

SECOND REVIEW MEETING

JOINT CONVENTION ON THE SAFETY OF SPENT FUEL MANAGEMENT AND ON THE SAFETY OF RADIOACTIVE WASTE MANAGEMENT

Answers to the Questions of Contracting Parties on the
National Report submitted by Luxembourg:

Question 1:		asked by: France
Article 32	Section B	Page 7

Question: Do Luxembourg consider alternatives to the export for long term management of the C14 sources management?

Answer: Traditionally, the economical and commercial cooperation between Belgium and Luxembourg being very intense, by far most of the radioactive sources used in Luxembourg are provided by Belgian suppliers. Luxembourg itself has no production of radioactive sources. Considering also the fact, that Luxembourg has only a small amount of radioactive waste and strictly applies the principle of minimization of waste, it was possible for Luxembourg to get an agreement from the Belgian authorities to transfer limited quantities to the Belgian Agency for Radioactive Waste and Enriched Fissile Material. Different alternatives as the ones described in the report, do not seem realistic at present. As a long-term perspective a possible regional disposal facility for radioactive waste with the participation of several countries could be an alternative.

Question 2:		asked by: France
Article 32	Section C	Page 8

Question: Could Luxembourg present the applied clearance thresholds and the corresponding regulations?

Answer: Luxembourg adopted the clearance levels for unconditional release as recommended by the German "Strahlenschutzkommission" (Commission on Radiological Protection) in the document "Clearance of Materials, Buildings and Sites with Negligible Radioactivity from Practices subject to Reporting or Authorisation" published 1998. This report is available under: www.ssk.de. These clearance thresholds were implemented into the national legislative framework by the grand-ducal regulation of 14th December 2000 concerning the protection of the population against the dangers arising from ionizing radiation.

Question 3:		asked by: Czech Republic	
Article 25	Section F	Page 13	

Question: What is the periodicity for verification of National Emergency Intervention Plan?

Answer: After the first release in 1986 the national emergency plan has been updated in 1994, and has not been updated since that time. Nevertheless a number of conclusions were drawn from the recent exercises (simulations of an accident at the NPP Cattenom) organised in cooperation with the French and German authorities. Some of these conclusions are listed by the following and served to optimise the procedures and practices within the Luxembourg emergency plan:

- Systematic updating of the phone numbers of all the involved authorities and services as well as the mobile phone numbers of the responsible agents.
- Regular information messages of the actual situation to be transmitted to national authorities and services, which are not directly connected to the foreign crises centre. Also the specific technical language used for the exchange of information has to be revised in order to avoid misunderstandings.
- Real time exchange of information, essential for decision taking, between the crisis centres of the different countries (log-file).
- Information and decisions communicated to national and international media should additionally be translated into English. An agent of the decision and coordination centre should verify and validate all information to the media before release in order to avoid any kind of speculations or misinterpretations.
- Introduction of a hot line, other than the emergency line of the civil protection, to satisfy the needs of the individual.
- Need for transition from a fax-based to an Internet and e-mail communication between the authorities and services.
- Sharing the responsibilities between several agents in the aim to reduce the dependency on individual persons.
- Measures taken to protect the population have to be harmonised between the concerned countries.
- Continuous training of the technical staff in the emergency centre.

Question 4:		asked by: Czech Republic
Article 25	Section F	Page 13

Question: Could Luxembourg provide information on the national emergency organization (involved entities, type and level of responsibility)?

