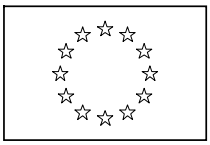

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 23.05.2001
COM(2001) 270 final

REPORT FROM THE COMMISSION

THIRD REPORT ON THE APPLICATION IN THE MEMBER STATES OF DIRECTIVE 92/3/EURATOM OF 3 FEBRUARY 1992 ON THE SUPERVISION AND CONTROL OF SHIPMENTS OF RADIOACTIVE WASTE BETWEEN MEMBER STATES AND INTO AND OUT OF THE COMMUNITY (1996-1998)

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INTRODUCTION AND SUMMARY

Council Directive 92/3/Euratom of 3 February 1992[1], on shipments of radioactive waste between Member States and into and out of the Community, introduced a system for the administrative supervision and control of such shipments, to supplement the requirements of the Directive laying down the basic safety standards for the health protection of the general public and workers against the dangers of ionising radiation[2].

Article 18 of the Directive requires the Member States to forward to the Commission reports on the implementation of the Directive and to supplement these reports with information on the situation regarding shipments within their respective territories. On the basis of these reports from the Member States the Commission is required to prepare a summary report for the European Parliament, the Council and the Economic and Social Committee.

This is the third Commission report made under Article 18 of the Directive. It has been established on the basis of contributions from the Member States and in consultation with the Advisory Committee established by Article 19 of the Directive. The report covers the period 1996 to 1998.. The first two reports were made in 1995 and 1998[3].

The general situation in the European Union as regards radioactive waste management and the transport of radioactive materials has been reviewed by the Commission in its Communications:

– Communication and fourth report on the present situation and prospects for radioactive waste management in the European Community[4];

– Communication from the Commission to the Council and to the European Parliament on the safe transport of radioactive materials in the European Community[5]

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The information received from the Member States indicates that:

– the Directive is applied in all Member States;

– the number of transfrontier shipments of radioactive waste is relatively small. In the period covered by the present report Member States reported the delivery of 63 authorisations; some authorisations are given for several shipments to be carried out over a time period that may exceed that covered by the present report. Also, in the period covered by the present report, shipments were carried out under authorisations given in the previous period;

– the Directive adequately ensures that transboundary shipments of radioactive waste take place only with the prior informed consent of the competent authorities of all the Member States involved;

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1 OJ L 35 of 12.2.1992

2 Council Directive 96/29/Euratom, replacing Council Directive 80/836/Euratom (OJ L 246 of 17.09.1980), as amended by 84/467/Euratom (OJ L 265 of 5.10.1984).

3 COM (95) 192 final and COM (1998) 778 final

4 COM (98) 799 final

5 COM (98) 155 final

– the difficulties anticipated by the Commission in its first report on the application of the Directive concerning national general bans on import of radioactive waste from Member States and reasons for refusals of individual shipments started appearing. The issue still needs to be clarified;

– Article 14 of the Directive emphasizes the right of a Member State to which irradiated nuclear fuel is exported for reprocessing to return to its country of origin waste arising from the reprocessing operation. However, one Member State points out that there are difficulties exercising this right.

– some practical problems have been identified by Member States; they were normally overcome in a pragmatic way by the competent authorities that progressively acquired experience applying the Directive. However, the Advisory Committee established by Article 19 of the Directive suggested to consider the opportunity of a partial revision of the standard document established by the Commission Decision of 1993[6].

– the implications of the entering into force of the 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management need to be analysed.

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As regards shipments within the territory of individual Member States, the Commission notes that the existing national provisions, notably those implementing the Directive laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation[7] allow the national competent authorities to monitor the movements of radioactive waste on their territory.

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Finally, no accidents leading to exposure of members of the public significant from the radiation protection point of view or to a significant release of radioactive substances to the environment and involving national or transboundary movements of radioactive waste were reported for the period covered by the report.

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6 Commission Decision of 1 October 1993 establishing the standard document for the supervision and control of shipments of radioactive waste referred to in Council Directive 92/3/Euratom (93/552/Euratom), OJ L 268, 29.10.1993, p. 83

7 Council Directive 96/29/Euratom, replacing Council Directive 80/836/Euratom (OJ L 246 of 17.09.1980), as amended by 84/467/Euratom (OJ L 265 of 5.10.1984).

PART A - INFORMATION ON THE IMPLEMENTATION OF DIRECTIVE 92/3/EURATOM (ARTICLE 18 FIRST PARAGRAPH)

1. FORMAL IMPLEMENTATION OF THE DIRECTIVE

Article 21 of the Directive requires the Member States to bring into force not later than 1 January 1994 the laws, regulations and administrative provisions necessary to comply with the Directive. The national provisions implementing the Directive are listed in this section.

Belgium

The Directive is implemented by the Arrêté Royal du 2 Octobre 1997 modifiant l'arrêté royal du 28 février 1963 portant règlement général de la protection de la population et des travailleurs contre le danger des radiations ionisantes et portant mise en vigueur partielle de la loi du 15 avril 1994 relative à la protection de la population et de l'environnement contre les dangers résultant des rayonnements ionisants et relative à l'Agence fédérale de Contrôle nucléaire, (Royal decree of 2 October 1997 modifying the royal decree of 28 February 1963 giving general rules for the protection of the population and of the workers against the dangers of ionizing radiation and partially implementing the law of 15 April 1994 on protection of the population and of the environment against the dangers resulting from ionizing radiation and on the Federal Agency for nuclear Control) published in the Moniteur Belge of 23 October 1997.

Denmark

The Directive is implemented by the publication of National Board of Health Order No. 969 of 13 December 1993, on international shipments of radioactive waste.

Germany

The Directive is implemented by the Atomrechtliche Abfallverbringungsverordnung (Decree on shipments of radioactive waste) of 27 July 1998, published in the BGB1 I of 31 July 1998, brought into force on 1 August 1998.

Greece

The Directive is implemented by the Presidential Decree Nº22 (Official Gazette Nº20/A/26.02.1997) on "Surveillance and control of shipments of radioactive waste between Greece and the other Member States, also to and from the Community."

Spain

The Directive was implemented on 27 November 1994 by the Real Decreto (Royal Decree) 2088/1994 of 20 October, published in the Boletin Oficial del Estado (Official State Bulletin) of 26 November 1994.

France

The Directive was implemented on 1 December 1994 by Decrée 94-853 of 22 September 1994 and the Arrêté of the same date (published in the Journal Officiel of 2 October 1994).

Ireland

The Directive was implemented on 15 September 1994 by the European Communities (Supervision and Control of Certain Shipments of Radioactive Waste) Regulations 1994 (Statutory Instrument No. 276 of 1994).

Italy

The Directive is implemented by the Decreto legislativo (the legislative Decree) No. 230 of 17 March 1995, published in the Gazzetta ufficiale della Repubblica Italiana (Official Journal) No. 136 of 13 June 1995.

Luxembourg

The Directive was implemented on 16 April 1994 by the règlement grand-ducal relatif au transfert transfrontalier de déchêts radioactifs (regulation on transfrontier shipments of radioactive waste), published in the Official Journal (Mémorial) A-No. 31 of 25 April 1994.

The Netherlands

The Directive is implemented by the Besluit in- uit- en doorvoer van radioactieve afvalstoffen, van 17 november 1993, Stb. 626 (Decree concerning the import, export and transit of radioactive waste), published in the Official Bulletin of Acts, Orders and Decrees No. 626 of 12 December 1993.

Austria

The Directive is implemented by the Radioactive Abfälle - Verbringungsverordnung - Rabf - VV (Decree on shipments of radioactive waste), published in the Bundesgesetzblatt für die Republik Österreich (Federal law Gazette) N. 44/1997.

Portugal

The Directive is implemented by Decreto-lei Nº138/96 (Decree-Law N°138/96) of 14 August 1996, published in the Diário da República, Nº188/96 of 14 August 1996 (Official Journal).

