

Luxembourg

National Report

**Under the Joint Convention on the
Safety of Spent Fuel Management and
on the Safety of Radioactive Waste
Management**

2003

Luxembourg

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

Table of Contents

Section A: Introduction

Section B: Policies and practices

Section C: Scope of application

Section D: Inventories and lists

Section E: Legislative and regulatory system

- Article 18: Implementing measures
- Article 19: Legislative and regulatory framework
- Article 20: Regulatory body

Section F: Other general safety provisions

- Article 21: Responsibilities of the licence holder
- Article 22: Human and financial resources
- Article 23: Quality assurance
- Article 24: Operational radiation protection
- Article 25: Emergency preparedness
- Article 26: Decommissioning

Section G: Safety of radioactive waste management

Section H: Transboundary movements

Section I: Disused sealed sources

Section J: Planned activities to improve safety

Annex I: Inventory of radioactive waste

Annex II: References to national and international laws, regulations, directives, decisions

National report on measures taken by Luxembourg to fulfil the obligations laid down in the Convention

Section A: Introduction

Luxembourg has signed the Joint Convention on 1st October 1997 and is a Party thereof since 19 November 2001. The Convention entered into force on 21 June 2001.

Luxembourg having no nuclear power plant, no other fuel-cycle facility, no research reactor and no other facility generating radioactive substances, many requirements of the Joint Convention do not apply to Luxembourg. It has no spent nuclear fuel and no high level radioactive waste on its territory.

There are other reasons which explain, why the actual total amount of radioactive waste, in form of disused sealed sources of low activity, is marginal:

- the small size of our country;
- since many years an import licence for a radioactive sealed source is only granted by the competent authority under the condition that the foreign supplier certifies taking back the disused radioactive source;
- since many years the competent authority has forbidden the import and installation of radioactive smoke detectors and of radioactive lightning conductors;
- in the past the competent authority has returned most of the old “historical” radioactive sealed sources to the country of origin or to a foreign waste management facility.

In Luxembourg radioactive waste is only arising from the use of radioactive sources in industry, medicine and to a small extent from the use in education and research. Its activity and its volume being very low, the Luxembourg Government takes the position that the option of a national management facility and of a final disposal facility would be totally unrealistic, because not at all commensurate. Therefore all disused sealed sources have to be returned to the country of origin and if this turns out to be impossible, to a foreign waste management facility.

Since 1967, Luxembourg has a legislation and a regulation on radiation protection, which cover all relevant nuclear and radiological safety issues. This regulation is revised periodically in order to be in conformity with the provisions of the Directives of the European Union of which Luxembourg is a Member State. The last revision of the national regulation entered into force in 2000.

The legal framework relates to the protection of the general population, to the protection of workers and to the protection of the environment from damage that may be caused by radioactive sources or radioactive waste.

The aim of this first report is to demonstrate that Luxembourg meets its obligations of the Joint Convention. This demonstration is mainly based on the Luxembourg legislation and policy framework concerning the management, the control and the inspection of radioactive sources and radioactive waste held in the country.

The report is structured in conformity with the “Guidelines regarding the form and structure of national reports” issued by the IAEA on 1 July 2002 (INFCIRC/604). However the section concerning the safety of spent fuel management covering articles 4-10 of the Joint Convention is dropped as it is not applicable to Luxembourg.

Section B: Policies and practices

Radioactive waste management policy

The Luxembourg policy of the radioactive waste management is dictated by the practical needs of the country.

As mentioned, Luxembourg is a small country without nuclear installations and is not generating high-level radioactive waste. The low activity and volume of radioactive waste produced in the country are not justifying the implementation of a national final waste depository on the territory.

Some of our neighbouring countries prohibit the import of radioactive waste, whereas others accept the conditioning and the disposal of the radioactive waste produced in Luxembourg.

