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DRAFT COUNCIL DECISION APPROVING THE "SUBSIDIARY ARRANGEMENTS" SUPPLEMENTING THE AGREEMENT BETWEEN THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND, THE EUROPEAN ATOMIC ENERGY COMMUNITY AND THE INTERNATIONAL ATOMIC ENERGY AGENCY FOR THE APPLICATION OF SAFEGUARDS IN THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND IN CONNECTION WITH THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS

(presented by the Commission to the Council)

UK/EURATOM/IAEA AGREEMENT - SUBSIDIARY ARRANGEMENTS

The safeguards agreement concluded in 1976 between the UK, the European Atomic Energy Community and the International Atomic Energy Agency with the view to implementing the voluntary offer of the British Government (1) entered into force on 14 August, 1978.

Pursuant to article 39 of this agreement, Subsidiary Arrangements have been worked out which specify in detail how the procedures laid down in the agreement are to be applied.

These Subsidiary Arrangements have the same structure as those concluded in connection with the agreement between the Community, the IAEA, and the seven non-nuclear-weapon States members of the Community (hereafter referred to as "verification agreement") (2). A few parts are however different, owing to the developments of the situation and to some special features of the UK agreement.

The Subsidiary Arrangements include the following parts :

A) An Introduction including four parts :

I. The "Rules and Methods" referred to in Article XII of the Protocol and designed to calculate the inspection efforts. This part is completely different from the corresponding part of the verification agreement, point 12 of which was drafted as follows :

"The foregoing rules and methods reflect the present state of knowledge and experience. They shall be reviewed ... to take into account new technological developments in the field of safeguards and the experience gained."

As a matter of fact, the rules and methods worked out in 1971-1972 have never been reviewed since then. Since in the meantime new

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(1) Agreement between the United Kingdom of Great Britain and Northern Ireland, the European Atomic Energy Community and the International Atomic Energy Agency for the application of safeguards in the United Kingdom of Great Britain and Northern Ireland in connection with the Treaty on the Non-Proliferation of Nuclear Weapons.

(2) Agreement 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, the European Atomic Energy Community and the International Atomic Energy Agency in implementation of Article III (1) and (4) of the Treaty on the non-proliferation of nuclear weapons.

solutions have been found to implement the verification agreement (e.g. the "joint teams" formula), it became apparent that it was no longer possible to use the old "rules and methods" as they stood.

An updating of those "rules and methods" would have inevitably entailed repercussions on the verification agreement, and would have also possibly jeopardized the delicate compromises for the implementation of this agreement which had been arrived at in the meantime as a result of lengthy and difficult discussions between Euratom and the IAEA.

That is why it seemed advisable to look for a completely new formula, i.e. a different text, for the agreement related to the UK.

It should be pointed out that, although the rules and methods worked out for that agreement are entirely different from those of the verification agreement, their implementation will lead to the same practical results in both cases. This is explicitely set forth in paragraph 8 of this part, whereby "these Rules and Methods will, for similar conditions, provide for the implementation of similar safeguards in the UK as in other states subject to Community and Agency safeguards".

Furthermore, this new formula has allowed for full integration in the Subsidiary Arrangements of the trilateral agreement of the arrangements concerning "Joint Teams" approved by the Council in September 1977 in the context of the verification agreement.

As in the case of the latter agreement, the "rules and methods" are supplemented by examples designed to illustrate their application in different types of facilities. Scruting of the examples confirms that safeguards similar to those provided for in the verification agreement will be applied in the UK.

II. For the same reasons set forth above as regards the "rules and methods", the coordination arrangements referred to in articles XIX and XX of the Protocol, instead of being laid down in a general way, in the introduction of the UK Subsidiary Arrangements, will be specified in the individual Facility Attachments, as provided in Article XIX. To this end, account has also be taken of the "Joint Teams" arrangements approved by the Council.

III. The part "Form and format of reports" is identical to the corresponding part of the verification agreement.

IV. A further part has been introduced in the UK Subsidiary Arrangements, with a view to specifying practical procedures for the implementation of article 23 of the agreement ; this article provides for the application of Agency safeguards in the UK under other safeguards agreements with the Agency to be suspended while the Agreement is in force.

B) The "General Part" of the Subsidiary Arrangements specifies the communications to be made by the Parties, the relevant documents, the procedures to be followed and the time limits. This Part is fully comparable in the verification agreement and in the UK agreement. In the "General Part" of the latter the annexes are however partly different, owing to an essential feature of this

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agreement, namely the existence of a list of the facilities subject to the agreement and of a list of the facilities designated by the Agency pursuant to article 78 (a) of the agreement. It should be pointed out that those lists are unilateral acts and therefore are not an integral part of the Subsidiary Arrangements.

The annex concerning the indicative questionnaire related to design information of the facilities is identical in both agreements.

C) Finally, as for the verification agreement, separate documents (Facility Attachments) are to be negociated ; in the case of the UK, the attachments are to be agreed for each facility or part of facility, on the Facilities List.

COUNCIL DECISION

approving the "Subsidiary Arrangements" supplementing the Agreement between the United Kingdom of Great Britain and Northern Ireland, the European Atomic Energy Community and the International Atomic Energy Agency for the application of safeguards in the United Kingdom of Great Britain and Northern Ireland in connection with the Treaty on the Non-Proliferation of Nuclear Weapons

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THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular the second paragraph of Article 101 thereof;

Having regard to the draft submitted by the Commission ;

Whereas the Commission has negociated in accordance with the relevant Council Directives and intends to conclude "Subsidiary Arrangements" supplementing the Agreement between the European Atomic Energy Community and the International Atomic Energy Agency approved by the Council on 14 June 1976 and to which the United Kingdom is also party ;

Whereas the text of these "Subsidiary Arrangements" should be approved,

HAS DECIDED AS FOLLOWS :

Sole Article

The text of the "Subsidiary Arrangements" supplementing the Agreement between the United Kingdom of Great Britain and Northern Ireland, the European Atomic Energy Community and the International Atomic Energy Agency for the application of safeguards in the United Kingdom of Great Britain and Northern Ireland in connection with the Treaty on the Non-Proliferation of Nuclear Weapons is hereby approved.

Done at

For the Council
The President

COM(79)606 Final.

ANNEX (1)

UK/EURATOM/IAEA AGREEMENT

DRAFT SUBSIDIARY ARRANGEMENTS

SUBSIDIARY ARRANGEMENTS
TO THE
AGREEMENT BETWEEN THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND, THE EUROPEAN ATOMIC ENERGY COMMUNITY AND THE INTERNATIONAL ATOMIC ENERGY AGENCY FOR THE APPLICATION OF SAFEGUARDS IN THE UNITED KINGDOM IN CONNECTION WITH THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS

These Subsidiary Arrangements, made under Article 39(a) of the Agreement between the United Kingdom of Great Britain and Northern Ireland, the European Atomic Energy Community and the International Atomic Energy Agency in connection with the Treaty on the Non-Proliferation of Nuclear Weapons, signed at Vienna on 6 September 1976, specify in detail, to the extent necessary to permit the Agency to fulfil its responsibilities under this Agreement, how the procedures laid down in that Agreement are to be applied. The Agreement and its Protocol are hereinafter referred to as 'the Agreement' and 'the Protocol'. These Subsidiary Arrangements consist of:

A. An Introduction relating to

I The Rules and Methods for the implementation of the criteria referred to in Article 81 of the Agreement and Article XII of the Protocol.

II The co-ordination arrangements referred to in Article XIX of the Protocol.

III The specification of the form and format of reports referred to in Article IX of the Protocol.

IV The arrangements for the implementation of the provisions of Article 23 of the Agreement.

B. A General Part applicable to all nuclear material in the United Kingdom covered by Article 1 of the Agreement which specifies the communications to be made between the Parties, the relevant documents, the procedures to be followed and the time limits for actions to be made between the Parties.

This Part is supplemented by the following Annexes:

I(a) The current Facilities List as specified in Article 1(b) of the Agreement.

I(b) A current list of Facilities in the United Kingdom designated pursuant to Article 78(c) of the Agreement.

Annex I(a) and Annex I(b) are not an integral part of these subsidiary arrangements

II The agreed indicative questionnaire, referred to in Article II of the Protocol. This indicates the design and other information to be provided for the preparation of Facility Attachments.

C. A separate Attachment for each facility or part of a facility.

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SUBSIDIARY ARRANGEMENTS

INTRODUCTION

I RULES AND METHODS FOR THE IMPLEMENTATION OF THE CRITERIA REFERRED TO IN ARTICLE 81 OF THE AGREEMENT AND ARTICLE XII OF THE PROTOCOL UNDER THE TERMS OF THE UK/EURATOM/IAEA AGREEMENT

1. The objective of safeguards will be achieved, inter alia, through routine inspection efforts under the Agreement as determined on the basis of the criteria described below.

2. The criteria for determining inspection efforts are:-
   (a) the form and accessibility of the nuclear material to be safeguarded;
   (b) the effectiveness of the Community's safeguards;
   (c) characteristics of the nuclear fuel cycle being safeguarded in the UK;
   (d) international interdependence in relation to the nuclear fuel cycle being safeguarded in the UK; and
   (e) technical developments in the field of safeguards.

3. All routine inspection activities expected to be carried out by Euratom and the Agency will be listed and allocated adequate inspectors' time for their execution, so that in total the ARIE 1* and ARIE 2* efforts derived will be sufficient for practical operations.

