



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 24.05.1995  
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**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**

(presented by the Commission)

*Council Directive 92/3/Euratom of 3 February 1992<sup>1</sup>, 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 basic safety standards for the health protection of workers and the public against the dangers of ionizing radiation<sup>2</sup>.*

*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 Member State reports the Commission is required to prepare a summary report for the European Parliament, the Council and the Economic and Social Committee.*

*This is the first Commission report made under Article 18 of this Directive. It has been established on the basis of contributions from the Member States (including both the reports mentioned above and submissions made under Article 33 of the Euratom Treaty) and in consultation with the Advisory Committee established by Article 19 of the Directive. It includes information received by the Commission up to the end of November 1994.*

*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 third report on the present situation and prospects for radioactive waste management in the European Community<sup>3</sup>;*
- *Communication from the Commission to the Council and to the European Parliament on the safe transport of radioactive materials in the European Community<sup>4</sup>.*

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<sup>1</sup> OJ L-35 of 12.2.92.

<sup>2</sup> Council Directive 80/836/Euratom (OJ L-246 of 17.9.80), as amended by 84/467/Euratom (OJ L-265 of 5.10.84).

<sup>3</sup> COM (93) 88 final.

<sup>4</sup> SEC (89) 801 final.

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## 1. INTRODUCTION: BACKGROUND TO THE DIRECTIVE AND SUMMARY OF ITS MAIN PROVISIONS

The Directive's origins date back to 1987 when, following allegations made in respect of shipments of radioactive waste between certain Member States, the European Parliament set up a Commission of Inquiry, whose report led to a Resolution of the Parliament<sup>5</sup>, which called, *inter alia*, for changes in Community law to introduce a system of supervision over transfrontier shipments of radioactive waste.

A team of Commission experts subsequently evaluated the adequacy of the existing international and Community provisions governing the movement of radioactive waste in ensuring the safety of workers and members of the public. They noted that the physical arrangements for transport were in conformity with the IAEA's recommendations and provided an adequate level of safety at all times. However, some Member States were unable to keep track of radioactive waste throughout its lifetime and were therefore unable to control its movement satisfactorily. The Commission therefore made a proposal for a Directive laying down a common system of notification and consignment aimed at avoiding the risks associated with the competent national authorities losing control of movements of radioactive waste.

The Directive supplements the requirements of notification and authorisation laid down by the Council Directive establishing the basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation<sup>6</sup>. It is therefore based on Article 31 of the Euratom Treaty and was adopted in accordance with the procedure laid down by that article.

The Directive, adopted by the Council on 3 February 1992, introduces the following main provisions:

every person who intends to make a shipment of radioactive waste to another Member State must apply for authorisation to the competent authorities of the Member State of origin. These authorities will obtain the approval of those of the country of destination and of transit, if any; radioactive waste may not be exported to a destination south of 60 degrees south, or to a third state which is party to the Fourth ACP-EEC Convention, or which, in the opinion of the competent authorities of the country of origin, does not have the resources to manage the waste safely; where it is intended to import radioactive waste into the Community, the consignee must apply for authorisation to the competent authorities of the Member State of destination;

applications for authorisation and the various consultative processes involved shall be carried out using a standard document, prepared by the Commission in consultation with the Advisory Committee set up under Article 19 of the Directive<sup>7</sup>;

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<sup>5</sup> Resolution of 6 July 1988 (OJ C-235 of 12.9.88).

<sup>6</sup> See footnote 2.

<sup>7</sup> The Standard Document was established on 1.10.93 by Commission Decision 93/552/Euratom (OJ L-268 of 29.10.93).

the competent authorities of the Member States of destination or transit shall give their decision within 2 months of the receipt of the application, and in the absence of a response their consent may be assumed unless they have indicated that they do not accept the automatic approval procedure;

the competent authorities concerned must give reasons for any refusal to grant approval or to any decision to attach conditions to an approval;

a general notification procedure may be used for shipments having the same characteristics and shipped from the same holder to the same consignee;

the Directive does not affect a Member State's right to return wastes to their country of origin following processing or reprocessing operations.

