

Joint Convention
 Questions Posted To Luxembourg in 2015

	Country France	Article General	Ref. in National Report Section K: pp.24-25
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Question/ Section K has been properly written up according to the new Guidelines regarding the Form
 Comment and Structure of National Reports (INFCIRC/604/Rev.3 Draft 3).

Answer Thank you

	Country France	Article General	Ref. in National Report Section B: p.6
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Question/ Luxembourg's National Report includes a table summarizing the national waste management
 Comment policy (matrix); the country has not spent fuel.

Answer This is correct.

	Country France	Article General	Ref. in National Report Executive summary
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Question/ Luxembourg's National Report has no executive summary but this does not seem redhibitory
 Comment given the low quantities of waste and associated safety issues.

Answer Because of the size of the programme, the decision was taken to not have a separate
 executive summary but include summary statements into the introduction.

	Country Lithuania	Article Article 11	Ref. in National Report Page 8
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Question/ The shipment came from a scrap yard in another EU country, who remains responsible for
 Comment the radioactive material. In order to organize the return according to COUNCIL
 DIRECTIVE 2006/117/EURATOM of 20 November 2006 on the supervision and control of
 shipments of radioactive waste and spent fuel, the container was first transferred to the
 storage of the operator. Then the procedure for the shipment back to the country of origin
 was engaged. The transfer was authorised 2013. It has however not yet taken place.
 What are the reasons why the transfer of strongly damaged A-Type container to the country
 of origin was not performed though it was authorised in 2013?

Answer The shipment back to the country of origin took place on December 19, 2014. It is true
 though that this shipment was delayed. Following council directive 2006/117/EURATOM,
 the application for the transfer needed to be addressed by the Luxembourgish operator to the
 DRP. After issuing the authorization, the foreign scrap yard company became responsible
 for effectively organizing the shipment. However the DRP had no authority over that
 company and could only intervene with the Luxembourgish operator.

	Country Ukraine	Article Article 12	Ref. in National Report H, page 20
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Question/ As you say in the National report the storage time of the radioactive waste is not defined,
 Comment neither limited, but based on practical considerations. World operational experience
 demonstrates that unlimited storage of the waste is not a good practice and results in
 accidents. Could you comment on this issue?

Answer We fully agree with the statement that unlimited storage is not a good practice. Our aim is
 therefore to organize shipments to the ONDRAF at regular intervals to enable short storage
 time in Luxembourg, while giving priority in programming such shipments of higher risk
 wastes. The fact that no time limit has been defined does not mean that the wastes remain for
 an unlimited time at the NISF. In fact, most products are only stored for a couple of years,
 mostly far less than 10 years. Given however the small quantities and low associated risks,
 we do not see any advantage in formally defining a storage time limit.

	Country Ukraine	Article Article 12	Ref. in National Report H, page 20
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Question/ What is the maximum amount by volume and activity of radioactive waste that can be stored
 Comment in the National radioactive waste interim storage facility?

Answer The storage offers room for approximately 10 casks of 200 litres each. All storage is done in appropriate transport containers. A maximum activity has not been defined.

Country	Article	Ref. in National Report
United States of America	Article 12	H, pg. 20

Question/ RW arising in Luxembourg is periodically moved to Belgium for long-term storage. What is Comment the process for licensees providing their own interim storage to arrange for transfer to Belgium. How frequently and according to what criteria is waste transferred to Belgium?

Answer The licensee who plans to carry out a shipment of its radioactive waste submits a duly completed application for authorisation to the DRP following the procedure of council directive 2006/117/EURATOM on the supervision and control of shipments of radioactive waste and spent fuel. The DRP sends the duly completed application for consent to the competent authority in Belgium (FANC), who notifies its consent to the DRP within the given deadline. As part of this procedure, FANC consults with the Belgian waste management organization ONDRAF.
Luxembourg has not defined criteria for the transfers since the waste needs to respond to the acceptance criteria fixed by ONDRAF. Transfers are not very frequent. The last transfers took place in October 2010, December 2008 and October 2005.

Country	Article	Ref. in National Report
Ukraine	Article 16	H, page 21

Question/ 1. Were the waste acceptance criteria between Department of Radiation Protection and Comment Belgian Waste Management Agency approved?
2. Does the Belgian authorized inspection organization AV Control atom have a licence from the Department of Radiation Protection?