4. In the case of installations for uranium enrichment or using significant quantities of plutonium and highly enriched uranium or reprocessing irradiated fuel and such other facilities as mutually agreed upon the IAEA and Euratom will form "Joint Teams" of inspectors who will jointly carry out their work. Basically all routine inspection activities to be carried out under the Agreement in each plant will be considered as a task to be performed by one Joint Team .

5. The purpose of having Joint Teams of inspectors is to enable both organizations to achieve the safeguards objectives, with minimum intrusion into facility operations compatible with these objectives and with the avoidance to the extent possible of unnecessary duplication.

6. The Joint Team will perform common verification activities undertaken in mutual support in such a way as to give each organisation all the information required to draw its own independent conclusion.

7. Provided that the objective stated in 6 above is assured the following arrangements shall guide the operations of the Joint Team:-

* Actual Routine Inspection Efforts of the Community (ARIE 1) and of the Agency (ARIE 2)

(i) Collection of basic data will be done as far as possible on the basis of a common set of working papers. The distribution of tasks within the Joint Team will be decided by the team itself. If a certain inspection activity is considered as requiring more than one inspector, inspectors from both IAEA and Euratom members of the team will be present. An activity which can be carried out by a single inspector may be undertaken by any member of the Joint Team. Sampling plans will be prepared jointly, but provision will be made where required for each organisation to perform its own analysis on sampling taken. If seals are required by both organisations the Joint Team will apply one agreed seal. Until mutually accepted seals are available, different seals may be applied.

(ii) Data obtained in the course of performing inspection activities will be reviewed for completeness and correctness by the Joint Team. Identical copies of all data collected will be compiled by the Joint Team and made available to both organisations.

(iii) No hierarchical structure is foreseen for the Joint Team. Requests to the operator relating to Joint Team activities will normally be channelled through the Euratom inspector and the Agency inspector will accompany him whenever it is considered necessary by the Agency.

8. These Rules and Methods will, for similar conditions, provide for the implementation of similar safeguards in the United Kingdom as in other states subject to Community and Agency safeguards.

9. The inspection efforts for typical facilities are shown in the following specific examples. These examples shall be reviewed from time to time to take into account new technological developments in the field of safeguards and experience gained.

EXAMPLES

The following examples illustrate the application of the Rules and Methods. They have been established for a number of realistic cases.

EXAMPLE A A Fast Breeder Reactor

Application to a fast breeder reactor of nominal inventory 1000 kg plutonium and 3000 kg natural uranium, and a throughput of 1000 kg plutonium and 3000 kg natural uranium per year.

It is assumed that the reactor is operated continously.

Activities	Number of events/year	ARIE 1 (man days/y)	ARIE 2 (man days/y)
1 Receipts	150	*	*
2 Despatches	150	*	*
3 Examination of records		20	20
4 Physical Inventory Verification	2	10	5
5 Containment/Surveillance Activities		20	20
Total		50	45

* Covered by verification activities associated with fast breeder reactor storage facility.

EXAMPLE B Fresh and Irradiated Fuel Storage associated with a Fast Breeder Reactor

Application to a fresh and irradiated storage facility with a nominal inventory of 1000 kg plutonium and 3000 kg natural uranium and a throughput of 1000 kg plutonium and 3000 kg natural uranium per year. It is assumed that the facility is operated continuously.

Activities	Number of events/year	ARIE 1 (Man days/y)	ARIE 2 (Man days/y)
1 Receipts	150	75	75
2 Despatches of irradiated fuel	150	105	80
3 Examination of records		30	30
4 Containment/Surveillance activities		30	30
5 Sampling and NDA measurements		40	40
6 Physical Inventory verification		20	15
Total		300	300

Note : For inspection activities at strategic points, other than the strategic points referred to in codes 3.1.2. and 3.2.1. of the facility attachments, ARIE 1 = 50 and ARIE 2 = 50 man/days are assumed. This figure is not based on calculations or specific characteristics of the facilities in question, is pro memoria only and is included in the ARIE figures for the various inspection activities indicated in the table.

EXAMPLE C · Fast Reactor Fuel Reprocessing Plant

Application to a fast reactor fuel reprocessing plant of nominal inventory of 1000 kg Pu and nominal throughput of 1000 kg per year.

It is assumed that the plant is operating - from dissolver to process - 300 days per year on a 7 days per week and 3 shifts per day basis, and performing about 350 dissolutions.

	Activities	Number of events/year	ARIE 1 (Man days/y)	ARIE 2 (Man days/y)
1	Receipts	150	75	75
2	Input measurements	350	350	350
3	Pu output	25	25	25
4	Waste - hulls + LAW/MAW		50	30
5	Containment/Surveillance activities		*	*
6	Examination of Records		30	30
7	Calibrations and verifications of operators measurement system		10	10
8	Sample preparation for shipment	400	90	90
9	Clean-out operations	2	20	-
10	Physical inventory verification	2	20	20
	Total		670	630

* Covered by other verification activities

Note : For inspection activities at strategic points, other than the strategic points referred to in codes 3.1.2. and 3.2.1. of the facility attachments, ARIE 1 = 80 and ARIE 2 = 80 man/days are assumed. This figure is not based on calculations or specific characteristics of the facilities in question, is pro memoria only and is included in the ARIE figures for the various inspection activities indicated in the table.

EXAMPLE D Fabrication of Mixed Plutonium/Uranium Oxide Fuel Elements

Application to a mixed plutonium/uranium fuel element fabrication facility of nominal inventory 300 kg plutonium plus 900 kg natural uranium and a throughput of 300 kg plutonium and 900 kg of uranium per year. It is assumed that the facility operates 8 hours/day for 5 days/week for approximately 300 days/year.

Activities	Number of events/year	ARIE 1 (Man days/y)	ARIE 2 Man days/y
.1 Receipts of plutonium nitrate in flasks	25	25	25
2 Transfer of plutonium nitrate to storage tanks		50	50
3 Verification of input to conversion process		50	50
4 Observation of sampling activities		40	40
5 NDA measurements		80	80
6 Shipment of sub assemblies	25	25	25
7 Clean out operation	2	20	0
8 Physical Inventory taking	2	40	30
9 Containment/Surveillance activities		50	50
10 Examination of Records		40	40
11 Calibration and verification of operators measurements system		20	20
12 Samples preparation for shipment		50	50
13 Preparation of standards		40	40
Total		530	500

Note : For inspection activities at strategic points, other than the strategic points referred to in codes 3.1.2. and 3.2.1. of the facility attachments, ARIE 1 = 100 and ARIE 2 = 100 man/days are assumed. This figure is not based on calculations or specific characteristics of the facilities in question, is pro memoria only and is included in the ARIE figures for the various inspection activities indicated in the table.

EXAMPLE E Zero Energy Breeder Reactor

Application to a Zero Energy Breeder Reactor of nominal inventory of 1700 kg plutonium as metal and oxide and 2200 kg enriched uranium as metal and oxide (U^{235} content 650 kg) and 58 tons of natural uranium. It is assumed that the facility is operating 8 hours/day for 5 days/week throughout the year.

Activities	Number of events/year	ARIE 1 (Man day/y)	ARIE 2 (Man day/y)
1 Receipts	20	20	20
2 Despatches	20	20	20
3 Observation of ongoing operations		60	50
4 Containment/Surveillance activities		80	80
5 NDA Activities	selected at random	100	100
6 Physical Inventory verification	2	10	10
7 Examination of records		10	10
Total		300	290

Note : For inspection activities at strategic points, other than the strategic points referred to in codes 3.1.2. and 3.2.1. of the facility attachments, ARIE 1 = 50 and ARIE 2 = 50 man/days are assumed. This figure is not based on calculations or specific characteristics of the facilities in question, is pro memoria only and is included in the ARIE figures for the various inspection activities indicated in the table.

EXAMPLE F Continuously Fuelled Graphite Moderated Reactors

Application to:

a) A power station fuelled with natural uranium metal fuel with a nominal inventory of 900 tonnes uranium and an annual throughput of 120 tonnes

b) A power station fuelled with low enriched uranium (enrichment varies from 1.162 to 3.50 w/o U^{235}) nominal inventory of 280 tonnes total uranium and annual throughput of 39 tonnes uranium.

Reactors operated continously.

Activities	Number of events/year	ARIE 1 (Man days/y)	ARIE 2 (Man days/y)
1 Receipts	30	NIL +	NIL +
2 Despatches	30	30	30
3 Examination of records		10	10
4 Physical Inventory verification	1	5	3
5 Containment and Surveillance activities		*	*
6 NDA measurements		5	5
Total		50	48

+ if sealed at fabrication plant

* covered by other verification activities

SUBSIDIARY ARRANGEMENTS

INTRODUCTION

II Co-ordination Arrangements

The co-ordination arrangements referred to in Articles XIX and XX of the Protocol are specified in the Facility Attachments. Inspections of facilities designated pursuant to Annex I(b) of these Subsidiary Arrangements are to be carried out, where so agreed, by Joint Teams of inspectors drawn from the European Atomic Energy Community and from the International Atomic Energy Agency..

SUBSIDIARY ARRANGEMENTS

INTRODUCTION

III Form and Format of Reports

Accounting reports shall normally be provided to the Agency on magnetic tape. They shall include all the appropriate information specified in Code 10. The format for reports on magnetic tapes will be specified in letters to be exchanged between the Commission and the Agency's Secretariat.

Under exceptional circumstances, accounting reports may be transmitted in hard copy.

