



Brussels, 19.1.2018
SWD(2018) 4 final

COMMISSION STAFF WORKING DOCUMENT
Accompanying the document

**Report from the Commission to the Council, the European Parliament and the
European Economic and Social Committee**

**on the implementation by the Member States of Council Directive 2006/117/EURATOM
on the supervision and control of shipments of radioactive waste and spent fuel
Second Report**

{COM(2018) 6 final}

Contents

1.	INTRODUCTION	2
2.	GENERAL PRINCIPLES FOR SHIPMENT OF SPENT FUEL AND RADIOACTIVE WASTE.....	4
3.	STATUS OF IMPLEMENTATION OF THE GENERAL PROVISIONS.....	6
3.1.	Transposition of the Directive.....	6
3.2.	Standard document for the supervision and control of shipments	7
3.3.	Competent authorities	7
3.4.	Transmission	7
3.5.	Regular reports	7
4.	SHIPMENTS OF SPENT FUEL AND RADIOACTIVE WASTE IN 2012-2014.....	8
4.1.	Issues reported by Member States when using the standard document	11
4.2.	Information on significant conditions required by the Member States – export criteria implementation	11
4.3.	Information on significant cases of refusal to give authorisation/consent.....	12
4.4.	Cross check information	13
	ANNEX I.....	14
	ANNEX II	20

1. INTRODUCTION

The present Staff Working Document (SWD) is prepared in support of the Commission's second report to the European Parliament, the Council and the European Economic and Social Committee (COM(2018)6) on the implementation of Council Directive 2006/117/EURATOM¹ on supervision and control of shipments of spent fuel and radioactive waste by the Member States in the 2012-2014 period. It is based on the latest national reports from Member States to the Commission on the implementation of the Directive submitted by January 2016.

Following Article 20 of the Directive, Member States have to report every three years to the Commission on the implementation of the Directive. On the basis of national reports the Commission shall, in accordance with the procedure laid down in Article 21 of the Directive (Advisory Committee), establish a summary report for the European Parliament, the Council and the European Economic and Social Committee. In its report the Commission shall pay particular attention to the implementation of Article 4 on reshipment related to non-authorized shipments and undeclared radioactive waste.

The overall purpose of this document is also to provide various stakeholders with information on current radioactive waste and spent fuel shipments, and their supervision and control for the purpose of adequate protection of the population. This document provides also an overview and specific information on authorisations for import, export and transit through the Community issued by Member States and summarises the feedback from the Member States in implementing the Directive.

Since the previous reporting period 2008-2011 (see SWD (2013) 150 final²), it is relevant for the purposes of this report to highlight Croatia's accession to the European Union (EU) and the adoption of Council Directive 2013/59/EURATOM³ laying down basic safety standards for protection against the dangers arising from exposure to ionizing radiation, which has entered into force and needs to be transposed by Member States by 6 February 2018.

All EU Member States produce radioactive waste from numerous activities including energy production, research, industrial and medical applications. In addition, those Member States operating nuclear power plants and research reactors also generate spent fuel. Spent fuel can be either considered as radioactive waste or, in a "closed fuel cycle", reprocessed in the Member State of origin or abroad for further use^{4,5}. This report covers both spent fuel and radioactive waste import to, transit through and export from the Community.

¹ Council Directive 2006/117/EURATOM of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel, OJ 337, 5.12.2006, p 21-32.

² Commission Staff Working Document SWD(2013)150 final "Shipment Directive" Accompanying the document Report from the Commission to the Council, the European Parliament and the European Economic and Social Committee on the implementation by the Member States of Council Directive 2006/117 EURATOM on the supervision and control of shipments of radioactive waste and spent fuels{COM(2013) 240 final}.

³ Council Directive 2013/59/EURATOM of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/EURATOM, 90/641/EURATOM, 96/29/EURATOM, 97/43/EURATOM and 2003/122/EURATOM, OJ L 13, 17.1.2014, p.1.

⁴ Report from the Commission to the Council and the European Parliament on progress of implementation of Council Directive 2011/70/EURATOM and an inventory of radioactive waste and spent fuel present in the Community's territory and the future prospects, COM(2017)236 final of 15.5.2017.

⁵ For an overview on this topic, the European Commission together with EASAC have issued in 2014 the report "Management of spent nuclear fuel and its waste" that can be found at <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC84826/jrc-report-anagement-spent-fuel-and-waste.pdf> (Doi:10.2760/25402).

As of 2015, nuclear energy accounts for 28% of the domestic production of energy in the EU. Fourteen Member States⁶ are operating 129 nuclear power reactors⁷ in the Community and three Member States (Finland, France and Slovakia) have plans for construction projects for new nuclear power plants⁸. Another eight Member States are in the pre-project phase for building new nuclear power plants (UK, Hungary, Poland, etc.) or planning to build new units.

Most Member States that currently operate nuclear power plants are considering lifetime extension. In addition, as of January 2016, 90 nuclear power plants were in final shutdown in 11 Member States while some of these Member States have already some reactors in decommissioning stage and/or in preparation for decommissioning. Only three reactors have been decommissioned so far, all of which in Germany.

In addition, 20 Member States have research reactors at different stages of their lifecycle – operational, shutdown or decommissioning. Subject to the reactor design, Member States are often depending on supply of nuclear fuel and return of spent fuel to countries external to the EU (e.g. Russia, USA). In most cases, there is also an arrangement for return of spent fuel to the supplier, which is covered both by the provision of this Directive and through Directive 2011/70/EURATOM⁸.

In addition, some of the fuel cycle facilities, e.g. U-mines, fuel fabrication plants and reprocessing plants came to the end of their lifecycle or were closed and are under decommissioning and/or remediation.

All above described activities are generating radioactive waste and/or spent fuel and shipments of these materials occur between Member States, as well as for exports to and imports to the Community from third countries. The transport of these materials is due to available capacities for processing or reprocessing (hence minimisation of waste) and/or need for safe long term management (i.e. disposal). It is of utmost importance for the Commission that radioactive waste and spent fuel are managed (including transportation) in a safe, responsible and effective way, under the supervision of the national competent authorities.

The management of radioactive waste and spent fuel is subject to legal requirements with the aim to ensure the highest standards of safety and protection of workers and the general public. These requirements stem from both international and EU law. At EU level, the new Basic Safety Standards Directive 2013/59/EURATOM, has an overall objective to enhance the protection against the dangers arising from exposure to ionizing radiation. It repeals and consolidates in a single piece of legislation the provisions of five EU Directives, including the High-Activity Sealed Sources Directive⁹. In compliance with the latter Directive, EU Member States have established national electronic registries for radioactive sources and source holders, protected against unauthorized access. Building on that the new Directive 2013/59/EURATOM, also includes requirements for the management of orphan sources and contaminated scrap metal, as well as on management of material containing naturally occurring radionuclides (NORM).

