Joint Convention
Questions Posted By Australia in 2006

Seq. No	Country	Article	Ref. in National Report
1	Canada	General	A.2

Question/ Comment

Is it correct that, for the purposes of activities regulated under the Nuclear Safety Control Act, the Canadian Nuclear Safety Commission is the licensing body under both the NSCA and the Canadian Environmental Assessment Act?

Answer

No. The application of the Canadian Environmental Assessment Act (CEAA) and application of the Nuclear Safety and Control Act (NSCA) and its associated regulations are two separate functions.

The federal environmental assessment process is triggered when a federal body has specific decision-making responsibilities with respect to a project. With respect to the Canadian Nuclear Safety Commission (CNSC), environmental assessments are required when the CNSC, pursuant to Subsections 24(2) or 37(2) of the NSCA, issues or amends a licence or grants an approval under a licence for the purpose of enabling a project to be carried out.

The CNSC is required by law to ensure that the requirements of the CEAA are met. Therefore, the CNSC conducts environmental assessments in accordance with the CEAA. However, the environmental assessment process is not a licensing process.

At the end of the environmental assessment process, if the CNSC concludes that the project is not likely to cause significant adverse environmental effects, taking into account the appropriate mitigation measures, licensing can proceed.

The CNSC will proceed with licensing projects in accordance with the NSCA and its associated regulations.

Seq. No	Country	Article	Ref. in National Report
2	Canada	General	Planned Activity K.4

Question/ Comment

What were the principal strategies used by the NWMO to engage with the public in relation to the recommendations in its ‘Choosing A way Forward’ Report? Were there specific strategies used to the engage Aboriginal people?

Answer

The process through which the NWMO sought to elicit societal direction at each major step was designed to be responsive to what Canadians had said an appropriate study process should embody:

• the study process must be grounded in knowledge and expertise;
• the study must solicit and consider a wide range of perspectives;
• the Nuclear Waste Management Organization (NWMO) should “think out loud” and engage citizens in dialogue at multiple points in the process;
• the process must be fair, transparent and trustworthy;
• the process must make information accessible to members of the public who currently know little about this issue; and
• the process must use a variety of methods to engage citizens.

The NWMO designed its three-year study as dialogue conducted over four phases. Each of these phases was centered on a key decision in the evolution of the study and iterative development of the preferred approach. The four phases were supported by a series of public discussion documents designed to:

• share what the NWMO had heard from Canadians to date;
• describe how the NWMO was incorporating that direction in conducting the study phase; and
• solicit input to shape and direct subsequent steps in the study.

Citizens were asked to provide direction on:

• the questions to be asked and answered in the study;
• the key issues to be addressed in the assessment of the management approaches;
• the range of technical methods to be considered in the NWMO study;
• the risk, costs and benefits of each management approach; and
• the design of the overarching management structure and implementation plans for each management approach considered in the study.

Over the course of the dialogue, a broad range of engagement and dialogue initiatives were used, including traditional and more innovative approaches. In order to elicit the range of social and ethical considerations which citizens bring to bear on the issue, the NWMO used nation-wide surveys, focus groups, issue-focused workshops and roundtables, e-dialogues and deliberative surveys, and public information and discussion sessions. The selection of techniques was tailored to the "community of interest" targeted for involvement and included:

• Specialist papers and topical workshops: More than 70 papers were contributed by specialists in order to begin creating the information foundation for dialogue, and to help understand the state of knowledge and technologies available. A series of workshops were also conducted.
• Scenarios Exercise: A major scenarios exercise involving a diverse group of 26 individuals took place over a period of six months. The purpose was to explore a range of plausible conditions which might be faced when managing used nuclear fuel over the long term, and add the questions those scenarios raised to the study.
• National citizens' dialogue on values: Deliberative dialogue sessions were held across the country, with a representative cross-section of citizens, to explore the values which should drive decision-making on this issue.
• Workshops with highly engaged individuals and groups: A series of workshops were conducted throughout the study to speak with citizen groups involved in this issue, and individuals and organizations with an interest in public policy at both national and regional levels.
• E-dialogues: These four e-dialogues involved panels of experts, open question and answer sessions, and e-roundtables among students in an open forum.
• Public information and discussion sessions: There were 120 public information and discussion sessions across Canada where interested Canadians met to discuss the second discussion document.
• A program of Aboriginal dialogues: More than 150 meetings were designed, conducted and reported on by Aboriginal Peoples involving more than 2,500 participants.
• Public attitude research: Three nation-wide telephone surveys and more than 50 focus groups were conducted throughout the study.
• Submissions: Several hundred written submissions were made by mail or through the Web site; and
• A Roundtable on Ethics: A roundtable of specialists in ethics met over the course of the study to help identify the ethical issues associated with both the issue and the conduct of the study.

Some of these techniques were used to hear from a statistically representative cross-

section of citizens, including those who would not otherwise involve themselves in the study. Some were used to elicit the concerns of those directly interested in the issue, while others were used for more in-depth conversations among those with a specialized interest. Throughout, a Web site served as a platform for making reports commissioned by the NWMO publicly available. Through this Web site Canadians were invited to comment on the topics, and what was said was also shared. Each dialogue initiative was conducted, and reported on, by third parties in order to ensure the accuracy and transparency of the reporting.

Individual dialogue initiatives were, for the most part, designed to bring together people from a diversity of perspectives to work through issues, create shared meaning, and identify common ground. Participants in these initiatives (and more broadly, interested Canadians) were encouraged to examine their own thinking and learn through talking with each other, and listening to and understanding perspectives which are different from their own. Dialogue initiatives were designed to identify areas of common ground among diverse perspectives while identifying and acknowledging differences from which an integrated view could emerge.

The NWMO exchanged dialogue with the Aboriginal community to share information on the issue of managing used nuclear fuel over the long term. This helped the NWMO to understand how this information is processed by the Aboriginal community and to learn from the reactions, insights and concerns that were expressed. Efforts were made to involve Aboriginal peoples in all NWMO activities.

From the beginning of the study, the NWMO has provided support to Aboriginal organizations in helping them design and implement dialogue processes according to what they believe would work most effectively. Process design and implementation were determined and managed by the Aboriginal organizations within the constraint of respecting key NWMO study milestones. Initially, agreements were struck with national organizations as a means of achieving the broadest exposure possible. As the dialogue evolved, it became apparent that direct interaction with regional and local organizations was also important and thus initiated. In all, collaborative agreements were struck with six national Aboriginal organizations and eight regional and local organizations. In addition, an outreach program was initiated to develop relationships with groups from First Nations of Ontario, Quebec, New Brunswick, and Saskatchewan (the provinces involved in the nuclear fuel cycle). The NWMO supported these activities with direct financial resources, and through information sharing, briefings, and training. The NWMO also sponsored a workshop on the important topic of Traditional Knowledge, and towards the close of the three year study, an Elders' Forum.

Seq. No	Country	Article	Ref. in National Report
3	United Kingdom	General	A:13
Question/ Comment	What legal and administrative measures has the United Kingdom taken to meet the requirements of the HASS Directive regarding orphan sources? For example, does it have a national strategy for gaining or regaining control over orphan sources?		
Answer	The High-activity Sealed Radioactive Sources and Orphan Sources Regulations 2005 amend the Radioactive Substances Act 1993 to include at s.30A the provision that "The appropriate Agency shall be prepared or have made provision, including assignment of responsibilities, to recover any orphan source and shall have drawn up appropriate response plans and measures".		

The Department for Environment, Food and Rural Affairs currently chairs a stakeholder group (the Orphan Sources Liaison Group) to co-ordinate UK-wide arrangements for responding to orphan source incidents.

Seq. No	Country	Article	Ref. in National Report
4	United Kingdom	General	Planned Activity K:7

Question/ Comment Does the CoRWM include representatives from industry?