From the very beginning on (1967), the Luxembourg policy aimed to avoid the production of radioactive waste. This policy is mainly based on the following provisions:

- the return of disused sealed sources to the foreign supplier;
- the replacement of radioactive sources by non-radioactive alternatives if available;
- the minimization of the production of waste by the user;
- the storage of transition radioactive waste on the user's premises until decay.

This policy is translated in its national legislation, whose last revision was accomplished in 2000.

Radioactive waste management practices

Undertakings using radioactive substances exceeding the exclusion levels, must, according to the quantities involved, either grant for a licence, either notify in advance the competent authority. Undertakings are fully responsible for the safety and the security of the radioactive sources they use and for the management of the radioactive waste resulting from this use.

Sealed sources

The licensee must have a written commitment from the foreign supplier, where the latter agrees to take care of the source if disused. In line with the regulation in force, if it turns out that the supplier is unable to respect his commitment, e.g. in case of bankruptcy, the user or holder takes the necessary administrative steps to send his disused source to a foreign waste management facility. This also applies to older sources not yet covered by these new regulatory provisions.

Before the sources are sent back to the foreign supplier or to a foreign waste management facility, the user or holder must guarantee the safe interim storage of the disused sources on his premises. The licence contains provisions to be respected for the safe interim storage of waste. The expenses related to the interim storage, to the conditioning, to the transport and to the final disposal of the radioactive waste are covered by the user or holder.

Shipments of the disused radioactive sources must be carried out in accordance with the Community legislation (see Annex II).

Unsealed sources

Unsealed sources are only used in nuclear medicine, radiotherapy or in biomedical laboratories, e.g. C-14, Ga-67, Sr-89, Y-90, Tc-99m, I-125, I-131, Gd-153, Tl-201, etc. Several research laboratories, mainly in the field of biomedical research also use small quantities of H-3, C-14, P-32, S-35 and I-125.

Waste resulting from these practices and containing short-lived radionuclides (Tc-99m, Tl-201, I-131, I-125...) are stored on the user's premises until decay or until the activity of the waste decreased below the clearance levels as fixed by regulation for the unconditional release. Waste below clearance level may be treated the same way as conventional hospital waste.

Unsealed sources with long half-life (C-14 and H-3) are of very limited use in Luxembourg. Generally, solid and liquid waste resulting from medical use and research activities do not exceed the clearance levels and can thus be cleared unconditionally, unless the waste is presenting a particular biological risk. The quantities of H-3 and C-14 thus released into the environment in 2002 are estimated to 500 kBq. Waste exceeding the clearance levels must be shipped to a foreign waste management facility.

Waste arising from disused consumer goods containing small amounts of radioactive substances

To minimize the radioactive waste produced in Luxembourg, the use of certain consumer goods containing radioactive substances is prohibited.

Ionizing chamber smoke detectors (ICSD)

The installation of new systems with ICSDs has already been prohibited some time ago. Radioactive smoke detectors may easily be replaced by optical smoke detectors as they currently present the same degree of reliability as the ICSDs. The number of ICSDs in use dropped from 150000 detectors in 1994 to approximately 60000 detectors in 2003. Only approved companies are authorized to replace ICSDs by optical devices and the old detectors must be returned to the supplier.

Lightning conductor rods

In 1995, the competent authority has started a program to withdraw all radioactive lightning conductors in use. These radioactive lightning conductors were installed in the 60s and 70s without the necessary required licences. This program consisted in a first step to draw up an inventory of all the existing lightning conductors and in a second step to remove them by approved companies. Thus 138 lightning conductors were collected and currently 12 lightning conductors still need to be removed.

Incandescent gas mantles

The production and import of thorium incandescent gas mantles are forbidden, since gas mantles without any radioactive substances are available with similar properties

Radioluminous products and other consumer goods

Certain consumer goods as watches, compasses, fishing floats, etc, containing radioluminescent paintings or other consumer goods containing radioactive substances, as technical porcelain, optical glasses, etc, are difficult to control for reason of the free circulation of goods within the European Union.