Within the scope of this comprehensive EU framework, Directive 2006/117/EURATOM specifically addresses transboundary shipments of radioactive waste and spent fuel, laying down

⁶ The 14 Member States that have nuclear power reactors in operation are Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Hungary, the Netherlands, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom (Croatia does not have a nuclear power plant within its own national borders, but co-owns with Slovenia the Krško nuclear power plant).

⁷ Communication from the Commission Nuclear Illustrative Programme presented under Article 40 of the EURATOM Treaty; Final (after opinion of EESC {SWD(2017)158 final}).

⁸ Council Directive 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste.

⁹ Council Directive 2003/122/EURATOM of 22 December 2003 on the control of high-activity sealed radioactive sources and orphan sources.

a system of supervision and control for import to, transit through and export from the Community aiming at adequate protection of EU population.

2. GENERAL PRINCIPLES FOR SHIPMENT OF SPENT FUEL AND RADIOACTIVE WASTE

Directive 2006/117/EURATOM applies to shipment of spent fuel and radioactive waste whenever the country of origin, the country of destination or any country of transit is an EU Member State. It requires that Member States involved in the shipment (State of origin, State of destination and transit State(s)) are informed about any planned shipments on their territories, and shall either give their consent or a reasoned refusal to these shipments.

Under the Directive 2006/117/EURATOM, each Member State should remain fully responsible for the choice of its own policy on the management of radioactive waste and spent fuel within its jurisdiction. The Directive should therefore be without prejudice to the right of Member States to export their spent fuel for reprocessing or radioactive waste for processing. Also nothing in its provisions implies that a Member State of destination has to accept shipments of radioactive waste and spent fuel for final treatment or disposal, except in the case of reshipment (return to the country of origin). However, any refusal needs to be justified on the basis of the criteria set out in the Directive. They should not be arbitrary and should be founded on relevant national, Community or international law. Moreover, in line with the provisions set by the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (further the Joint Convention), the Directive (Article 16) prohibits the export of radioactive waste or spent fuel to a destination south of latitude 60° south; to African, Caribbean or Pacific countries, or to a third country which does not have the resources to manage it safely.

For intra-Community shipments, whenever an entity which, under the applicable national law, is responsible for the radioactive waste or spent fuel (i.e. holder¹⁰) plans to carry out a shipment, it has to submit a duly completed application to the competent authorities of the Member State of origin¹¹.

Imports from third countries into the Community also require the consignee (i.e. any natural or legal person to whom radioactive waste or spent fuel is shipped) to submit an application to the competent authorities of the Member State of destination¹².

Concerning exports outside the EU borders, the holder shall submit an application for authorisation to the competent authorities of the Member State of origin and then the competent authorities in the Member State of origin must ask the relevant authorities of the country of destination and countries of transit for their consents¹³.

As regards transits of radioactive waste and spent fuel through the Community originating from and destined to a third country, the entity responsible for the safe management of the material in the first Member State of transit shall submit an application for authorisation to the competent authorities of that Member State¹⁴.

Directive 2006/117/EURATOM sets requirements for the use of a standard document for the supervision and control of shipments of radioactive waste and spent fuel (further referred to as

¹⁰ Any natural or legal person who, before carrying out a shipment of radioactive waste or spent fuel is responsible under the applicable national law for such materials and plans to carry out a shipment to a consignee.

¹¹ See Article 6 of the Directive 2006/117/EURATOM.

¹² See Article 13 of the Directive 2006/117/EURATOM.

¹³ See Article 15 of the Directive 2006/117/EURATOM.

¹⁴ See Article 14 of the Directive 2006/117/EURATOM.

“standard document”), and the establishment of criteria for intra-Community shipments, imports from outside the EU, exports from Member States to third countries and transits within the Community. The standard document adopted with a Commission decision in 2008¹⁵ acknowledges different types of shipments reflected in the "Type Code" graphically presented in Figure 1 and summarised in Table 1:

- A shipment between Member States (type MM);
- Export from the Community into a third country (type ME);
- Import into the Community from a third country (type IM);
- Radioactive waste or spent fuel originating and destined to a third country, transiting through the Community (type TT).

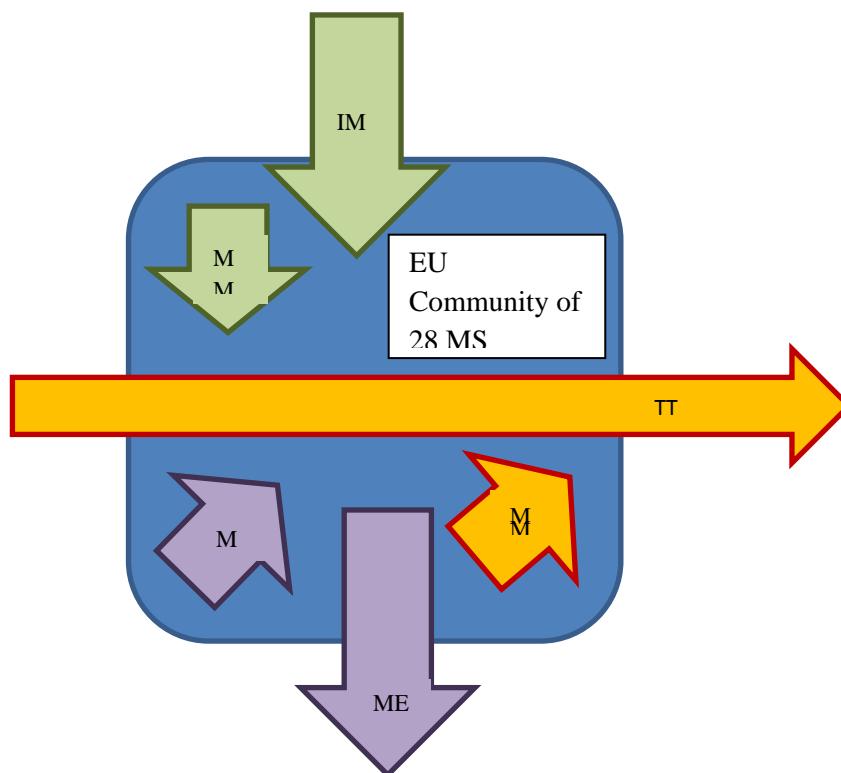


Figure 1: Types of shipments and respective "Type Code"

The shipments of spent fuel and radioactive waste cannot take place until the competent authorities of the country of destination and of any country of transit have notified the competent authorities of the country of origin of their approval.