Since the Directive was adopted, the Community has produced a Regulation on shipments of radioactive substances between Member States<sup>8</sup>. This Regulation was designed to meet the needs of radiation protection in the situation created by the implementation of the Internal Market, and specifically to ensure that the Member States continue to receive the information which they previously received through frontier controls. As far as radioactive waste is concerned, it was an interim measure and ceased to apply to waste shipments once Directive 92/3/Euratom came into force.

## 2. PROGRESS ON IMPLEMENTING THE DIRECTIVE IN THE MEMBER STATES

### 2.1 Procedures under Article 33 of the Euratom Treaty and questions arising

Article 33 of the Euratom Treaty requires the Member States to communicate to the Commission any draft national provisions to be laid down to ensure compliance with Community law on radiation protection. It also provides for the Commission to issue any recommendations on such provisions within three months of their receipt.

Within the general frame of the Article 33 procedure there were detailed discussions on the implementing legislation between the Commission and the Member States. By November 1994, eight Member States (Denmark, Germany, Spain, France, Ireland, Luxembourg, the Netherlands and the UK) had communicated draft provisions to implement the Directive under Article 33, and the Commission had made recommendations on these provisions.

In general the exchanges between the Commission and the Member States enabled any difficulties to be resolved. However the Commission's recommendations addressed a significant problem which arose in the cases of two Member States (Germany and Luxembourg), who wished to provide for a prior and general ban on imports of radioactive waste. In the view of the Commission a prior and general ban on radioactive waste imports would be contrary to the requirements of the Directive. The Directive establishes a complete system for the supervision of transfrontier shipments of radioactive waste, based on the obligation of prior notification by the holder. As Article

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<sup>8</sup> Council Regulation 1493/93/Euratom of 8 June 1993 (OJ L-148 of 19.6.93).

6.2 of the Directive makes clear, Member States may refuse to accept individual shipments but reasons must be given for such refusals, which must be made on a case by case basis. A similar reasoning was adopted by the Court of Justice in its judgement issued on 9 July 1992 in the case C - 2/90 (Commission v. Belgium), dealing with the application of Directive 84/631/EEC, on the supervision and control within the European Community of the transfrontier shipment of hazardous waste<sup>9</sup>. The same view was also taken in considering the applications from the potential new Member States in 1993-4<sup>10</sup>.

Consideration of the draft provisions submitted by the Member States also led the Commission to reflect on the way in which the Directive addresses the question of giving reasons for refusal to authorise a shipment. Article 6.2 requires that "reasons shall be given for any refusal to grant approval, or the attaching of conditions to approval, in accordance with Article 3." Article 3 states that "The transport operations necessary for shipment shall comply with Community and national provisions and with international provisions on the transport of radioactive material." The Directive thus does not specify exactly which provisions must be complied with. The Member States' implementing legislation has not much clarified the situation.

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<sup>9</sup> OJ L-326. Directive 84/631/EEC is repealed by Regulation (EEC) 259/93 of 1.2.93 (OJ L-30 of 6.2.93).

<sup>10</sup> The text of the Final Act with Finland includes the statement that "the Contracting Parties confirm that the EC legislation does not oblige a Member State to accept a specific shipment of radioactive waste from another Member State" (OJ C-241 of 29.8.94, page 390).

## 2.2 Transposition into national law: formal implementation

### Introduction:

Article 21.1 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. Three Member States (Denmark, the Netherlands and the UK) met this deadline. The current situation in each Member State is outlined in this section.

### Belgium:

Not yet implemented formally, but the Belgian authorities have assured the Commission that the provisions actually in force in respect of the importation, transit and transport of radioactive waste permit a strict application of all the provisions of the Directive, and that therefore its practical application in Belgium is assured. Steps are also being taken to formally implement the Directive by means of specific provisions in a Royal decree.

### Denmark:

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

### Germany:

Draft Regulation received under Article 33 on 25 November 1993. Commission's recommendations issued on 20 December 1993.

### Spain:

Implemented on 27 November 1994 by Royal Decree 2088/1994 of 20 October, published in the Official State Bulletin of 26 November 1994.

### France:

Implemented on 1 December 1994 by Décret 94-853 of 22 September 1994 and the Arrêté of the same date (published in the Journal Officiel of 2 October 1994).

### Greece:

A decree is in preparation.