Categorization of radioactive waste

Since Luxembourg is not operating nuclear power plants or any other fuel-cycle facility, radioactive waste is classified by the half-life of the corresponding nuclides and whether the disused sources are sealed or unsealed. A classification system as recommended by the European Commission (Commission Recommendation 1999/669/EC, Euratom) is not used, as it presents no practical advantage for Luxembourg.

Section C: Scope of application (Article 3)

The present report applies to the safety of the management of radioactive waste resulting from civilian applications and containing artificial radioelements exceeding the regulatory clearance levels for the unconditional release.

The present report also applies to waste that contains naturally occurring substances exceeding the regulatory clearance levels for the unconditional release. It does not apply to waste that contains naturally occurring substances that, at the time of their production, was not considered by law as radioactive waste.

As Luxembourg has no radioactive waste of military origin, the present report does not apply to that issue.

Section D: Inventories and lists

As a non-nuclear country Luxembourg is not operating and never operated a radioactive waste management facility.

However, the Radiation Protection Department of the Ministry of Health takes care of those disused sealed sources for which a safe management may not be guaranteed, e.g. in case of bankruptcy of the owner of the source. This is also the case when members of the public are holding for one reason or another disused sources. This concerns historic radioactive sources as radioactive lightning conductors, radium sources, small amounts of uranium or thorium salts, etc.

The competent authority also controls the sources, which are stored on the user's premises before being shipped to a foreign radioactive waste management facility.

The inventory of the radioactive waste stored on 1 January 2003 on the competent authority's premises is listed in Annex I.

The inventory of the radioactive sources stored on 1 January 2003 on the user's premises is listed in Annex I.

Section E: Legislative and regulatory system

Article 18: Implementing measures

Luxembourg legislation covers all legal provisions in the field of the safe management of radioactive sources and the safe management of radioactive waste resulting from the use of these sources. This legislation covers the following areas:

- a system of licensing and notification with regard to the production, the manufacturing, the holding and the use of equipment or substances emitting ionizing radiation as well as the treatment, the handling, the storage and the disposal of those substances if declared as radioactive waste;
- the operational provisions for the safe use of sources, devices and equipment emitting ionizing radiation as well as the operational provisions for the handling, the storage and the disposal of radioactive waste;
- the safe shipment of the radioactive substances;
- a system of dose limitation and protection of health of the public and of the exposed workers;
- a system of dosimetric and medical surveillance of exposed workers;
- a system of inspection and control of radioactive sources and waste held by the undertakings;
- the legal provisions to avoid incidents involving radiation-emitting substances and equipment;
- the rules and procedures for intervention in case of a radiological emergency in order to avert danger for human health and the environment.

Article 19: Legislative and regulatory framework

The system of licensing and notification

According to the quantities of radioactive substances used or held, undertakings are ranged in four different categories, which imply different licensing procedures:

In category I are ranging all undertakings operating facilities of the nuclear fuel cycle, the decommissioning of those facilities and undertakings operating radioactive waste management facilities or facilities for the final disposal of radioactive waste. Currently no

undertaking ranging in category I exists in Luxembourg. Licences for undertakings ranging in category I are delivered by the Government.

In category II are ranging all undertakings using or holding radioactive substances exceeding by a factor of thousand the exemption limits as fixed by the Council Directive 96/29/EURATOM of 13 May 1996 and all undertakings taking care of the conditioning and the interim storage of radioactive waste. The Minister of Health is delivering the licences for undertakings ranging in category II.

In category III are ranging all undertakings using or holding radioactive substances above the exemption limits fixed by the Council Directive 96/29/EURATOM of 13 May 1996, but not exceeding these levels by a thousand fold. Licences for undertakings ranging in category III are delivered by the Health Directorate of the Ministry of Health.

In category IV are ranging all undertakings using or holding radioactive substances staying below the exemption limits fixed by the Council Directive 96/29/EURATOM of 13 May 1996 but exceeding 1/100 of these limits. No licence is requested for undertakings ranging in class IV but in some cases undertakings must submit a prior notification to the competent authority.