The Directive stipulates a period of two months after receipt of the application for notification of

¹⁵ Commission Decision of 5 March 2008 establishing the standard document for the supervision and control of shipments of radioactive waste and spent fuel referred to in Council Directive 2006/117/EURATOM (notified under document number C(2008) 793) (2008/312/EURATOM).

approval or refusal.

Table 1: Types of shipments and respective "Type Code" according to the standards document of Directive 2006/117/EURATOM

	Different possibilities for movements within, into and out of Community	Type code
Import	From a country external to EU (third country) to an EU Member State	IM
	Import (IM) can be associated with movement from an EU Member State to another EU Member State, i.e. internal EU shipment	MM
Export	From an EU Member State to a country external to EU (third country)	ME
	Export (ME) can be associated with movement from an EU Member State to another EU Member State, i.e. internal EU shipment	MM
Transit	From a country external to EU to a country external EU (third countries of origin and destination)	TT
	Transit (TT) can be associated with internal EU movement, from an EU Member State to another EU Member State	MM

The competent authorities in the Member States of transit or destination may add conditions to the shipments of spent fuel and radioactive waste. Nevertheless, for shipments within the Community, it is not possible to lay down conditions which are more stringent than those laid down by the national law of a Member State on the shipment of radioactive waste on its own territory.

Finally, if the conditions applying to the shipment are not complied with or the shipment cannot be completed, the competent authorities of the Member State of origin must ensure that the radioactive waste and/or spent fuel in question are taken back by the holder, unless an alternative safe arrangement can be made. The holder shall be liable for costs arising in cases where the shipment cannot or may not be completed (see Article 12 of the Directive).

3. STATUS OF IMPLEMENTATION OF THE GENERAL PROVISIONS

3.1. Transposition of the Directive

Twenty-seven Member States completed the transposition of the Directive by 2013. Transposition details for each Member State were outlined in the first Commission report COM(2013)240 final and more specifically in Annex 1 of SWD(2013) 150 final.

Since then Croatia joined the EU (1st of July 2013) and transposed the Directive later in November 2013, through the adoption of the Act on Radiological and Nuclear Safety and secondary legislation, i.e. Ordinance on the Supervision and Control of Transboundary Shipments of Radioactive Waste and Spent Fuel.

All Member States have notified their transposition measures to date.

3.2. Standard document for the supervision and control of shipments

Article 17 of the Directive requires the use of a standard document for all shipments falling within the scope of the Directive. The standard document was established by Commission Decision in 2008¹⁶ and includes annex specific forms for:

- application of authorisation for shipment of spent fuel and radioactive waste;
- acknowledgement of receipt of application – request for missing information for spent fuel and radioactive waste;
- refusal or consent for spent fuel and radioactive waste shipment by competent authorities concerned;
- description of radioactive waste consignment/list of packages;
- acknowledgement of receipt of spent fuel and radioactive waste;
- authorisation of shipment of spent fuel and radioactive waste.

A corrigendum to the standard document was published in December 2011¹⁷.

Member States have reported some difficulties in the use of the standard document and provided useful input for future improvement. Details are described in Section 4 of the present document.

3.3. Competent authorities

Article 5(13) of the Directive defines "competent authorities" as "any authority which, under the law or regulations of the countries of origin, transit or destination, are empowered to implement the system of supervision and control of shipments of radioactive waste or spent fuel". In order to facilitate communication between Member States regarding supervision and control of shipments of spent fuel and radioactive waste, as of September 2016, all Member States provided the Commission with the updated contact details of their competent authority or authorities.

3.4. Transmission

In compliance with the requirement of Article 19 of the Directive, the Commission issued a Recommendation¹⁸ for a secure and effective system of transmission of the documents and information relating to the provisions of the Directive. The Commission has also established electronic communication platform (<https://ec.europa.eu/energy/en/topics/nuclear-energy/radiation-protection/transport-radioactive-materials>) containing relevant information related to the Directive.

The data has been updated, where appropriate, following information transmitted to the Commission by each Member State as foreseen under Article 19 of the Directive, including the contact details of the competent authorities in the Member States. The list of these authorities is presented in Annex I and can also be accessed via the Europa web site mentioned above.

3.5. Regular reports

Member States' reports on the implementation of the Directive have to be submitted every three years (as per Article 20 of Directive 2006/117/EURATOM). The deadline for submission of the second Member States reports was 25 December 2014. By January 2016 the Commission received the national reports for the 2012-2014 reporting period from all 28 Member States. During this second reporting round important delays were noticed as only three Member States

¹⁶ Commission Decision of 5 March 2008.

¹⁷ OJ L 343, 23.12.2011, p. 149.

¹⁸ OJ L 177, 8.7.2009, p. 5.

notified on time¹⁹ (others notified with different delays²⁰).

On the basis of the assessment of these reports, the Commission prepared its Second Report and the present SWD on the implementation of the Directive in order to provide an overview of the authorisations given Community-wide and to inform about any trends, practical difficulties communicated by the Member States, as well as the proposed actions.

According to Article 20 and the procedures laid down in Article 21 of the Directive, the Advisory Committee views as of 25 January 2017 on this SWD have been taken into account.

4. SHIPMENTS OF SPENT FUEL AND RADIOACTIVE WASTE IN 2012-2014

The Directive requires shipments of radioactive waste and spent fuel to take place only with prior informed consent of the competent authorities of all Member States involved, including transit Member States (see Article 9).

For the 2012-2014 period, of the 28 EU Member States, 20 Member States (about 71 %) reported authorised shipments within the scope of the Directive. Croatia, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Portugal did not declare authorisations issued in the framework of the Directive for the reporting period.

Member States reported 400 issued approvals²¹, which include 192 authorisations of Member State of origin and 208 consents to shipments²². Three of the reported authorisations (about 2% of the approvals) were not within the scope of the Directive (other type of material see Figure 2 below).

Five Member States (Sweden, Germany, France, the United Kingdom and Belgium) account for 74 % of the reported authorisations for 2012-2014. In the previous reporting period (2009-2011)³ 14 Member States reported 161 authorisations within the scope of the Directive with 74% of authorisations related to shipments of radioactive waste and remaining 26% shipments of spent fuel.

In general, Member States' reports for 2012-2014 differ in terms of reporting format (including template), completeness and level of detail of the provided information. The different types of shipment are not always reported according to the definitions of the Directive (imports, exports and transits) or clearly distinguish the material transported (spent fuel from radioactive waste).