Finland

The Directive is implemented through:

(1) SÄTEILYLAKI (Radiation Act) 592/91 of 27.3.91, as amended by Act 1102/92 of 27.11.92 and by Act 1334/94 of 22.12.94

(2) SÄTEILYASETUS (Radiation Decree) 1512/91 of 20.12.91, as amended by Decree 1598/94 of 31.12.94

(3) YDINENERGIALAKI (Nuclear Energy Act) 990/87 of 11.12.87, as amended by Act 1420/94 of 29.11.94

(4) YDINENERGIA-ASETUS (Nuclear Energy Decree) 161/88 of 12.2.88, as amended by Decree 278/93 of 26.3.93 and by Decree 473/96 of 20.6.96

Sweden

The Directive is implemented through

(1) Ändringar i strålskyddslagen (1988:220) 20a och 24 §§ (amendments to the Radiation Protection Act), which entered into force on 1 July 1995

(2) Ändring i lagen (1984:3) om kärnteknisk verksamhet (5 a§ andra stycket) (amendment to the Nuclear Activities Act), which entered into force on 1 July 1995,

(3) Ändring i lagen (1991:34) om strategiska produkter (4§) (amendment to the Strategic Products Act), which entered into force on 1 July 1995,

(4) Statens strålskyddsinstituts föreskrifter (SSI FS 1995:4) om kontroll vid in- och utförsel av radioaktivt avfall (regulations of the Swedish Radiation Protection Institute on the supervision and control of imports and exports of radioactive waste), which entered into force on 17 January 1996.

United Kingdom

The Directive is implemented through the Statutory Instrument 1993 N°3031, ATOMIC ENERGY AND RADIOACTIVE SUBSTANCES, the Transfrontier Shipment of Radioactive Waste Regulations 1993 - Published on 2 December 1993.

2. DECLARATIONS BY THE MEMBER STATES

– Article 17 of the Directive requires Member States to forward to the Commission:

– the names and addresses of the competent authorities empowered to implement the provisions of the Directive

– their possible non-acceptance of the automatic approval procedure referred to in Article 6(4) of

– the Directive (clause of silence-consent)

2.1. Competent authorities

Belgium

(FR) Ministère des Affaires Sociales, de la Santé publique et de l'Environnement
Service de Protection contre les Radiations Ionisantes (SPRI)
Rue Ravenstein 36
1000 Bruxelles

(NL) Ministerie van Sociale Zaken, Volksgezondheid en Leefmilieu
Dienst voor Bescherming tegen Ioniserende Stralingen (DBIS)
Ravensteinstraat 36
1000 Brussel
Tel: (32-2) 289 21 11 or 289 21 81
Fax: (32-2) 289 21 12 or 289 21 82

Denmark

Statens Institut for Strålehygiejne
Knapholm 7
2730 Herlev
Tel.: (45) 44 54 34 54
Fax: (45) 44 54 34 50
E-mail: sis@sis.dk

Germany

Bundesausfuhramt (BAFA)
Referat 313
Frankfurterstrasse 29-35
65760 ESCHBORN
Tel.: (49) 6196 908398 / 908564
Fax: (49) 6196 908888

Greece

Greek Atomic Energy Commission
Aghia Paraskevi
153 10 ATHENS
Tel.: (30-1) 650 67 71
Fax: (30-1) 650 67 48

Spain

Dirección General de la Energía
Paseo de la Castellana, 160
28046 MADRID
Tel.: (34-91) 349 45 51
Fax: (34-91) 457 80 66

France

Ministère de l'économie, des finances et de l'industrie
Direction générale de l'énergie et des matières premières
Service des affaires nucléaires
101, rue de Grenelle
75353 PARIS Cedex 07
Tel.: (33-1) 43.19.33.06
Fax: (33-1) 43.19.25.00

Ireland

Radiological Protection Institute of Ireland (RPII)
3 Clonskeagh Square - Clonskeagh Road
DUBLIN 14
Tel.: (353-1) 269 77 66
Fax: (353-1) 269 97 37
E-mail: rpii@rpii.ie

Italy

(a) Ministero dell'Industria, del Commercio e dell'Artigianato
Direzione Generale Energia e Risorse Minerarie
Divisione XIII
Via Molise, 2
00187 ROMA

(b) Prefect or mayor or other local authority, as competent authority in its area

(c) ANPA (Agenzia Nazionale per la Protezione dell'Ambiente)
Via Vitaliano Brancati, 48
00144 ROMA
Tel.: (39-06) 50 07 1
Fax: (39-06) 50 07 2941

Luxembourg

Ministère de la Santé
Direction de la Santé
Division de la Radioprotection
Villa Louvigny
Allée Marconi
L - 2120 LUXEMBOURG
Tel.: (352) 478 56 70 – 72/ 77, 78
Fax: (352) 45 75 21Telex: 69553 RADPR Lu

The Netherlands

Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer
Directoraat-Generaal Milieubeheer
Directie Stoffen, Veiligheid, Straling / IPC 655
Afdeling Externe Veiligheid
(Ministry of Housing, Spatial Planning and the Environment
Directorate-General for Environment Protection
Directorate for Chemicals, External Safety and Radiation Protection / IPC 655
External Safety Division)
Rijnstraat 8, postbus 30945
NL-2500 GX DEN HAAG
Tel.: (31 70) 339 49 65
Fax: (31 70) 339 12 97

Austria

Under the division of responsibilities laid down in the Strahlenschutzgesetz (Austrian Radiation Protection Act) published in the Bundesgesetzblatt BGBI. (Federal Law Gazette) No. 227/1969, the respective areas of responsibility and the relevant competent authorities are as follows:

– medicine: the Bundeskanzleramt-Sektion VI (Federal Chancellery-department VI). By virtue of a "subsidiarity clause", this Ministry is also responsible for all matters which have not been expressly assigned to another department;

– trade and industry, mining: the Bundesministerium für wirtschaftliche Angelegenheiten (Federal Ministry for Economic Affairs);

– research and transport: the Bundesministerium für Wissenschaft und Verkehr (Federal Ministry for Science and Traffic);

– the education system: the Bundesministerium für Unterricht und kulturelle Angelegenheiten (Federal Ministry for Education and Culture);

– the testing of military equipment: the Bundesministerium für Landesverteidigung (Federal Ministry of Defence)

In addition, there is also a vertical distribution of responsibilities in which some responsibility for enforcing the Radiation Protection Act is assigned, through the delegation of federal authority, to relevant administrative bodies at district level (district authorities or municipal councils of towns/cities with their own statutes) and the heads of provincial governments. The specific responsibilities assigned to each authority are laid down in Section 41 of the Radiation Protection Act.

However, the **contact point** for applications concerning shipments into Austria which either deals with the applications itself where appropriate or forwards them directly to the competent authority is the:

Bundeskanzleramt
Sektion VI
Radetzkystraße 2
A-1031 Wien
Tel: (43 1) 711 72 ext.4127
Fax: (43 1) 718 65 95

Portugal

Under the responsibilities laid down by the Decree-Law Nº138/96 published in the Official Journal on 14 August 1996, that implements in Portugal the Directive 92/3/EURATOM, the competent authority is:

Instituto Tecnológico e Nuclear
E.N. 10, Apart. 21
P – 2686-953 SACAVEM
Tel.: (351 1) 955 00 21
Fax: (351 1) 994 19 95

Finland

Säteilyturvakestus (STUK)
(Radiation and Nuclear Safety Authority – STUK)
P.O. Box 14
FIN – 00881 – HELSINKI
Tel.: (358 9) 759881
Fax: (358 9) 75988500
Telex: 122691 STUK FI

Sweden

The Statens strålskyddsinstitut, SSI (Swedish Radiation Protection Institute) is the competent authority for the transport of radioactive waste excluding high-level nuclear waste from reprocessing and nuclear fissile material for which no further use is foreseen.

Swedish Radiation Protection Institute
SE-17116 STOCKHOLM
Tel.: (46 8) 729 7100
Fax: (46 8) 729 7108

The Statens kärnkraftinspektion, SKI (Swedish Nuclear Power Inspectorate) is the competent authority for the transport of high-level radioactive waste from reprocessing and nuclear fissile material for which no further use is foreseen.

Swedish Nuclear Power Inspectorate
SE-10658 STOCKHOLM
Tel.: (46 8) 698 8400
Fax: (46 8) 661 9086

United Kingdom

For England and Wales:
The Environment Agency
Rio House
Aztec West
Almondsbury
Bristol
UK-BS 32 4UD
Tel.: (44) 1454 624 098
Fax: (44) 1454 624 319

For Scotland:
The Scottish Environment Protection Agency
Erskim Court
The Castle Business Park
Stirling
UK-FK9 4TR
Tel.: (44) 1786 45 77 00
Fax: (44) 1786 44 80 40

For Northern Ireland:
Chief Radiochemical Inspector
The Industrial Pollution and Radiochemical Inspectorate
Calvert House
Department of the Environment for Northern Ireland
Environment and Heritage Service
Calvert House
23 Castle Place
Belfast
United Kingdom
BT1 1 FY
Tel.: (44) 1232 25 47 33
Fax: (44) 1232 25 47 00

2.2. Acceptance of the automatic approval procedure

Belgium, Denmark, Greece, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom informed the Commission that they do not accept the automatic procedure.