### Ireland:

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:**

By means of an Act adopted in February 1994, Parliament has delegated to the government the power to implement the Directive. The intention is to implement the Directive formally within one year, and meantime to act under a circular.

**Luxembourg:**

Implemented on 16 April 1994 by a regulation, published in the Official Journal (Mémorial) A-No. 31 of 25 April 1994.

**Netherlands:**

Implemented by the 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.

**Portugal:**

The Portuguese authorities intend to submit a draft decree-law soon.

**United Kingdom:**

Implemented by the Transfrontier Shipment of Radioactive Waste Regulations 1993 (Statutory Instrument No. 3031).

**General:**

The Directive introduces relatively precise and detailed requirements and the implementing provisions enacted by the Member States in general simply repeat these requirements. Some particular points are however worthy of note:

in the case of Luxembourg, the regulation includes a provision preventing shipments into Luxembourg, except for transit purposes. The Commission considers this provision contrary to Community law, for the reasons explained in Section 2.1 above;

in the case of shipments into or transiting Spain the decree provides for the two-month period specified in Article 6.1 of the Directive to be interrupted at the instigation of the Spanish Energy Directorate. In such cases the applicant and the Commission will be informed;



in the case of the Netherlands, the relevant decree includes a number of material grounds for the refusal of shipments. There are two mandatory grounds for refusal (if it is clear that the licence required for the activity required under Dutch law will be refused, or if no declaration is submitted from a radioactive waste collection service recognised by the Ministers concerned that the waste will be accepted); and two optional grounds (that the transport route entails unnecessary risks to public safety or the environment, or if the activity is in conflict with the interests of environmental protection);

in the cases of the UK and Denmark, the implementing legislation creates a right of appeal to the administration against decisions of the competent authorities;

in the cases of the UK and Denmark, the implementing legislation creates criminal offences in connection with failure to comply with its requirements.

Where no national implementing legislation was in force by the due date, in the view of the Commission this Directive must be considered as having direct effect, since its provisions are unconditional and sufficiently precise. This view is based on the jurisprudence of the Court of Justice<sup>11</sup>.

### 2.3 Application in practice: situation in the Member States as regards shipments covered by the Directive

As mentioned above, the implementation date of the Directive was 1 January 1994. The Member States were required, by Article 18, to forward their first reports to the Commission on 31 January 1994. By the latter date no shipment covered by the Directive had taken place, according to the information available to the Commission. The Commission subsequently sought information on any shipments which might have taken place up to 30 June 1994. It was informed that on 11 May 1994 the competent authority in Belgium authorised the transfer of 160 m<sup>3</sup> of evaporation concentrates (liquids containing salts and substances in suspension), whose total activity amounted to a maximum of 2 G Bq of alpha radiation and 3 000 G Bq of beta and gamma radiation, from Mol to Karlsruhe in Germany. 5 such shipments, each of about 8.5 m<sup>3</sup>, had taken place up to 30 June. No other shipments covered by the Directive have been reported to the Commission for this period.

Article 17 of the Directive requires the Member States to forward to the Commission the names and addresses of the competent authorities responsible for the supervision of shipments. The information received by the Commission is attached as Annex I to this report, and has been published in the Official Journal<sup>12</sup>

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<sup>11</sup> Cases 41/71 (van Duyn), 148/78 (Ratti), 8/81 (Becker), 103/88 (Costanzo) and 152/84 (Marshall).

<sup>12</sup> OJ C 224 of 12.8.94.

The same Article also provides for the Member States to notify their possible non-acceptance of the automatic approval procedure referred to in Article 6 (4) of the Directive. The position regarding this matter is as follows:

Belgium, Denmark, Greece, Italy, France, the Netherlands, Portugal, and the United Kingdom have notified the Commission that they do NOT accept the automatic approval procedure.

Germany, Spain, Ireland and Luxembourg have indicated that they do accept this 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.

Article 18 of the Directive requires the Member States to supplement their reports on implementation with information on the situation with regard to shipments within their respective territories. The information provided is attached as Annex II to this report.

#### 2.4 Situation with regard to proceedings for non-compliance

There have been no proceedings for failure to comply against Denmark, the Netherlands or the UK.