Inconsistencies were also identified when analysing and cross-checking different national reports regarding authorisations and movements across Member States. The Commission was in dialogue with some Member States in order to complete the information provided and these Member States were invited to reply to additional questions that were sent for clarification. The information received has improved the quality of the data; however some areas for interpretation still remain.

Concerning radioactive waste and spent fuel, from 192 shipment authorisations of Member States of origin 157 (81%) were related to shipment of radioactive waste and 32 (17%) to spent fuel.

¹⁹ Denmark, Lithuania, and Romania.

²⁰ Within 6 months: Bulgaria, Czech Republic, Greece, Estonia, Finland, Latvia, Luxembourg, Poland, Portugal, Slovenia, Slovakia, Sweden, the United Kingdom; within 6-12 months: Austria, Belgium Croatia, Cyprus, France, Germany, Hungary, Ireland, Malta, The Netherlands and Spain; later than 1 year: Italy.

²¹ Although the Directive does not define the term "approval" and clearly refers only to "authorisation", "consent" and "refusal", national reports from Member States do not always refer to the official definitions and often do not make the difference between authorisations and consents. Therefore, for the purpose of this report, the term "approval" is used to include both "authorisations" and "consents".

²² Authorisations are often given for several shipments to be carried out over a time period that may exceed the period covered by the present report (2012-2014).

Three shipments are reported for materials other than radioactive waste and spent fuel (see Figure 2).

Three Member States (France, Sweden and the United Kingdom) have reported imports of radioactive waste/spent fuel.

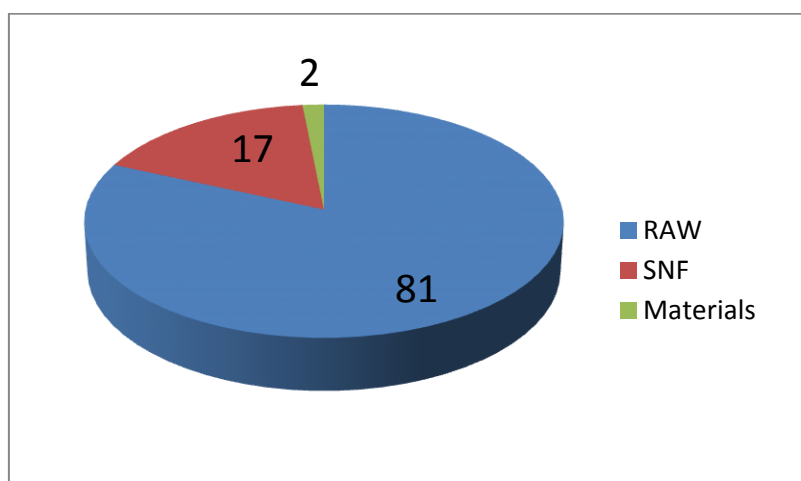


Figure 2: Proportion (%) of radioactive waste, spent fuel (including materials) shipments issued by the Member States of origin

Most of the shipments reported in the 2012-2014 period were shipments of spent fuel and radioactive waste between Member States. About 17% of shipment authorisations are linked to import and export of these materials based on 30 authorisations for export reported by 11 Member States (see Table 2), of which:

- 20 authorisations (67%) are linked to export of spent fuel; and
- 10 authorisations (33%) were granted for exports of radioactive waste.

In the previous reporting period (2008–2011) 29 authorisations for exports were granted by nine Member States, of which 59% were related to export of spent fuel.

Table 2 provides an overview of exports of radioactive waste and spent fuel outside the EU during the reporting period 2012-2014. Final destinations for exports reported are Russia (47%), USA (30%), Switzerland and Japan (20%, equally 10% each) and Norway (3%). All export shipments reported with destination Russia were for spent fuel with purpose of reprocessing, some of which for final disposal.

**Table 2: Authorised exports of spent fuel and radioactive waste to third countries
(2012-2014)**

Member State (authorising the shipment)	Third country of destination	Number of Authorisations for RAW / SF	Purpose of shipment as reported by MS
AUSTRIA	USA	1 SF (research)	final disposal
BULGARIA	RUSSIA	7 SF (nuclear industry)	reprocessing
CZECH REPUBLIC	RUSSIA	1 SF (research)	reprocessing
FRANCE	SWITZERLAND	2 RAW	return
	USA	1 SF (research)	return
GERMANY	USA	2 SF (research)	reprocessing / storage
	USA	2 RAW	treatment
HUNGARY	RUSSIA	1 SF (research)	treatment
	RUSSIA	1 SF (nuclear industry)	treatment
ITALY	USA	1 SF	final disposal
	USA	1 RAW	treatment
POLAND	RUSSIA	2 SF (research)	final disposal
ROMANIA	RUSSIA	2 SF (research)	reprocessing/disposal
SWEDEN	USA	1 RAW (research)	return
	JAPAN	1 RAW (research)	return
	NORWAY	1 SF (research)	scientific research
UK	SWITZERLAND	1 RAW	return
	JAPAN	2 RAW	return

In general, no major issues were reported by Member States in the implementation of the Directive in the 2012-2014 period. However, some Member States expressed concerns also reported during the previous reporting period, which are highlighted hereafter.

Although the definition of "radioactive waste" is well formulated and defined in the Directive, some Member States consider the absence of harmonisation of clearance levels at a national level for radioactive waste to lead to the possibility that materials containing radioactive substances are released in one Member State but could still be considered as radioactive waste in another Member State. This is the case for metal scrap that can be reused in some countries.

A similar issue can be referred to transboundary shipments of waste containing naturally occurring radioactive materials (NORM waste) which are not arising from authorized practices. This kind of waste is excluded both from the scope of the Directive and of the Directive 2011/70/EURATOM and by consequence is outside regulatory control.

Another case raised by two Member States was the refusal applications for authorisations of shipment of contaminated metal scrap intended for processing and potential recycling via melting. The refusal was justified as the applications did not explicitly define the material to be radioactive waste. Therefore, the material was considered to be out of the scope of the Directive 2006/117/EURATOM.

4.1. Issues reported by Member States when using the standard document

According to Article 17 of the Directive, a standard document for supervision and control of shipments of spent fuel and radioactive waste shall be used for all imports, exports and transits to the Community. The standard document has been made available to the Member States by a Commission Decision C(2008) 793¹⁵ of 5 March 2008 and amended in 2011.

In the reporting period (2012-2014), Member States have provided useful input and proposals for improvement of the standard document.