Germany, Spain and Ireland have indicated that they accept that procedure. Nevertheless, Spain shall suspend the periods laid down in Article 6 of the Directive if the Directorate-General for Energy is required to obtain a report from one or more other bodies before making its decision, in which case the European Commission and the applicant shall be informed of such a suspension.

3. INFORMATION ON SHIPMENTS OF RADIOACTIVE WASTE

The following information covers the period 1996-1998.

Authorisation for shipments of radioactive waste were delivered by Belgium (9 authorisations), Denmark (1 authorisation), Germany (23 authorisations of which 19 were used), , France (12 authorisations), Austria (1 authorisation), Portugal (1 authorisation), Sweden (19 authorisations), United Kingdom (1 authorisation). Some authorisations are given for several shipments to be carried out over a time period that may exceed that covered by the present report. Information on such shipments is given in Table 1.

During the period 1996-1998, some shipments were carried out under authorisations given in the previous period. Information on such shipments are given in Table 2.

The Greek authorities in some cases utilised the standard document to return sealed sources for revision to the supliers.

4. INFORMATION ON SIGNIFICANT CONDITIONS REQUIRED BY THE MEMBER STATES

Belgium requires that all those involved in a shipment of radioactive waste comply with the Belgian regulations as regards holding, transport, import and transit of radioactive substances.

The French Decree implementing the Directive specifies that compliance with the Decree itself is without prejudice to all other relevant French provisions, in particular as regards protection and control of nuclear materials, transport of dangerous goods and radiation protection.

In agreement with the consignors, the Swedish SSI has laid down weight limit conditions for the shipments of combustible radioactive waste to Sweden, so as not to exceed the Swedish incineration plant's capacity. A further requirement is that the packaging must comply with the conditions laid down in the authorisation for the operation of the incineration plant. After treatment, the ashes and non-combustible waste shall be returned to the country of origin within two years.

5. INFORMATION ON SIGNIFICANT CASES OF REFUSAL TO GIVE AUTHORIZATION/CONSENT

France points out that they had some difficulties returning to the Member State of origin the vitrified radioactive waste issued from the reprocessing of irradiated nuclear fuel. In some cases, following consultations with the Member State of destination for waste to be returned, the French authorities authorise the shipment of waste having a total activity considerably lower than requested by the operator. In other cases, authorised shipments sometimes cannot be effected. Such difficulties are not directly connected with the procedure laid down by the Directive but France insists that these difficulties are a major breach of the rights attributed to a Member State under Article 14 of the Directive.

Ireland points out that the UK refused to grant approval of one shipment of radioactive waste, in the form of Bactec vials containing carbon-14, from a licensed hospital in Ireland, on the basis of its general policy.

6. PROBLEMS EXPERIENCED WHEN USING THE STANDARD DOCUMENT ESTABLISHED BY COMMISSION DECISION 93/552/EURATOM[8]

Germany indicates the following problems:

– Long reply time from some Member States.

– Uncertainties resulting from the lack of reaction of Member States which refused the automatic procedure.

– Divergent interpretation of the definition of waste i.e. in the case of contaminated residues to be recycled.

France points out that in general communication via the standard document improves with the experience gained by the users. In some cases, it was facilitated by the use of electronic mail in parallel with the formal administrative procedure.

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[8] Commission Decision of 1 October 1993 establishing the standard document for the supervision and control of shipments of radioactive waste referred to in Council Directive 92/3/Euratom (93/552/Euratom) (OJ L 268 of 29.10.1993, p. 83)

Sweden indicates that problems have occurred mainly in connection with the interpretation of what is intended to be covered by the concept of radioactive waste. One particular source of difficulties is the expression “for which no use is foreseen”. In the case of metals for melting down, it is not always possible, before melting, sampling of the melted material and measuring, to decide whether some of the material can be re-used or not. Sweden normally regards this type of material as waste. If the melted product turns out to contain sufficiently low activity concentrations, the Swedish authorities may decide to exempt the material from classification as radioactive waste, thus authorising its re-use. This procedure has led to problems in respect of application of Directive 92/3, as other countries interpret the expression differently.

Sweden also feels that instructions are required as to how activity concentration should be calculated. What degree of homogeneity should be required? Does the activity concentration limit apply to a part of, or the whole consignment? How should activity concentration be determined in the case of surface contaminated material when some parts are often much more contaminated than others?

The instructions in the Directive and the standard document for the transmission of the different parts of the standard document between the parties concerned are in some cases unclear and worded in a contradictory manner.

The United Kingdom points out the lack of provisions as regards the language to be used. Delays have been experienced in receiving a copy of Sections 4 and 5 of the standard document following completion of the shipment.

Finland points out the exaggerate complexity of the standard document.

TABLE 1: Information on shipments of radioactive waste within the scope of Directive 92/3/Euratom authorised in the period 1996-1998

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Belgium B/7E.001.BE. 95.009	A	M/2	Ash and waste supercompacted	a) 0.4 b) 55	Co 60 Cs 134 Cs 137 U 234 U 235 U 238 Pu 239 Pu 240 Pu 241		Treatment of solid waste	Return following treatment	Road Rail	Belgium Germany	1
Belgium B/7E.001.BE. 95.013	A	I	Combustible waste	b) 700	H 3		Radiochemical research and production of H3 targets	Return following storage	Road Rail	Belgium Germany	1

9 Shipments between Member States
10 Import into the Community
11 Export from the Community
12 Transit through the Community
13 Activities are expressed in gigabecquerel, unless otherwise indicated. The multiples of the becquerel, their prefixes and symbols utilised in the table are the following: kilobecquerel, kBq = 10^3 Bq; megabecquerel, MBq = 106 Bq; gigabecquerel, GBq = 109 Bq; terabecquerel, TBq = 1012 Bq; petabecquerel, PBq = 1015Bq