Answer No CoRWM members are current employees of the nuclear industry. However, the Committee does have a number of members with a detailed knowledge of nuclear operations. Additionally, the Committee has a number of channels available for securing access to nuclear industry and other radioactive waste management specialist advice to support its option assessment work.

Seq. No	Country	Article	Ref. in National Report
5	United Kingdom	General	Planned Activity K:7

Question/ Comment What measures have been put in place to ensure that the CoRWM is an independent advisory body?

Answer CoRWM has been established as an independent advisory Non-Departmental Public Body. The Chair and Member appointments were made from outside the civil service, or any other bodies answering directly to Ministers on the basis of guidelines established by the Office of the Commissioner of Public Appointments. While the Committee is provided with a secretariat and financial resources through the Department for Environment, Food and Rural Affairs, on behalf of all sponsoring Ministers, the CoRWM Chair, Professor Gordon MacKerron and his Committee management team, have full responsibility for the Committee's work programme and the use of these resources. He is accountable directly to sponsoring Ministers for programme and its outcome.

Seq. No	Country	Article	Ref. in National Report
6	United Kingdom	General	Planned Activity K:7

Question/ Comment Given the Committee's objectives of 'winning public confidence' and leaving a 'full and clear' (K:12) audit trail for the policy decisions that are taken, how does the Committee plan to measure success against these goals?

Answer CoRWM looks to achieve these objectives by coupling the input of sound science with a wide programme of public and stakeholder engagement throughout the course of its work. The programme is structured to be easily understandable – agree the waste, agree the available options, agree the criteria against which the options are to be assessed and then carry out the assessment. The public, stakeholders and experts are involved at all the key stages in this process. CoRWM operates in a completely open and transparent way with all its plenary meetings held in public and all its papers published on its website – www.corwm.org.uk. CoRWM has appointed an independent assessor to provide feedback on the way its work is perceived by the assessor himself and the wider world. The Committee also has various peer review and quality assurance mechanisms in place.

Seq. No	Country	Article	Ref. in National Report
7	United Kingdom	General	Planned Activity K:7

Question/ Comment Will the public be invited to comment on the recommendations prior to the Committee submitting them to the Minister?

Answer Yes. CoRWM is due to publish its draft recommendation at the end of April 2006 for a final round of public and stakeholder consultation prior to finalisation and delivery of its final recommendation in July 2006.

Seq. No	Country	Article	Ref. in National Report
8	United Kingdom	General	Planned Activity K:7

Question/ Comment Which areas of government do the 'Ministers' represent?

Answer Within UK Government and the devolved administrations, the lead Ministers for the UK's "Managing Radioactive Waste Safely" programme, of which CoRWM's work forms part, are:

· within UK Government, the Secretary State for Environment, Food and Rural Affairs;

· within the Scottish Executive, the Minister for Environment and Rural Development;

· within the Welsh Assembly, the Minister for Environment, Planning and Countryside; and

· for Northern Ireland, the Minister of State, Northern Ireland Office.

Seq. No	Country	Article	Ref. in National Report
9	United Kingdom	General	Planned Activity K:7

Question/ Comment At which level of government will a decision be made on the recommendations eg ministerial or cabinet level?

Answer Decisions on future policy for the future management of the UK's higher activity radioactive waste, based on CoRWM's recommendation, will be the subject of decision by the UK Government and the devolved administrations for Scotland, Wales and Northern Ireland (radioactive waste management policy being a devolved function within the UK).

Seq. No	Country	Article	Ref. in National Report
10	United Kingdom	General	Planned Activity K:9

Question/ Comment What is the role of the NDA in national management of radioactive waste? For example, does it have a role in the work of the CoRWM?

Answer The role of the NDA is discussed in the national report. But briefly the NDA is a public body set up to take strategic responsibility for the UK's nuclear legacy.

The majority of the UK's radioactive waste is either already on NDA owned sites, or will be generated on these sites during decommissioning. On that basis NDA has a key interest in the work of CoRWM and the development of an effective strategy for dealing with waste. Along with many other organisations, NDA is represented on CoRWM's National Stakeholder Group and has participated in workshops to consider such matters as the weighting that should be applied to waste disposition options. NDA has also provided information to CoRWM on current proposals for disposition of Magnox reactor decommissioning waste and has peer reviewed work commissioned by CoRWM on plutonium.

Seq. No	Country	Article	Ref. in National Report
11	United Kingdom	General	Planned Activity K13

Question/ Comment Are you able to provide any further details on the public and stakeholder engagement process planned for Stage 4?

Answer CoRWM has developed and amended its programme as its work has proceeded. It now has a three-phase programme. The third and last phase, which commenced in August 2005, covers the detailed assessment of its short-listed options leading to

delivery of its final recommendation in July 2006.
The Report of Phase 2 of CoRWM's Work Programme, available as Document 1210 on its website – www.corwm.org.uk - provides details of its proposed public and stakeholder engagement programme for Phase 3 which is now underway. This programme involves the use of:
· citizens' panels;
· stakeholder panels;
· citizen and stakeholder round tables;
· CoRWM's Young People's Programme;
· a National Stakeholder Forum;
· written and website consultations;
· use of a discussion guide for social networks and websites; and
· implementation specialist workshops.

Seq. No	Country	Article	Ref. in National Report
12	United Kingdom	General	Section L2: L2.59/60

Question/ Comment Are you able to provide any further details on the outcome of the review of the Safety Assessment Principles?

Answer The revised Safety Assessment Principles (SAPs) are out on public consultation until the end of May 2006 at www.hse.gov.uk/nuclear/saps.

We would welcome your comments on the document.

It was benchmarked against IAEA safety standards at an early part of the review process.

Most of the new topics covered and some of the revised text are of interest in the context of the Joint Convention:

The Fundamental Principles
Management of safety
Regulatory assessment of safety cases – new Siting
Emergency preparedness – new
Radioactive waste management – new
Decommissioning – new
Contaminated land – new

Seq. No	Country	Article	Ref. in National Report
13	United Kingdom	General	Section L2: L2.59/60

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Seq. No	Country	Article	Ref. in National Report
14	Argentina	Article 3	
Question/ Comment	A map showing the major nuclear facilities in Argentina would be a useful inclusion in the country report.		
Answer	In the 1st National Report, Section L.7, there is a map with nuclear power plants and other facilities and some more detailed site charts and theirs locations. These maps can be consulted in the Web site: www.cnea.gov.ar/xxi/residuos/convencion-conjunta.asp		

Seq. No	Country	Article	Ref. in National Report
15	Bulgaria	Article 4	page 49
Question/ Comment	The operator has responsibility that the generation of radioactive waste should be as low as possible. Does the Republic of Bulgaria set waste reduction targets for operators, and is the amount of waste monitored to assess whether this requirement on the operator is working?		
Answer	Regulation on safety of radioactive waste management requires that the operators should have programs for management of radioactive waste that specify, among other things, waste management objectives. The same regulation contains also the requirement that waste generators should apply measures for minimization of the waste generation. Waste generators' efforts to fulfil the mentioned regulation's provisions lead to the definition in the operator's waste management programmes of waste reduction targets. Those targets are set by the operators and they are approved and monitored by NRA. An example for fulfilment of the mentioned requirements is the Complex Program for Management of NPP Kozloduy's Radioactive Waste from 2005, which foresees that until 2010 the amount of generated waste from all waste streams should be gradually reduced.		

Seq. No	Country	Article	Ref. in National Report
16	Denmark	Article 4	
Question/ Comment	Section G; Safety of Spent Fuel Management: How does Denmark comply with the requirements of articles 4, 5 and 9 with regard to its stored spent fuel?		
Answer	The spent fuel stored at Danish Decommissioning (very limited amounts) are covered by the Danish legislative and regulatory system and by that of the general authorisation of Danish Decommissioning and the Operational Limits and Conditions issued by the Nuclear Regulatory Authorities. The Operational Limits and Conditions contain specific requirements for the safe management of fissile materials.		