The disposal and clearance of radioactive substances

The disposal of radioactive substances or material containing radioelements resulting from practices ranging in categories I-IV is submitted to prior licensing.

The clearance of radioactive substances or materials is ruled by legislation. The unconditional release of substances below clearance level does not require a prior authorization but is bound to certain conditions:

- these substances must arise from authorized practices;
- the concentrations of activity by unity of mass of materials to be released or the contamination level must remain below fixed clearance levels (see reference 2 of Annex II);
- the total mass of the substances or materials released must not exceed 1000 kg.

The dilution of radioactive waste resulting from authorized practices with inactive substances or materials in view to decrease the specific concentration is forbidden.

Operational provisions for the safe management of radioactive sources and of radioactive waste

The use of sources, devices and equipment emitting ionizing radiation as well as the operational rules governing the safe management of disused radioactive sources, devices and equipment are set by regulation. These disused sources must be stored on the user's premises. This interim storage is part of the licence delivered by the competent authority.

If unsealed radioactive sources are used, undertakings have to avoid as far as possible all unnecessary radioactive waste.

Undertakings may transfer their disused source for reuse to another undertaking holding a licence, they may return their disused sources to the supplier or manufacturer or they may transfer them to an authorized radioactive waste management facility in a foreign country. All expenses connected to the interim storage, the conditioning, the shipment and the disposal of disused source are supported by the undertaking holding the source.

Control and inspection

The control and inspection of radioactive sources and waste are a shared responsibility of the undertaking and the Radiation Protection Department of the Ministry of Health.

Before their first use all source or equipment emitting ionizing radiation have to undergo a first inspection by the Radiation Protection Department. The operational radiation protection system of the undertaking is also inspected. Furthermore, undertakings holding and handling radioactive sources are monitored and inspected at regular intervals by the Radiation Protection Department. These periodic inspections may also cover leakage tests of sealed sources. Leakage tests of the sealed sources are mandatory in case of an incident involving the source and at latest when the source is 10 years in use.

Undertakings have to hold a register of all the sources used or stored on their premises.

The Radiation Protection Department is responsible for:

- holding a national register of all the sources, devices, equipment and installations emitting ionizing radiation;
- controlling the undertakings in respect to all regulatory provisions;
- taking all the appropriate measures to avert danger in case of an incident involving these sources, devices, equipment and installations.

The system of radiation protection

The Luxembourg radiation protection system for exposed workers and for the population is based on the principles of justification, optimisation and limitation.

The exposure to ionizing radiation must be kept as low as reasonably achievable and the number of persons exposed to ionizing radiation must be as low as reasonably possible.

The dose limits for exposed workers, apprentices, students, for the public and the unborn child are laid down in the radiation protection regulation.

In view of optimizing the radiological protection of workers or the public, the competent authority may set dose constraints to guarantee that the sum of all sources of exposure stays as low as reasonably possible.

The radiation protection regulation is also laying down the limits for exceptional and for emergency exposures.

Article 20: Regulatory body

In Luxembourg, the legislative and executive competence in the field of radiological safety and radiation protection is attributed to the Minister of Health.

The Ministry of Health provides the necessary financial and human resources to assume its legal responsibilities. The Radiation Protection Department, placed under the authority of the Health Directorate of the Ministry of Health, is in charge of the operational and practical aspects for the safe management of radioactive sources and waste and for the supervision of the radiological protection system for exposed workers and the population.

Section F: Other general safety provisions

Article 21: Responsibilities of the licence holder

Undertakings ranging in categories I-III are responsible to request a prior authorization delivered by the competent authority. Undertakings ranging in category IV are responsible for the notification before the use of radioactive sources.