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SUBSIDIARY ARRANGEMENTS

INTRODUCTION

IV Arrangements for the implementation of Article 23 of the Agreement

At the time this Agreement enters into force the United Kingdom and the Agency shall jointly agree the inventory of nuclear material already in the United Kingdom which is subject to other safeguards agreements between the Agency and the United Kingdom.

The Agency and the United Kingdom shall seek jointly to make arrangements with the other parties involved so that safeguards in the United Kingdom under such Agreements are suspended. The United Kingdom will inform the Agency by letter of the amounts of material under other Agreements which subsequently arrive in or are despatched from the United Kingdom, within 30 days of receipt or despatch.

On the basis of such transfers the United Kingdom and the Agency shall each maintain a record of the amounts of material subject to suspended safeguards agreements and shall compare their records at six-monthly intervals.

It will be the responsibility of the Agency to designate a sufficient number of facilities to ensure that the total amount of material of each type actually safeguarded in the United Kingdom is at all times equal to or greater than the corresponding quantities in the above mentioned record.

RESTRICTED

SUBSIDIARY ARRANGEMENTS

GENERAL PART

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1. Channels of communication

Code	Subject	Name and Address
1.1	Communications from Agency	
1.1.1	On matters relating to implementation of Agreement, Protocol and Subsidiary Arrangements.	The Safeguards Office Department of Energy Thames House South London SW1P 4QJ Direct and: Commission of the European Communities Directorate of Euratom Safeguards Jean Monnet Bld Kirchberg, Luxembourg Grand Duchy of Luxembourg
1.1.2	Routing of communications under 1.1.1	
1.1.3	Normal contact of Agency inspectors in the United Kingdom.	The Safeguards Office Department of Energy Thames House South London SW1P 4QJ
	Communications to Agency	
1.2.1	On matters relating to implementation of Agreement, Protocol and Subsidiary Arrangements.	The Director General International Atomic Energy Agency Kärntner Ring 11 PO Box 590, A-1011 Vienna Austria Telephone : 524511 Telex : 01 2645 Cable : INATOM A Or Agency staff member shown by previous communications to be authorised to deal with subject matter.
1.2.2	Contact in case of accidents or other emergencies involving Agency inspectors.	As Above

Code	Reference */ (Articles) Agreement	Protocol	Subject
2.1			Measures foreseen in the Agreement
2.1.1	32(a)		For measurement: A measurement system for the determination where appropriate of quantities of nuclear material (i) received; (ii) produced; (iii) shipped (iv) lost; (v) otherwise removed from inventory, or (vi) on inventory.
	32(b)		The evaluation of precision and accuracy of measurements and the estimation of measurement uncertainty.
	32(d)		Procedures for taking a physical inventory.
	32(e)		Procedures for the evaluation of accumulations of unmeasured inventory and unmeasured losses.
2.1.2			For accountancy:
	32(c)		Procedures for identifying, reviewing and evaluating differences in shipper/receiver measurements.
	32(f)		A system of records and reports showing, for each material balance area, the inventory of nuclear material and the changes in that inventory including receipts into and transfers out of the material balance area.
	32(h)		Procedures for the submission of reports to the Agency in accordance with Articles 59 - 65 and 67 - 5 of the Agreement and with Articles VII - IX of the Protocol.
2.1.3	32(g)		Provisions to assure correct operation of the accounting procedures and arrangements.

*/ Note Reference to Articles in these columns is purely indicative so as to facilitate cross-reference between the Subsidiary Arrangements and the Agreement and the Protocol respectively.

Code	Reference (Articles) Agreement	Protocol	Subject	Information provided by the Community
2.2	32(a) - (h)		Specifications of information to be provided (as applicable)	
2.2.1			For each of the items listed under code 2.1 information is to be provided on:	
2.2.1.1			The existing legislation (laws, regulations, general administrative procedures) giving requirements or laying down minimum standards (outlines, and brief extracts of relevant texts, and references).	The European Communities Act 1972 The Treaty establishing The European Atomic Energy Community 1957
2.2.1.2			The organizational unit(s) in the United Kingdom responsible for: (i) measurement; (ii) accountancy; (iii) the assurance that the functions listed under codes 2.1.1 and 2.1.2 are carried out correctly.	
2.2.1.3			The extent to which each of the organizational units involved (i) has authority to insure compliance with the provisions of the Community's Safeguards (ii) carries out audits; (iii) carries out independent measurements.	Commission Regulation (Euratom) No. 3227/76, 19 October 1976
2.2.1.4			The procedures and techniques followed by each organizational unit in order to meet the requirements or minimum standards referred to under code 2.2.1.1	

Note: The Agency should be provided with texts of new laws, regulations of general administrative procedures as soon as possible after promulgation.

3. Provision of information by the Community

Code	Reference (Articles) Agreement	Protocol	Subject	Date or time limit
3.1			Information on facilities or parts of facilities	
3.1.1	42-44	II-V	Provision of design information in respect of facilities or parts thereof identified in the Facilities List (Annex I(a)).	Prior to discussion of the Facility Attachment.
3.1.2	42-44	II-V	Provision of design information for new facilities or parts of new facilities together with complete proposal for the Facility Attachment.	Not later than 30 days before the facility or part of facility scheduled to go into operatio
3.1.3	45	II-V	Provision of information on significent changes to data previously provided under 3.1.1 or 3.1.2, as specified in the relevant Attachment together with the proposal for consequent amendment of the Attachment.	Not later than 15 days before the modification is scheduled to be completed.
3.1.4	45	II-V	Provision of information on changes to data previously provided under 3.1.1 or 3.1.2 other than changes specified in 3.1.3.	Together with the first inventory change report made after modification is complete.
			Note 1 With reference to subjects under code 3.1:	
	6(a)		Confidential information shall be marked as such and treated accordingly.	When provided.
	8(c)		Confidential information, once examined, may be marked by the Agency to show that the examination has taken place.	When examined.
			Note 2 With reference to subjects under codes 3.1.2 and 3.1.3:	
	42,45		If the information cannot be provided in full at the time specified, the Agency and the Community may agree on a later date for completion of the information.	

Code	Reference (Articles)		Subject	Date or time limit
	Agreement	Protocol		
3.2			Radiological Protection and Safety*/	
3.2.1	44, 88		Information on laws and regulations for radiological protection and safety in the United Kingdom as applicable to Agency inspectors.	Initially upon entry into force of the Subsidiary Arrangements
3.2.2	44, 88		Information on radiological surveillance measures and on medical facilities that are available for Agency inspectors in case of radiation accidents.	Initially, upon entry into force of the Subsidiary Arrangements Note The Agency should be provided with information on new laws or regulations, or change to the information provided under code 3.2.2, as soon as possible after such new laws or regulations have been promulgated or changes introduced.
3.2.3	44, 88		Information on radiation dosages received by Agency inspectors in the performance of their functions in the United Kingdom.	Quarterly, or as soon aspossible after significant radiation exposure.

*/ It is understood that the United Kingdom will ensure that staff members of the Agency carrying out functions under the Agreement benefit fully from the health and safety measures in force at each facility, including the provision of available medical care and measures for emergency assistance in case of accidents.

Code	Reference (Articles) Agreement	Protocol	Subject	Date or time limit
3.3	62, 34		Initial Report Despatch of the initial report of all nuclear material subject to safeguards under the Agreement. (For content see standard form R.02, as attached to Code 10 with explanations).	Within thirty days of the last day of the calendar month in which Agreement entered into force by the fastest means of communication (express air mail or diplomatic pouch).

Note: If material balance areas under the Agreement have not yet been defined, list material according to material balance areas or geographical location as used by the Community.

3.4			Accounting Reports	
3.4.1	59-61, 63(a), 64 65	VI, VII, IX,	Despatch of inventory change reports either in a consolidated list or individually, as specified in the relevant Attachment, and concise notes. (For content see standard form R.01, as attached to Code 10, with explanations.)	As soon as possible, but within 60 days after the end of the month in which the inventory change(s) occur(s), by fastest means of communication.
3.4.2	59-61, 63(b), 67	VI, VIII, IX,	Despatch of material balance reports with physical inventory listing attached. (For content see standard forms R.03 for material balance report and R.02 for physical inventory listing, as attached to Code 10, with explanations.)	As soon as possible, but within 60 days of completion of physical inventory taking.
3.4.3	69		Despatch of amplification and clarification of accounting reports.	Normally within 30 days of the date of Agency's request.