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Belgium B/7E.001.BE. 96.001	A	M/6 4 shipments effected	Resins	a) 0.012 b) 200	Co 60 Cs 134 Cs 137 Mn 54 Zn 65		Nuclear activities	Final disposal	Road Rail	Belgium Germany	1
Belgium B/7E.001.BE. 96.003	A	I	Ash	a) 6.72 b) 0.44	U 238 U 234 Th 232 Ni 63		Nuclear activities	Return following treatment	Road	Belgium Germany	1
Belgium B/7E.002 BE.96.004	A	I	Waste supercompacted embedded in cement	a) 15 MBq b) 50	Co 60 Cs 137		Nuclear activities	Return following treatment	Road	Belgium France Italy	1
Belgium B/7E.001.BE. 97.002.	A	I	Ash	a) 20 MBq B) 2.2	Co 60 Cs 137 Mn 54		Nuclear activities	Return following treatment	Road Rail	Belgium Germany	1
Belgium B/7E.001.BE. 97.003	A	M/10 6 shipments effected	Ash, waste embedded in cement	a) 4 b) 640	Co 60 Cs 137 Mn 54 Cs 134		Nuclear activities	Return following treatment	Road Rail	Belgium Germany	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Belgium B/7E.001.BE. 97.005	A	I	Ash	a) 4.5 MBq b) 0.9	Co 60 Cs 137 Mn 54		Nuclear activities	Return following treatment	Road Rail	Belgium Germany	1
Belgium B/7E.001.BE. 97.006	A	M/4	Granules embedded in cement	a) 5 b) 70	Am 241 Cs 134 Cs 137 Co 60 U 235 U 238 Pu 238 Pu 239		Nuclear activities	Return following treatment	Road Rail	Belgium Germany	1
Denmark	A	I	Contamination in pump	a) 50.0	Co 58 Co 60 Mn 54 Ag 110m Fe 59		Nuclear industry	Return to Sweden of waste after decontaminatio n in France	Road Sea	Sweden Denmark Germany Belgium France and return	2
Germany D/AAb6-006	A	M/6	combustible waste	a) 0.37 b) 370	Co 60 Cs 137 Fe 55 Ni 63		Nuclear industry	Incineration	Road Rail	Germany Sweden	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Germany D/AAb5-001	A	M/6	Combustible waste	a) 0.15 b) 15	Co 60 Cs 137 Fe 55 Ni 63		Nuclear industry	incineration	Road Rail Road	Germany Sweden	2
Germany D/AAb5-006	A	M/12	Combustible waste	a) 0.6 b) 600	Co 60 Co 57 Co 58 Mn 54 Cr 51		Nuclear industry	Incineration	Road Rail Road	Germany Sweden	2
Germany D/AAb5-013	A	M/12	Solid waste (organic)	a) 1.0 b) 360	Co 60 Cs 137 Nb 95 Zr 95 Cr 51 H 3 Ag 110^{m} Mn 54 Co 58 Fe 55		Nuclear industry	incineration	Rail Road	Germany Sweden	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Germany D/AAb5-003	A	M/12	combustible waste	a) 0.6 b) 600	Co 60 Fe 55 Ni 63		Nuclear industry	incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-001	A	M/12	combustible waste	a) 0.60 b) 600	Co 60 Fe 55 Cs 137		Nuclear industry	incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-015	A	M/12	combustible waste	a) 0.06 b)60	Co 60 Cs 137		Nuclear industry	incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-017	A	M/3	combustible waste	a) 0.320 b) 320	Co 60 Ag 110^{m} Mn 54		Nuclear industry	incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-004	A	M/6	combustible waste	a) 0.48 b) 480	Co 60 Cs 137 Fe 55 Ni 63		Nuclear industry	incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-005	A	M/12	Combustible waste	a) 1.8 b) 1800	Co 60 Cs 137		Nuclear industry	incineration	Road Rail Road	Germany Sweden	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Germany D/AAb5-021	A	M/12	Combustible waste	a) 0.48 b) 480	Co 60 Cs 137 Fe 55 Ni 63		Nuclear industry	incineration	Road Rail Road	Germany Sweden	2
Germany D/AAb5-014	A	M/16	Combustible waste	a) 2.0 b) 2000	Co 60 Cs 137 Zn 65 Mn 54		Nuclear industry	incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-027	A	M/12	Combustible waste	a) 1.2 b) 1200	Co 60 Fe 55 H 3		Nuclear industry	incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-012	A	M/15	Combustible waste	a) 0.0015 b) 100	Co 60 Cs 137		Nuclear industry	Incineration	Rail Road	Germany Sweden	2
Germany D/AAb5-018	A	M/12	Combustible waste	a) 0.48 b) 480	Co 60 Cs 137 Fe 55 Ni 63 $Cd\ 113^{m}$ Pu 241		Nuclear industry	Incineration	Rail Road	Germany Sweden	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Germany D/AAb8-004	A	M/12	Combustible waste	a) 0.600 b) 200	Co 60		Nuclear industry	Incineration	Rail Road	Germany Sweden	2
Germany D/AAb8-009	A	M/12	Combustible waste	a) 0.06 b) 60	Co 60		Nuclear industry	Incineration	Rail Road	Germany Sweden	2
Germany D/AAb6-018	A	I	Dust residues from filtering devices	a) 86 TBq b) 2.7 TBq	Cs 137		Residues from melting of contaminated metal scrap	Return of residues from melting	Rail	Germany Austria Italy	2
Germany D/AAb6-020	A	I	Used Ion exchange resins	a) 0.35 MBq b) 3.2	Co 60 Cs 137 Fe 55 Ni 63		Nuclear industry	Research in treatment techniques	Road Sea Road	Germany France United Kingdom	2
France 96-01	A	I	Technological waste (solid)	b) 0.2	Co 60		Nuclear industry	Return following decontamination	Road	France Germany	1

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
France 96-04	A	I	Ion exchange resins (solid)	b) 27	Co 58 Cr 51 Co 60 Fe 59		Nuclear industry (pump decontamination)	Return to the power station of origin of the activity removed by the decontamination made to allow maintenance	Road	France Belgium	1
France 96-05	A	I	Ion exchange resins (solid)	b) 1.9	Co 58 Co 60		Nuclear Industry	Return to the power station of origin of the activity removed by the decontamination made to allow maintenance	Road	France Germany	1
France 96-06	C	I	Vitrified fission products (solid)	a) 5.62 PBq b) 1124.8 PBq	Cm 244 Am 241 Eu 154 Ru 106 Ce 144 Cs 137		Nuclear industry	Return of waste issued from reprocessing of irradiated fuel	Road Rail Sea	France Japan	1

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
France 97-01	A	M/3	Technological waste (solid)	a) 480 b) 68.00	U Pu Sr Y Sb Ra Cs Np Cm		Nuclear industry	Return of waste issued from reprocessing irradiated fuel	Road	France Germany	1
France 97-02	A	I	Ion exchange resins (solid)	b) 0.35	Co 60 Cs 137		Nuclear industry	Return to the power station of origin of the activity removed by the decontamination made to allow maintenance	Road	France Germany	1
France 97-04	C	I	Vitrified fission products (solid)	a) 8.44 PBq b) 1687.2 PBq	Cm 244 Am 241 Eu 154 Ru 106 Ce 144 Cs 137		Nuclear industry	Return of waste issued from reprocessing irradiated fuel	Road Rail Sea	France Japan	1

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
France 97-05	A	M/5		a) 210 b) 9 500	U Pu Sr 90 Y 90 Cs 137 Cs 134		Nuclear industry	Return of waste issued from reprocessing irradiated fuel	Road	France Germany	2
France 98-01	A	M/2 1 shipment effected	Ion exchange resins (solid)	b) 100	Co 58 Co 60 Mn 54 Fe 59		Nuclear industry (pump decontamination)	Return to the power station of origin of the activity removed by the decontamination made to allow maintenance	Road Sea	France Belgium Germany Denmark Sweden	2
France 98-02	A	I	Resins embedded in cement (solid)	b) 145	Cs 137 Co 60 Ni 63 Ca 134 Zn 65 Mn 54		Nuclear industry	Return after examination	Road	France Spain	1

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
France 98-03	A	I	Ion exchange resins (solid)	b) 67	Co 58 Cr 51 Co 60 Fe 59		Nuclear industry (pump decontamination)	Return to the power station of origin of the activity removed by the decontaminatio n made to allow maintenance	Road	France Belgium	1
France 98-06	A	I	Ion exchange resins (solid)	b) <100	Co 58 Cr 51 Co 60 Fe 59	b) <100	Nuclear industry (pump decontamination	Return to the power station of origin of the activity removed by the decontaminatio n made to allow maintenance	Road	France Belgium	1
Austria	A	I	Ash embedded in cement				Nuclear industry	Return following treatment		Austria Italy	1
Portugal	A	I	Inorganic and organic liquids	b) 0.055	C 14 H 3		Research	Return	Sea	Portugal Spain Germany	

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Sweden 864/2073/96	A	6 4 shipments effected	Ashes, combustible and non-combustible waste	a) 0.37 b) 370	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2080/96	A	6 1 shipment effected	Ashes, combustible and non-combustible waste	a) 1.5 b) 150	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2081/96	A	6 4 shipments effected	Ashes, combustible and non-combustible waste	a) 0.6 b) 600	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2065/96	A	6 3 shipments effected	Ashes, combustible and non-combustible waste	a) 0.57 b) 570	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2075/96	A	6 1 shipment effected	Ashes, combustible and non-combustible waste	a) 0.65 b) 235	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Sweden 864/2078/96	A	6 5 shipments effected	Ashes, combustible and non-combustible waste	a) 0.6 b) 600	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2067/96	A	6 2 shipments effected	Ashes, combustible and non-combustible waste	a) 0.4 b) 400	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2079/96	A	6 2 shipments effected	Ashes, combustible and non-combustible waste	a) 0.15 b) 150	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2071/96	A	6 2 shipments effected	Ashes, combustible and non-combustible waste	a) 0.1 b) 200	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2076/96	A	6 1 shipment effected	Ashes, combustible and non-combustible waste	a) 0.22 b) 215	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Sweden 864/2068/96	A	6 2 shipments effected	Ashes, combustible and non-combustible waste	a) 0.4 b) 400	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2074/96	A	6 2 shipments effected	Ashes, combustible and non-combustible waste	a) 1 b) 1000	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2069/96	A	6 1 shipment effected	Ashes, combustible and non-combustible waste	a) 0.14 b) 135	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2077/96	A	6 4 shipments effected	Ashes, combustible and non-combustible waste	a) 1 b) 1000	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2070/96	A	6 1 shipment effected	Ashes, combustible and non-combustible waste	a) 0.54 b) 535	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[9] B[10] C[11] D[12]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I) Number of shipments effected on 31/12/98	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[13] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] in the period 1996-1998 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not completed (3) cancelled or authorisation expired
Sweden 864/2066/96	A	6 3 shipments effected	Ashes, combustible and non-combustible waste	a) 0.1 b) 75	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2072/96	A	6 1 shipment effected	Ashes, combustible and non-combustible waste	a) 0.45 b) 45	Co 60 Cs 137 Mn 54 Zn 65		Nuclear industry	Return of waste following incineration	Road Rail Sea	Sweden Germany	2
Sweden 864/2406/96	A	1	Slag and dust	a) 1.7 MBq b) 1	Co 60 Cs 137		Nuclear industry	Return of waste following smelting	Road Rail Sea	Sweden Germany	1
Sweden 574/2038/98	B	1	Combustible waste	a) 0.2 MBq b) 13	Co 60 Co 58 Cs 137		Nuclear industry	Incineration of waste	Road Sea	Slovenia Austria Germany Sweden	1
United Kingdom	A	M/x	Ion exchange resin	b) 1.4	Co 60 Cs 137		Nuclear industry	Return following treatment	Road Sea	UK Germany	2