Letters of formal notice were sent to the other 9 Member States on 13 April 1994, in view of their non-communication of national provisions which have been put into force to implement the Directive. These letters constitute the first step in infringement procedures under Article 141 of the Euratom Treaty: their purpose is to give the Member State concerned the opportunity to submit its observations before further action is considered by the Commission.

Since that date Spain, France, Ireland and Luxembourg have communicated measures to implement the Directive. In such cases it is the intention of the Commission to close the infringement proceedings. In the case of Luxembourg the proceedings have already been closed.

The Commission is also reviewing, in the light of the Court judgement referred to in Section 2.1 above, the French law No 91-1381, passed on 30 December 1991, Article 3 of which forbids the disposal of radioactive waste of foreign origin, and the Luxembourg regulation of 16 April 1994 mentioned in Section 2.2 above.

### 3. ADVISORY COMMITTEE ESTABLISHED UNDER ARTICLE 19

Article 19 of the Directive provides for the Commission to be assisted in performing certain tasks assigned to it by the Directive by an Advisory Committee, composed of representatives of the Member States and chaired by the representative of the Commission. The tasks concerned are:

the preparation of standard documents for applications for authorisation of shipments, for granting approvals and for acknowledgement of receipt;

the establishment of criteria to enable Member States to evaluate whether the requirements for export of radioactive waste are met; and

the preparation of regular reports to the European Parliament, the Council and the Economic and Social Committee.

The Advisory Committee has so far met on 6 occasions. In the light of its advice, a single standard document was prepared, to cover all the cases and steps in the system set up by the Directive. Criteria for waste exports, which equally reflect the advice of the Committee, have been drafted<sup>13</sup>. This summary report has also been prepared in the light of the Committee's advice.

### 4. SUMMARY AND CONCLUSIONS

As is clear from Section 2.2, formal implementation has presented some difficulties in most Member States. However Member States have assured the Commission that these difficulties are being resolved. Meantime the Directive has direct effect, as explained in Section 2.2. No practical problems have arisen. For the future the Commission, where appropriate in conjunction with the Advisory Committee, intends to -

- continue to ensure that the provisions of the Directive are implemented in national law;
- analyse any problems which become apparent during the operation of the Directive;
- prepare a second summary report on the implementation of the Directive, in the light of the reports which the Member States are required, under Article 18 of the Directive, to submit by 31 January 1996.

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These criteria, which do not form an essential part of the system set up by the Directive, had not been promulgated at the time of the preparation of the present report.

## ANNEX I

### COMPETENT AUTHORITIES FOR APPLICATION OF DIRECTIVE 92/3/EURATOM OF 3 FEBRUARY 1992 ON THE SUPERVISION AND CONTROL OF SHIPMENTS OF RADIOACTIVE WASTE

#### **Belgium:**

Ministère de la Santé publique et de l'Environnement  
Service de la Protection contre les Radiations Ionisantes  
CAE - Quartier Vésale V2/3  
1010 BRUXELLES

Tel: (32)-2-210 49 66/210 49 62  
Fax: (32)-2-210 49 67

#### **Denmark:**

Statens Institut for Strålehygiejne  
Frederikssundsvej 378  
3700 BRØNSHØJ

Tel: (45) 44 88 91 19  
Fax: (45) 44 53 27 73  
Telex: 35 333 ipharm

#### **Germany:**

Bundesaufsuhramt  
Postfach 51 60  
65726 ESCHBORN

Tel: (49) 6196-908398/908564  
Fax: (49) 6196-908800

#### **Spain:**

Dirección General de la Energía  
Paseo de la Castellana, 160  
28046 MADRID

Tel: (34)-1-349 45 15  
Fax: (34)-1-457 80 66

#### **France:**

Ministère de l'industrie, des postes et télécommunications et  
du commerce extérieur  
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 32 86  
Fax: (33)-1-43 19 25 00

**Greece:** Greek Atomic Energy Commission  
Agia Paraskevi  
153 10 ATHENS

Tel: (30)-1-651 51 94/651 62 09  
Fax: (30)-1-654 45 20

**Ireland:** Radiological Protection Institute of Ireland (RPII)  
3 Clonskeagh Square  
Clonskeagh Road  
DUBLIN 14

Tel: (353)-1-269 77 66  
Fax: (353)-1-269 74 37

**Italy:**

a) Ministero dell'Industria, del Commercio e dell'Artigianato  
Direzione Generale Fonti di Energia e Industria di Base  
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)  
(ex ENEA/DISP)  
V. Vitaliano Brancati, 48  
00144 ROMA