Answer Question 1: Luxembourg has not defined criteria with the Belgian Waste Management Agency. Luxembourg is considered as a small producer, based on the same criteria in force for defining small producers in Belgium. Therefore the same acceptance criteria as fixed by ONDRAF apply.

Question 2: This question gave raise to a systematic verification of all foreign companies that realize practices related to ionizing radiation under their own responsibility in Luxembourg. It turns out that all companies that operate their own radioactive material or other radiation devices in Luxembourg are properly licensed. Also, all companies entitled to intervene in the separation of radioactive material on scrap yards and/or decontamination activities following an incident are licensed. However, AV Control atom, which intervenes essentially in the preparation of transport packages of radioactive waste or radioactive sources, has never been licensed to that extent. The internal verification did not permit to get evidence why this has never been done. In any case, the DRP has decided to remediate this situation and AV Control atom has been requested to introduce an application for a license.

Country	Article	Ref. in National Report
Hungary	Article 19	19, p 12

Question/ "The limit of the annual effective dose for exposed workers (including women of Comment childbearing age, apprentices and adult students) is fixed to 10 mSv."

Doesn't the dose limitation of 10 mSv/year cause any problem if somebody works temporarily in such a country, where the dose limitation is higher (20 or 50 mSv/y)?

Answer To this day no such problem has ever been witnessed. The annual dose limits will be harmonized with the transposition of COUNCIL DIRECTIVE 2013/59/EURATOM, that calls for the establishment of uniform basic safety standards for the protection of the health of individuals subject to occupational, medical and public exposures against the dangers arising from ionising radiation.

Country	Article	Ref. in National Report
Russian Federation	Article 20	Section E page 13

Question/ What progress has been made in improving the efficiency and independence of the Comment regulatory authority?

Answer The DRP has increased its staff during the reporting period by about one agent. This is equivalent to 8%. Also the budgetary means remained more or less stable all through the economic crisis of 2009, with moderate increases during the recent years. In 2014, the DRP

has reviewed its organizational structure as part of an internal reorganization. This allowed a better definition of the missions of its staff. Also in 2014, the DRP developed a multiannual plan containing the projects that are presently undertaken or that will be conducted under the leadership of the DRP. These developments and activities have allowed maintaining and increasing the efficiency of the DRP.

Concerning the independence it needs to be stated that the DRP is a department within the Directorate of Health. The DRP reports via the Director of Health to the Minister of Health. The Ministry of Health is not involved in any energy policy activities, which fall under the competence of the Directorate of Energy of the Ministry of Economy. This enables an effective and functional separation between the functions of the DRP and those of any other body or organization concerned with the promotion or utilization of nuclear energy and radioactive substances.

Luxembourg is confident that the existing structure is proportionate with the national circumstances, taking into account the fact that Luxembourg does not have nuclear installations to regulate.

Country	Article	Ref. in National Report
Ukraine	Article 20	E, page 15

Question/ Comment How are the regulatory functions separated between the Department of Radiation Protection and the National laboratory of Health?

Answer The National laboratory of Health has no regulatory functions. It is purely doing laboratory measurements for public or private clients.

Country	Article	Ref. in National Report
Lithuania	Article 25	Pages 17, 18, 19

Question/ Comment In the Luxembourg report's Section F (Article 25. Emergency preparedness) are broadly explained changes in the draft of New national emergency response plan, that are designed mainly to respond to nuclear emergencies. Do you have in Luxembourg a separate national emergency plan to respond to radiological emergencies for facilities and activities in threat category III, IV and V according to the IAEA Requirements No. GS-R-2 and Safety Guide No. GS-G-2.1 ?

Answer The new national emergency response plan covers response to other radiological emergencies, categorized as III, IV and V according to the IAEA Requirements No. GS-R-2. In the scope of the plan, it is said: 'The goal of the plan is to establish alerting procedures and preventive, protective and safety measures for the population in case of any radiological emergency situation and in particular in case of an incident or accident in the NPP Cattenom or any other nuclear installation'. Concerning category III, it needs to be said that there are no irradiation facilities in Luxembourg.