Answer: As soon as the French nuclear facility in Cattenom, 8.5 km from the Luxembourg border, was commissioned in 1986, the Luxembourg Government adopted a nuclear emergency plan. The original plan of 1986 has subsequently been revised and amended; the most recent amendment was effected on 2 December 1994, pursuant to a Government decision. The Luxembourg nuclear emergency plan draws upon the corresponding Swiss, German and French plans. It was submitted for examination and appraisal to the IAEA specialists in Vienna and to Swiss experts and was approved by both groups. The emergency plan is activated and tested by the competent authorities of the Ministry of Health and by the Civil Protection Directorate of the Ministry of the Interior. It is further defined that all departments and administrations under the competence of the Government and the administrations of the Municipalities are requested to cooperate by all possible means in order to realise the goals defined by the emergency plan. The responsibilities within the crisis centre during the alarm phase are as follows:

- Decision taking and general coordination (Civil Protection Directorate; Radiation Protection Department; Ministry of Interior; Directorate of Health and others if needed)
- Communication with the public (Media and information service of the Government and nuclear experts)
- National centre of alerts (members of this group)
- Execution of the countermeasures (Police; Army; Administration of the environment; Administration of civil engineering; Ministry of transports; Customs Directorate and others)

Question 5:		asked by: UK	
Article general	Section H	Page 13	

Question: Although under Article 2 of the Joint Convention Luxembourg may claim that it does not operate any “facility or installation the primary purpose of which is radioactive waste management”, it surely carries out “radioactive waste management” as defined in Article 2, and operates “nuclear facilities”, defined as “a civilian facility....in which radioactive materials are....processed, used, handled, stored....on such a scale that consideration of safety is required”.

Given that Luxembourg has a legislative and regulatory framework based around Council Directive 96/29/Euratom of 13 May 1996, it must share the opinion that “consideration of safety is required” in relation to work with ionising radiations, and therefore, inter alia, to the safe handling and storage of radioactive materials. Page 9 of the National Report states that “the Radiation Protection Department of the Ministry of Health takes care of disused sealed sources” and that sources are “stored on the user’s premises before being shipped back to a foreign waste management facility”.

Why, therefore, does Luxembourg consider that it has no requirement to demonstrate, as a minimum, compliance with Article 11 of the Joint Convention, and also at least with the spirit of Articles 12 – 17, in Section H of its National Report?

Answer: One of the conditions of the authorization to hold or to use a sealed radioactive source is the procurement of a written commitment from the foreign supplier, where the letter agrees to take back the disused source (Luxembourg has no indigenous production). Given this condition, by far most of the disused sealed sources leave our country as soon as they are disused.

A small number of sealed sources however (for instance old lightning conductor rods, old ionising chamber smoke detectors) are collected by the Radiation Protection Department for a short interim storage at a radioactive waste storage location operated and controlled by that Department and situated at the CHL, 4, rue Barblé, Luxembourg. At regular intervals, the Belgian Waste Management Agency (ONDRAF/NIRAS) picks up this radioactive waste in Luxembourg and transfers it to the Belgian storage facility.

In conformity with the Luxembourg national legislation based on the Council Directive 96/29 Euratom of 13 May 1996, the radioactive waste management of Luxembourg is fully complying, in the letter and the spirit, with the obligations of the joint Convention, and in particular with Articles 11 – 17 thereof.

Question 6:		asked by: Bulgaria	
Article 32			

Question: What are the reasons that the storage facility for disused sealed sources of Ministry of Health is not declared as radioactive waste management facility falling within the scope of the Convention? How is the independent regulatory control over that activity ensured?

Answer: One of the conditions of the authorization to hold or to use a sealed radioactive source is the procurement of a written commitment from the foreign supplier, where the letter agrees to take back the disused source (Luxembourg has no indigenous production). Given this condition, by far most of the sealed sources leave our country as soon as they are disused.

A small number of sealed sources however (for instance old lightning conductor rods, old radioactive smoke detectors) are collected by the Radiation Protection Department for a short interim storage at a radioactive waste storage location operated and controlled by that Department and situated at the CHL, 4, rue Barblé, Luxembourg. At regular intervals the Belgian West Management Agency (ONDRAF/NIRAS) picks up this radioactive waste in Luxembourg and transfers it to the Belgian storage facility.

The Radiation Protection Department of the Ministry of Health is a public national control organ which is independent vis-à-vis the users of radioactive substances and the promoters of nuclear energy.