Tel: 06 50 07 1  
Fax: 06 50 07 2941

**Luxembourg:** Ministère de la Santé  
Direction de la Santé  
Division de la radioprotection  
1 avenue des Archiducs  
L - 1135 LUXEMBOURG

Tel: (352) 44 55 70/44 55 71/44 55 72  
Fax: (352) 45 47 94  
Telex: 60553 RADPR LU

**The Netherlands:** Ministerie van Sociale Zaken en Wergelegenheid  
Directoraat Generaal van de Arbeid  
Directie Gezondheid  
Afdeling Stralingshygiëne  
Sector Vergunningen  
Postbus 90804  
2509 LV DEN HAAG

Tel: (31)-70-333 65 29

Fax: (31)-70-333 40 41

**Portugal:** Direcção Geral da Saude  
Ministério da Saude  
Alameda D. Afonso Henriques 45  
1056 LISBOA

Tel: (351.1) 847.55.15

Fax: (351.1) 847.66.39 or 847.64.55

Telex: 64237

**UK:** Where the place of origin or destination of a shipment is in England or Wales, or where the UK is a country of transit and the point of entry of the shipment into the UK is in England or Wales:

HM Chief Inspector of Pollution  
(Transfrontier Shipment of Radioactive Waste Regulations 1993)  
43 Marsham Street  
LONDON SW1P 3PY

Tel: (44)-272-319633

Fax: (44)-71-276-8562

Where the place of origin or destination of a shipment is in Scotland, or where the UK is a country of transit and the point of entry of the shipment into the UK is in Scotland:

Chief Inspector  
HM Industrial Pollution Inspectorate  
Scottish Office Environment Department  
27 Perth Street  
EDINBURGH EH3 5RB

Tel: (44)-31-244-3060

Fax: (44)-31-244-2903

Where the place of origin or destination is in Northern Ireland, or where the UK is a country of transit and the point of entry of the shipment into the UK is in Northern Ireland:

The Chief Alkali and Radiochemical Inspector  
Calvert House  
23 Castle Place  
BELFAST BT1 1FY

Tel: (44)-232-254716  
Fax: (44)-232-254700

## ANNEX II

### SITUATION IN THE MEMBER STATES REGARDING INTERNAL SHIPMENTS

#### Introduction

Article 18 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. For this first summary report the Member States have provided general descriptions of their practices and some quantitative data on recent internal movements of radioactive waste, which are set out below. In all of the Member States, the national regulations governing the transport of radioactive waste are based on the International Atomic Energy Agency's Safety Series No. 6 (provisions for the safe transport of radioactive materials).

#### **Belgium:**

The transport of radioactive waste in Belgium is one of the competences of the National Agency for Radioactive Waste and Enriched Fissile Materials (NIRAS/ONDRAF). The shipments are carried out on behalf of the Agency or in agreement with the Agency, by carriers or waste producers duly authorised by the competent authority (Radiological Protection Office of the Ministry of Public Health and the Environment).

Domestic shipments in 1993 were as follows:

- conditioned waste: 51 shipments (487 cubic metres, 10 000 G Bq) to the storage facilities at the BELGOPROCESS site (Dessel);
- unconditioned waste: 288 shipments (1 627 cubic metres, 925 000 G Bq) to the treatment facilities of BELGOPROCESS or the pretreatment facilities of the National Institute for Radioelements (IRE, Fleurus).

#### **Denmark:**

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.

In 1992 3.3 tonnes of waste was transferred to Risø from off-site sources for storage. This waste contained less than 1100 GBq of radionuclides with half-lives of over one year (Tritium not included). In addition to this, 11550 GBq of Iridium in used gamma-radiography sources was received. For 1993 the corresponding figures were: 4.1 tonnes of waste containing less than 50 GBq and 9451 GBq of Iridium. The number of separate shipments is not available.

### Germany:

At present, radioactive waste in Germany comes under one of three categories:

- major nuclear research institutions
- nuclear power stations and nuclear facilities involved in the fuel cycle
- radioactive materials used in industry and nuclear medicine.