In case of a radiological emergency on the premises of an operator, the latter one needs to activate its own on-site response plan and notify the DRP, the Civil Protection and other authorities as defined. Based on an initial assessment of the severity of the incident, the DRP duty officer may trigger the activation of the national emergency response plan. This would go in line with the setting up of a crisis centre and a radiological evaluation cell. Otherwise (if the severity is judged to remain local with few people concerned) the crisis is managed within the general intervention plan of the civil protection.

Specific operational intervention procedures exist for the intervention of the specialized teams, such as the Radiological Protection Unit (GPR). The approx. 30 members of the GPR are trained for field interventions after nuclear or radiological accidents. These operational intervention procedures have been updated recently in the context of CBRN threats.

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Country	Article	Ref. in National Report
United States of America	Article 25	F, pg. 19

Question/ Comment Please elaborate on whether the findings from the nuclear emergency preparedness exercise held with Germany and France during the period from June 2012 and June 2013 were discussed with the German and French regulatory counterparts and what remedies were taken to help address this issue going forward?

Answer Two levels are relevant. First the local or regional level that involves:

- in France the regional authorities, such as the 'prefecture' and 'Etat major' of the zone, responsible in France for the crisis management, and
- in Germany the authorities of the two federal states involved, with in each state a civil protection authority (responsible for crisis management) and a radiation protection authority, responsible for radiological evaluation and advisory body to the decision-takers.

After each exercise, "lessons learned" meetings were held with those partners. Quite a number of difficulties had been identified for which local and regional authorities often claim not to have the necessary competence to implement changes. Nevertheless we agreed to set up a standing working group, charged with proposing improvements and promoting better mutual understanding. The next meeting of that group is 27th of May 2015. Progress remains modest.

The second level is the cooperation with other nuclear safety authorities. The exercises in 2012 and 2013 have indeed shown that decisions for protective measures were mostly not coordinated. This finding is not new, it has been the same for at least 20 years! This time however, we have strengthened our involvement, together with the nuclear safety authorities in France and Germany, within the European organisations HERCA (Heads of the European Radiological protection Competent Authorities) and WENRA (Western European Nuclear Regulators Association) in order to address this issue at a high level. Together we were able to produce the quite revolutionary report 'HERCA-WENRA Approach for a better cross-border coordination of protective actions during the early phase of a nuclear accident' that has been adopted 22 October 2014 by both organizations and was published on their websites. We hope that the strong support of that document by all European authorities will help its implementation.

Country	Article	Ref. in National Report
Hungary	Article 26	G p. 19

Question/ Comment Typically how often does the licensee update the safety report?

Answer A frequency for updates has not been defined. There are also not enough licensees to provide valuable statistics. Licensees of HASS sources normally provide only the up-date when renewing the license at least every 10 years. In some cases of mobile uses, such as industrial gammagraphy, up-dates were done after either an incident or following inspection findings.

Country	Article	Ref. in National Report
Germany	Article 27	p. 21 (Section I)

Question/ Comment Transboundary movement: states of transit

As stated in the report the transfer of radioactive waste is regulated by the Grand-Ducal regulation of 3 March 2009 and the authorisation for transport is issued by the Minister of Health. Do these regulations also apply to the transit of spent fuel and radioactive waste? If this is not the case, which authority is responsible for the supervision of the transit of spent fuel and radioactive waste with regard to the compliance with national and international regulations in Luxembourg?

Answer Yes spent fuel is included in the same way as radioactive waste. The full name of that regulation is: 'Grand-Ducal regulation of 3 March 2009 on the supervision and control of shipments of radioactive waste and spent fuel'. This regulation concerns only the need for a license, or consent, by the Minister of Health for the shipment, basically transfers, exports, imports and transits. The carrier also needs a transport license that is also issued by the Minister of Health, following the Grand-Ducal regulation of 14 December 2000 concerning the protection of the population against the dangers arising from ionizing radiation, as modified.

Country	Article	Ref. in National Report
United States of America	Article 27	I, pg. 8

Question/ Comment In 2012 scrap metal from another EU country contained a damaged Ra-226 source. It was determined in 2013 that this source should be sent back to the country of origin. However, to date this has not occurred. Please provide details on the reasons for this delay and the path forward.