Code	Reference (Articles) Agreement	Protocol	Subject	Date or time limit
.5			Special Reports	
.5.1	68		Despatch of special reports.	Without delay after the Community is led to believe that there is or may have been loss of nuclear material or after the containment has unexpectedly changed to the extent that unauthorized removal of nuclear material has become possible, by cable, telex or telephone and follow-up letter
3.5.2	91(c)		Despatch of special reports in case of unusual incidents or circumstances during transfers of nuclear material into or out of the United Kingdom which have been notified to the Agency under Article 91(a) of the Agreement	Immediately after incident or circumstance is known by cable, telex, or telephone and follow-up letter.
3.5.3	69,91(c)		Despatch of amplification and clarification of special reports.	Immediately on receipt of Agency's request or as soon as possible thereafter.
	53		Note: The Agency may request amplification or clarification of the reports referred to under Codes 3.4.3 and 3.5.3	As long as the relevant records are retained as specified in Attachment concerned.
3.6			Information on transfers into or out of the United Kingdom	
3.6.1	91(b)(i)		Despatch of advance notification of transfers of nuclear material out of the UK of more than one effective kilogram. See Code 7.1. for details of information to be transmitted.	To reach Agency normally not less than ten days before shipment See Note 1
3.6.2	91(b)(i)		Despatch of advance notification of transfers of nuclear material out of the United Kingdom from facilities which normally export significant quantities to the same State in shipments each not exceeding one effective kilogram, if so specified in the corresponding Facility Attachment.	To reach Agency normally not less than ten days before shipment See Note 1

Code	Reference (Articles) Agreement	Protocol	Subject	Date or Time Limit
3.6.3	91(b)(ii)		Despatch of advance notification of nuclear material transfers into the UK each of more than one effective kilogram. See Code 7.2 for details of information to be transmitted.	To be sent to the Agenc not later than the date of receipt, and whenev possible at such time a to ensure that it is received by the Agency later than two days bef the material is unpacke

Note 1: In practice, the notifications under Codes 3.6.1 and 3.6.2. should be despatched to reach the Agency 5 working days before the nuclear material is to be prepared for shipment.

Note 2: If the observation of the time limits given under codes 3.6.1, 3.6.2 and 3.6.3 would result in delayed shipment or unpacking, shorter notice to enable the Agency to act under Article 71(c), as appropriate, may be given be cable, telex or telephone. Such a notice should be followed by transmission of the full information under Codes 7.1 or 7.2 as appropriate. In no case will these requirements be interpreted as an obligation for the operator to postpone preparing for shipment, shipping or unpacking nuclear material.

Note 3: Referring to Codes 3.6.1, 3.6.2, and 3.6.3, despatch of notification of delays not giving rise to Special Reports, in preparation for shipment, in despatch or in unpacking of nuclear material will be made as soon as possible by cable, telex or telephone. Notifications should give new dates, if known.

Note 4: The information included under Codes 3.3, 3.4, 3.5 and 3.6 shall be treated as confidential and appropriate security measures taken for its transmission.

4. Provision of Information by the Agency to the Community and to the United Kingdom

Code	Reference (Articles) Agreement	Reference (Articles) Protocol	Subject	Date or time limit
1			Agency statements	
1.1	41,66		Provision of copies of the Agency's unified inventories See model under code 8.	Half-yearly, as of 30 June and 31 December not later than 3 months after these dates.
1.2	30,90		Statement on the Agency's verification activities as specified in the Facility Attachments . Note If the Community or the United Kingdom disagrees with any Agency statement, notice to this effect should be sent to the Agency	As specified in the Facility Attachments If possible within 30 days after receipt of the statement in question.
.2	83(a),71(a)		Advance Notice of ad hoc inspections Notice by the Agency that it intends to inspect nuclear material in connection with transfers into or out of the United Kingdom.	Immediately after receipt of any notification pursuant to code 3.6 above and at least 24 hrs before the inspecti

(26)

5. Publication of Information by the Agency

Code	Reference (Articles) Agreement	Protocol	Subject
5.1	6(b)(ii)		The Agency may publish the following summarized informatio after having secured the agreement of the Community and o the United Kingdom.
5.1.1			The amounts and types of nuclear material subject to safe-guards under the Agreement in the United Kingdom in terms of effective kilograms as follows: (a) natural and depleted uranium, and thorium; (b) enriched uranium with an enrichment up to and including 5%; (c) enriched uranium with an enrichment of more than 5%; and (d) plutonium.
5.1.2			A list of the facilities in the United Kingdom which conta nuclear material subject to safeguards under the Agreement as follows: (a) reactors with an indication of their purpose and with their nominal power; (b) conversion and fabrication plants, with an indication whether they are pilot or industrial size plants; (c) isotope separation plants, with their nominal capacity; (d) reprocessing plants, with their nominal capacity; and (e) critical facilities, research installations (with indication of their nature) and separate storage faciliti The list may also contain the official description and/or name, and the location of each facility.

Code 6.1 - Model

Agreement Reference (Articles)

13, 35(b)

(24)

TERMINATION OF SAFEGUARDS ON NUCLEAR MATERIAL TO BE USED IN NON-NUCLEAR ACTIVITIES */

Safeguards shall be terminated with respect to nuclear material as specified below:

a) ..... g/kg total weight, and ..... g fissile isotope(s) of ..... (Element)

b) Chemical composition .....
Physical form: .....
Enrichment or isotopic composition (if applicable): .....

c) Material balance area and location therein where the nuclear material is now present: .....
.....

d) Present use, with particulars of containment, if appropriate:

e) The proposed non-nuclear use is:

f) The nuclear material, once in use, will be practically irrecoverable because .....
.....

g) Approximate date of transfer to non-nuclear use:
.....

.....

For the Community	For the Agency	For the United Kingdom (ref para f above)
Date	Date	Date .....

*/ Except nuclear material covered by specific provisions for termination of safeguards in the Facility Attachments if relevant.

Code 6.2 - Model

Agreement Reference
(Articles)

36, 37

REQUEST FOR EXEMPTION FROM SAFEGUARDS OF NUCLEAR MATERIAL */

Date .....

a) Exemption from safeguards is requested for ..... g/kg total weight, and ..... g fissile isotope(s) of .....(Element)

b) Chemical composition: .....
Physical form: .....
Enrichment or isotopic composition (if applicable) .....

c) Material balance area and location therein where the nuclear material is now present: .....
.....

d) Intented use (only if exemption is sought pursuant to Article 36(a) or (b)):

e) Approximate date of:
(i) for exemption under Articles 36(a) and 37: transfer out of material balance area
.....
(ii) for exemption under Article 36(b): transfer to non-nuclear use .....

.....
For the Community

Exemption granted as above
Date .....

.....
For the Agency

*/Except nuclear material covered by specific provisions for exemption from safeguards in the Facility Attachments if relevant.

Code 6.3. - Model
Agreement Reference
(Articles)
38

RE-APPLICATION OF SAFEGUARDS

IN RESPECT OF NUCLEAR MATERIAL PREVIOUSLY EXEMPTED

Date .....

a) Safeguards should be re-applied in respect of ..... g/kg total weight, and .....g fissile isotope(s) of .....(Element)

b) Chemical composition: .....
Physical form: .....
Enrichment or isotopic composition (if applicable)
.....

c) Material balance area and location therein where safeguards should be re-applied in respect of the nuclear material .....

d) Date from which safeguards should be re-applied:
.....

e) Exemption from safeguards in respect of material in question was granted on .....
(date)
under Article .....

.....
For the Community

---

a) Safeguards will be re-applied to the nuclear material described above.

b) For nuclear material which was exempted pursuant to Article 37, the amount which now remains exempted under the relevant paragraph of the Article is .....

Date .....

.....
For the Agency

Code 7.1 - Model
Agreement Reference
(Articles)
12, 91

INFORMATION TO BE PROVIDED FOR ADVANCE NOTIFICATION OF EXPORTS OF NUCLEAR MATERIAL OUT OF THE UNITED KINGDOM

(a) Quantity: total weight of element in grams/kilograms; weight of fissile isotope(s) in grams (if applicable)

(b) Chemical composition
Physical form
Enrichment or isotopic composition (if applicable)

(c) Number of items

(d) Description (type) of containers, including features that would permit sealing

Shipment identification data

(e) State and, if known, place of destination

(f) Means of transport

(g) Material balance area and location therein where material is prepared for shipping and can be identified and where its quantity and composition can if possible be verified

(h) Last date when material can be identified and when its quantity and composition can, if possible, be verified

(i) Approximate dates of dispatch and of expected arrival at destination

(j) Date of notification

(k) Name of authorised person on behalf of Community

Note: If separate shipments are prepared together for dispatch to the same State (whether simultaneous or not), they may all be specified in a single advance notification.

Code 7.2 - Model

Agreement Reference
(Articles)

12, 91

INFORMATION TO BE PROVIDED FOR ADVANCE NOTIFICATION

OF IMPORTS OF NUCLEAR MATERIAL INTO THE UNITED KINGDOM

(a) Quantity: total weight of element in grams/kilograms;
weight of fissile isotope(s) in grams (if applicable)

(b) Chemical composition
Physical form
Enrichment or isotopic composition (if applicable)

(c) Number of items

(d) Description (type) of containers

(e) Supplying State

(f) Means of transport

(g) Expected or actual date of arrival in the United Kingdom

(h) Material balance area and location therein where material will be unpacked and can be identified and where its quantity and composition can be verified

(i) Date(s) when material will be unpacked

(j) Date of notification

(k) Name of authorised person on behalf of Community

Note: If separate shipments from the same State are expected to be unpacked together (whether they have arrived together or not) they may all be specified in a single advance notification.

Code 8 - Model

Agreement Reference
(Articles)

12, 41, 66

(34)

THE AGENCY'S INVENTORY OF NUCLEAR MATERIAL

SUBJECT TO SAFEGUARDS UNDER THE AGREEMENT

as of .....

A. Consolidated Book Inventory

MBA	Facility	Material	Quantity		Limits of Error
			Total Element	Fissile Isotope	

B. Material in transit in the United Kingdom

Between			Material	Quantity	
Shipper		Receiver		Total Element	Fissile Isotope
(MBA)	and	(MBA)			

C. Export Account

Transferred to (state and, if known, place of destination)	Material	Quantity	
		Total Element	Fissile Isotope

Notes 1. Nuclear material in respect of which the Agency has received a report from the shipping material balance area that the export of the material out of the United Kingdom has taken place will be placed on the export account for the United Kingdom until such time as the Agency has received confirmation that the material has been received by the recipient State.