TABLE 2: Shipments authorised in the period 1994-1995 not completed at the end of 1995

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[14] B[15] C[16] D[17]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I)	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[18] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] up to 31/12/98 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not complete (3) cancelled or authorisation expired
Belgium											1
Germany D/AAb5-009	A	M/12	Combustible waste	a) 0.600 b) 600	Co 60 Cs 137 Cs 134 Mn 54 Zn 65 Cr 51 Others		Nuclear industry	Incineration	Rail Road	Germany Sweden	3

[14] Shipments between Member States
[15] Import into the Community
[16] Export from the Community
[17] Transit through the Community
[18] Activities are expressed in gigabecquerel, unless otherwise indicated. The multiples of the becquerel, their prefixes and symbols utilised in the table are the following: kilobecquerel, kBq = 10^3 Bq; megabecquerel, MBq = 106 Bq; gigabecquerel, GBq = 109 Bq; terabecquerel, TBq = 1012 Bq; petabecquerel, PBq = 1015Bq

Member State authorising the shipment/ registration number of the authorisation	Type of shipment A[14] B[15] C[16] D[17]	Shipment authorised per multiple authorisation/number of shipments (M/n); shipment individually authorised (I)	Nature of the waste and physico-chemical characteristics of the waste	Total activity authorised for the shipment(s)[18] (GBq) a)alpha b)beta/gamma	Main radionuclides	Total activity actually shipped[5] up to 31/12/98 (GBq) a)alpha b)beta/gamma	Type of activity giving raise to the waste	Purpose of the shipment	Mode(s) of transport	Ordered list of countries involved	Status of shipment(s) on 31/12/98 (1) completed (2) not complete (3) cancelled or authorisation expired
France 95-03	A	M/21 2 shipments effected	Vitrified fission products (solid)	a) 5.6 PBq b) 1 125 PBq	Cm 244 Am 241 Eu 154 Ru 106 Ce 144 Cs 137	a) 7.88 PBq b) 1574.8 PBq	Nuclear industry	Return of waste issued from reprocessing of irradiated fuel	Road Rail Sea	France Germany	3
France 95-02	A	I	Contaminated scrap metal loaded in a tipper	a) 170 MBq	Ra (various isitopes)		Industry	Recovery of the scrap by the owner of the tipper	Road	France BelgiumThe Netherlands	1

PART B - INFORMATION ON THE SITUATION WITH REGARD TO SHIPMENTS WITHIN THE TERRITORY OF INDIVIDUAL MEMBER STATES (ARTICLE 18, SECOND PARAGRAPH OF DIRECTIVE 92/3/EURATOM)

GENERAL

Article 18 second paragraph of the Directive requires the Member States to supplement their reports on the implementation of the Directive with information on the situation with regard to shipments within their respective territories. The following information was provided by Member States for the preparation of the present report covering the period 1996-1998.

In the period covered by the report, there have been no accidents involving shipments of radioactive waste that led to an exposure of members of the public significant from the radiation protection point of view or to a significant release of radioactive substances to the environment.

BELGIUM

- Authorities authorising internal shipments

The Dienst voor Bescherming tegen Ioniserende Stralingen (DBIS) van het Ministerie van Sociale Zaken, Volksgezondheid en Leefmilieu/Service de Protection contre les rayonnements ionisants du Ministère des Affaires Sociales, de la Santé Publique et de l'Environnement (Service Protection against Ionising Radiation of the Ministry for Social Affairs, Public Health and Environment) delivers the authorisations for executing the transport. The authorisations for transport are delivered directly to the carrier.

The Organisme National des Déchets Radioactifs et des matières Fissiles/Nationale Instelling voor het Beheer van Radioactief Afval en Splijtstoffen ONDRAF/NIRAS (National Agency for Radioactive Waste and Enriched Fissile Materials) is responsible for the management of radioactive waste in Belgium. NIRAS/ONDRAF orders the carrier to carry out the shipments. Such shipments are carried out only with the expressed approval of NIRAS/ONDRAF.

- National regulatory laws or regulations governing internal shipments

The shipments are regulated by the Royal Decree of 30 March 1981 on the establishment and operation of the National Agency for Radioactive Waste and Enriched Fissile Materials, as modified by a Royal Decree of 16 October 1991.

- Organisations carrying out the shipments

According to the above-mentioned Royal Decree, NIRAS/ONDRAF is in charge of the organisation of transport of radioactive waste from the sites of the individual producers. The Royal Decree specifies that this duty can be carried out directly or by contractors. The transport of radioactive waste in the period 1996-1998 was commissioned to TRANSNUBEL and to TRANSRAD.

- Modes of transport used

All transport operations were affected by road, most of them using 20 feet ISO-containers or 40 feet ISO-containers in combination with adequate packagings such as type A and type B.

Dedicated containers (TNB 167, TNB 178) were used for waste with high dose rate.

- Nature of the waste transported internally

Non-conditioned waste

– Solid and liquid radioactive waste of low, medium and high activity (alpha, beta, gamma)

– Waste from dismantling

– Disused sources

Conditioned waste

– Waste arising from the conditioning of the above-mentioned non-conditioned waste; waste conditioned in the nuclear power stations of Doel and Tihange. Conditioned waste is enclosed in a bitumen or concrete matrix.

- Information on internal shipments

In 1996, 316 shipments were carried out involving 1450 m³ of waste with a total activity of 20.2 PBq.

In 1997, 274 shipments were carried out involving 1350 m³ of waste with a total activity of 0.91 PBq.

In 1998, 282 shipments were carried out involving 1220 m³ of waste with a total activity of 0.58 PBq.

Denmark

- General information

Only waste from the medical, industrial and research related uses of radionuclides gives rise to national transfers of radioactive waste. The only place in Denmark where radioactive waste can be stored is at Risø National Laboratory, where an arrangement covering interim storage of low and intermediate level waste has been in operation since the late 1950s. This arrangement will be maintained until decisions are made concerning the final disposal of radioactive waste in Denmark. All waste that cannot be disposed of or left to decay where it is produced must thus be shipped to Risø for storage. (For sealed sources only the holder may also have the option of returning them to the manufacturer).

Danish regulations do not make such transfers of waste an activity requiring reporting by the producer of the waste. Risø is required to maintain records of all transfers of waste received, but only the yearly amounts need be reported to the authorities. In relation to the producers these operations are treated on a par with other procedures involving radionuclides, which in this context means that every person holding a licence to possess, use, store or transport

radioactive substances is responsible for the safe handling and disposal of any radioactive waste arising from the licensed activity.

- Information on internal shipments

The following table summarises the information on the waste delivered to Risø in the years 1996, 1997 and 1998.

	Tonnes of radioactive waste transferred	Max activity of radionuclides with halflives greater than 1 year (tritium not included)	Max activity of used Ir-192 gamma radiography sources
1996	5.54 t	1290 GBq	10.000 GBq
1997	3.0 t	298 GBq	9.510 GBq
1998	2.85 t	237 GBq	8.545 GBq

Germany

- General information

At present, radioactive waste originates from:

– The operation and decommissioning of nuclear power plants and facilities of the nuclear fuel cycle,

– Nuclear research centres,

– The use of radioisotopes in industry, research (universities) and medicine.