Seq. No	Country	Article	Ref. in National Report
17	Latvia	Article 4	Page 5
Question/ Comment	Spent fuel is currently stored in a wet storage tank (referred to as vault 7 in annex 1), how long is this storage option viable before safety dictates that its contents has to be removed?		
Answer	No, there is no spent fuel at Baldone site – fuel is in wet storage adjusted to the reactor pool at Salaspils site. As there is intention to send fuel back to the country of origin ASAP, the initial plan for temporary dry storage in transportable casks was not realised. There are some minor safety concerns because Al cladding fuel has low corrosion resistance, but still, fortunately, only few fuel elements have minor leaching of fission products to the water. Thus, if shipment will be due to any reasons postponed more than 1-2 years from now, the operator will reactivate plan for dry storage etc. to reduce risks related to corrosion.		

Seq. No	Country	Article	Ref. in National Report
18	Latvia	Article 5	Page 5
Question/ Comment	How was the decommissioning concept for the Salaspils research reactor (updated in 2005) been updated and have funds been set aside for the completion of the decommissioning process?		
Answer	The main changes in concept are related the future of site and the final stage for D&D – the cyclotron centre will be established there and site will be under surveillance for long time, hence majority of buildings and infrastructure will remain instead of initially planned “green field” to as called “brown field” –. The main reasons for such decision is 1) acceptance of proposal for cyclotron, 2) contamination of ground water by tritium (for free release the investments should be much higher). There is no dedicated fund and activities are progressing based on annual approval of budget for BAPA plus some additional funds are envisaged under long term liabilities for Government based on its approval of the Concept.		

Seq. No	Country	Article	Ref. in National Report
19	Argentina	Article 6	page A-3
Question/ Comment	The report notes that CNEA shall propose potential sites for a final repository. These sites must have regulator approval and they must also be approved by an Act of the Provincial Government where the proposed repository would be located. Have any siting studies for a final repository been undertaken? If a site for a repository was chosen and the Provincial government did not pass an Act to approve the site, does the Federal Government have any ability to overturn the decision of the Provincial government?		
Answer	The site for the repository has not been selected yet. The federal authority has not attributions to overturn the decision of the provincial government, according to Act N° 24804.		

Seq. No	Country	Article	Ref. in National Report
20	Sweden	Article 9	Page 97
Question/ Comment	Section G9.3.4: are there any plans to carry out such inspections?		
Answer	So far the availability of engineering and technical support on facilities has not been judged a limiting factor to safety. No inspections of this kind are planned at present.		

Seq. No	Country	Article	Ref. in National Report
21	Argentina	Article 10	pages B1, B2 and D1
Question/ Comment	The report outlines different disposition strategies for spent LEU and HEU fuel from research and radioisotope production reactors. It is noted that HEU fuel will be returned to the country of origin (presumably the United States), and that the remaining fuel will be returned in the near future. On the other hand, LEU fuel will remain in dry storage (after cooling) until a final disposition decision is made. Why is a different strategy being implemented for LEU and HEU fuels? When will the last of the HEU fuel be returned to the country of origin? In the inventory of spent fuel management facilities (D-1), there is no information given for HEU spent fuel from the research reactors. Where is this material stored and how much of it remains in the storage facilities?		
Answer	As mentioned in the First National Report (page G-8), 207 MTR-HEU spent fuels were sent to the United States of America in the frame of the Foreign Research Reactors Spent Nuclear Fuel Acceptance Policy. Argentina was able to apply for this “take back” policy for HEU spent fuel only. For that reason, a different management strategy for LEU spent fuel was implemented. There are MTR-HEU irradiated fuels elements in the RA-6 Reactor, these are not considered spent fuels		

because they are in use for the reactor operation, in an alternating way. It is estimated that at the end of the year 2007 all the HEU fuel material will be returned to the United States of America and the Reactor RA-6 will have a new core with LEU fuel.

Seq. No	Country	Article	Ref. in National Report
22	Argentina	Article 10	pages A-2 and F-4

Question/ Comment The report notes that the Strategic Plan for Radioactive Waste Management has not been approved by Congress. It also notes that the decision to complete the Atucha II power plant has required the revision of this plan. However, no timeframe for the completion and Congressional approval of the revised plan or the implementation of the fund for Radioactive Waste Management and Disposal are provided in the report. Q. Can you provide an indication of timing for the finalising of the Strategic Plan and implementation of the fund for Radioactive Waste Management and Disposal? In the absence of the fund, what organisation will pay for the handling, treatment and disposal of legacy waste, i.e. waste with no current identified owner?

Answer Under the present circumstances, it is not possible to estimate the time that these decisions will demand. At present, the National Treasury -on the basis of a budget that CNEA prepares and that the National Congress annually approves- provides the funds for the management of the radioactive waste. In Argentina, there are no wastes such as “no current identified owner”.

Seq. No	Country	Article	Ref. in National Report
23	Bulgaria	Article 10	page 59

Question/ Comment The strategy for Spent Fuel and Radioactive Waste Management (2004) does not envisage spent fuel disposal. Q. What plans are in place for the disposition of spent fuel and/or wastes arising from its reprocessing?

Answer There are no plans for direct disposal of spent fuel at present in Bulgaria. The Strategy considers the problem on safe storage and disposal of high activity waste (HAW) from spent fuel reprocessing. The Plan on Construction of a National Repository for Disposal of HAW and Long-lived Waste from Spent Fuel Reprocessing is attached to the Strategy. Options are considered for spent fuel reprocessing without return of the generated waste. The Republic of Bulgaria participates in the pilot initiative on European regional repositories SAPIERR as well.

Seq. No	Country	Article	Ref. in National Report
24	Korea, Republic of	Article 10	page 89

Question/ Comment An underground research tunnel (URT) has been constructed at the KAERI site. When completed, this facility will allow in-situ and related research on HLW disposal (page 89). What work is planned to be carried out in this facility, and how will this work be integrated into the policy development? Is it planned to use the KAERI facility as a repository and/or storage facility?

Answer A couple of site characterization programs are planned at the URT, such as the installation of groundwater monitoring system, measurement of redox potential front, and also measurement of rock matrix porosity and diffusion depth, etc. There are two fracture zones crossing the entrance tunnel. Some of the works are to be focused on the major water conducting fractures. Colloidal transport experiments are planned at the shear zone. The preliminary total system performance assessment for the developed Korean Repository System shows that rock matrix diffusion is one of the major sensitive parameters that control the final outcome. Therefore, an in-situ experiment is also planned for the identification of the diffusion depth. The URT is not intended to be used as a repository nor as a storage facility. The location and the

site conditions of the URT are not appropriate as a disposal site at all.

Seq. No	Country	Article	Ref. in National Report
25	Latvia	Article 10	page 7
Question/ Comment	What actions are being taken to progress the plans to move spent fuel out of Latvia? How is the proposed Latvia-Russia intergovernmental agreement on the cooperation on spent fuel management progressing?		
Answer	The main activities are between the Ministry of Environment in Latvia and Rosatom, but from both sides also ministries of foreign affairs are also involved. In Latvia several other ministries and institutions are working on proposed text of agreement to reach consensus. Draft agreement is very close to be finalised.		

Seq. No	Country	Article	Ref. in National Report
26	United States of America	Article 10	page 24
Question/ Comment	DOE will provide a report to the US Congress between 2007 and 2010 on the need for a second repository (page 24). Has this work commenced, and will any preliminary or progress reports be released before the report is tabled in Congress?		
Answer	The DOE currently plans to prepare and submit the report to Congress as required by the Nuclear Waste Policy Act.		