2. Nuclear material transferred to the United Kingdom will be listed in the inventory upon receipt by the Agency of the inventory change report from the receiving material balance area pertaining to the receipt of the material in question.

3. Nuclear material transferred between two material balance areas within the United Kingdom will continue to be listed by the Agency in respect of the material balance area from which it has been shipped, as material in transit, until it is reported to have been received in the receiving material balance area.

Code 9 - Model

Agreement Reference
(Articles)
75

Protocol Reference
(Articles)
XXII

SAMPLES FOR SAFEGUARDS

Information to be included in Sample Forms used by the Agency.

1. Country.
2. Facility/MBA code.
3. Date of sampling.
4. Proposed shipment date and means of transport.
5. Packaging arrangements.
6. Activity of content.
7. Agency seal number.
8. Name and signature of appropriate official at shipping facility/MBA to whom the sealed package has been handed over for shipment.
9. Name and signature of authorized official at Facility and of IAEA inspector certifying that the samples described in the sample form have been taken for analysis.
10. Data for samples taken:

a) Material description and batch name or number.
b) Weight of sample and bottle.
c) Net weight of sample.
d) Enrichment wt% (if applicable).
e) Operator's value for element conc.(wt%.)
f) Operator's values for U/U^{235}/Pu/Th weights in the sample.

Note.

One copy of the sample form to be given for retention by appropriate official at shipping facility/MBA

Code 19
Agreement Reference
(Articles)
59-65, 67
Protocol Reference
(Articles)

37

IX REPORT FORMS AND EXPLANATION OF THEIR USE

INTRODUCTION

Reports to be provided to the Agency consist of three types; Inventory Change Reports (ICR), Physical Inventory Listings (PIL) and Material Balance Reports (MBR). For each of these a hard copy proforma is attached.

These forms are designed to give an indication of the contents of the reports to be provided by the Community to the Agency but these forms will not normally be used since the reports will normally be provided on magnetic tape.

The form and format of the reports to be provided by the Community to the Agency are set forth in the Introduction to these Subsidiary Arrangements.

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INVENTORY CHANGE REPORT (ICR) FORM R.01.1/c

COUNTRY ....

FACILITY ....

MATERIAL BALANCE AREA ....

PERIOD COVERED BY REPORT: FROM .... TO ....

REPORT No. ....

PAGE No. ...... OF ...... PAGES

SIGNATURE ....

RESTRICTED

ENTRY No.	CONTINUATION	DATE OF INVENTORY CHANGE	MBA/COUNTRY FROM	MBA/COUNTRY TO	TYPE OF INVENTORY CHANGE	KMP CODE	NAME OR NUMBER OF BATCH	NUMBER OF ITEMS IN BATCH	MATERIAL DESCRIPTION	ACCOUNTANCY DATA: ELEMENT	WEIGHT OF ELEMENT	UNIT kg/g	WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (g)	ISOTOPE CODE	MEASUR. BASIS	CONCISE NOTE	CORRECTION TO: REPORT No.	CORRECTION TO: ENTRY No.	80
1	3	4	10	14	18	20	21	29	33	37	38	46	48	56	72	73	74	78	80
																			2
																			2
																			2
																			2
																			2
																			2
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																			2
1	3	4	10	14	18	20	21	29	33	37	38	46	48	56	72	73	74	78	80

RESTRICTED

N-65A/Rev.3 (Sept 77)

Header Coding:

1– 2	Country Code
5– 8	Facility Code
9–12	MBA Code
13–18	Beginning Date of Period Covered (YYMMDD)
19–24	Date of Reported Event or Ending Date of Period (YYMMDD)
25–27	Number of line Entries, increased by 1.
28–31	For IAEA use only
70–73	Report Number
74–79	Attribute (coded at the IAEA)

31(c) 36.

INVENTORY CHANGE REPORT (ICR) FORM R.01.2

COUNTRY .....
FACILITY .....
MATERIAL BALANCE AREA .....

PERIOD COVERED BY REPORT: FROM ..... TO .....
REPORT No. .....

PAGE No. ..... OF ..... PAGES | SIGNATURE .....

ENTRY No.	CONTINUATION	DATE OF INVENTORY CHANGE	MBA/FACILITY/COUNTRY FROM	MBA/FACILITY/COUNTRY TO	TYPE OF INVENTORY CHANGE	KMP CODE	NAME OR NUMBER OF BATCH	NUMBER OF ITEMS IN BATCH	MATERIAL DESCRIPTION	ACCOUNTANCY DATA: ELEMENT	ACCOUNTANCY DATA: WEIGHT OF ELEMENT	ACCOUNTANCY DATA: UNIT kg/g	ACCOUNTANCY DATA: WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (g)	ACCOUNTANCY DATA: ISOTOPE CODE	MEASUREMENT BASIS	CONCISE NOTE	CORRECTION TO: REPORT No.	CORRECTION TO: ENTRY No.	
																			1
																			2
																			2
																			2
																			2
																			2
																			2
																			2
																			2

TO ENTRY No.	CONT'N	ISOTOPIC DATA: %U_{233}	%U_{234}	%U_{235}	%U_{236}	%U_{238}	%Pu_{238}	%Pu_{239}	%Pu_{240}	%Pu_{241}	%Pu_{242}	MEASUREMENT BASIS	CORRECTION TO: REPORT No.	CORRECTION TO: ENTRY No.	
															3
															3
															3
															3
															3
															3
															3

N-56B/Rev.1 (Jan 75)

RESTRICTED

(41)

PHYSICAL INVENTORY LISTING (PIL) FORM R.02/c

COUNTRY .....
FACILITY .....
MATERIAL BALANCE AREA .....

DATE .....
REPORT No. .....
PAGE No. ..... OF ..... PAGES
SIGNATURE .....

ENTRY No.	CONTINUATION	KMP CODE	NAME OR NUMBER OF BATCH	NUMBER OF ITEMS IN BATCH	MATERIAL DESCRIPTION	ACCOUNTANCY DATA					CORRECTION TO	
						ELEMENT	WEIGHT OF ELEMENT	UNIT kg/g	WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (g)	ISOTOPE CODE	REPORT No.	ENTRY No.
1	3	20	21	29	33	37	38	46	48	56	74	76

Header Coding:

1– 2	Country Code
5– 8	Facility Code
9–12	MBA Code
19–24	Date (YYMMDD)
25–27	Number of line Entries, increased by 1.
28	–
70–73	Report Number
74–79	Attribute (coded at the IAEA)

MATERIAL BALANCE REPORT (MBR) FORM R.03

(43)

COUNTRY ....

FACILITY ....

MATERIAL BALANCE AREA ....

REPORTING PERIOD, FROM .... TO ....

REPORT No. ....

PAGE No. .... OF .... PAGES

SIGNATURE ....

1	6	9	13	19	25	26	31	70	74	80
										6

ENTRY No.	CONTINUATION	ENTRY NAME	ACCOUNTANCY DATA: ELEMENT	WEIGHT OF ELEMENT	UNIT kg/g	WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (g)	ISOTOPE CODE	CONCISE NOTE	CORRECTION TO: REPORT No.	ENTRY No.	
1	3	16 20	37	38	40	48	50	73	74	78	80
											7
											7
											7
											7
											7
											7
											7
											7
											7
											7
											7
											7
											7
											7
											7
											7
1	3	16 20	37	38	40	48	56	73	74	78	80

N-55D/Rev.5 (Feb 77)

Header Coding:

1– 2	Country Code
5– 8	Facility Code
9–12	MBA Code
13–18	Beginning Date of Period Covered (YYMMDD)
19–24	Ending Date of Period Covered (YYMMDD)
25–27	Number of line Entries, increased by 1.
28–31	For IAEA use only
70–73	Report Number
74–79	Attribute (coded at the IAEA)

Codes of line Entries (to be used, if desired, as appropriate)

PB	
RA RF	
RF	
RA RD	
RD	
RA RS	
RS	
RA RN	
RN	
RA NP	
NP	
RA DU	
DU	
RA DQ	
DQ	
RA FW	
FW	
RA ED	(for increases in D)
ED	(for increases in D)
RA NE	(for increases in E)
NE	(for increases in E)
RA DE	(for increases in E)
DE	(for increases in E)
RA ND	(for increases in D)
ND	(for increases in D)
RA SF	
SF	
RA SD	
SD	
RA SS	
SS	
RA SN	
SN	
RA LN	
LN	
RA LD	
LD	
RA TW	
TW	
RA EU	
EU	
RA EQ	
EQ	
RA TU	
TU	
RA LA	
LA	
RA ED	(for decreases in E)
ED	(for decreases in E)
RA NE	(for decreases in N)
NE	(for decreases in N)
RA DE	(for decreases in D)
DE	(for decreases in D)
RA ND	(for decreases in N)
ND	(for decreases in N)
RA BE	
BE	
RA DI	
DI	
RA BA	
BA	
RA PE	
PE	
RA MF	
MF	

EXPLANATIONS OF FORM R.01 - INVENTORY CHANGE REPORT

1. Form R.01 should be used for Inventory Change Reports (ICR) only. The basic version of this form, form R.01.1, consists of three types of entries, i.e. heading information, material identification and accountancy data. In addition, for some material balance areas isotopic data will be provided if so agreed by the Parties in the relevant facility attachments. In such cases isotopic data are in indispensable part of batch data and should be reported. For this purpose a second version of the ICR, form R.01.2 is available, which has a section headed 'isotopic data'.