The following recommendations were reported to the Commission:

- Shipments as a result of return of radioactive waste to be linked to initial shipments of spent fuel and/or radioactive waste for (re)processing to ensure a clearer overview of related shipments. Examples of such shipments are cross border processing of radioactive waste for volume reduction, and/or conditioning and cross border processing of spent fuel. Also in the case of cross border treatment of contaminated scrap metal, it could help linking return shipments of radioactive waste to initial shipments, although initial shipments do not require an authorisation when the metal is shipped as recyclable material.

Therefore Member States proposed that a specific section is added to the standard document allowing for reference to a previous authorisation/consent, whenever the application for shipment is meant for the repatriation of residues arising from that previous shipment. This cross-reference would establish an audit trail.

- Improved consistency between the information required in Section B-1 of the standard document, which does not include current radioactivity levels of spent fuel, and Section B-5 which requires this information.
- the explanatory notes of the standard document would benefit from the introduction of subtitles based on the titles of each section (e.g. Application for authorisation, and Acknowledgement of receipt).

4.2. Information on significant conditions required by the Member States – export criteria implementation

The significant conditions for the second reporting period 2012-2014 as provided by Member States are presented in this section, and complement Member States information on significant conditions for the previous reporting period (see SWD (2013) 150 final).

Cyprus: All practices involving radioactive materials, including shipments (import, export, transit, and transport), need prior authorisation under the Protection from Ionising Radiation and Nuclear Safety Laws of 2002 to 2011.

Luxembourg: The Grand-Ducal regulation of 3 March 2009 reflects, in Article 8, the conditions proposed by the Directive on prohibited export (Article 16), including a specific reference to the criteria established by the group of experts set by Article 21. However, with the transposition of Council Directive 2011/70/EURATOM that is in force since 30 July 2013, the relevant paragraph of Article 8 has been amended and replaced by a new prescription that prohibits the export of radioactive waste and spent fuel to third countries. As such, these exports are not possible

anymore. Transfers to other Member States are not affected by this export prohibition to third countries.

Latvia: The Law on Radiation Safety and Nuclear Safety prohibits the import of radioactive waste and spent fuel into the Republic of Latvia. The Radiation Safety Centre of the State Environment Service (VVD RDC) is the competent authority responsible for introducing supervision and control procedures for shipments of radioactive waste and spent fuel.

Romania: The licensing conditions for transport/shipment activities are mentioned in CNCAN²³ Order No, 357/2005, approving the Regulation on the Transport of Radioactive Materials²⁴. The export criteria for radioactive waste/spent fuel are mentioned in CNCAN Order No 56/2004 approving the Basic Regulation on the Safe Management of Radioactive Waste and Spent Fuel.

Poland: Poland reported that all criteria and conditions required by the Directive 2006/117/EURATOM are implemented. No additional conditions were required by the Polish regulatory framework except those arising from Article 27 of the Joint Convention, the Convention on the Physical Protection of Nuclear Material, the International Atomic Energy Agency (IAEA) Regulations for the Safe Transport of Radioactive Material SSR-6 and the international modal transport regulations (ADR²⁵, RID²⁶, ADN²⁷, IMDG²⁸ Code, and ICAO²⁹ Technical Instructions).

4.3. Information on significant cases of refusal to give authorisation/consent

In most Member States there were no cases of refusal to grant authorisation for the transboundary shipment of radioactive waste or spent fuel during the 2012-2014 period. However, two Member States reported refusals and one stated a clarification as explained below:

Netherlands: Two applications for the transit of contaminated scrap metal were refused. The Dutch Government considered these transits out of the scope of the Directive, because contaminated scrap metal that will be recycled is not considered radioactive waste.

Although the approvals were refused, the transits were carried out according to the applicable Dutch regulations.

France: Two refusals concerned two shipments for receiving spent fuel from Italy, pending receipt of further information. France gave its approval for one of these shipments after the end of the considered reporting period (in 2015).

Germany: No case of refusal was reported, although Germany specifies that any application involving contaminated scrap metal would be rejected, if scrap metal is not declared as radioactive waste, i.e. in the case of contaminated metal scrap for recycling via melting.

²³ CNCAN – Comisia Națională pentru Controlul Activităților Nucleare (Romania National Commission for Nuclear Activities Control).

²⁴ Official Journal of Romania, Part 1. No. 1152 of 20.12.2005.

²⁵ ADR – Accord européen relatif au transport international des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).

²⁶ Règlement concernant le transport international ferroviaire des marchandises dangereuses (Regulation concerning the International Carriage of Dangerous Goods by Rail).

²⁷ ADN – Accord européen relatif au transport international des marchandises Dangereuses par voies de Navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways).

²⁸ IMDG – International Maritime Dangerous Goods.

²⁹ ICAO – International Civil Aviation Organization.

4.4. Cross check information

The Joint Convention defines safety principles and requirements for management of radioactive waste and spent fuel in line with the internationally agreed safety standards of the IAEA (in particular the safety fundamentals).

The implementation of the Joint Convention, and in particular its Article 27, requires Member States to report on transboundary movements and exports of radioactive waste and spent fuel.

Reported information from Member States under the Joint Convention Article 27 (October 2014) for the 5th Review Meeting and the Directive 2006/117/EURATOM (in particular Article 15) are provided in Annex II of this report.

ANNEX I

**List of Competent National Authorities under Article 18 of
Council Directive 2006/117/EURATOM**

Austria	Division of Radiation Protection Federal Ministry of Agriculture, Forestry, Environment and Water Management Untere Donaustraße 11 A-1020 Vienna
Belgium	Federal Agency for Nuclear Control Security and transport department Import and transport office 36 rue Ravensteinstraat B-1000 Brussels Email: transport@fanc.fgov.be Tel: +32 2 289 21 81 Internet: www.fanc.fgov.be
Bulgaria	Bulgarian Nuclear Regulatory Agency 69 Shipchenski prokhoz Blvd. BG-1574 Sofia Internet: www.bnra.bg/en/front-page-en?set_language=en
Croatia	State Office for Radiological and Nuclear Safety Frankopanska 11 HR-10000 Zagreb
Cyprus	Ministry of Labour, Welfare and Social Insurance Radiation Inspection and Control Service Department of Labor Inspection 12 Apellis Street CY-1493 Lefkosia (Nicosia)
Czech Republic	State Office for Nuclear Safety Division of Radioactive Waste and Spent Fuel Management Senovážné namesti 9 CZ-110 00 Prague 1