Seq. No	Country	Article	Ref. in National Report
27	United States of America	Article 10	page 133
Question/ Comment	It is also noted that some spent sources are required to be stored in GTCC facilities. The DOE provides some long-term storage for some GTCC sources, but an ultimate disposition path has not been determined (page 133). How are the spent GTCC sources that are not stored by the DOE handled? When is a disposition path for this type of waste likely to become available?		
Answer	The owners of sources not recovered by DOE are responsible for properly storing the sources in accordance with U.S. Nuclear Regulatory Commission (NRC) or Agreement State license requirements, until a disposal facility or alternative disposition path (such as recycling) is available. These sources are either stored at the owners' facilities or at commercial facilities in accordance with (NRC) or State licensing requirements (such as 10 Code of Federal Regulations parts 30, 32, 33, 34, 35, 36, and 39 at http://www.gpoaccess.gov/cfr/index.html). These regulations require licenses to secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. DOE is initiating environmental studies of disposal alternatives for greater-than-class C (GTCC) waste, including GTCC sealed sources. In August 2006 DOE must submit a report to Congress with a proposed schedule to complete the environmental study. Until the environmental study is completed, DOE is unable to identify a definitive schedule for having a disposal facility operational.		

Seq. No	Country	Article	Ref. in National Report
28	Argentina	Article 11	page K-6
Question/ Comment	It is noted that the development of the fund for Radioactive Waste Management and Disposal has been postponed because there is no law regulating its management and control. How is this deficiency being addressed?		
Answer	At present the National Treasury on the basis of a budget that CNEA prepares and that the National Congress annually approves, provides the funds for the management of the radioactive waste.		

Seq. No	Country	Article	Ref. in National Report
29	Denmark	Article 11	
Question/ Comment	Section A; Introduction and Section H; Safety of Radioactive Waste Management – Article 11: What is the result of submission of the “Basis for Decision” to the Danish Government and what are the outcomes agreed upon?		
Answer	The Working Group, consisting of members from relevant authorities, has basically finished a draft “Basis for Decision”. The draft will be formally finalized upon a clearance within the Government. Hereafter it will be presented to the Parliament, in the fall 2006. In addition the plan is to have a public hearing of the “Basis for Decision” during the summer of 2006.		

Seq. No	Country	Article	Ref. in National Report
30	Finland	Article 11	p54, section H.11.6
Question/ Comment	Radioactive nickel releases: The report mentions that potential releases are small. Has any systematic monitoring been carried out to check that the real releases are small?		
Answer	The solubility of nickel has been study in laboratory, in conditions that simulate those in a rock cavern repository for LILW, i.e. anoxic and elevated pH (> 9) conditions. Nickel has low solubility, in the order of 0,1 mmol/liter in such conditions. Given this low solubility, the potential re-leases of nickel from the repository are small as long as the cement-water conditions prevail. Our repositories are still in unsaturated conditions, thus no releases into the rock are expected. Only the rock cavern drainage waters are monitored and they are clean.		

Seq. No	Country	Article	Ref. in National Report
31	Latvia	Article 11	Page 8
Question/ Comment	Where are the funds collected from the natural resources tax allocated to?		
Answer	See also answer to your question No.4. Tax is going to special part of budget, which is dedicated to the environmental protection activities (including education etc.) of municipality.		

Seq. No	Country	Article	Ref. in National Report
32	Latvia	Article 11	Pages 8 and 9
Question/ Comment	Please detail the strategies for safe management of radioactive waste.		
Answer	The strategic document mentioned in the Report is mid-term conceptual document. It contains provisions for decommissioning, in relation to D&D plans – expansion of radioactive waste repository (building of two new vaults) and building of long-term storage for spent sealed sources and waste, which are not suitable for near surface. The Government approved time frame for these activities and indicative levels for funds needed for execution of relevant projects.		

Seq. No	Country	Article	Ref. in National Report
33	Argentina	Article 12	pages B-7 and H-8
Question/ Comment	The report states that in the AGE facility, very low-level liquid waste has been absorbed into soil beds to allow decay within the bed (page B-7 and H-8). Q Has this area of the facility been monitored to assess whether any migration of radionuclides has occurred? Has it been possible to limit the waste treated in this manner to short-lived radionuclides, or will the soil used in these beds require decontamination or special handling?		
Answer	a) This area is monitored monthly in order to measure total gamma activity. Throughout its operating life, samples taken from piezometers located downstream		

of the Low Level Radioactive Liquid Waste Management System showed results of gamma activity below the detection limits. b) Before 1995 some of the wastes disposed of (considered historic), contained small quantities of Cesium and Strontium. Since 1995, only wastes containing short-lived radionuclides were disposed of in this system. The necessity of decontamination or special handling of the soil used in these beds will be defined once the safety reassessment is concluded.

Seq. No	Country	Article	Ref. in National Report
34	Argentina	Article 12	pages F-24 and B-8

Question/ Comment There are no spent fuel and radioactive waste management facilities being decommissioned in Argentina. However, the AGE facility is no longer being used for disposal of wastes. Can you advise on the status of this facility and the safety arrangements for waste already in disposal areas?

Answer After thirty years of disposal activities in the AGE site and due to reasons mentioned in the First National Report, CNEA decided to suspend the disposal of solid wastes drums in 1999 and the disposal of liquid wastes in 2001. Those facilities dedicated to storage and to waste management are in operation. A site characterization project was formally initiated in 2003 to get enough information for the safety reassessment study with the conviction that all of the disposal facilities have fulfilled their operation stage. As it was mentioned before, depending on the conclusions achieved after the end of the environmental characterization of the AGE and the safety reassessment study, different alternatives of ensuring safety will be evaluated and proposed to the Regulatory Body to decide about the future actions.

Seq. No	Country	Article	Ref. in National Report
35	Latvia	Article 12	page 20, Annex 1

Question/ Comment Site Description: Vault No.1 – the report states that no drainage system is provided. Can surface water or rain water enter the vault, and if so, how is it removed?

Answer During operations ½ of length of the vault was opened and covered by temporary movable building. After filling that half, building was moved to the second half of the vault, but first part was sealed by concrete and asphalt. After operations all vault was covered by concrete, asphalt, clay and soil.

Seq. No	Country	Article	Ref. in National Report
36	Latvia	Article 12	pages 22-23

Question/ Comment Vaults 2-7 – is any drainage provided for these vaults?

Answer No. For vault 2 – it was a stainless steal tank into concrete, always closed from the top. Vault 3 – the same as for vault 1. Vaults 4 and 5 – small vaults for biological waste – there were only temporary opening of entrance channels. Vault 6 (and now also 7) were covered by a single light building entirely. The sealing methods for all old vaults 1-6 are the same.

Seq. No	Country	Article	Ref. in National Report
37	Latvia	Article 12	Page 9

Question/ Comment What were the outcomes of the EIA study?

Answer The main safety issues already identified in CASSIOPEE study were confirmed, some suggestions for monitoring were elaborated, during the study radioactive inventory was updated (some corrections were introduced, based on technical data and expert judgements), therefore expected doses are much lower, that in CASSIOPEE study.

Seq. No	Country	Article	Ref. in National Report
38	Latvia	Article 12	Page 9
Question/ Comment	Are new vaults going to be built? Have any sites been proposed? If yes, have any siting studies been undertaken?		
Answer	The same site for new vaults. During the EIA study (and also CASSIOPEE) safety assessments and recommendations were made based on existing site.		