Wherever in these explanations mention is made of form R.01, this refers to the part of the form which both versions have in common.

Heading Information

2. 'Country', 'facility','material balance area': the name of the country, the identification, as specified in the relevant facility attachment, of the facility and the material balance area (MBA) to which the report relates, should be given.

3. 'Period covered by report': when the report covers an individual inventory change, the date (day, month, year) of that change should be given here. In the case of periodic reporting, the period covered (beginning and ending date) should be given.

4. 'Report no.': reports for each MBA should be numbered consecutively.

5. 'Page No. ... of ... pages': the page number and the total number of pages should be given. If an ICR consists of several pages, the heading information may be omitted from the second and following pages as long as each page bears a number and signature.

6. 'Signature': each page of the report should be signed.

Material (Batch) Identification Data

7. 'Entry number': each line entry in an ICR should have one unique entry number in sequential order. This also applies if a batch is to be reported in several line entries and if an ICR consists of several pages. Hence, a batch may comprise several entry numbers.

With this provision any entry in reports from a particular MBA can be uniquely identified by reference to the report number and entry number */.

8. 'Continuation': not applicable.

*/ see also 'Corrections'.

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EXPLANATIONS OF FORM R.01 - INVENTORY CHANGE REPORT

1. Form R.01 should be used for Inventory Change Reports (ICR) only. The basic version of this form, form R.01.1, consists of three types of entries, i.e. heading information, material identification and accountancy data. In addition, for some material balance areas isotopic data will be provided if so agreed by the Parties in the relevant facility attachments. In such cases isotopic data are in indispensable part of batch data and should be reported. For this purpose a second version of the ICR, form R.01.2 is available, which has a section headed 'isotopic data'.

Wherever in these explanations mention is made of form R.01, this refers to the part of the form which both versions have in common.

Heading Information

2. 'Country', 'facility','material balance area': the name of the country, the identification, as specified in the relevant facility attachment, of the facility and the material balance area (MBA) to which the report relates, should be given.

3. 'Period covered by report': when the report covers an individual inventory change, the date (day, month, year) of that change should be given here. In the case of periodic reporting, the period covered (beginning and ending date) should be given.

4. 'Report no.': reports for each MBA should be numbered consecutively.

5. 'Page No. ... of ... pages': the page number and the total number of pages should be given. If an ICR consists of several pages, the heading information may be omitted from the second and following pages as long as each page bears a number and signature.

6. 'Signature': each page of the report should be signed.

Material (Batch) Identification Data

7. 'Entry number': each line entry in an ICR should have one unique entry number in sequential order. This also applies if a batch is to be reported in several line entries and if an ICR consists of several pages. Hence, a batch may comprise several entry numbers.

With this provision any entry in reports from a particular MBA can be uniquely identified by reference to the report number and entry number */.

8. 'Continuation': not applicable.

*/ see also 'Corrections'.

9. 'Date of inventory change': the date should be given (day, month, year) on which the change in inventory occurred or was established.

10. 'MBA/facility/country': this entry should show the names or codes of the MBAs between which the material was transferred. In the case of exports or imports, if the MBA from which the material comes or to which it is shipped is unknown, the name of the facility or country concerned must be reported.

11. 'Type of inventory change': one of the following key words or their codes should be used in this column in order to indicate the type of inventory change:

Keywords	Code	Explanation
Receipt foreign	RF	Nuclear material imported into the United Kingdom.
Receipt domestic	RD	Receipt of nuclear material from another MBA in the United Kingdom.
Receipt at starting point	RS	Domestic receipt of nuclear material at starting point of safeguards
Receipt from non-safeguarded activity	RN	Receipt of nuclear material from non-safeguarded activity, in accordance with Article 14
Nuclear production	NP	Production of special fissionable material in a reactor (Pu, U233)
De-exemption, use	DU	Reapplication of safeguards on nuclear material previously exempted therefrom pursuant to Article 36 of the agreement
De-exemption, quantity	DQ	Reapplication of safeguards on nuclear material previously exempted therefrom pursuant to Article 37 of the agreement
Shipment foreign	SF	Nuclear material exported out of the United Kingdom
Shipment domestic	SD	Transfer of nuclear material to another MBA in the United Kingdom
Return to pre-safeguards stage	SS	Transfer of safeguarded nuclear materi back to pre-safeguarded stage
Shipment to non-safeguarded Activity	SN	Withdrawal of nuclear material from th scope of the Agreement in accordance w Article 14.
Nuclear loss	LN	Consumption of nuclear material due to its transformation into other eleme or isotope(s) as a result of nuclear reactions
Measured discard	LD	Operational loss - loss of a measured estimated (on the basis of measurement quantity of nuclear material from proc essing which has been disposed of in such a way that it is not suitable for further nuclear use
Transfer to retained waste	TW	Transfer of measured nuclear material the retained waste category which is deemed to be unrecoverable at present, stored at the MBA and to be deleted fr the inventory of the MBA
Re-transfer from retained waste	FW	Re-transfer of material, which had bee stored at the MBA as retained waste, t nuclear material. This applies whenev material in the retained waste categor is removed from storage either for pro ssing at the MBA or for shipment from the MBA.

Keywords	Code	Explanation
Exemption, use	EU	Exemption of nuclear material from safeguards pursuant to Article 36 of the Agreement
Exemption, quantity	EQ	Exemption of nuclear material from safeguards pursuant to Article 37 of the Agreement
Termination, non-nuclear use	TU	Termination of safeguards on nuclear material pursuant to Articles 13 and 35(b) of the Agreement
Accidental loss	LA	Irretrievable and inadvertent loss of a known quantity of nuclear material as the result of an operational accident.
Transfer depleted to natural	DN	Transfer of nuclear material from depleted uranium to natural uranium, e.g. by an enrichment process
Transfer depleted to enriched	DE	Transfer of nuclear material from depleted uranium to enriched uranium, e.g. by an enrichment process
Transfer natural to depleted	ND	Transfer of nuclear material from natural uranium to depleted uranium, e.g. by blending or irradiation
Transfer natural to enriched	NE	Transfer of nuclear material from natural uranium to enriched uranium, e.g. by an enrichment process
Transfer enriched to depleted	ED	Transfer of nuclear material from enriched uranium to depleted uranium, e.g. by blending or irradiation
Transfer enriched to natural	EN	Transfer of nuclear material from enriched uranium to natural uranium, e.g. by blending or irradiation.
Shipper - Receiver Difference (S/R D)	DI	Shipper/receiver difference - the difference between the quantity of material in a batch as stated by the shipper and as measured by the operator of the receiving material balance area.
Rebatching plus	RP	Increase of the quantity of a batch due to rebatching.
Rebatching minus	RM	Decrease of the quantity of a batch due to rebatching.

12. 'KMP Code': the name or code should be given of the flow key measurement point where the batch reported was measured, received or shipped.

13. 'Name or number of batch': the designation (marking) of the batch reported on should be given. This is particularly important if item accountability is used.

14. 'Number of items in batch': the number of similar items of which the batch consists should be given, e.g. the number of drums, fuel rods, containers.

15. 'Material description': this entry should be used to describe the nuclear material by the use of four keywords or codes:

(a) First and second keywords:

First Keyword	Second Keyword	Code
solutions	nitrate	LN
	fluorides	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 samples	-	SS
scrap	homogeneous	SH
	heterogeneous (cleanouts, clinkers, sludges, fines, other)	SN
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) Third keyword: this keyword specifies the type of container (items). One of the following words or codes should be used:

Keyword	Code
cylinder	C
pack	P
drum	D
discrete fuel units*/	S
bird cage	B
bottle	F
Tank or other container	T
other	O

(c) Fourth Keyword: for further characterization of the material, one of the following words should be used:

Keyword	Code
fresh nuclear material	F
irradiated nuclear material	I
retained waste	W
irrecoverable material	N
recoverable material	R

*/ For fuel only. The keyword denotes that the number of items reported is the number of discrete fuel units, as identified by the second keyword.

Accountancy Data

16. 'Element': the element name or code of the quantities given in the subsequent columns should be given. The following codes should be used:

	Code
depleted uranium	D
natural uranium	N
enriched uranium	E
plutonium	P
thorium	T

The element code to be reported in the case of a category change (inventory change code EN, DE, ND, NE, ED, or EN) is that of the 'higher' category (E > N > D).

17. 'Weight of element': the weight of the element referred to in the previous paragraph should be given, rounded */, if desired to the nearest integer of the unit as specified in the next column. These units are:

*/ roundings: digits 1-4 should be rounded off
digits 5-9 should be rounded up

(a) Grams of plutonium;

(b) Grams of total uranium for enriched uranium;

(c) Kilograms of thorium, natural uranium and depleted uranium.

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

18. 'Unit - KG/G': the unit used in the previous column should be given.

19. 'Weight of fissile isotopes': for enriched uranium (element code E) the combined weight of the isotopes U235 and U233 should be given rounded */ if desired to the nearest gram. For other categories of uranium (element codes N and D) the weight of fissile isotopes may be required if so agreed and specified in the relevant Facility Attachment.