Undertakings holding or using radioactive sources are fully responsible for the respect of all regulatory provisions concerning the safe management of their radioactive sources and waste and for the implementation of a radiological protection system of the exposed workers, the population and the environment. They are responsible in particular for:

- taking within their undertaking the appropriate steps to optimize all exposure to ionizing radiation;
- identifying all potential radiological risks incurred by the exposed workers;
- classifying the working places and to delineate controlled and supervised areas;
- the supervision of the working conditions in the controlled and supervised areas;
- classifying the exposed workers and organizing the medical surveillance;
- implementing the individual monitoring and the monitoring of the working place if appropriate;
- working out written procedures and instructions for the exposed workers;
- appointing a qualified expert or assign persons responsible for the physical control, the safety and the security of the equipment, the radioactive sources and the radioactive waste;
- the training and education of the exposed workers on all relevant issues in radiation protection.

Article 22: Human and financial resources

By legislation, undertakings using or holding radioactive sources or radioactive waste are bound to provide adequate human and financial resources to guarantee the safety and security of their sources and waste. They must contract a special insurance covering the reparation of radiological damage to third persons in the case of an accident.

Undertakings have to assign a qualified expert or, in certain cases, a person responsible for the physical control, and have to impart these persons the necessary competence, information, equipment and budgetary means so they are able to fulfil their tasks and missions.

Article 23: Quality assurance

As Luxembourg is not operating a radioactive waste management facility, no specific programs exist in the field of quality assurance.

Quality assurance programs are however requested on a regulatory bases in the field of operational radiation protection, e.g. periodic check of the efficiency of devices and measuring techniques, periodic calibration of measuring equipment, etc.

Article 24: Operational radiation protection (see also section E and section F)

Undertakings using or holding radioactive sources or waste are responsible to fulfil the regulatory provisions for the implementation of the operational radiation protection. These are in particular:

- the classification and delineation of working areas;
- the classification of the employees in categories A and B;
- the individual monitoring and/or the monitoring of the working place;
- the respect of dose limitations.

The national legislation lays down the legal obligations of the undertakings and of the qualified experts to fulfil the operational radiation protection.

Parts of the operational radiation protection are also:

- the national registry of the individual monitoring and the approval of dosimetric services;
- the system of medical surveillance of the exposed workers;
- the assessment of doses in case of emergency or accidental exposure.

Article 25: Emergency preparedness

Emergency preparedness and emergency response planning are a shared responsibility by the undertaking and by the competent authorities.

As undertakings are fully responsible for the safety of their radioactive sources and waste, they have to take the necessary steps to cope with radiological emergencies. Depending of the quantities of radioactive substances used or hold, they have to draw up internal emergency response plans taking into account the most probable accidents.

The periodic review of the plans and the training of the staff by organizing regular exercises are part of the conditions set in the licence.

In case of an emergency, the licence holder is obliged:

- to notify immediately the competent authorities;
- to evaluate the possible radiological consequences for the populations at risk;
- to take the necessary steps to avoid or to stop the release of radioactivity in the environment and limiting by that the exposure of individuals;
- to respect the legal provisions in case of emergency exposures.

The Government has set up a national emergency response plan to alert and to protect the population in case of a radiological emergency. The Minister of Health and the Minister of Interior are responsible for the off-site emergency planning.

This national emergency intervention plan takes into consideration the different aspects of the emergency response:

- the alert of the population at risk;
- determining the competence of the different authorities, intervention and rescue teams;
- the various preventive and protective counter-measures to be taken;
- the fixing of the different intervention levels.

The Civil Protection Department of the Ministry of Interior and the Radiation Protection Department of the Ministry of Health are responsible for the implementation of interventions and mainly for:

- the environmental monitoring of the radioactivity dispersed;
- the evaluation of the radiological impact;
- the operational aspects of implementing countermeasures.

The Council Directive of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency was transposed into national legislation on 11 August 1996.

Article 26: Decommissioning

This article does not applicable

Section G: Safety of radioactive waste management

The legal regime currently in force and particularly the system of licensing and notification, of inspection and control implemented by the competent authority (see section E and section F above) is a guarantee for the safe management of the small quantities of waste produced in Luxembourg, ensures to minimize the production of radioactive waste and to protect the exposed workers, the population and the environment from accidents involving this waste.