Answer The shipment back to the country of origin took place on December 19, 2014. It is true though that this shipment was delayed. Following council directive 2006/117/EURATOM, the application for the transfer needed to be addressed by the Luxembourgish operator to the DRP. After issuing the authorization, the foreign scrap yard company became responsible for effectively organizing the shipment. However the DRP had no authority over that company and could only intervene with the Luxembourgish operator.

Country	Article	Ref. in National Report
Japan	Article 28	p22

Question/ Comment With regard to the policy to minimize the use of radioactive sources in an attempt to reduce waste emissions, power plant operators are required to "certify that there is no alternative" to a specific specification. In carrying out this policy, to what degree are economic efficiency and other feasibility elements considered?

Answer Indeed, the initial investment for a radioactive source is often smaller than the investment into an alternative technology, such as X-Ray or ultrasonic. However if a licensee includes the costs for disposal of the equipment, knowing that the return to the supplier of a radioactive source is often quite expensive, the economic difference between the alternatives is mostly small. In addition, licensees gain in safety by using non-radioactive sources. From a DRP point of view, we discuss the above-mentioned economic considerations with the operators, but do not take them into consideration in our deliberations. We base those essentially on safety, including minimization of waste. Concerning other feasibility aspects, it is clear that an alternative technology can sometimes not be used in all environments or is at least very unreliable. In such cases, we may accept that the alternative technology is not an alternative in a given application and the use of a radioactive source remains justified.

Country	Article	Ref. in National Report
Lithuania	Article 28	Introduction

Question/ Comment It is stated in the introduction of the report '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'.

Is there some plans or agreements with 'foreign waste management facility' concerning possibility of management of the spent sealed sources that are impossible to return to the country of origin?

Answer The bilateral agreement with Belgium, which provides for the treatment of small quantities of radioactive waste from Luxembourg by the Belgian waste management organization ONDRAF, does not distinguish between different types of waste produced in Luxembourg.

It covers disused sealed sources, if needed. This agreement is presently renegotiated with Belgium in order to update it.

Country	Article	Ref. in National Report
Lithuania	Article 28	Page 23

Question/ Comment Who is responsible in Luxembourg for the management of radioactive waste generated or owned by enterprises in case of bankruptcy, waste without owner and orphan sources?

Answer The DRP, department of the Directorate of Health, takes the responsibility to organize the management of disused sealed sources for which a safe management may not be guaranteed, e.g. in case of bankruptcy of the owner of the source, waste without owner and orphan sources. The Grand-Ducal regulation of 14 December 2000 concerning the protection of the population against the dangers arising from ionizing radiation, as modified provides: "The Directorate of Health is in charge to recover, to organize the management and the elimination of orphan sources".

Country	Article	Ref. in National Report
Russian Federation	Article 28	Section 28 page 23

Question/ Comment What progress has been made in the implementation of national campaign on collection of spent radiation sources and substances?

Answer In 1995, the DRP has started a program to withdraw all radioactive lightning conductors in use. The DRP frequently contacted all responsible actors to encourage the removal of the remaining lightning conductors. Finally, on 23 September 2011, the last of these known lightning conductors have been dismantled and transferred to the NISF. Since early 2014, the DRP has started a national campaign to collect the unused and/or unneeded radioactive sources and substances from schools. At present, the DRP has visited approximately 1/3 of all schools and collected their obsolete sources and radioactive wastes. The campaign will be followed intensively within the next months. The intention is to draw conclusions and to share them with those responsible in the sector. As an initial conclusion, one can already state that the awareness of good practices in radioactive waste management is rather low at schools. Other campaigns will be organised. It is foreseen to define an agenda for these campaigns as part of the national programme for the management of radioactive waste.

Country	Article	Ref. in National Report
Ukraine	Article 28	J, page 23

Question/ Comment Are the high-level sealed sources of ionizing radiation used in education? If yes, how are specific requirements for licensing of high-activity sealed sources in accordance with EU-BSS (Council Directive 2013/59/Euratom of 5 December 2013) implemented?

Answer No high-level sealed sources of ionizing radiation are used in education. The sealed sources used in education are all category 5 sources, according to IAEA-TECDOC-1344.

Country	Article	Ref. in National Report
Ukraine	Article 28	J, page 23

Question/ Comment Are there any cases of orphan sources detecting and gaining control during the reporting period? If yes, in what amount and which total activity?