In the major nuclear research institutions, radioactive waste is treated and placed in intermediate storage on site and not transported. The amount of waste producing negligible heat from these research institutions in 1992 was approximately 1 700 m<sup>3</sup>.

Radioactive waste arising from the operation of nuclear power stations and from nuclear fuel cycle facilities is mainly collected, pre-treated and conditioned on site. The conditioned radioactive waste is transported to intermediate storage facilities within the Federal Republic of Germany, at Gorleben and at the EVU (electricity supply industries) storage facility in Mitterteich. In 1992 there were 47 shipments to Gorleben and 30 to Mitterteich. Transport of radioactive waste from nuclear power stations and nuclear fuel cycle facilities was carried out exclusively by the Deutsche Bahn AG. Transport was mainly by rail, with recourse to road connections only in the case of facilities with no rail connection. Compliance with requirements for the transport of radioactive waste was monitored by Länder authorities. Packaging for radioactive waste must undergo product assurance before being used for intermediate storage. This is carried out either by the competent technical inspection authority (TÜV) on the basis of test schedules or by the Bundesamt für Strahlenschutz Product Assurance Department on the basis of sample checks.

Collection points are available in the Länder for radioactive waste from industry and nuclear medicine. In 1992 this amounted to approximately 210m<sup>3</sup>, in the same year, fewer than 100 individual journeys were required to transport this relatively small amount of waste to the respective collection points.

In 1992 the volume of radioactive waste with negligible heat generation being shipped to the storage facility in Gorleben amounted to 1020 m<sup>3</sup> with an activity of 23 000 G Bq. 350 m<sup>3</sup> waste with negligible heat generation corresponding to 1 600 000 G Bq was shipped to the storage facility for radioactive wastes from nuclear power plants in Mitterteich.

In 1992 there were no shipments of thermogenic radioactive waste in the Federal Republic of Germany.

## Spain:

Shipments of radioactive waste within Spain are carried out by ENRESA (National Agency for Radioactive Waste).

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.

As regards wastes of medium and low activity, 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.

As at 31 December 1993 there were more than 400 non-nuclear installations in Spain with contracts for the disposal of waste with ENRESA. These installations are distributed widely throughout the country. There are a total of 13 nuclear installations: 10 nuclear power stations, based at 7 separate sites, a plant for producing uranium concentrates, a research centre and a fuel fabrication facility.

The transport of wastes within Spain is carried out by road, either by owned or contracted carriers, complying in all cases with the national Regulation on the Transport of Dangerous Goods by Road.

Wastes conditioned in accordance with the acceptance criteria already mentioned are transported to the El Cabril Centre for the conditioning of wastes of low and medium activity, which is situated in Córdoba province and is owned by ENRESA.

The government receives on a monthly basis a statement of the transfers to be effected with an indication of the dates, and the characteristics, origin and quantities of the wastes. Any incident which may occur during the transfer must also be communicated.

The wastes transferred from the non-nuclear installations to the storage centre are mixed solids, aqueous liquids, organic wastes and sealed sources.

During the year 1992 there was a total of 16 shipments, comprising 89 packages and 90 diverse containers of an average volume of 25 litres, whose total activity amounted to 57.97 GBq. In 1993 there was a total of 43 shipments, comprising 486 packages and 1343 diverse containers of an average volume of 25 litres, whose total activity amounted to 316.68 GBq.

The wastes sent from the nuclear installations to the storage centre are mixed solids, concentrated resins in cement matrices and supercompacted slabs. In 1992 there was a total of 23 shipments, comprising 853 packages with a total activity of 1.19 GBq. In 1993 there were 87 shipments, comprising 3555 packages with a total activity of 2.63 GBq.

Finally, in order to study the characteristics of wastes of medium and low activity, a small number of shipments of samples of wastes from nuclear reactors were sent to the Cadarache research centre in France and to CIEMAT.

In 1993 the total volume of internal shipments of radioactive waste was 1 100 m<sup>3</sup>, with a total activity of 2 900 G Bq.

### **France:**

Responsibility for the transport of radioactive waste rests either with waste producers or with ANDRA (the national agency for radioactive waste management), one of whose tasks is to operate surface storage installations.