Articles 12-17 of the Joint Convention are not applicable, since Luxembourg is not operating a waste management facility.

Section H: Transboundary movements

In Luxembourg, any movement of radioactive source or radioactive waste is subject to control by the competent authorities. The shipment and transfer of radioactive substances are governed by the national legislation and by the provisions of international regulations.

Any shipment and transit of radioactive substances are subject to prior licensing which may be limited to a single transport operation or be valid for a limited time period of five years at maximum.

Luxembourg signed an agreement with Belgium and the Netherlands on the mutual recognition on transport licences.

The provisions of the ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Roads) and of RID (Regulation Concerning the International Carriage of Dangerous Goods by Rail) apply directly.

Also the technical instructions of the ICAO and the Dangerous Goods Regulations of the International Air Transport Association (IATA) are directly applicable.

Council 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, the Commission Decision 93/552/EURATOM of 1 October 1993 establishing the standard document for the supervision and control of shipments of radioactive waste referred to in council Directive 92/3/EURATOM and Council Regulation 93/1493/EURATOM of 8 June 1993 on shipments of radioactive substances between Member States do apply.

The transfer of radioactive sources or waste from Luxembourg to other countries is limited to the return of disused sources to the suppliers or to the transfer of disused sources to a foreign waste management facility.

Section H: Disused sealed sources

Luxembourg took all necessary regulatory steps to guarantee the safe management of disused sources (see sections E and section F).

The various steps taken to guarantee the safety and security of these sources are in particular:

- the licensing of the source;
- the written consent of the supplier to take back the source if out of use;
- the first inspection at delivery of the source and the subsequent controls;
- the provisions laid down in the licence for the interim storage of the disused source;
- the periodic control of the disused sources;
- the administrative steps for the transfer of the disused source to the supplier or to a foreign waste management facility;
- the traceability of all movements of the source within its lifetime.

The legal provisions in order to guarantee the safety and security of disused sources are enforced by the following legal instruments or documents:

- the national law and regulation on radiation protection governing the licensing procedures;
- the written request of the licensee for holding and using the source;
- the licence delivered by the competent authorities laying down the general or particular conditions to use the source;
- the documents on the transfer on radioactive sources or waste delivered by the competent authorities of the country of destination.

Section J: Planned activities to improve safety

The very limited number of incidents involving radioactive sources that happened in the last decades demonstrates that the Luxembourg system of management of radioactive sources and waste guarantees a high level of safety.

Within the last decade one single sealed source was lost in Luxembourg. However, due to the existing intervention procedures for the management of incidents and accidents, this source could quickly be recovered.

However, a rather large number of orphaned sources of low radioactivity were detected in the last decade in metal scrap imported to Luxembourg from neighbouring countries.

To strengthen certain aspects of the safety management of radioactive sources and waste, several administrative measures are planned:

Central register

Although Luxembourg has a national register of all radioactive used and disused sources held on the national territory, the relevant data concerning these sources are currently included in different databases. During the next year, it is intended to create one single database with all relevant information of all used and disused sources.

Shipment of radioactive sources

According to the provisions of Council Regulation 93/1493 of 8 June 1993 on shipments of radioactive substances between Member States, the holder of a radioactive source who has carried out a shipment of such a source has to provide the competent authorities in the Member State of destination with the total activity per radionuclide delivered to each consignee and the numbers of deliveries made. However, mainly in the field of medical applications, not all holders from neighbouring countries providing Luxembourg hospitals with radiopharmaceuticals do comply with the provisions with this Council Regulation. Luxembourg has to take the necessary administrative measures to strengthen the respect of the Council Regulation.

