- (14) The approximate date of transfer out of the material balance area (for sensing components) or transfer to non-nuclear use shall be given, if applicable.

---

NB: Pursuant to Article 79 of the Treaty, those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communications they make to the Commission pursuant to that Article.

This form, duly completed and signed, must be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirchberg, Luxembourg (Grand Duchy of Luxembourg).

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## ANNEX IX

COMMISSION OF THE EUROPEAN COMMUNITIES  
EURATOM SAFEGUARDSDE-EXEMPTION OF NUCLEAR MATERIAL PREVIOUSLY EXEMPTED FROM  
DECLARATION

- (1) Date: .....
- (2) Installation: ..... (3) Material balance area  
..... Code: .....
- (4) Quantities: .....
- (5) Category of nuclear materials: .....  
.....
- (6) Chemical composition: .....
- (7) Enrichment or isotopic composition: .....
- (8) Physical form: .....
- (9) Number of items: .....
- (10) Location where material is now present: .....
- (11) Date of de-exemption: .....
- (12) Exemption granted on: .....
- (13) Intended use: .....  
Date and place of dispatch of communication: .....  
Name and position of responsible signatory:.....  
.....
- Signature: .....

## EXPLANATORY NOTES

- (1) Date on which the de-exemption is communicated.
- (2) Name, address and country of the installation communicating the de-exemption.
- (3) Code of the communicating material balance area notified to the installation concerned in the particular safeguard provisions.
- (4) Total weight of the elements in kilogrammes for natural and depleted uranium and thorium, and in grammes for enriched uranium and plutonium. Weight of the fissile isotopes, if applicable.
- (5) Categories of nuclear materials as laid down in Annex II (11).
- (6) Chemical composition shall be identified.
- (7) Degree of enrichment or isotopic composition, if applicable.
- (8) Description of materials as laid down in Annex II (10).
- (9) The number of items constituting the materials.
- (10) Location within the material balance area where the nuclear material is now stored.
- (11) Date from which de-exemption shall be applied.
- (12) Date on which exemption from declarations in respect of the nuclear material in question had been granted.
- (13) Indication of the use to which the nuclear material is assigned.

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NB: Pursuant to Article 79 of the Treaty, those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communications they make to the Commission pursuant to that Article.

This form, duly completed and signed, must be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirchberg, Luxembourg (Grand Duchy of Luxembourg).

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## ANNEX X

COMMISSION OF THE EUROPEAN COMMUNITIES  
EURATOM SAFEGUARDSGUIDELINES FOR THE COMMUNICATION OF THE OUTLINE PROGRAMME  
OF ACTIVITIES WITH REFERENCE TO ARTICLE 6 OF THIS REGULATION

Communications should, if possible, cover the succeeding two years.

In particular, communications should indicate:

- types of operations, e.g. proposed campaigns with indication of type and quantity of fuel elements to be fabricated or reprocessed, enrichment programmes, reactor operating programmes, with planned shutdowns;
- expected schedule of arrival of materials, stating the amount of material per batch, the form (UF<sub>6</sub>, UO<sub>2</sub>, fresh or irradiated fuels, etc.), expected type of container or packaging;
- dates by which quantity of material in products is expected to be determined and dates of dispatch;
- dates and duration of physical inventory taking.

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NB: Pursuant to Article 79 of the Treaty, those subject to safeguard requirements shall notify the authorities of the Member State concerned of any communications they make to the Commission pursuant to that Article.

This communication, duly completed and signed, must be forwarded to the Commission of the European Communities, Euratom Safeguards Directorate, 'Jean Monnet' Building, Kirchberg, Luxembourg (Grand Duchy of Luxembourg).

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