Radioactive waste arising from the nuclear power plants and facilities of the nuclear fuel cycle is mainly collected, pre-treated and conditioned on-site. In the nuclear research centres radioactive wastes are treated and stored on-site.

- Authority authorising internal shipments

In compliance with national legal regulations, the competent authority for the transport of radioactive waste by rail is the Eisenbahnbundesamt – EBA (Federal Office for Railways) whereas the transport of radioactive waste by road is authorised by the competent authorities of the Federal States. The transport of radioactive waste containing nuclear material, for example spent fuel, is authorised by the Bundesamt für Strahlenschutz – BfS (Federal Office for Radiation Protection).

- National laws or regulations governing internal shipments

The transport operations of radioactive waste must comply with the transport regulations as well as the legal nuclear regulations. These include the Gesetz über die Beförderung gefährlicher Güter (Law on the Transport of Dangerous Goods), the Atomgesetz – AtG (Atomic Energy Act) and the derived regulations as the Gefahrgutverordnung Strasse – GGVS (Regulation on Transport of Dangerous Goods by Road), the Gefahrgutverordnung Eisenbahn – GGVE (Regulation on Transport of Dangerous Goods by Rail), the Strahlenschutzverordnung – StrlSchV (Radiation Protection Ordinance) etc.

- Organisations carrying out the shipments

Transport of radioactive waste form nuclear power plants and nuclear fuel cycle facilities is exclusively carried out by the Deutsche Bahn AG. The transport is mainly by rail with recourse to road connections only in the case of facilities without rail connection. Shipments by road are carried out by various shipping companies.

- Modes of transport

The transport is carried out mainly by rail and also by road.

- Main disposal or storage sites

The Endlager für radioaktive Abfälle Morsleben – ERAM (Morsleben repository) was used for the disposal of short-lived low and intermediate level radioactive waste with concentrations of alpha emitters up to 0.4 GBq/m³. The emplacement of radioactive waste was stopped by court in September 1998. In the period from 1971 to 1998 a radioactive waste volume of 36 753 m³ and 6617 spent sealed radiation sources were emplaced. The annual volume of radioactive waste shipped to the Morsleben repository amounts to 5 471 m³ in 1996, 6 081 m³ in 1997 and 5 077 m³ in 1998.

Centralised interim storage facilities exist at Gorleben, Ahaus, Lubmin and Mitterteich. Decentralised interim storage facilities are run on-site by most waste producers. Collection depots operated on behalf of the Federal States are available for radioactive waste originating from industry, universities and medicine, i.e. smaller waste producers.

- Nature of the waste shipped

The radioactive waste transported internally was mainly solid or solidified low and intermediate level radioactive waste.

The characteristics of waste transported depend on origin, waste type, pre-treatment and conditioning. Typical waste forms are for example immobilised liquids and/or concentrates, contaminated and/or activated materials, residues from incineration, dried sludges, resins and others.

Information on internal shipments

In the period 1996 – 1998 the following low and intermediate level radioactive waste was transported to the Morsleben repository:

Year	**Number of shipments**	**Total volume (m³)**	**Total activity (TBq)**
1996	764	5471	13
1997	772	6081	18
1998	623	5077	34

Spain

- General information

Spent fuel from nuclear power stations is stored in their own on-site cooling ponds and is therefore not the subject of shipments, except in the case of Vandellós I, from where spent fuel is sent to France for reprocessing, and is therefore not a waste in terms of the Directive, the last shipment took place at the end of 1994.

As regards wastes of medium and low activity, the Empresa Nacional de Residuos Radiactivos, S.A. (National Agency for Radioactive Waste) ENRESA has established contracts with the producers in the nuclear installations and other facilities, which use radioactive substances. The producers must fulfil certain acceptance criteria for waste established by ENRESA and approved by the government. Compliance with these criteria is verified by ENRESA itself.

- Authority authorising internal shipments

The internal shipments of radioactive waste within Spain are authorised by Dirección General de la Energía (Directorate General for energy) of the Ministry of Industry and Energy, when it is needed.

- National laws or regulations governing internal shipments

The following regulations govern these shipments:

– Law 25/1964 on Nuclear Energy;

– Royal Decree 1749/1984 on air shipments;

– Royal Decree 879/1989 on rail shipments;

– Royal Decree 2088/1994 transposition of Council Directive 92/3/Euratom;

– Royal Decree 2115/1998 on road shipments;

– Royal Decree 2225/1998 amendment of Royal Decree 879/1989.

- Organisations carrying out the shipments

The shipment of radioactive waste in Spain is carried out by ENRESA, the Spanish Radioactive Waste Management Company, by its own means or by subcontracting a specialised company.

- Modes of transport used

The transport of radioactive waste within Spain is made by road. The Spanish Administration receives a monthly planning for the shipments to be carried out, including dates, characteristics, origins and volumes of waste. Any incidents that may occur during the transport must also be reported.

- Main disposal or storage sites

The main disposal site in Spain is El Cabril facility, a L/ILW near surface disposal facility, in operation since 1992.

- Nature of the waste shipped

The wastes transported to El Cabril are low and intermediate level wastes, which comply with the acceptance criteria established by ENRESA and approved by the Spanish Authorities. ENRESA has contracts with the waste producers, both with radioactive installations (small producers) and nuclear installations. At the end of 1998, 500 radioactive installations all over Spain had contracts with ENRESA for removing their wastes. The waste from nuclear installations came from 9 nuclear reactors units in operation and 1 in decommissioning process, 1 fuel fabrication plant, and 1 research centre.

The waste shipments from the radioactive installations to the El Cabril facility are solids, liquids, organic waste and spent sealed sources. The wastes from the nuclear installations are solidified waste and compacted waste.

- Information on internal shipments

In 1996, the total number of internal shipments of wastes from nuclear installations was 264, with a total volume of 1 966 m^3 and their activity 19 400 GBq. In 1997, the number of shipments was 265, with a total volume of 1 939 m^3 and an activity of 28 200 GBq. In 1998, the number of internal shipments was 238 with a volume of 1955 m^3 and an activity of 21 900 GBq.

Regarding the internal shipments of wastes from radioactive installations, the total number in 1996 was of 50, with a total volume of 137 m^3 and an activity of 50 900 GBq. In 1997, the number of shipments was 60, with a total volume of 153 m^3 and 565 000 GBq. In 1998, the internal shipments were 47, with a volume of 129 m^3 and an activity of 246 000 GBq. The activity increase during this period compared with the two previous years is due to shipments of Co 60 and Cs 137 sealed sources.

France

- General information

Responsibility for the transport of radioactive waste rests either with waste producers or with the Agence Nationale pour la Gestion des Déchets Radioactifs (the national agency for radioactive waste management) ANDRA, one of whose tasks is to operate surface storage installations. (Aube Storage Center)

There are two categories of producer:

– large producers i.e. the undertakings involved in the different stages of the nuclear fuel cycle (EDF, COGEMA, CEA etc.). Every year approximately 30 000 to 40 000 packages are shipped, corresponding to a total volume of about 13 000 to 21 000 cubic metres. The waste is shipped either by road or rail;

– small producers (hospitals, research centres), of which there are about 800. The annual volume of waste produced is about 300 cubic metres, which corresponds to about 1 000 packages.

The low and intermediate-level waste shipped to the storage facilities consists of technological wastes (gloves, plastics, metal parts, etc.) or process wastes (ion exchange resins, filters, etc.). It is placed in metal drums, in concrete canisters or containers, or in metal containers. The packages are prepared by the producers in accordance with specifications laid down by ANDRA. These specifications, which take into account the safety regulations for storage and plant management, are known to the national safety authority, i.e. the Directorate for the Safety of Nuclear Installations.

In order to ensure that the packages meet the specifications, ANDRA carries out checks during manufacture and rigorous testing (destructive of non-destructive) after delivery to the storage facilities.

All waste shippers are subject to annual approval by ANDRA. This approval relates both to staff and to transport vehicles. In addition, random checks are regularly carried out in order to determine whether shippers are complying with all the regulations.

Since 1994 , the Aube Storage Center is the only storage center actively operated.

- Information on internal shipments

Informations on the internal shipments effected in France during the years 1996-1998 are summarised in the following table.

Ear	1996	1997	1998
No. of road vehicles	611	535	603
No. of railways wagons	604	446	223
Volume (m^3)	21800	17100	12800

Greece

Greece has no disposal sites for radioactive waste. No internal shipments took place during the period covered by the present report.