20. 'Isotope code': to indicate the kind of fissile isotope of which the weight is given in accordance with the previous paragraph, one of the following codes should be used:

	Code
For fissile isotope content of U235 only	G
for fissile isotope content of U235 plus U233	J
for fissile isotope content of U233 only	K

21. 'Measurement basis': this column serves for the indication whether or not the reported batch data are based on measurements made at the MBA and, if not, what they are based on. One of the following keywords or codes should be used:

Keywords	Code	Explanation
measured	M	the batch data are based on measurements made at the MBA, including MBPs on its boundary
measured elsewhere	N	the batch data are based on measurements made at another MBA
tagged	T	the batch data are based on measurements previously made at the same MBA and have been reported for that MBA in an ICR or PIL and the measurements have not been repeated
labelled	L	the batch data are based on measurements previously made at another MBA and have been reported for the present MBA in an ICR or PIL and the measurements have not been repeated.

In the case of a category change (inventory change code DN, DE, ND, NE, ED or EN), the measurement basis code is M.

*/ rounding: digits 1-4 should be rounded off
digits 5-9 should be rounded up

22. 'Concise note': not applicable.

23. 'Correction': this column is used when it is necessary to correct an entry in an earlier MCR, by giving the number of the earlier report and that of the entry therein which needs correction. The remainder of this line should give all the information in respect of this entry as it should now read so that the entire line of the original entry is replaced. If the correction consists in adding one or more lines to the original report, the line numbers indicated in these columns should be the numbers of the last entry line in the original report plus 1, 2, etc. (up to and not more than 8 entries). If the correction consists in deleting a line, the original entry should be replaced by a line containing zero quantities.

Reasons for corrections should be given in concise notes.

Isotopic Data

Paragraphs 24 to 28 refer to the version R.01.2 only.

24. 'To entry number': in this column the entry number of the related batch data should be repeated in order to permit the related data to be connected; thus, uranium and plutonium must be entered on different lines, with a reference to the respective line entry above.

25. 'Contin.': not applicable.

26. '%U233 ..... % Pu 242': the weight percentages of the indicated isotopes should be given as specified in the relevant Facility Attachment.

. For the application of isotope correlation techniques an accuracy of at least two decimals is required.

27. 'Measurement basis': see paragraph 21 above.

28. 'Correction': see paragraph 23 above.

EXPLANATION OF FORM R.02 - PHYSICAL INVENTORY LISTING

29. This report form should be used for Physical Inventory Listings (PIL) only. To each Material Balance Report or set of Material Balance Reports pertaining to the same period a Physical Inventory Listing is to be attached. Since the information to be given in form R.02 is specified in the same way as that to be given in R.01, the explanations in respect of form R.02 consist of references to the relevant paragraphs of R.01.

Heading Information

30. These items are to be handled as those for R.01: see paragraphs 2 - 6.

Material (Batch) Identification Data

31. 'Entry no.': see paragraph 7.

32. 'Continuation': not applicable.

33. 'KMP Code': as in paragraph 12, but for inventory key measurement point.

34. 'Name or number of batch': see paragraph 13.

35. 'Number of items in batch': see paragraph 14.

36. 'Material description': see paragraph 15.

Accountancy Data

37. 'Element': see paragraph 16.

38. 'Weight of element': see paragraph 17.

39. 'Unit KG/G': see paragraph 18.

40. 'Weight of fissile isotopes': see paragraph 19.

41. 'Isotope code': see paragraph 20.

42. 'Measurement basis': see paragraph 21.

43. 'Correction to': see paragraph 23.

EXPLANATIONS OF FORM R.03 - MATERIAL BALANCE REPORTS

44. This report form should be used for Material Balance Reports (MBR) only. Since the information to be given in form R.03 is to a large extent specified in the same way as that to be given in R.01, the explanations in respect of form R.03 consist of references to the relevant paragraphs of form R.01.

NOTE: Unless otherwise indicated in the relevant Facility Attachment, separate MBRs shall be prepared for each category of nuclear material as listed in paragraph 16 above.

Heading Information

45. These items are to be handled as for form R.01: see paragraphs 2 - 6.

Column Description

46. 'Entry number': see paragraph 7.

47. 'Continuation': not applicable.

48. 'Entry name': in this column the following keywords or their codes should be used, in the sequence indicated as applicable for the type of MBA in question:

Keywords	Code	Explanation
Beginning physical inventory	PB	Beginning physical inventory should be equal to the ending physical inventory of the previous report.
(Inventory changes: for keywords and codes relating to various types of inventory change, see paragraph 11 of these explanations.)		For each type of inventory change, as applicable for the MBA in question, one consolidated entry should be made for the entire reporting period; list first increases in the inventory and then decrease therein; receipts of nuclear material at the facility should be entered on shipper's data.
Adjusted ending book inventory	EA	Ending book inventory including S/RD (if applicable).
Ending physical inventory	PE	
Material Unaccounted For (MUF)	MF	Material unaccounted for - should be calculated as the difference between adjusted ending book inventory and physical inventory.
Rounding adjustment	RA	Quantity required to make the rounded sum equal to the sum of the rounded terms. This is given only for the adjusted ending book inventory.

49. 'Element': see paragraph 16.

50. 'Weight of element': see paragraph 17.

51. 'Unit KG/G': see paragraph 18.

52. 'Weight of fissile isotopes': see paragrah 19.

53. 'Isotope Code': see paragraph 20.

54. 'Correction': see paragraph 23.

Code 11 PROVISION OF INFORMATION BY THE UNITED KINGDOM IN ACCORDANCE WITH ARTICLE 14 OF THE AGREEMENT

Code	Reference (Articles)		Subject	Time limit
	Agreement	Protocol		
11.1	1(d),14		Despatch of advance notification of withdrawal of nuclear material from the scope of the Agreement for national security reasons. See Code 11.2 for details of information to be transmitted.	To reach the Age and the Communit 10 days before t material is to b withdrawn unless otherwise specif in the relevant Facility Attachm

Note Information included under Code 11 shall be treated as confidential.

Code 11.2 - Model Agreement Reference (Articles)

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INFORMATION TO BE PROVIDED FOR ADVANCE NOTIFICATION OF INTENDED WITHDRAWAL OF NUCLEAR MATERIAL FROM THE SCOPE OF THE AGREEMENT FOR NATIONAL SECURITY REASONS

(1) Material Balance Area Code
(2) Installation
(3) Quantities
(4) Chemical Composition
(5) Enrichment or isotopic composition (if appropriate)
(6) Physical Form
(7) Number of items
(8) Description of containers and seals
(9) Shipment identification data.
(10) Date of notification
(11) Name of authorised person on behalf of United Kingdom

UNITED KINGDOM FACILITIES LIST

Provided in accordance with Article 1(b) of the Agreement between the United Kingdom of Great Britain and Northern Ireland, the European Atomic Energy Community and the International Atomic Energy Agency for the application of Safeguards in the United Kingdom of Great Britain and Northern Ireland in connection with the Treaty on the Non-Proliferation of Nuclear Weapons Signed in Vienna on 6 September 1976.

BRITISH NUCLEAR FUELS LTD

British Nuclear Fuels Ltd Windscale Works
Sellafield
Seascale
CUMBRIA CA20 1PG

British Nuclear Fuels Ltd Springfields Works
Salwick
PrestonLANCASHIRE PR4 OXJ

British Nuclear Fuels Ltd Capenhurst Works
Capenhurst
Chester
CHESHIRE CH1 6ER

British Nuclear Fuels Ltd Chapelcross Works
Annan
Dumfrieshire
SCOTLAND DG12 6RF

UNITED KINGDOM ATOMIC ENERGY AUTHORITY

UKAEA Atomic Energy Establishment Winfrith
Dorchester
DORSET DT2 8DH

UKAEA Windscale Nuclear Power Development Laboratories
Sellafield
Seascale
CUMBRIA CA20 1PG

UKAEA Dounreay Nuclear Power Development Establishment
Dounreay
Thurso
CAithness
SCOTLAND KW14 7TZ

UKAEA Springfields Nuclear Power Development Laboratories
Salwick
Preston
LANCASHIRE PR4 OXJ

UKAEA Atomic Energy Research Establishment Harwell
Harwell
Didcot
OXFORDSHIRE OX11 ORA

CENTRAL ELECTRICITY GENERATING BOARD

CEGB Bradwell Nuclear Power Station
Bradwell-on-Sea
Nr Southminster
ESSEX CM0 7HP

CEGB Berkeley Nuclear Power Station
Berkeley
GLOUCESTERSHIRE GL13 9PA

CEGB Berkeley Nuclear Laboratories
CEGB Research Department
Berkeley
GLOUCESTERSHIRE GL13 9PB

CEGB Dungeness 'A' Nuclear Power Station
Romney Marsh
KENT TN29 9PP

CEGB Dungeness 'B' Nuclear Power Station
Romney Marsh
KENT TN29 9PP

CEGB Hartlepool Nuclear Power Station
Tees Road
Hartlepool
TEESIDE TS25 2BZ

CEGB Hinkley Point 'A' Nuclear Power Station
Nr Bridgewater
SOMERSET TA5 1UD

CEGB Hinkley Point 'B' Nuclear Power Station
Nr Bridgewater
SOMERSET TA5 1UD

CEGB Oldbury Nuclear Power Station
Thornbury
Nr Bristol
AVON BS12 1RQ

CEGB Sizewell Nuclear Power Station
Leiston
SUFFOLK IP16 4UE

CEGB Trawsfynydd Nuclear Power Station
Trawsfynydd
Gwnedd
NORTH WALES LL41 4DT

CEGB Wylfa Nuclear Power Station
Cemaes Bay
Anglesea
Gwnedd
NORTH WALES LL67 0DH

SOUTH OF SCOTLAND ELECTRICITY BOARD

SSEB Hunterston 'A' Nuclear Power Station
West Kilbride
Ayrshire
SCOTLAND KA23 9QT