Seq. No	Country	Article	Ref. in National Report
39	Korea, Republic of	Article 13	page 102
Question/ Comment	For LILW, have any sites been characterised or selected as a repository site (page 102)? What is the next stage in developing this repository?		
Answer	- By new site selection process changed from Decide-Announce-Depend to Stakeholder Involvement, voluntary application by 4 local governments (YeongDeok, GyeongJu, and PoHang in the east coast region, and GunSan in the west coast region) was made by the end of August, 2005. Preliminary site characterization was carried out for all four areas, and they were evaluated focusing on a specific site in the aspects of site condition and project feasibility. All were turned out to be acceptable. From the results of local referendum held simultaneously in four candidates on Nov. 2, 2005. GyeongJu was designated as the final candidate site for a LILW disposal facility. - As the next stage of the disposal facility development, decision-making on the repository concept at the GyeongJu site, a detailed site characterization to provide additional site-specific information for detailed design, a radiological environmental impact assessment, and a safety analysis for licensing will be performed using all the detailed information available.		

Seq. No	Country	Article	Ref. in National Report
40	Argentina	Article 15	page K-5
Question/ Comment	In August 2007, a final report of the safety assessment of the AGE should be submitted to the regulator. Is this work on schedule, and will the report consider decommissioning of some of the facilities at the AGE site?		
Answer	a) At present the work has a short delay. b) Depending on the conclusions achieved after the end of the environmental characterization of the AGE and the safety reassessment study, different alternatives will be evaluated and proposed to the Regulatory Body.		

Seq. No	Country	Article	Ref. in National Report
41	Latvia	Article 15	Page 10
Question/ Comment	Are the recommendations of EIA being acted on?		
Answer	Recommendations related to final capping, building of dedicated long-term storage and design modernisations are included into outline design for expansion of disposal site. Other recommendations will be implemented during licensing process as requirements for approval of design and granting of license for operations.		

Seq. No	Country	Article	Ref. in National Report
42	Denmark	Article 16	
Question/ Comment	Section H; Safety of Radioactive Waste Management – Article 16: How does the practice of managing radioactive waste with respect to the new storage facility comply with the requirements of this article?		
Answer	The licence to operate the new storage facility is based upon the 2002 Environmental Impact Assessment and the safety assessment which included data and computer simulations of the planned construction of a new storage facility. The		

relevant procedures and requirements as expressed in Article 16 have been implemented in the Operational Limits and Conditions for Danish Decommissioning. In addition a more detailed assessment of the specific construction including: functionality, floor load capacity, escape routes, dose rates at various operations inside and outside the facility, inspection routines, expansion possibilities, etc., has been performed.

Seq. No	Country	Article	Ref. in National Report
43	Latvia	Article 16	Page 11

Question/ Comment What are the consequences of a failure of a job manager to report an incident?

Answer There should be used administrative penalties (in worth case also criminal offence) for operator (legal person – license holder) from the RDC. Internal activities at licensee could depend from their internal system. There is also possibility to withdraw a certificate for job manager or to request for additional training and re-certification.

Seq. No	Country	Article	Ref. in National Report
44	Latvia	Article 16	Page 12

Question/ Comment Must plans for decommissioning by licensees include a financial plan to cover the cost of decommissioning?

Answer Yes, but in stage of application for new practice these plans are indicative, close to the suspension of practices financial plans shall be more detailed and real.

Seq. No	Country	Article	Ref. in National Report
45	Japan	Article 17	page A-3

Question/ Comment Will waste arising from the decommissioning of the JPDR remain on the Tokai Mura site and, if so, when and how will this disposal facility be decommissioned?

Answer The radioactive wastes arising from the decommissioning of the JPDR remain on the storage facilities and disposal facility of JAEA Tokai Mura site.
Disposal of very low-level concrete (1,670 t) was started in 1995, and the wastes are now under the institutional control stage.
This facility will be decommissioned in around 2025. The procedure which JAEA submits a report for the decommissioning plan of a disposal facility and the regulation authorities approve is required.

Seq. No	Country	Article	Ref. in National Report
46	Latvia	Article 18	page 13

Question/ Comment Is the use of the words “specific activity levels” appropriate in this context? The term “specific activity” has a very precise technical meaning. “activity concentration levels” may be more appropriate.

Answer No real comments, the use of these terms depends from traditions in country (as we are non-English speaking). The main issue – always to use the same terms in the same contexts to avoid miss-interpretation.

Seq. No	Country	Article	Ref. in National Report
47	Latvia	Article 18	

Question/ Comment What arrangements will be made if vault 7 reaches full capacity and arrangements have not been finalised to move spent fuel out of Latvia? When is it expected that the Radons site will be at full capacity?

Answer There is a mistake in this question – we have no any intention to put spent fuel for storage at Baldone site. If there could be delays to ship it out from Latvia, than the back-up option is to establish temporary dry storage (in transportable casks) at

Salaspils site. The expected time to reach full current capacity for vault 7 is ~ 2009 (waste from D&D is the main concern), thus expansion of the site should be finished before 2009 or there will be a need to expand temporary store of conditioned waste at Salaspils site (current capacity is ~2-3 months waste packs from D&D).

Seq. No	Country	Article	Ref. in National Report
48	United States of America	Article 18	page 58

Question/ Comment	DOE-EH, amongst some other areas of DOE, has a number of responsibilities for the regulation of DOE wastes (including the consideration and acceptance of Environmental Impact Statements). This practice effectively results in the operator and regulator responsibilities being carried out within the DOE (page 58). What external oversight is used to monitor these regulatory practices within the DOE?
Answer	DOE is a large organization with approximately 9,000 Federal employees and 100,000 prime contractor employees. Waste management operations are implemented by the contractors. Offices under different assistant Secretaries are separated functionally, administratively, and often geographically. The first level of regulatory oversight is provided by Federal employees in the Field Offices overseeing the activities of management and operations contractors, and other contractors who implement programs. Additional levels of oversight are provided by the Office of Environment, Safety, and Health and the Office of Security and Safety Performance Assurance. Both of these headquarters offices have no responsibilities for accomplishing waste management operations or for the schedule or cost of these operations. They both report to the Secretary of Energy and have no management in common with the offices which execute waste management programs. Another level of oversight is provided by the Defense Nuclear Facility Safety Board which was established by statute and reports only to the U.S. Congress.

Seq. No	Country	Article	Ref. in National Report
49	Argentina	Article 19	page A-1

Question/ Comment	The report notes the existence of a number of provincial and municipal regulations that can have a significant impact on management activities. How are the different areas of government organised and how are their inputs integrated into the regulatory process?
Answer	The attributions of each level of government are constitutionally differentiated. Argentina is a federal country and the provinces maintain all the powers not delegated to the federal government. Radiological safety aspects of radioactive waste management are attributions and duties of the Federal Government, being the ARN, the National Regulatory Authority. The licenses issued by ARN deal with radiation protection, nuclear safety, physical protection and safeguards, as they are applicable. A clause in the licenses issued by ARN makes clear that the Responsible Organization shall also comply with the regulatory standards and requirements of other competent authorities, national, provincial or municipal, that are not related to nuclear activities.

Seq. No	Country	Article	Ref. in National Report
50	Canada	Article 19	E.7

Question/ Comment	How does the CNSC policy on managing radioactive waste define the term ‘radioactive waste’ to ensure that the policy does not otherwise apply to radioactive material for which a continued use is foreseen? If so, what is the CNSC’s definition of ‘radioactive waste’?
Answer	Regulatory Policy P-290, Managing Radioactive Waste, relies upon the owner of the material containing nuclear substances, to have it declared as waste. If there is a continued use foreseen, it is expected that the material would not be declared a

waste (which, of course, does not remove the material from regulatory control under the Nuclear Safety and Control Act (NSCA), it just means it is not treated as a waste). In the case of waste material which is disposed of and then recovered for some purpose, the material would then be considered a resource, not a waste. For example, if technological advances make it economic to reprocess uranium tailings, the tailings would be considered similar to a uranium ore deposit instead of a waste, and regulated accordingly.