Ireland

- Authorities authorising internal shipments

Authorisation as regards shipments of radioactive waste within Ireland are issued by the Radiological Protection institute of Ireland (RPII).

- National laws or regulations governing internal shipments

All shipments of radioactive substances in Ireland are governed by the Radiological protection Act, 1991 (General Control of radioactive Substances, Nuclear Devices and irradiating Apparatus) Order, 1993 (Statutory Instrument No 151 of 1993).

- Organisations responsible for carrying out the shipments

Irish law provides for the control by licence, to be obtained from the RPII, of activities that include the transportation of radioactive substances. The licence holders are responsible for carrying out the shipments of any radioactive waste that they generate.

- What modes of transport are used?

Shipments of radioactive waste in Ireland are carried out exclusively by road.

- Which are the main disposal or storage sites in your country?

For the period covering 1996, 1997 and 1998, licence holders disposing of waste containing radioactive substances did so at levels below the exemption values specified in Statutory Instrument No 151 of 1993 for the radionuclides involved. The sites of storage of radioactive waste in Ireland belong to the holders of the radioactive waste. At present, Ireland does not have a national storage site for radioactive waste.

- Nature of the waste shipped

The radioactive waste that is shipped in Ireland is low level aqueous and solid waste containing iodine-125. The solid waste is comprised of laboratory disposables such as plastic containers and gloves.

- Information on internal shipments

– The total number of internal shipments of radioactive waste for the three year period, 1996-1998 inclusive, was 15 (five in each year),

– The total volume of the 15 shipments was approximately 5 m^3,

– The total activity of the 15 shipments was less than 1 GBq.

Italy

- Authorities authorising internal shipments

Shipments of radioactive waste within the Italian territory are authorised either by the Ministero dell'Industria, del Commercio e dell'Artigianato, Direzione Generale Energia e Risorse Minerarie (Ministry of Industry, Trade and Craftsmanship, Directorate General Energy and Mines Resources), or by the local authorities according to the characteristics of the waste.

- National laws or regulations governing internal shipments

The shipments are governed by the Decreto legislativo (legislative Decree) of 17 March 1995 n° 230 and by the Guida Tecnica (Technical Guide) n° 26 issued by the Agenzia nazionale per le Protezione dell'Ambiente (National Agency for Environment Protection) ANPA.

- Organisations carrying out the shipments

The shipments are carried out by the organisations responsible for the management of the storage sites distributed on the national territory and by carriers licensed for the transport of radioactive materials.

- Nature of the waste shipped and information on internal shipments

Shipments within Italy mainly involve three types of waste:

– low level waste from the nuclear fuel cycle (cemented ashes). During the period covered by the present report, Italy received 4 shipments of such waste authorised by the Belgian, German and Austrian authorities;

– disused sealed sources of cobalt-60 and cesium-137;

– low level waste from medical diagnostic, industrial or research practices.

- Information on internal shipments

Cobalt-60, Cesium-137 and other disused sources

– 1996: there was 1 shipment of an hospital device with a source of Cs-137 with an activity of 35900GBq;

– 1997: there were 3 shipments of industrial and hospital devices with sources of Co-60 and Ra-Be with a total activity if 17450 GBq.

– 1998: No internal shipments of disused radiation sources took place.

Low level waste coming from medical, industrial of research use

– 1996: total volume = 670 m^3 with a total activity of 3390 GBq;

– 1997: total volume = 620 m^3 with a total activity of 5020 GBq.

– 1998: total volume = 580 m^3 with a total activity of 3485 GBq.

- Main disposal or storage sites

The wastes are in most cases transported to a few collection centres operated by companies such as Nucleco (Roma), Protex (Forli), Cemerad (Taranto) and Campoverde (Milano).

- Modes of transport used

Shipments are normally carried out by rail for the waste from the nuclear fuel cycle and by road for the other waste.

Luxembourg

Luxembourg has no facilities for treatment, conditioning or final storage of radioactive waste. For this reason, no internal shipments took place during the period covered by the present report.

The Netherlands

- Authority authorising internal shipments

Internal shipments are authorised by the Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (Ministry for Housing, Planning and the Environment).

- National laws or regulations governing internal shipments

Shipments are governed by the Kernenergie-wet; Besluit vervoer splijtstoffen, ertsen en radioactieve stoffen Stb. 1969, 405 (Nuclear Energy Act; Decree on Transport of Fissile Materials , Ores and Radioactive substances); Decree of 31 August 1987 designating COVRA as a collection service, Staatscourant 176).

- Organisation responsible for carrying out the shipments

The Centrale Organisatie voor Radioactief Afval (Central Organisation for Radioactive Waste) COVRA is responsible for carrying out the shipments.

- Modes of transport used

Shipments are carried out by road.

- Main disposal or storage sites

The main disposal and storage sites are: Spanjeweg 1 (Docknumber 8601), Industrieterrein Vlissingen-Oost.

- Nature of the waste shipped

Waste transported within the Netherlands are generally unconditioned waste from laboratories and hospitals and conditioned waste from nuclear facilities.

- Information on internal shipments

Informations on internal shipments in the Netherlands are summarised in the following table:

	1996	1997	1998
Number of shipments of unconditioned waste	112	81	74
Total volume of the unconditioned waste shipped (m^3)	275	279	193
Estimated number of shipments of conditioned waste	30	36	13
Total activity of the conditioned waste shipped (GBq)	32 525	100 864	2 983

Austria

- National laws or regulations governing internal shipments – Main disposal or storage sites

The management and disposal of radioactive waste in Austria is regulated on the basis of the fifth section of part III (paragraphs 89-92) of the Strahlenschutzverordnung (Decree on radiation protection), BGBR. Nr. 47/1972. In compliance with a decree issued by the former Ministry for Health and Environment Protection on 16.4.1982, radioactive waste are transported to the Seibersdorf Research Centre (ÖFZS) for storage and conditioning, unless the waste can be considered as non-active or can be disposed of by water discharge.

- Information on internal shipments

In the period 1996-1998 the following low or medium activity radioactive waste were transported in the Seibersdorf Research Centre:

Category of waste	1996	1997	1998
Combustible	13.7 tons	23.4 tons	14.5 tons
Non combustible	5.6 tons	23.7 tons	6,9 tons
Liquid	7.8 tons	9.6 tons	7,2 tons
Total	26.8 tons	56.7 tons	28,6 tons

More than half of the waste came from medical activities. The balance came from industry, research, laboratories of the International Atomic Energy Agency and from the Seibersdorf Centre itself.

Portugal

- Authority authorising internal shipments

The competent authorities for internal shipments of radioactive wastes are the General Directorate for the Health of the Ministry of Health and the Nuclear and Technological Institute of the Ministry of Science and Technology for spent sealed radioactive sources.

- National laws or regulations governing internal shipments

The supervision and control is subject to the Decree Law n°348/89 of 12 October 1989, laying down the basic protection measures of all activities involving radiological risk comprising the transport of all radioactive materials, and the Regulatory Law n°9/90 of 19 April 1990, which is the transposition into the Portuguese Law of the Directive 80/836/Euratom.

- Organisations carrying out the shipments

All shipments were carried out by the Department of Radiological Protection and Nuclear Safety (DPRSN) of the Nuclear and Technological Institute, except spent sealed sources shipped by the users when authorised for that.

- Modes of transport used

All shipments were made by road.

- Main disposal or storage sites

Waste that could not be disposed, incinerated or left to decay where it was produced was shipped to DPRSN where a facility for interim storage of radioactive waste has been in operation since the years 1960's. For spent sealed radioactive sources the holder may have the option of returning them to the manufacturer. The arrangement for interim storage will be maintained until decisions are made concerning the final disposal of radioactive waste

- Nature of the waste shipped

In Portugal only the utilisation of radioisotopes in industry, medicine and research gives rise to internal shipments of radioactive waste.

- Information on internal shipments

During 1996-1997:

(a) 140 internal shipments;

(b) 12 m^3 of equivalent conditioned waste;

(c) 1400 GBq.

During 1998:

(a) 60 internal shipments;

(b) 5 m^3 of equivalent conditioned waste;

(c) 20 GBq.

FINLAND

- Authority authorising internal shipments

The Radiation and Nuclear Safety Authority (STUK).