Denmark	Danish Health Authority Radiation Protection Knapholm 7 DK-2730 Herlev
Estonia	Ministry of the Environment of Estonia Narva str 7a EE-Tallinn 15172
Finland	Radiation and Nuclear Safety Authority (STUK) Nuclear Waste and Material Regulation P.O. Box 14 FI-00881 Helsinki
France	Bureau réglementation et affaires techniques Sous-direction de l'Energie nucléaire Direction générale de l'Énergie et du Climat Ministère de l'Énergie, de l'Environnement et de la Mer (MEEM) Tour Sequia F-92055 LA DEFENSE Cédex
Germany	Bundesamt für Wirtschaft und Ausfuhrkontrolle (BAFA) Referat 323 – Nukleartechnik (NSG), Radioaktive Stoffe Frankfurter Straße 29-35 D-65760 Eschborn
Greece	Greek Atomic Energy Commission Department of Licensing & Inspections P.O. Box 60092 GR-153 10 Aghia Paraskevi-Attiki
Hungary	Hungarian Atomic Energy Authority P.O. Box 676 Fényes Adolf str. 4 HU-1036 Budapest
Ireland	Office of Radiological Protection Environmental Protection Agency 3 Clonskeagh Square, Clonskeagh Road IE-Dublin 14 H424
Italy	Ministero dello Sviluppo Economico Direzione Generale per il Mercato Elettrico, le Rinnovabili e

	<p>l'Efficienza Energetica, il Nucleare Divisione V – Impieghi Pacifici dell'Energia Nucleare, Ricerca e Gestione di Materiali e Rifiuti Nucleari Via Molise, 2, I-00187 Roma Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA – ex-APAT) Department of Nuclear, Industrial and Technological Risk Division of Nuclear Plants Via Vitaliano Brancati 48 I-00144 Roma</p>
Latvia	<p>Radiation Safety Centre State Environmental Service Rupniecibas iela 23 LV-Riga 1045</p>
Lithuania	<p>Radiation Protection Centre (RPC) Kalvariju st. 153 LT-08221 Vilnius</p>
Luxembourg	<p>Ministère de la Santé Division de la Radioprotection Villa Louvigny- Allée Marconi L-2120 Luxembourg</p>
Malta	<p>Environment & Resources Authority Hexagon House Spencer Hill MT-Marsa MRS 1441</p>
Poland	<p>National Atomic Energy Agency Krucza Street 36 PL-00-522 Warsaw</p>
Portugal	<p>COMRSIN (Comissão Reguladora para a Segurança das Instalações Nucleares) Palácio das Laranjeiras Estrada das Laranjeiras, 205 P-1649-018 Lisboa Email: geral-comrsin@comrsin.pt ; acsfonseca@comrsin.pt</p>

	Internet : www.comrsin.pt
Romania	CNCAN (Comisia Națională pentru Controlul Activităților Nucleare) 14 B-dul. Libertatii Street, Sector 5 RO-050706, Bucharest
Slovakia	Nuclear Regulatory Authority of the Slovak Republic Bajkalská 27 P.O. Box 24 SK-820 07 Bratislava Public Health Authority of the Slovak Republic (radiation protection) Trnavska cesta 52 P. O. Box 45 826 45 Bratislava
Slovenia	Slovenian Nuclear Safety Administration Litostrojska cesta 54 SI-1000 Ljubljana Phone : +386 1 472 11 00 Fax : +386 1 472 11 99 E-mail: gp.ursjv@gov.si
Spain	Subdirección General de Energía Nuclear Dirección General de Política Energética y Minas Ministerio de Energía, Turismo y Agenda Digital Paseo de la Castellana 160, 6ª Planta Despacho 37 E-28046 – Madrid Email: sgenergianuclear@minetad.es Área de Transporte y Fabricación de Combustible Nuclear Consejo de Seguridad Nuclear C/ Pedro Justo Dorado Dellmans nº 11 E-28040 – Madrid Email: erj@csn.es
Sweden	Swedish Radiation Safety Authority (SSM) Solna strandväg 96 SE-171 16 STOCKHOLM Email: registrator@ssm.se
The Netherlands	Authority for Nuclear Safety and Radiation Protection (ANVS)

	<p>Postbus 16001 NL-2500 BA DEN HAAG</p>
United Kingdom	<p>(for England) The Environment Agency International Waste Shipments Team Richard Fairclough House Knutsford Road Warrington WA4 1HT Tel. +44 1925542265 Fax: +44 1925542105 Email: shipments@environment-agency.gov.uk Internet: https://www.gov.uk/radioactive-waste-spent-fuel-or-sources</p> <p>(for Northern Ireland) Chief Radiochemical Inspector Northern Ireland Environment Agency Industrial Pollution and Radiochemical Inspectorate Klondyke Building Cromac Avenue Gasworks Business Park Belfast BT7 2JA Tel. +44 2890569299 Fax: +44 2890569263 Email: ipri@doeni.gov.uk Internet: www.doeni.gov.uk/niea/</p> <p>(for Scotland) Radioactive Substances Unit Scottish Environment Protection Agency Strathallan House Castle Business Park Stirling FK9 4TZ Tel. +44 1786457700 Fax: +44 1786446885</p>

Email: RSEnquiries@sepa.org.uk

Internet: www.sepa.org.uk

(for Wales)

Natural Resources Wales

Waste Shipment Unit

St Mellons Business Park

Cardiff CF3 OEY

Tel. +44 2920245315

Fax: +44 2920362487

Email: Waste-shipments@naturalresourceswales.gov.uk

Internet: www.naturalresourceswales.gov.uk

ANNEX II

MEMBER STATES SHIPMENTS RELATED TO ARTICLE 27 OF THE JOINT CONVENTION AND THE DIRECTIVE 2006/117/EURATOM (2012-2014)

AUSTRIA

On the basis of the Austrian Federal Constitutional Act on a “Non-Nuclear Austria” Austria explicitly prohibits any transport of fissile material for the production of nuclear energy (Article 27 of Joint Convention).

During the considered reporting period, Austria reported a total of 13 authorisations and consents under Directive 2006/117/EURATOM, of which one export of spent fuel to the USA (Article 15 of Directive 2006/117/EURATOM).

BELGIUM

Belgium declared 12 authorisations granted for radioactive waste shipments within the EU (Article 27 of Joint Convention).

During the considered reporting period, Belgium reported a total of 12 authorisations issued under Directive 2006/117/EURATOM, all related to intra EU movements of nuclear waste.

No export outside the EU of waste or spent fuel was reported (Article 15 of Directive 2006/117/EURATOM).

BULGARIA

The Republic of Bulgaria has a practice of sending spent fuel for reprocessing. No transboundary transport of radioactive waste has been reported (Article 27 of Joint Convention).

During the considered reporting period, Bulgaria reported a total of seven authorisations issued under Directive 2006/117/EURATOM, all of them related to shipments of spent fuel to Russia, all transiting through Romania (and Ukraine) (Article 15 of Directive 2006/117/EURATOM).