There are two categories of producer:

Large producers (EDF, COGEMA, CEA and all the undertakings involved in the different stages of the nuclear fuel cycle). Every year approximately 40 000 packages are shipped, with a total volume of about 25 000 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 700 cubic metres, which corresponds to 5 000 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 which have to be drawn up by ANDRA. These specifications, which take into account the safety regulations for storage and plant management, are known to the national safety authority, which is the Ministry of Industry's 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 or 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.

The main storage sites are at La Manche and L'Aube. In 1993 the former received 31 600 tonnes of waste, with a total activity of 1 572 500 G Bq, and the latter 9 900 tonnes, with an activity of 33 600 G Bq.

#### **Greece:**

Greece has no disposal sites for radioactive waste and there were no internal shipments of radioactive waste in 1993.

#### **Ireland:**

During 1993, a small number of users transported, under licence from the Radiological Protection Institute of Ireland, research laboratory waste containing traces of radioactivity from sites of generation to sites of storage. The waste was in solid and liquid form and the principal radionuclide was iodine-125 at a total activity not exceeding 1 G Bq. These sites of storage belong to holders of the waste. At present, Ireland does not have a national storage site for radioactive waste.

#### **Italy:**

The main points to note are as follows:

- there is a system for authorising (interim) waste storage facilities under general radiation protection rules contained in Presidential decree No 185 of 13.2.1964 (when the new basic safety standards are transposed, specific provisions on waste storage and disposal facilities will be introduced);
- a waste classification and waste management instructions are set out in Technical Guide No 26, which is now being revised at ANPA-DISP (the National Environmental Protection Agency's Directorate for Nuclear Safety and Health Protection) and which constitutes a sort of "code of conduct".

The following information (rough estimates) has been taken from ANPA DISP's database on shipments.

Shipments within Italy mainly involve three types of waste:

- a) low-level waste from the nuclear fuel cycle  
(1993: a few dozen industrial containers, representing about 50 m<sup>3</sup>, with a total activity of about 40 G Bq);
- b) spent Co-60 sources  
(1993: around 10 packages with a total activity of approximately 65 000 G Bq);
- c) low-level waste arising largely from medical activities and, to a small extent, from industrial activities and scientific research (1993: approximately 23 000 packages (about 4 000 m<sup>3</sup>) with a total activity of about 1 500 G Bq).

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

#### **Luxembourg:**

Luxembourg has no facilities for treatment, conditioning or final storage of radioactive waste. For this reason, no internal shipments took place during 1993.

#### **The Netherlands:**

National transfers of radioactive waste are carried out by COVRA, the national agency for radioactive waste.

Most transports involve low and intermediate radioactive waste arising in nuclear power stations, research institutes, industry and hospitals. Transports are carried out according to the regulations of the "Besluit Vervoer splijtstoffen, erlsen en radioactieve stoffen" (Decree on the transport of fissile materials, ores and radioactive materials) which is based on the Nuclear Power Act.

Untreated wastes are packaged at the producer's site in drums that are selected and made available by COVRA. All transports are carried out by road with COVRA-owned trucks. Every single waste stream is identified by using codes for the drums, by registration of the contents and by using labels. The volumes of the drums for untreated waste range from 30 up to 100 litres. Most drums are made of steel, in some cases (liquids, etc.) with a plastic liner.

Treated wastes (e.g. cemented wastes from nuclear power stations) may also be packaged in concrete casks with volumes up to 1500 litres.

There are about 120 of these transports every year.

One special transport project was carried out in the period from November 1991 to April 1993, when COVRA removed from the old storage facilities on the Petten-location to the new treatment and storage facilities at the Sloe-location in the south-west of the country. A total amount of approximately 4 000 cubic metres of waste was consigned in 250 shipments (with 2 trucks each).

Spent fuel from nuclear reactors (research reactors or power reactors) is either sent abroad for reprocessing or put into interim storage at the site. Hence, there are no national transports of these materials at the moment. Transports of high level waste can be expected at the end of this decade when the reprocessing wastes will be sent back to the Netherlands to be stored at the COVRA facilities at the Sloe-location. The national part of these transports will be carried out by road and/or by rail.

During 1993 the total activity of the waste shipped to COVRA amounted to 273 973 G Bq.