Annex I

Inventory of disused radioactive sources stored on 1st January 2003 on the user's premises **

Radionuclide	Number of sources	Total activity (GBq)
Am-241	4	44.4
Am-241-Be	10	277.7
Sr-90	15	28.9
Cs-137	5	1.9
Kr-85	3	77.7
Pm-147	1	74
Cm-244	2	37
H-3	1	7.4
Total (GBq)		549

** Is not taken into account radioactive waste with very short-lived radionuclides from medical origin

Inventory of disused radioactive sources stored on 1st January 2003 on the authority's premises

Radionuclide	Number of sources	Total activity (GBq)	Source type
Am-241	63	0.73	lightening conductors
Ra-226	28	0.82	lightening conductors
Am-241	54	0.14	ICSD's
Ra-226	6	0.001	ICSD's
H-3	3	79.7	gaseous light sources
Ni-63	2	0.66	HPLC detectors
natural Th + U	13	1.36 kg	different salts

Annex II

References to national and international laws, regulations, directives, decisions

Safety, radiation protection, operational radiation protection, licensing, emergency preparedness

- /1/ Journal Officiel du Grand-Duché de Luxembourg
RECUEIL DE LEGISLATION
Memorial A - N° 18 10 avril 1963
Loi du 25 mars 1963 concernant la protection de la population contre les dangers résultant des radiations ionisantes (Law of 25 March 1964 concerning the protection of the population against the dangers arising from ionizing radiation).
- /2/ Journal Officiel du Grand-Duché de Luxembourg
RECUEIL DE LEGISLATION
Memorial A - N° 9 22 janvier 2001
Règlement grand-ducal du 14 décembre 2000 concernant la protection de la population contre les dangers résultant des rayonnements ionisants. (Grand-ducal regulation of 14 December 2000 concerning the protection of the population against the dangers arising from ionizing radiation).
- /3/ 96/29/EURATOM
Council Directive of 13 May 1996 laying down basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation.
(OJ L-159 of 29/06/96 page 1)
- /4/ National emergency response plan in case of an incident or accident in the nuclear power plant of Cattenom or in case of any other radiological or nuclear event.
(adopted by the Government on 2 December 1994)
- /5/ 89/618/EURATOM
Council Directive of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency.
(OJ L-357 of 07/12/89 page 31)

Shipments of radioactive waste and substances

- /6/ Journal Officiel du Grand-Duché de Luxembourg
RECUEIL DE LEGISLATION
Memorial A - N° 165 31 décembre 2001
Arrêté grand-ducal du 28 septembre 2001 portant publication de l'Accord européen relatif au transport international des marchandises dangereuses par route (ADR), signé à Genève en date du 30 septembre 1957 et approuvé par la loi du 23 avril 1970, du protocole de signature et des annexes A et B, y compris les amendements en vigueur au 1er juillet 2001.
- /7/ Journal Officiel du Grand-Duché de Luxembourg
RECUEIL DE LEGISLATION
Memorial A - N° 165 31 décembre 2001
Arrêté grand-ducal du 28 septembre 2001 portant publication du Règlement concernant le transport international ferroviaire des marchandises dangereuses (RID), annexe aux Règles uniformes CIM (Appendice B à la Convention relative au transports internationaux ferroviaires COTIF, signée à Berne, le 9 mai 1980 et approuvée par loi du 4 mai 1983, y compris les amendements en vigueur au 1^{er} juillet 2001.
- /8/ 92/3/EURATOM
Council Directive of 3 February 1992 on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community.
(OJ L-35 of 12/02/92 page 24)
- /9/ 94/C224/02
Communication concerning Council Directive 92/3/EURATOM.
(OJ C-224 of 12/08/94 page 2)
- /10/ 93/552/EURATOM
Commission Decision of 1 October 1993 establishing the standard document for the supervision and control of shipments of radioactive waste referred to in council Directive 92/3/EURATOM.
(OJ L-268 of 29/10/93 page 83)
- /11/ 93/1493/EURATOM
Regulation of 8 June 1993 on shipments of radioactive substances between Member States.
(OJ L-148 of 19/06/93 page 1)
- /12/ 93/C335/02
Communication concerning Council Regulation (Euratom) No 1493/93.
(OJ C-335 of 10/12/93 page 2)