CROATIA

No imports, exports or transit shipments of radioactive waste or spent fuel were reported (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Croatia during the considered reporting period, under Directive 2006/117/EURATOM.

CYPRUS

Cyprus does not operate nuclear installations and does not possess any amounts of spent fuel. Small amounts of radioactive waste, produced in nuclear medicine departments and research facilities are kept in storage for licensed disposal or shipment abroad (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Cyprus during the considered reporting period, under Directive 2006/117/EURATOM.

CZECH REPUBLIC

The Czech Republic has been granting authorisations for shipment of radioactive waste to treatment facilities for incineration and volume reduction and for repatriation of incinerated products like ashes and powders and super compacted waste. One authorisation was granted for export of spent fuel via the territory of Poland to Russia (Article 27 of Joint Convention).

During the considered reporting period, the Czech Republic reported a total of seven authorisations and consents under Directive 2006/117/EURATOM. One authorisation concerning the export of spent fuel to Russia was reported (Article 15 of Directive 2006/117/EURATOM).

DENMARK

The National Institute of Radiation Protection under the Danish Health and Medicines Authority has, in the period from the 4th Review Meeting, received 30 notifications concerning one or more transboundary movements between EU-countries (Article 27 of Joint Convention).

During the considered reporting period, Denmark reported a total of 20 authorisations and consents under Directive 2006/117/EURATOM. No export outside the EU of radioactive waste or spent fuel was reported (Article 15 of Directive 2006/117/EURATOM).

ESTONIA

No licence was issued for transboundary movements of radioactive waste with Estonia as a country of origin, transit or destination (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Estonia during the considered reporting period, under Directive 2006/117/EURATOM.

FINLAND

Few cases of transboundary movements were reported; in particular two spent fuel rods were shipped out of Finland for research purposes and some large metal components for scrapping. Radioactive waste was shipped back to Finland after the treatment. Also, one authorisation for shipment from Sweden to Japan via Finland was approved (Article 27 of Joint Convention).

During the considered reporting period, Finland reported a total of five authorisations and consents under Directive 2006/117/EURATOM.

No export outside the EU of radioactive waste or spent fuel is reported (Article 15 of Directive 2006/117/EURATOM).

FRANCE

France reported the application of all international, European and national safety, transport, security, physical-protection and public-order regulations. Transboundary movements of spent fuel and radioactive waste between France and third-party countries involve mainly spent fuel processing, that are performed at the La Hague Plant on behalf of Belgian, Dutch, German, Italian, Japanese and Swiss customers.

Most transboundary movements between European countries are made by rail. Sea routes are used for Japan-bound shipments, since suitable port infrastructures meeting the required nuclear-safety levels have been built at both ends of the itinerary. No significant incident compromising safety,

security or radiation protection has been notified in recent years during those shipments (Article 27 of Joint Convention).

During the considered reporting period, France reported a total of 38 authorisations and consents under Directive 2006/117/EURATOM. From those, three authorisations for export outside the EU were granted out of which two were for radioactive waste to Switzerland. The authorisation to USA was issued for spent fuel samples for return of research material (Article 15 of Directive 2006/117/EURATOM).

GERMANY

Germany declared compliance with all international, European and national regulations for the safe management and transport of radioactive waste and spent fuel (Article 27 of Joint Convention).

During the considered reporting period, Germany reported 30 authorisations under Directive 2006/117/EURATOM. Within this figure, Germany reported two exports of radioactive waste and two of spent fuel to the USA (Article 15 of Directive 2006/117/EURATOM).

GREECE

Greece reported one transboundary movement of spent fuel shipped to the USA, covered by the provisions of the agreement with the US Department of Energy (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Greece under Directive 2006/117/EURATOM during the considered reporting period.

HUNGARY

In compliance with Article 27 of the Convention, the Hungarian regulation does not prejudice or affect the rights of a contracting party as provided by international law, or with respect to the return of radioactive waste or other products from processing radioactive waste or reprocessing spent fuel (Article 27 of Joint Convention).

During the considered reporting period, Hungary reported a total of six authorisations and consents under Directive 2006/117/EURATOM. Two authorisations were related to exports of spent fuel to Russia (Article 15 of Directive 2006/117/EURATOM).

IRELAND

The transfer of radioactive sources or radioactive waste from Ireland to other countries is limited to the return of disused radioactive sources to the suppliers or to the transfer of these sources to an overseas waste management facility for reuse or recycling purposes.

There are no nuclear power reactors, research reactors, fuel fabrication or fuel recycling facilities in Ireland and therefore the shipment of spent fuel is not applicable to Ireland (Article 27 of Joint Convention).

During the considered reporting period, Ireland reported a total of eight authorisations issued under Directive 2006/117/EURATOM, all of them related to intra EU movements of nuclear waste. No export outside the EU of radioactive waste was reported (Article 15 of Directive 2006/117/EURATOM).

ITALY

National experience of transboundary movements of spent fuel and radioactive waste were related to the reprocessing of spent fuel and the treatment of radioactive waste arising from nuclear fuel cycle and from medical or industrial activities. The radioactive waste exported to EU countries is reimported after treatment (Article 27 of Joint Convention).

During the considered reporting period, Italy reported a total of five authorisations and consents under Directive 2006/117/EURATOM. Two authorisations for exports - one of spent fuel and one of radioactive waste outside the EU were reported (Article 15 of Directive 2006/117/EURATOM).

LATVIA

The Law on Radiation Safety and Nuclear Safety prohibits the import of radioactive waste and spent fuel into the Republic of Latvia. The Radiation Safety Centre of the State Environment Service is the competent authority responsible for introducing supervision and control procedures for shipments of radioactive waste and of spent fuel. No exports or transit shipments of radioactive waste or spent fuel were reported (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Latvia during the considered reporting period, under Directive 2006/117/EURATOM.

LITHUANIA

Ninety-two authorisations (permits) for the import, export, transit or transportation of radioactive materials and 30 authorisations for the transportation of radioactive waste within the country were issued during 2011-2013 (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Lithuania under Directive 2006/117/EURATOM during the considered reporting period..

LUXEMBOURG

The transfer of radioactive waste is regulated by the Grand-Ducal regulation of 3 March 2009 on the supervision and control of shipments of radioactive waste and spent fuel (Article 27 of Joint Convention).

During the considered reporting period, Luxembourg reported a total of two authorisations issued under Directive 2006/117/EURATOM, all related to intra EU movements of nuclear materials. No export outside the EU of radioactive waste was reported (Article 15 of Directive 2006/117/EURATOM).