Answer Since the last review meeting, only a couple of alerts have been reported to the DRP, most of them being false alarms. In April 2012 a small and strongly damaged A-Type container with approximately 25 MBq Radium-226 was detected and separated from the metal scrap. The return to the country of origin was organized with full regulatory control.

Country	Article	Ref. in National Report
Croatia	Article 32	B

Question/ Comment In the report it is stated that portal monitors are installed at all metal recycling plants and that unloading operations in the harbor are also monitored. Are train and truck border crossings also monitored? If not, why?

Answer Train and truck border crossings are not monitored. All neighbouring countries are EU members in the Schengen room. Therefore no border controls exist. However, in 2012 the Luxembourgish customs got a high-energy mobile screening system for scanning trucks and lorries. The system is mounted on a truck and operates since November 2012 almost at a daily basis in different locations across the country and at borders. It is also equipped with a radiation detection monitor.

Country	Article	Ref. in National Report
Croatia	Article 32	B

Question/ Comment Is any education offered (by DRP or other institution) to the personnel which should be able to detect orphan sources or other radioactive materials (personnel at scrap metal yards, border crossings, etc.)?

Answer Training can be done by the DRP on a case-by-case basis. In companies that are also licensed to hold radioactive material, the RPO is in charge of the internal training of the people. In other companies that installed monitoring gates, the DRP has offered a short training in the facility and also helped to set up response procedures in case of alert. The DRP has also provided the training for the operators of the high-energy mobile screening system for scanning trucks and lorries from the customs organization.

Country	Article	Ref. in National Report
Morocco	Article 32	Section B: Policies and practices

Question/ Comment 1) It is mentioned in the report that "Clearance of very low activity wastes above clearance levels has to be licensed by the competent authority. Could you explain more the clearance licensing process?"

2) Could you tell us more about your strategy to regain control over orphan sources?

Answer Question 1: Grand-Ducal regulation of 14 December 2000 concerning the protection of the population against the dangers arising from ionizing radiation, as modified, states that any applicant for a license has to join to the application the measures proposed for the management, treatment and disposal of any radioactive waste including the following data. In case of liquid releases:

- a) an indication of the volume of wastewater discharged per month and the maximum volume released daily;
- b) the nature of radioactive substances likely to be there, their physicochemical properties and for each of them, the maximum amount per day, month and year, and the maximum concentration;
- c) an indication on the possible use of a discharge pipe;
- d) an extract of the cadastral map showing the route of the discharge pipe and the location of the landfill;
- e) an indication of the section of the discharge pipe and the material from which it is or will be made;
- f) in the case of a spill in a river, the estimation of low flow of the receiving water;
- g) in the case of release to sewer:
 - i) the situation and condition of the treatment system of sewage,
 - ii) the location of the radioactive discharge;
- h) equipment for monitoring of liquid discharges, sampling procedures and analysis of samples, technical specifications of measuring equipment and analysis used and the assurance procedures quality measures and analyzes;
- i) the alarm levels as well as alert and response procedures in case of discharges exceeding limit authorized;
- j) assessment of the radiological effects on humans and the impact on the environment, models and parameters used for calculating the dispersion in the aquatic environment, transfer into the food chain and the different biological environments and the dose received by the population as a whole and the dose received by the various age groups of various reference groups of the population.

In case of gaseous releases the specifications are similar. After assessment by the DRP, the Minister of Health may issue the license. The license may impose additional conditions.

Question 2: The strategy to regain control over orphan sources consists of 2 main elements:
 a. The promotion by the DRP for installing detection gates. The result is that at present all metal recycling plants and national waste recycling plants have installed fixed portal monitoring systems to detect radioactive materials at the entrance of their sites. Additionally, since 2012, the customs operate a large mobile scanner for trucks and lorries that is also able

to detect radiation.

b. Campaigns implemented by the DRP to collect obsolete sources that risk becoming orphan sources. The DRP has been able to encourage the removal of all lightning conductors and their transfer to the NISF. At present a national campaign is undertaken to collect the unused and/or unneeded radioactive sources and substances from schools. Other campaigns will be organised. It is foreseen to define an agenda for these campaigns as part of the national programme for the management of radioactive waste.