SSEB Hunterston 'B' Nuclear Power Station
West Kilbride
Ayrshire
SCOTLAND KA23 9QT

UNIVERSITIES

University of London Reactor Centre
Silwood Park Sunninghill
Ascot
BERKSHIRE SL5 7PY

Queen Mary College Research Reactor
University of London
Mile End Road
LONDON E1 4NS

Scottish Universities Research and Reactor Centre
East Kilbride
GLASGOW G75 0QU

Universities Research Reactor Risley
Universities of Liverpool and Manchester
Risley
Warrington
CHESHIRE WA3 6AT

FIRMS

Imperial Chemical Industries Ltd Triga Reactor
Petrochemicals Division
PO Box No 2
Organic House
Billingham
TEESIDE TS23 1JB

CSW Engineering Ltd
11 Maxted Road
Hemel Hempstead
HERTFORDSHIRE

Pickford, Holland & Co Ltd
Hayes Lane Works
Lye
Stourbridge
WEST MIDLANDS DY9 8PH

NOTE

Article 1 of the Agreement provides that certain facilities or parts thereof in the UK may be excluded at any time for national security reasons. Certain parts of some of the above facilities are excluded from the scope of the Agreement for such reasons.

RESTRICTED

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LIST OF FACILITIES IN THE UNITED KINGDOM DESIGNATED PURSUANT TO ARTICLE 78(a) OF THE AGREEMENT

GENERAL PART

(Annex II)

THE AGREED INDICATIVE QUESTIONAIRE, REFERRED TO IN ARTICLE II OF THE PROTOCOL. THIS INDICATES THE DESIGN AND OTHER INFORMATION TO BE PROVIDED FOR THE PREPARATION OF FACILITY ATTACHMENTS

A. REACTOR FACILITIES

Date of information .....

IDENTIFICATION OF THE FACILITY

1. Name
2. Location
3. Owner (legally responsible body)
4. Operator (legally responsible body)
5. Present status (in operation or expected date of start of operation)
6. Purpose and type of facility
7. Operating mode of facility influencing its throughput. (Shift system adopted, approximate days of operating time per year, etc.)
8. Layout of facility site. Map showing perimeters and premises of the facility in the form of a site layout; buildings, roads, rivers, railways, etc.
9. Layout of facility :
   - (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.
10. Additional main facility data :
   - (a) rated thermal output per reactor for continuous operation;
   - (b) source and special fissionable material;
   - (c) initial core enrichments;
   - (d) moderator
   - (d) coolant.

GENERAL ARRANGEMENT OF THE FACILITY 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 foreseen to be a routine operation.)

12. Fuel material **/ (including nuclear 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 facility (state briefly material, purpose and way of using material, e.g. booster rods).

Flow of Nuclear Material

16. Schematic flow sheet for the nuclear material showing points where nuclear material is identified or measured, material balance areas and inventory locations used for material balance accountancy and estimated range of inventories of nuclear material in these areas under normal operating conditions.

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*/ Items 11-14 are to be answered for each type of assembly in the facility. Terminology consistent with 11 should be used.

**/ To be provided for those types of fuel for which non-destructive techniques for nuclear material assay are available.

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);
(f) approximate forecast of throughput and inventory and of receipts and shipments.

Handling of Nuclear Material

18. Layout and general arrangement drawings of fresh fuel storage, and description of packaging of fresh fuel.

19. Layout and general arrangement drawings of fesh 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) layout and general arrangement drawings;
(b) method of storage;
(c) design capacity of storage;
(d) equipment for handling irradiated fuel;
(e) minimum cooling time before shipment or 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. Schematic coolant flow diagrams as required for heat balance calculations (indicating pressure, temperatures and mass flow rates at major points).

NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL

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.

OTHER INFORMATION RELEVANT TO APPLICATION OF SAFEGUARDS

28. Organizational structure for material accountancy and control.

29. Information on the health and safety procedures which the Agency shall observe and with which the inspectors shall comply at the facility.

B. CRITICAL AND ZERO ENERGY FACILITIES

Date of information .....

IDENTIFICATION OF THE FACILITY

1. Name
2. Location
3. Owner (legally responsible body)
4. Operator (legally responsible body)
5. Present status (in operation or expected date of start of operation)
6. Purpose and type of facility.
7. Operating mode of facility influencing its throughput. (Shift system adopted, approximate days of operating time per year, etc.)
8. Layout of facility site. Map showing perimeters and premises of the facility in the form of a site layout; buildings, roads, rivers, railways, etc.
9. Layout of facility:
   - (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 facility 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.

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*/ To be provided for each critical assembly if more than one in the critical facility.

GENERAL ARRANGEMENT OF THE FACILITY INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTING CONTAINMENT AND SURVEILLANCE

Description of Nuclear Material

11. Description by means of drawings or otherwise of all nuclear material in facility 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 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 critical facility).

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 relevant assay

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*/ To be provided for those types of fuel for which non-destructive techniques for nuclear material assay are available.

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 inventory taking (both for item and/or mass accountancy including relevant 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. Organizational structure for material accountancy and control.

17. Information on the health and safety procedures which shall be observed and with which the inspectors shall comply at the facility.

C. CONVERSION, FABRICATION AND REPROCESSING FACILITIES

Date of information .....

IDENTIFICATION OF THE FACILITY

1. Name
2. Location
3. Owner (legally responsible body)
4. Operator (legally responsible body)
5. Present status (in operation or expected date of start of operation)
6. Purpose and type of facility
7. Operating mode of facility influencing its throughput. (Shift system adopted, approximate days of operating time per year, etc.)
8. Layout of facility site. Map showing perimeters and premises of the facility in the form of a site layout; buildings, roads, rivers, railways, etc.
9. Layout of facility:
   - (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 FACILITY INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTANCY CONTAINMENT AND SURVEILLANCE

Flow, Location and Handling of Nuclear Material

10. Schematic flow sheet for the nuclear material showing points where nuclear material is identified or measured, material balance areas and inventory locations used for material balance accountancy and estimated

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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) approximate forecast of throughput and inventory and of receipts and shipments.

11. In addition to 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 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 10 above, the description of the discard stage of the process should include:

(a) the discard method (disposal or storage).

14. Under equilibrium conditions for each flowsheet referred to in paragraphs 10 and 16 and assuming the modes of operation in paragraph 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 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:

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(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 plant 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 paragraph 15. Identify the items of equipment on the flowsheets of paragraphs 10 and 16 to be regarded as containers for nuclear material under physical inventory conditions. State the timing in the campaign programme of taking physical inventories.

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 paragraph 23; type and quality of standards used for analytical methods referred to in paragraph 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. Organizational structure for material accountancy and control.

27. Information on the health and safety procedures which shall be observed and with which the inspectors shall comply at the facility.

H3

D. STORAGE FACILITIES*/

Date of information .....

IDENTIFICATION OF THE FACILITY

1. Name
2. Location
3. Owner (legally responsible body)
4. Operator (legally responsible body)
5. Present status
6. Purpose and type of facility
7. Layout of facility. Structural containment, fences and access routes, if appropriate.

GENERAL ARRANGEMENT OF THE FACILITY 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 facility 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; and
(g) method(s) of identifying units.

Locations and Handling of Nuclear Material

9. Description by means of layout and general arrangement drawings or otherwise of:

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*/ Separate facilities not normally associated with enrichment, conversion, fabrication, reactors, and chemical reprocessing and recovery facilities.

**/ To be provided for those types of fuel for which non-destructive techniques for nuclear material assay are available.

(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.

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 relevant 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 inventory taking (both for item and/or mass accountancy including relevant assay methods), and expected accuracy.

OTHER INFORMATION RELEVANT TO APPLICATION OF SAFEGUARDS

12. Organizational structure for material accountancy and control.

13. Information on the health and safety procedures which shall be observed and with which the inspectors shall comply at the facility.

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Date .....

IDENTIFICATION OF THE FACILITY

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 facility not in operation):

   (a) date building starts;

   (b) date of facility acceptance;

   (c) commissioning date.

7. Purpose and type of facility (nominal separation capacity, enrichment facilities, etc).

8. Operating mode of facility influencing its throughput. (Shift system adopted, approximate dates of operating times in year, etc.)

9. Layout of facility site. Map showing perimeters and premises of the facility in the form of a site layout; buildings, roads, rivers, railways, etc

10. Layout of facility

    (a) structural containment, fences and access routes;

    (b) containment of certain parts of the facility;

    (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 FACILITY INCLUDING FEATURES RELATING TO MATERIAL ACCOUNTANCY, CONTAINMENT AND SURVEILLANCE

Flow, location and handling of nuclear material:

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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 facility 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 UF6 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.

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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.

Statisical 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. Organisation 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 facility.

F. FACILITIES USING NUCLEAR MATERIAL IN QUANTITIES EXCEEDING ONE EFFECTIVE KILOGRAMME

For any facility of a type not referred to in sections A to E using more than an effective kilogramme per annum.

1. Identification of the facility
2. General arrangement of the facility, including features relating to material accountancy, containment and surveillance.
3. Nuclear material accountancy and control system, including techniques for physical inventory taking.
4. 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 facilities coming under Sections C, D and E.