Question 7:		asked by: Hungary	
Article 32	Section D	Page 9	

Database: Luxembourg has developed a national level database containing all radioactive sources hold in Luxembourg. Is the database kept up-dated by using licensees' reports? How many times a year does a licence holder report to the database? What kind of data, datasheets are recorded? Is it a real-time system?

Answer: Approximately 300 single radioactive sources are licensed in Luxembourg and again the same number of low activity sources with a need of notification is hold in Luxembourg. Considering this small number the database is exclusively governed and updated by the competent authority. Licensees have to notify the competent authority of any planed modification. Additionally the competent authority conducts yearly inspections of the licensed sources. The database contains information about the type, activity and registration number of the source its localisation and a reference to the corresponding license.

Question 8:		asked by: Hungary
Article 18	Section E	Page 10

Question: Statement of the report: 'The limit of the annual effective dose for exposed workers (including women of childbearing age, apprentices and adult students) is fixed to 10 mSv. Question and remark: It seems to be that the annual limit of 10 mSv for exposed workers has been established strickly. Is it valid for a single year or averaged over five consecutive years?

Answer: At the end of the 80's it became clear that the dose limits laid down for exposed workers were to be considered as too high. Consequently, the Luxembourg Government has proceeded to the modification of the then existing limits. In lack of any international consensus at that time, the Grand- Duchy of Luxembourg has fixed the new limit on the effective dose for exposed workers to 10 mSv for a single year. In a non-nuclear country this limit deemed to be appropriate and acceptable in practice. During the 90', the international consensus on the dose limit for exposed workers became clearer. Whatsoever, Luxembourg never changed the existing limit of 10 mSv/year. The doubling of this limit or applying it as an average value over five consecutive years could have been understood as a change for the worse of the existing radiation protection system for exposed workers.

Question 9:		asked by: Hungary
Article 32	Section E	Page 10

Question: Why are different authorities responsible for the authorization of facilities belonging to different categories?

Answer: In principle all competence with regard to ionizing radiation is attributed to the Minister of Health. However, in order to reduce the administrative burden, authorization processes dealing with low activities of category 3, the competence was delegated to the Director of Health, who is also under the supervision of the Minister of Health.

Question 10:		asked by: USA
Article 32	Section B	Page 7

Question: The report describes increased use of C-14 unsealed sources for biomedical waste in Luxembourg and policy changes in 2005 to store these sources on the users' premises until transfer to a foreign waste management facilities. During the first report review, the U.S. asked Luxembourg about their contingency plan in case there is ever a time when foreign countries stop accepting Luxembourg's radioactive waste. Luxembourg responded with additional information regarding their

agreement with Belgium to take radioactive sources, but did not indicate it had a contingency plan. With the increase in C-14 use and policy changes in 2005, will C-14 sources be transferred to Belgium? Furthermore, does Luxembourg have any contingency plans if Belgium were no longer available to accept this waste?

Answer: Considering, that Luxembourg has only a small amount of radioactive waste and strictly applies the principle of minimization of waste, it was possible for Luxembourg to get an agreement from the Belgian authorities to transfer limited quantities to the Belgian Agency for Radioactive Waste and Enriched Fissile Material. Different alternatives as the ones described in the report or any contingency plans, do not seem realistic at present. As a long-term perspective a possible regional disposal facility for radioactive waste with the participation of several countries could be an alternative. It also has to be noted, that the total amount of C-14 used in research activities still remains very low.

Question 11:		asked by: USA
Article 11	Section K	Page 15

Question: It is stated that according to the June 1993 Council Regulation 93/1493 on shipments of radioactive substances between Member States, the holder of a radioactive source who has shipped a source has to provide the competent authorities in the Member State of destination with the total activity per radionuclide and the number of deliveries made. It is noted that, mainly in the field of medical applications, not all holders from neighboring countries providing Luxembourg hospitals with radiopharmaceuticals comply with these provisions of the Council Regulation. Please explain why Luxembourg does not either require its medical (and industrial) licensees to periodically report shipments of radioactive sources to the competent authorities or require the medical facilities to have import licenses that would specify the types and quantities of radionuclides they wish to import in a given year.