MALTA

Maltese customs perform portal monitoring on a large percentage of shipping containers in transboundary shipment. This monitoring has led to the detection of finished metal products contaminated with Co-60. Detection arrangements are made to send the items back to the country of origin in accordance with international transport regulations. The regulatory authority of the country of origin was informed of the return shipment (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Malta under Directive 2006/117/EURATOM during the considered reporting period..

THE NETHERLANDS

The Netherlands has implemented the international agreements on the transport of radioactive materials for the different modes of transport as released by ICAO (air transport), IMO (sea transport), ADR (road transport) and RID (rail transport) and ADNR (transport over inland waterways) (Article 27 of Joint Convention).

During the considered reporting period, the Netherlands reported a total of 14 authorisations and consents under Directive 2006/117/EURATOM. No export outside the EU of radioactive waste or spent fuel was reported (Article 15 of Directive 2006/117/EURATOM).

POLAND

Shipments of spent fuel to Russia have been performed in accordance to the prevailing international and State regulations (Article 27 of Joint Convention).

Under Directive 2006/117/EURATOM Poland reported 3 authorisations for spent fuel exports to Russia were reported, of which two for export of spent fuel and one for transit of spent fuel from Czech Republic to Russia (Article 15 of Directive 2006/117/EURATOM).

PORTUGAL

No authorisation of cross-border shipment of radioactive waste or spent fuel was reported (Article 27 of Joint Convention).

No transboundary movements of radioactive waste or spent fuel were reported by Portugal under Directive 2006/117/EURATOM during the considered reporting period..

ROMANIA

The import of radioactive waste is prohibited. The only exception is when the import follows directly from the processing outside Romanian territory of a previously licensed export of radioactive waste, on the basis of the provisions of international agreements or of contracts concluded with commercial partners, under the terms of law. Romania authorizes only shipments for which it has obtained the consent by the destination country. If export of spent fuel for reprocessing is performed and in case no arrangements for keeping the waste in the country where the fuel is reprocessed are in place, the radioactive waste and other products resulting from reprocessing will be allowed for repatriation (Article 27 of Joint Convention).

During the considered reporting period, Romania reported a total of four authorisations and consents under Directive 2006/117/EURATOM.

Three authorisations were issued for export of spent fuel to Russia. Two of the shipments were related to fuel of the Romanian research reactor and one was for the transit of Bulgarian spent fuel (Article 15 of Directive 2006/117/EURATOM).

SLOVAK REPUBLIC

The legal framework allows for import, resulting from treatment and conditioning, of radioactive waste exported for this purpose, if its re-entry was approved in advance. Import of radioactive waste is also allowed for the purpose of its treatment and conditioning on Slovakian territory if export of radioactive waste with proportional activity was contractually agreed. Any other import of radioactive waste to Slovakia is prohibited (Article 27 of Joint Convention).

During the considered reporting period, Slovakia reported a total of four authorisations and consents under Directive 2006/117/EURATOM. No export of radioactive waste or spent fuel is reported (Article 15 of Directive 2006/117/EURATOM).

SLOVENIA

Two transits of nuclear material took place in October and November 2012. The first shipment involved slightly irradiated fuel elements for use in the Austrian TRIGA³⁰ research reactor in Vienna. The second shipment contained both low and highly enriched uranium from the same reactor in Vienna was returned to the country of origin (the USA). In the latter shipment, there was also a Pu/Be source destined for the same consignee (Article 27 of Joint Convention).

During the considered reporting period, Slovenia reported a total of seven authorisations and consents under Directive 2006/117/EURATOM.

From the publication of the Commission Recommendation of 4 December 2008 on criteria for the export of radioactive waste and spent fuel to third countries, Slovenia has not received any applications for authorisation of export of radioactive waste or spent fuel to third countries which would require considerations with Commission's Recommendations on export criteria (Article 15 of Directive 2006/117/EURATOM).

SPAIN

Spain reported a shipment of various metal pieces from the reactor internals of the José Cabrera nuclear power plant to the Studsvik facilities (Sweden) in 2013, for the performance of various tests on the behaviour of metal subjected to high levels of radiation (Article 27 of Joint Convention).

During the considered reporting period, Spain reported a total of six authorisations and consents under Directive 2006/117/EURATOM. No export outside the EU of radioactive waste or spent fuel was reported (Article 15 of Directive 2006/117/EURATOM).

SWEDEN

Studsvik Nuclear AB carries out radioactive waste volume reduction on a commercial basis, by incineration of combustible waste and melting of scrap metal. The activities are to a certain extent based on services to companies abroad, and Studsvik imports radioactive waste and scrap metal for the purpose of volume reduction. The remaining radioactive waste is re-exported to the country of origin. Approximately 100 transboundary shipments of this kind are carried out each year.

Further to this, Sweden has received 36 shipments of radioactive waste and seven shipments of spent fuel, the latter for research purposes (Article 27 of Joint Convention).

Sweden has issued more than 100 approvals (including authorisations) as sender and receiver of radioactive waste and spent fuel, including exports to Japan, Norway and the USA. Moreover, under each authorisation it has allowed up to ten transports per shipment, although in one case 200 individual transports were approved under a single shipment authorisation (Article 15 of Directive 2006/117/EURATOM).

UNITED KINGDOM

In the considered reporting period, the UK carried out one shipment of high-level vitrified waste to Sellafield's reprocessing customer in Switzerland. Since many years the UK has been shipping metallic wastes from nuclear decommissioning to Sweden and Germany, for treatment by metal-melt processing. Shipments have also been made for other treatments and processes, including incineration and by receiving waste stemming from medical research. All shipments were carried out under the provisions of the Directive (Article 27 of Joint Convention).

³⁰ Training Research Isotopes General Atomics.

During the considered reporting period, the UK reported a total of 28 authorisations and consents under Directive 2006/117/EURATOM. One authorisation covering export of radioactive waste to Switzerland was reported (Article 15 of Directive 2006/117/EURATOM).

LIST OF ABBREVIATIONS AND ACRONYMS

DSRS	Disused Sealed Radioactive Sources
EU	European Union
EURATOM	European Atomic Energy Community
IAEA	International Atomic Energy Agency
IM	Import/s from outside EU
ME	Export/s to non EU countries
MM	Transit internal EU, passing from one Member State to another Member State; Import/s intra EU; Export/s intra EU
NORM	Naturally Occurring Radioactive Material
NPP	Nuclear Power Plant/s
RAW	Radioactive Waste
SF	Spent Fuel
SWD	Staff Working Document
TT	Transit/s from a country external to EU to a country external EU