### **Portugal:**

In Portugal only the utilization of radioisotopes in industry, medicine and research gives rise to national transfers of radioactive waste.

All waste that cannot be disposed of, incinerated or left to decay where it is produced must be shipped to the Department of Radiological Protection and Safety (DPSR) of the General Directorate for the Environment, where a facility for interim storage has been in operation since the 1960s. The existing interim storage facility will be maintained until decisions are made concerning the final repository for disposal of radioactive waste.

DPSR maintains the records of all waste received. As regards the producers, shipments of radioactive waste to the DPSR are treated in the same way as the other procedures involving radionuclides, which means that every person holding a licence to handle radioactive substances is responsible also for the disposal of any radioactive waste in compliance with the licensing conditions (including the shipment of radioactive waste to the DPSR).

The total volume of waste shipped to the DPSR in 1993 corresponds to about 10 m<sup>3</sup> of conditioned waste. This waste is of low level type and very short lived. Exceptions are some small spent sources which, because they are very small, are not sent back to the manufacturer and alpha sources from lightning conductors and smoke detectors.

### **United Kingdom:**

#### Legal framework regulating radioactive waste shipments

The accumulation and disposal of radioactive waste in the United Kingdom (UK) is regulated by the Radioactive Substances Act 1993 (RSA93). For the purposes of RSA93, the transfer of radioactive waste from any site (nuclear industry or other) is treated as a "disposal" from that site. Before a "disposal" can take place an "authorisation" must be obtained by the recipient of the waste from the relevant competent authorities under RSA93. Such an authorisation may be specific to a particular disposal or general, or cover a number of disposals over a defined period of time.

Exemption orders (secondary legislation) provide that the provisions of RSA93 in relation to authorisation for disposal of radioactive waste do not apply to certain categories of radioactive waste of a 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  $0.4 \text{ Bqg}^{-1}$ ; (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  $4 \text{ Bqml}^{-1}$ ; or (c) a gas containing one or more radionuclides none of which, nor the decay products of which, has a half life greater than 100 seconds. In addition, certain other wastes are exempted from the need for authorisation under RSA93 by exemption orders.

Compliance with the applicable provisions of RSA93 is enforced in England and Wales by Her Majesty's Inspectorate of Pollution; in Scotland by Her Majesty's Industrial Pollution Inspectorate; and in Northern Ireland by the Alkali and Radiochemical Inspectorate (ARCI).

In addition, shipments of radioactive waste within the United Kingdom 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 Transport (with the ARCI in Northern Ireland).

#### Details of shipments of radioactive waste within the UK

The principal shipments of radioactive waste within the United Kingdom are from sites where the radioactive waste is produced to the disposal site operated by BNFL at Drigg in Cumbria. This site receives practically all UK disposals of low level radioactive waste. In 1993, 3,249 waste consignments were received, from all parts of the UK, with a total volume of  $26,700 \text{ m}^3$ . The total activity was 50 GBq of uranium, 3.4 GBq of radium 226 and thorium 232, 112 GBq of other alpha-emitting radionuclides, 7.6 GBq of carbon 14, 0.02 GBq of iodine 129, 178 GBq of tritium and 3610 GBq of other radionuclides. A waste packaging facility is operated at Harwell in Oxfordshire by AEA Technology Ltd.. This packages low level waste from a number of producers, and sends these packages to Drigg for disposal. This facility received a total of 237 consignments in 1993. Shipments to Drigg from Harwell are included in the figures detailing consignments received at Drigg.

In addition to the above, in 1993, a total of 27 shipments of solid intermediate level waste were made to Sellafield from the Chapelcross reactor in Scotland.

No shipments of high level waste took place in the UK in 1993.

## Conclusion

The information provided for this first report provides a useful overview of practices in the Member States. With a view to harmonising the information provided in future reports, the Commission intends to prepare, in consultation with the Advisory Committee established under the Directive, a standard format for the individual returns.

Further information on disposal practices in the Member States is available: for example, in the Commission's report on "Objectives, Standards and Criteria for radioactive waste disposal in the European Community"<sup>(1)</sup>.

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<sup>(1)</sup> Euradwaste series no.3 (EUR report 12879) (1989).



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