Answer: The obligation of the holder to declare any modification of their radioactive inventory is exactly how we became aware of a discrepancy between the declarations of the foreign shippers and the effectively received activities by our licensees. With the transposition of the Council Directive 2003/122/EURATOM and the related modification of our regulation, we will expand this earlier mentioned obligation to the transporters, meaning that the licensed transporting companies have to hold a register with all the effected transfers to Luxembourg. This will allow us to have an improved crosschecking tool and to react faster on missing declarations. However it has also to be noted that most shippers do regularly declare all the effected transfers.

Question 12:		asked by: USA
Article 20	Section E	Page 11

Question: Please elaborate on Luxembourg’s staffing complements and competencies for regulatory oversight.

Answer: The Radiation Protection Department consists of 6 agents of higher education, specialized in radiological protection (1), medical physics (3), geology (1) and nuclear engineering (1). For regulatory purposes, they can rely on the lawyers of the Ministry of Health. One technical engineer, 2 technicians, 2 laboratory assistances and one secretary complete the department. 2 of the agents are further attributed with the legal power of police officers. A third one will follow. 4 of the agents figure as inspectors for controlling any equipment emitting ionizing radiation.

Question 12:		asked by: USA
Article 32	Section J	Page 14

Question: Belgium accepts small quantities of radioactive waste from Luxembourg for treatment. Does this arrangement include disposal of the treated waste.

Answer: It’s true that Belgium accepts the small quantities of radioactive waste from Luxembourg. This arrangement includes also the disposal of the treated waste.

Question 8:		asked by: USA
Article 19	Section J	Page 10

Question: A population group “apprentices” is a control group for radiation protection. Please describe the characteristics of this control group and the rationale for such grouping. Another group is “students”. How is this group characterized

Answer: The educational system in Luxembourg foresees for certain professions a three-year studies, consisting of partially being at school and partially working as a trainee (apprentice) in a company. The group of students is characterised by full time students working during their holidays or as part of their studies in research laboratories. For both groups, identical dose limits are applied.

It became necessary to introduce these groups, as working with radiation sources might be subject of their education or studies. With these two exceptions, no other person below the age of 18 is classified as exposed worker.

Question 15:		asked by: USA
Article 32		Page 4

Question: The report states radioactive smoke detectors have been forbidden for many years. Does this include the common ionization chamber used in households?

Answer: Yes, this includes ionization chambers containing radioactive sources or material.

Question 16:		asked by: USA
Article 26	Section F	Page 13

Question: The report addresses the provisions of Article 26 for large nuclear fuel cycle operations. Nuclear laboratories, hospitals and industries using radioactive materials and sources and other applications should have decommissioning-related information collected and maintained in the case of accidents and other events necessitating cleanup and decommissioning. Please describe how these decommissioning provisions apply to these other applications of nuclear materials, such as hospitals, industrial radiography, and use of sealed sources. Accidents and other incidents in these cases can also trigger decontamination activities, which are included in the definition of decommissioning.

Answer: Prior to licensing all users of high activity sources, such as certain hospitals and industrial radiography, have to introduce a security report. This report includes precautions for avoiding accidents and provisions for the management of incidents and accidents. These reports are regularly up-dated by the licensee and submitted to all involved actors, including the radiation protection department.

Question 17:		asked by: Poland
Article 3	Section C	Page 8

Question: It is written (Section C, p. 8) that report “does not apply to waste that contains naturally occurring substances that, at the time of production, were not considered by law as radioactive waste”. Q: Are there any estimates on amounts or total activity of this type of waste?

Answer: It is true that there exist by-products from former activities of the steel industry in Luxembourg, containing increased NORM levels. However, an estimate of its total activity cannot be given.