Seq. No	Country	Article	Ref. in National Report
51	Denmark	Article 19	

Question/ Comment	Section E; Legislative and Regulatory System – Article 19: Which international and/or national standards or guidance material does the Nuclear Regulatory Authority use as a basis for developing its Operational Limits and Conditions for Danish Decommissioning? (For example IAEA RS-G-1.7 and EC RP-113 are noted as used for determining values for clearance.)
Answer	The following requirements, guides and standards were used as a basis for developing the Operational Limits and Conditions for Danish Decommissioning: 1) IAEA, Safety Guide No. WS-G-2.1, Decommissioning of Nuclear Power Plants and Research Reactors, 2) IAEA, Safety Guide No. 35-G1, Safety Assessment of Research Reactors and Preparation of the Safety Analysis Report 3) National Board of Health Order no. 823 of 31 October 1997 on dose limits for ionizing radiation, 4) Ministry of the Interior and Health Order no. 192 of 2. April 2002 on exemptions from law on the use of radioactive substances, 5) DS/EN ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories, 6) IAEA, Safety Guide No. RS-G-1.7, Application of the Concepts of Exclusion, Exemption and Clearance, 8) EU Radiation Protection 113, Recommended radiological protection criteria for the clearance of buildings and building rubble from the dismantling of nuclear installations, 2000, 9) EU Radiation Protection 114, Definition of clearance levels for the release of radioactively contaminated buildings and building rubble, 2000, 10) IAEA, Safety Requirements No. WS-R-2, Predisposal Management of Radioactive Waste, Including Decommissioning.

Seq. No	Country	Article	Ref. in National Report
52	Denmark	Article 19	Annex B, page 18

Question/ Comment	Both of the Acts relevant to spent fuel and radioactive waste came into force over 40 years ago. Have they been amended in the light of developments in radiation safety and waste management procedures? Is the list of Orders from the National Board of Health a list of amendments to the Acts?
Answer	The Acts relevant to spent fuel and radioactive waste are both very general. The Orders are established in pursuance of the Acts and have been continuous revised in the light of developments in radiation safety and waste management procedures. In addition mandatory revisions of the Orders have been made due to implementation of several directives from the Council of the European Union. Operational Limits and Conditions for Danish Decommissioning, stipulated in the Nuclear Installations Act, is a very efficient and direct legal tool, which may be changed on a short notice taking into account the latest relevant developments on the decommissioning site as well as the latest national and international recommendations/requirements.

Seq. No	Country	Article	Ref. in National Report
53	Korea, Republic of	Article 19	page 24

Question/ Comment	MOST, MOCHIE, MOE, MOGAHA, MOL and MOCT all have regulatory and control functions (page 24). How are the required inputs and approvals of these organisations integrated?

Answer	All safety matters regarding nuclear energy and radiation are mainly reviewed under the Atomic Energy Act for licensing. Some other cases which are not related to nuclear safety are reviewed by competent governmental authorities.

Seq. No	Country	Article	Ref. in National Report
54	Latvia	Article 19	page 3

Question/ Comment	The regulatory body (RDC) has developed a comprehensive management system with support from EU (under PHARE program). What is the PHARE program and what are the major changes that the RDC has experienced?
Answer	Phare program is EU support program for EU candidate states (the last activities for new EU member states is under Phare 2003 funds, which can be used up to end of 2006. The main activities within Phare 2002 (for RDC) were related to preparations of quality management system for eventual certification under ISO 9001 and accreditation under ISO 17025 for laboratory activities. The main changes in RDC – better documented all processes and procedures and improvement of knowledge on QA for regulatory authorities.

Seq. No	Country	Article	Ref. in National Report
55	United States of America	Article 19	page 13

Question/ Comment	In section B.3.4, it is noted that reprocessing, where Pu, U or both are recovered from spent fuel to be used again in a reactor, was abandoned in the 1970s in the US because of concern about nuclear proliferation. How will the recently announced plans for the recycling of spent fuel be incorporated into US legislation, regulations, and practice?
Answer	On February 6, 2006, Secretary of Energy Samuel W. Bodman announced the Global Nuclear Energy Partnership (GNEP). As a first step, the U.S. Congress passed legislation appropriating funds for initial GNEP activities. The GNEP is part of President Bush's advanced energy initiative and Congress appropriated $80 million in fiscal year 2006 to DOE Office of Nuclear Energy for advanced reprocessing technologies. An additional $50 million was allocated to the DOE to support spent fuel recycling, including $20 million to encourage communities to compete for the recycling plants. The Administration has requested Congress to provide $250 million in fiscal year 2007 for DOE to continue this initiative. For the latest information see www.gnep.energy.gov.

Seq. No	Country	Article	Ref. in National Report
56	Finland	Article 20	pg 30, Figure 9

Question/ Comment	What is the role of staff in the emergency preparedness area in an emergency? Do they coordinate emergency procedures or participate in them?
Answer	Each department of STUK is responsible to maintain and develop the emergency preparedness in their respective expertise areas so that STUK would be able to response all types of emergency situations. The responsibility of the emergency preparedness unit is to coordinate this work. In the case of an emergency most of the staff of respective departments are involved and the staff of the emergency preparedness unit support them.

Seq. No	Country	Article	Ref. in National Report
57	Bulgaria	Article 21	page 29

Question/ Comment	Waste may be transferred to the State Company "Radioactive Waste" SC "RW" if it "is radioactive waste imported to the Republic of Bulgaria which may not be returned" (page 29). What types of waste are allowed to be imported into the Republic of Bulgaria of this category? Has there been any of this type of waste transferred to the SC "RW"?

Answer ASUNE prohibits the import of radioactive waste into the country except in the case of re-import of disused sealed sources and sources of ionizing radiation manufactured in the Republic of Bulgaria and import of wastes from (re)processing of materials executed as a service in favour of the Republic of Bulgaria or of Bulgarian legal entity. The quoted text concerns the cases of illicit import and other cases where the finding is made that an import in the country is realised of material which is: a/ radioactive; b/ is not intended for future use; and c/ for some reason can not be returned to the country of origin.
The only registered in the country case of possible import of radioactive material was in year 2002 when the State Company “Radioactive Waste” had not been created. The material was a bale of metallic scrap imported from Romania, which was detected on the entrance of the Kremikovtsy metallurgical plant. The bale was shipped to PRRW Novi han where the ionizing source was identified as an illuminating gauge with a radium paint cover. At present the material is still stored in Novi han.

Seq. No	Country	Article	Ref. in National Report
58	Korea, Republic of	Article 22	pages 51 and 54

Question/ Comment The KHNP has accumulated the costs of decommissioning, disposal of wastes and spent fuel as an in-house liability since 1983 (pages 51 and 54). Are there any guarantees that these funds will still be available in the long-term when they are required? Do similar arrangements hold for KNFC?

Answer KHNP predicts the long-term financial plan for decommissioning of NPP and conservatively plans the fund supply program considering liquidity and debt rate of KHNP.
KNFC has been reserved expenses for waste management according to annual budget plan based on ‘Electricity Business Act’. KNFC will pay the expenses to disposal site operator when radioactive waste is transferred to radioactive waste disposal facility

Seq. No	Country	Article	Ref. in National Report
59	Latvia	Article 22	Page 14

Question/ Comment At the bottom of page 14 it states that the “Government should allocated additional financial resources” for the decommissioning. Have any funds been forward allocated for the completion of decommissioning of Salaspils? The funds referred to on page 17, are they sufficient to complete decommissioning?

Answer In simple – no; unfortunately, there is no dedicated D&D fund for research reactor, thus financial resources are allocated on annual base (as part from State Budget) and based on approval by the Government there are mechanism for long term liabilities of the Government, which serves as legal background for additional investment programs and activities to get other funds for certain activities.