- National laws or regulations governing internal shipments

Radiation Act and DecreeNuclear energy act and Decree

Transport of Dangerous Goods Act

- Organisation responsible for carrying out the shipments

The Radiation and Nuclear Safety Authority (STUK)

- Modes of transport used

Shipments are by road.

- Main disposal or storage sites

Olkiluoto repository.

All material from the “old” waste repository in Helsinki were moved to the Olkiluoto repository in 1997.

- Nature of the waste shipped

Sealed sources removed from equipment, old industrial and medical radioactive waste (including tritium, radium, etc.).

- Information on internal shipments

There were 2 shipments of waste in 1997. No shipments took place in 1996 and 1998.

The volume of the waste was approximately 35 cubic metres, packages included.

The activity of the waste shipped was approximately 32000GBq.

Sweden

- Authority authorising internal shipments

The Swedish Radiation Protection Institute, SSI authorises shipments of radioactive waste, which do not consist of high-level waste from reprocessing or nuclear fissile material.

The Swedish Nuclear Power Inspectorate, SKI authorises shipments of radioactive waste consisting of high-level waste from reprocessing and nuclear fissile material .

- National laws or regulations governing internal shipments

The Swedish Radiation Protection Act. The Swedish Nuclear Activities Act.

- Organisations responsible for the carrying out internal shipments

In general, the consignor of the waste material is responsible for shipment. The majority of the internal waste shipments in Sweden are between the nuclear power plants (NPPs) and the SFR in Forsmark (disposal sit for low- and intermediate-level waste), Studsvik AB (waste treatment plant) and CLAB in Oskarshamn (interim storage site for spent nuclear fuel and certain intermediate- and high-level waste. All of these consignors and consignees are located on the Swedish coast. The Swedish Nuclear Fuel and Waste Management Company, a company which is jointly owned by the Swedish nuclear power companies, is responsible for transport operations. Most consignments are carried out using a special transport system consisting of purpose-built packagings, vehicles and dedicated vessel (M/S Sigyn)., and is mostly

- Modes of transport

Shipping of conditioned waste from the Ringhals NPP, the Barsebäck NPP, the Oskarshamn NPP and Studsvik AB treatment plant are made by a dedicated vessel (M/S Sigyn) to SFR in Forsmark. From the Forsmark NPPs the corresponding shipments go by road to SFR.

Shipment of core components with high specific activity are made by a dedicated vessel (M/S Sigyn) from NNPs to the interim storage site CLAB in Oskarshamn.

Large components with low specific activity are sent from NPPs to the smelting plant in Studsvik, either by a dedicated vessel (M/S Sigyn) or by road.

Combustible waste from NNPs and other consignors, e.g. hospitals and universities, are transported by road to the Studsvik AB treatment plant.

In addition, irradiated nuclear fuel is transported from the NNPs by a dedicated vessel (M/S Sigyn) to the CLAB interim storage site in Oskarshamn. These shipments have not been taken into account in this report.

- Main disposal or storage sites

The main sites in Sweden for the storage of radioactive waste are CLAB facility in Oskarshamn (interim storage site for spent nuclear fuel and certain intermediate- and high-level waste) and SFR in Forsmark(disposal site for conditioned low- and intermediate level waste from nuclear plants, medical activities and research).

Radioactive low-level waste is stored at Studsvik AB in connection with treatment.,

- Nature of the waste shipped

Most radioactive waste transported within the country is conditioned waste from NPPS which is being sent for final disposal.

In addition, there are shipments of combustible materials (protective clothing, protective footwear, gloves, rags, etc.) which are sent for incineration as well as equipment and metal scrap with induced activity or contamination which are to be decontaminated and/or melted down.

Radioactive waste from medical, research or technical activities mainly consists of discarded radiation sources and combustible waste.

- Information on internal shipments

Informations on the internal shipments to the SFR facility during the years 1996-1998 are summarised in the following table.

Year	1996	1997	1998
Number of shipments	41	23	21
Volume (m^3)	2674	1731	1563
Total activity in the whole period	Approx. 150 TBq		

United Kingdom

- Authority authorising internal shipments

Within the UK the following authorities are currently empowered to authorise internal shipments of radioactive waste:

The Environment Agency for shipments in England and Wales.

The Scottish Environment Protection Agency for shipments in Scotland; and

Chief Radiochemical Inspector, the Industrial Pollution and Radiochemical Inspectorate, Environment and Heritage Service in Northern Ireland.

For part of the period covered by this report the competent authorities were Her Majesty's Inspectorate of Pollution for England and Wales, Her Majesty's Industrial Pollution Inspectorate for Scotland and the Alkali and Radiochemical Inspectorate of the Department of the Environment for Northern Ireland.

- National laws or regulations governing internal shipments

The accumulation and disposal of radioactive waste in the United Kingdom (UK) is regulated by the Radioactive Substances Act 1993 (RSA 93). For the purposes of RSA 93, the transfer of radioactive waste from any site (nuclear industry or other) is treated as a 'disposal' from that site. Such an authorisation may be specific to a particular disposal, or cover a number of disposals over a defined period of time.

Exemption Orders (secondary legislation) provide that the provisions of RSA 93 in relation to authorisation for disposal of radioactive waste do not apply to certain categories of radioactive waste of very low activity. This is the case where the radioactive waste in question is (a) a solid, other than a closed source, which is substantially insoluble in water, the activity of which, when it becomes waste, does not exceed 0.4 Bqg^{-1}; (b) an organic liquid which is radioactive solely because of the presence of carbon-14 or tritium (or both), the activity of which when it becomes waste does not exceed 4 $Bqml^{-1}$; or (c) gas containing one or more radionuclides none of which have a half life greater than 100 seconds. In addition, certain other wastes are exempted from the need for authorisation under RSA 93 by Exemption Orders.

- Organisations responsible for carrying out the shipments

Within the UK no single agency is responsible for the shipment of radioactive waste. Responsibility for the transport of waste lies with the waste producer, who may use suitable contractors for this purpose.

Shipments of radioactive waste within the UK are required to comply with applicable national regulations and codes of practice for the transport of radioactive materials. Responsibility for ensuring compliance with these requirements rests with the Department of the Environment, Transport and the Regions (the Environment and Heritage Service in Northern Ireland).

- Modes of transport used

Internal shipments of radioactive waste within the UK are undertaken by road or rail transport.

- Main disposal or storage sites

The principal disposal site within the UK for low-level radioactive waste is operated by British Nuclear Fuels (BNFL) at Drigg in Cumbria.

Intermediate-level waste is normally stored at the point of generation or at a central storage facility operated by the United Kingdom Atomic Energy Authority (UKAEA) at Harwell, in Oxfordshire. There are some shipments of intermediate-level waste from Scottish sites for storage at Sellafield.

In addition a waste packaging facility is operated by Safeguard International at Harwell. This company packages radioactive waste from a number of producers, and sends these packages either to Drigg or to the UKAEA facility.

In Northern Ireland, low-level waste is mainly sent to local landfill sites for special precautions disposal. There are some shipments of very-low-level waste to landfill sites in England, Wales and Scotland. However, no data on the number and volume of these shipments are compiled by the competent authorities.

- Nature of the waste shipped

The majority of radioactive waste transported internally within the UK comprises low-level waste from the nuclear industry. Smaller quantities of low-level and very low-level waste are shipped from hospitals, universities, non-nuclear industry and research facilities. The waste is heterogeneous in nature, comprising contaminated protective clothing, building rubble, clinical waste, incinerator ash, etc.

- Information on internal shipments

Informations on the internal shipments effected in the UK during the years 1996-1998 are summarised in the following table:

Table - Shipments within the UK during 1996-1998

England and Wales (low-level waste shipments to Drigg)

Year	1996	1997	1998
No. of Consignments	591	491	774
Volume (m^3)	10463	9160	12639
Total activity (GBq)	4309.80	3461.13	17152.08

Scotland (low-level waste shipments to Drigg)

Year	1996	1997	1998
No. of Consignments	14	14	15
Volume (m^3)	282	278	267
Total activity (GBq)	95.267	158.5056	171.3685

Scotland (intermediate-level waste shipments to Sellafield)

Year	1996	1997	1998
No. of Consignments	26	20	19
Volume (m^3)	7.7	6.2	5.9
Total activity (GBq)	183081	42190	73652

For Northern Ireland:

Year	1996	1997	1998
No. of Consignments	14	12	13
Volume (m^3)	50	50	50
Total activity (GBq)	1.66	3.8	1.44