Seq. No	Country	Article	Ref. in National Report
60	Argentina	Article 24	page F-16

Question/ Comment The average data for occupational exposures at facilities is of interest. It would be useful if there was a further analysis of this data to explain what activities have been undertaken to reduce doses. In addition, where annual doses vary, the role of special activities and maintenance could be investigated to explain these deviations.

Answer The analysis of the relationship between incurred doses and associated activities, is a continues task for operators as well as regulators. With the objective to improve the radiological protection of such activities, work procedures have been changed in many opportunities as a consequence of these analysis.

Seq. No	Country	Article	Ref. in National Report
61	Denmark	Article 24	

Question/ Comment	Section F; Other General Safety Provisions – Article 24: With regard to Table 6; are these the only radionuclides of concern discharged in liquid from the facility?
Answer	These are the only nuclides of concern. However, it is a provision in the Operational Limits and Conditions for Danish Decommissioning that the Nuclear Regulatory Authorities are informed if discharge of other nuclides is detected or expected, and that Danish Decommissioning justifies a proposed discharge limit. A discharge limit for the relevant nuclide will then ultimately be set by the Nuclear Regulatory Authorities.

Seq. No	Country	Article	Ref. in National Report
62	France	Article 24	page 104

Question/ Comment	Professional activities that lead to exposure now have obligations to monitor doses to the public (page 104). Is this a new responsibility? If this is a new responsibility, why were the doses to the public from these facilities not monitored previously?
Answer	The concerned professional activities have been listed on the basis of EEC recommendations. Under the responsibility of the operator (responsible of the facility), public exposures have now to be assessed, for each facility. Doses to the public have not been monitored before because of the absence of regulation.

Seq. No	Country	Article	Ref. in National Report
63	France	Article 24	page 105

Question/ Comment	The release of a new order that defines new radiological monitoring programs for mains water and non-mineral bottled waters is noted (page 105). Have the levels of radionuclides in these sources of drinking water been monitored prior to 2002? Why has this new order been promulgated, and are there separate orders for mineral bottled waters?
Answer	The monitoring of the radiological quality of drinking water was still required before 2002 but not for each sampling point (only for the most important catchments). The new order extends the monitoring for all water supplies, in accordance with WHO recommendations and EEC directive (98/89). Regulation of mineral water is separated at European and national levels, without any reference to radiological issue.

Seq. No	Country	Article	Ref. in National Report
64	Japan	Article 24	page F-13

Question/ Comment	Local governments hosting nuclear facilities also monitor radiation levels independently at the site to protect public health and safety (page F-13). How are the results of this monitoring used, and what happens if the local government considers that the readings are too high?
Answer	Local governments monitor radiation levels according to a guideline provided by the government with the aim of transparency to the local residents around nuclear facilities. In case that increased radiation level is observed, local governments shall investigate the causes independently. If radiation level is increased over the standard value, local governments shall strengthen their monitoring activities and take an action for nuclear emergency preparedness.

Seq. No	Country	Article	Ref. in National Report
65	Japan	Article 24	page F-12

Question/ Comment	Reporting under Article 24 (Operational Radiation Protections) is limited to providing the dose limits for people engaged in radiation work and limits for the public. It would be helpful if actual data were included in the country report and if

these data were analysed to demonstrate the effectiveness of the radiation protection system in Japan.

Answer

1. Exposure dose data of radiation worker in Japan
In Japan, based on the Reactor Regulation Law and the Radiation Hazards Prevention Law, licensees are obliged to control the occupational radiation exposure of their employee and of their contractors' employees to be under the limits provided in the Notice associated with the Laws.
They are namely 100mSv for 5 years and 50mSv for 1 year.
Even in the situation that any employee works at several nuclear facilities successively, the sum of the occupational radiation exposure at each facility should not exceed the limits. In order to cope with these situations, the Radiation Workers' Registration Center was established. The Center issues a Radiation Control Book for each radiation worker to which individual radiation exposure records are registered.
The center has published annual report on the number of workers and their occupational exposure data since 1980.
As for 2004, 88,071 radiation workers worked at nuclear facilities in Japan and no one exceeded the limit.
Note that these exposure data are the workers' total exposure within the whole facilities and they include exposure data of all individual facilities such as spent fuel handling /storage facility and radioactive wastes process/storage facility.
Average annual personnel exposure at commercial nuclear power station was 1.2 mSv/person. Data on each facility could be found in the "OPERATIONAL SATATUS OF NUCLEAR FACILITIES IN JAPAN 2005" Section XVI. STATUS OF RADIOACTIVE WASTE MANAGEMENT AND OCCUPATIONAL RADIATION EXPOSURE MANAGEMENT which is available at http://www2.jnes.go.jp/unkan/unkanhp2005.html.
Discharge from the research reactors and nuclear material use facility is regulated by radioactive material concentration control.

2. Public exposure due to the discharge of gaseous and liquid radioactive wastes
At major nuclear facilities licensed on the basis of the Reactor Regulation Law, the operator establishes a numerical discharge control guide (or concentration control guide) which corresponds to a dose well below the dose limit for the public of 1 mSv/year, integrate it into the Operational Safety Program, and makes efforts to keep it. The regulatory body approves the Operational Safety Program and confirms the numerical discharge control guide. The regulatory body receives annual discharge record from the operator and publishes it.
Actual discharge data for 2004 are as well available at the above publication.
The Report shows that actual discharge data are well below the numerical discharge control guide for individual facility.

Seq. No	Country	Article	Ref. in National Report
66	Korea, Republic of	Article 24	page 70

Question/ Comment

Data are provided in the report of the doses to the public from discharges (page 70). Are any data available for doses to workers over recent years? In addition, are there any formal initiatives requiring the exposure of workers and the public to be minimised and/or continually reduced?

Answer

The annual collective dose and average individual dose of NPP workers are as follows:

Year 2000 2001 2002 2003 2004

Annual
collective 11,394 10,752 9,315 10,288 13,025
dose
(man-mSv)

Average
collective 1.41 1.29 1.12 1.18 1.32
dose(mSv)

Refer to the F.4.2(page 64-67) for radiation protection activities.

Seq. No	Country	Article	Ref. in National Report
67	Sweden	Article 24	page 74

Question/ Comment The use of site-specific and radionuclide-specific release criteria is commendable. However, this approach may be difficult to implement in situations where site-specific data are difficult to obtain. What is done in these situations?

Answer A situation where site-specific data are difficult to obtain is after closure of a repository for spent nuclear fuel or nuclear waste. In SSI FS 1998:1 (The Swedish Radiation Protection Authority's Regulations concerning the Protection of Human Health and the Environment in connection with the Final Management of Spent Nuclear Fuel or Nuclear Waste) this situation is dealt with by using a risk concept. It is stated that a repository for spent nuclear fuel or nuclear waste shall be designed so that the annual risk of harmful effects after closure does not exceed 10E-6 for a representative individual in the group exposed to the greatest risk.

Seq. No	Country	Article	Ref. in National Report
68	Korea, Republic of	Article 26	page 76

Question/ Comment KAERI have organised a Decontamination and Decommissioning Technology Development Division to carry out decommissioning of their facilities (page 76). What decommissioning activities have been carried out, and are the decommissioning activities on schedule?

Answer KAERI has decommissioned two research reactors and one natural uranium conversion facility. The project for the research reactor decommissioning was started in 1997 with the goal of completion of the decommissioning by 2008. A separate decommissioning project for the natural uranium conversion facility was started in 2001 and will be finished by the end of 2007.

Seq. No	Country	Article	Ref. in National Report
69	Ukraine	Article 26	page 31

Question/ Comment Section F.6.2: Have any difficulties been encountered with the approach of the licensee being required to ensure radiation protection of the public, etc?

Answer

Seq. No	Country	Article	Ref. in National Report
70	Ukraine	Article 26	page 41

Question/ Comment Is a person applying for a licence to construct a nuclear facility required to also set aside funds for the ultimate decommissioning of the facility?

Answer

Seq. No	Country	Article	Ref. in National Report
71	Argentina	Article 27	

Question/ What laws and administrative arrangements has your country put in place to address

Comment	the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	Our laws and regulations request that any person who intends to import or export radioactive materials shall obtain first a permit or authorization from the Nuclear Regulatory Authority (ARN). By virtue of an administrative procedure between ARN and Customs, no radioactive material could entry or exit the country without the prior intervention of ARN. The ARN export or import authorization is part of the mandatory documentation that exporters and importers must provide to the Customs. This is one of the domestic arrangements in place towards ensuring an effective control of the imports and exports of radioactive materials. In addition to that, when nuclear material is involved in any international transfer our laws require the issuing of an export control license, among other requirements derived from the non-proliferation commitments undertaken by Argentina. In particular, Argentina has enforced through the Executive Decree nº 603/92 dated April 9 1992, a strict control over the transfers of materials, equipment, technology, technical assistance and services of nuclear or nuclear related nature. To this end, this Executive Decree has established the National Commission for the Control of Sensitive Exports (CONCESYMB), which is the national authority responsible for applying the export control regime in force. The Ministries of Foreign Affairs, Finance and Public Services and Defense compose the CONCESYMB as permanent members and the ARN as the fourth member in the case of nuclear transfers. In the case of an export of nuclear material, it is obligatory to obtain an export license from the CONCESYMB. Each request is analyzed on a case-by-case basis. The decisions take due account of the commitments undertaken by Argentina in all relevant international treaties such as the Joint Convention and the treaties related to nuclear non proliferation as well as the international conditions and conditions specific for each concrete case. Argentine legislation incorporates to the national legal system the international criteria on these matters, having adopted in particular the standards established by the Nuclear Suppliers Group (NSG).

Seq. No	Country	Article	Ref. in National Report
72	Bulgaria	Article 27	

Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	The legislation in force related to the international transport of spent nuclear fuel and RAW are described in Section H of the report. In addition to them, the government approved in 2006 the draft of the Agreement Between the Government of the Republic of Bulgaria, the Government of the Russian Federation and the Cabinet of Ministers of Ukraine on Co-operation in the Field of Transport of Nuclear Materials Between the Republic of Bulgaria and the Russian Federation via the territory of Ukraine and the Agreement Between the Government of the Republic of Bulgaria and the Government of the Russian Federation on Co-operation on Export from the Republic of Bulgaria and Import into the Russian Federation of Spent Nuclear Fuel from the Research Reactor. The NRA checks whether conditions under the Article 27 of the Convention are met when issuing respective permits for export and transportation and, if necessary, requires respective confirmations by the regulatory bodies of the state of transit and the state of destination.

Seq. No	Country	Article	Ref. in National Report
73	Canada	Article 27	

Question/	What laws and administrative arrangements has your country put in place to address

Comment	the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	The legislative basis as described in Canada's 2005 Report remains valid for the authorized transboundary movement of spent fuel and radioactive waste.

Seq. No	Country	Article	Ref. in National Report
74	Denmark	Article 27	

Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	No additional administrative arrangements have been put in place to address Article 27.1 of the Joint Convention. However, as stated in the Danish report, negotiations between the Member States of the European Community regarding the proposal for a Council Directive on the supervision and control of shipments of radioactive waste and spent nuclear fuel specifically addressing Article 27, take place.

Seq. No	Country	Article	Ref. in National Report
75	Finland	Article 27	

Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	Finnish legislation concerning transboundary movement of spent fuel and nuclear waste is based on the European Directive 92/3/EURATOM. This necessitates an exchange of letters in advance and formal approval from all relevant countries. Import and export of nuclear waste for perma-nent disposition is forbidden by the Finnish Nuclear Energy Act.

Seq. No	Country	Article	Ref. in National Report
76	France	Article 27	

Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	Articles L541-40 to L541-42 of the Environmental Code regulate the transboundary movements of waste. These provisions also apply to radioactive waste. In particular they provide that: "To prevent [nuisances], the import, export and transit of certain categories of waste may be prohibited, regulated or subject to prior agreement from the interested States. Prior to any operation to import, export or transit waste, the holder of the waste informs the competent authorities of the interested States. The import, export and transit of waste are prohibited when the holder is unable to provide proof of an agreement binding him or her to the recipient of the waste or when the recipient does not possess the capacity and competencies to dispose of this waste under conditions that do not present any risk either to human health or to the environment." (Article L541-40 of the Code of the Environment). Decree No. 94-853 of 22 September 1994 on the Import, Export, Transit and Exchange of Radioactive Waste between EC Member States has implemented 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.

Seq. No	Country	Article	Ref. in National Report
77	France	Article 27	page 181

Question/	The report notes that the IAEA TranSAS (Transport Safety Appraisal Service

Comment	Mission) assessed the French radioactive materials transport organisation and its implementation of international regulations (page 181). The ASN is planning to implement the recommendations of this group. Could you provide details of how and when these recommendations will be implemented?
Answer	France has asked for an IRRT full scope including the transport activities scheduled in November 2006. This would be the first follow-up to a TranSAS mission. Two recommendations concern a formalisation of practices and the process is undergoing. The last recommendation concerns the non competent authority approved packages. DGSNR increases the number of inspections on this subject and asks the owners to know what kind of packages they use and what is the fabricant. The certificate of conformity must become mandatory in the regulations, otherwise progress could be only very limited. See also answer to question Ireland 2

Seq. No	Country	Article	Ref. in National Report
78	Japan	Article 27	
Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .		
Answer	In case of exporting radioactive waste or spent fuel from Japan, it is required to obtain the permit from the state of destination based on the bilateral agreement. To implement transboundary movement of spent fuel and/or radioactive waste, the permit by Minister of METI is required based on the Foreign Exchange and Foreign Trade Control Law. To obtain the permit from the Minister of METI, it is required to confirm the general conditions of safety as written in Section I.1.3 and I.1.4 of National Report.		

Seq. No	Country	Article	Ref. in National Report
79	Korea, Republic of	Article 27	
Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .		
Answer	The authorized trans-boundary movement of spent fuel and radioactive waste should be notified in advance by Article 86-2 (Report on Transport) of the AEA (Atomic Energy Act). - AEA article 86-2: Any person, who intends to get any ship or any aircraft laden with radioactive materials, etc, the quantity of which is prescribed by the Ordinance of MOST, to enter any port or airport of Korea or to sail through the territorial waters of Korea, shall file a report thereon with the MOST.		

Seq. No	Country	Article	Ref. in National Report
80	Latvia	Article 27	
Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .		
Answer	The law on Radiation Safety and Nuclear Safety, the EU regulations on safeguards and shipment of radioactive waste; provisions of draft Council Directive on the supervision and control of shipments of radioactive waste and spent fuel is also considered.		

Seq. No	Country	Article	Ref. in National Report
81	Sweden	Article 27	
Question/	What laws and administrative arrangements has your country put in place to address		

Comment	the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	The following national legal acts deals with questiones related to the authorised transboundary movement of spent fuel and radioactive waste: The radiation Protection Act SSI Regulations (SSI FS 1995:4) which implements Council Directive 92/3/Euratom The Act on nuclear Activities The Act on control of Export of Dual-Use Products and Technical Assistance. In the above mentioned Acts administrative procedures are laid down for the application as well as trying of cases regarding this subject. Effective enforcement measures - including penal sanctions - are in place to deter infringements of the legislation.

Seq. No	Country	Article	Ref. in National Report
82	Ukraine	Article 27	

Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	

Seq. No	Country	Article	Ref. in National Report
83	United Kingdom	Article 27	

Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	The Transfrontier Shipment of Radioactive Waste Regulations 1993 implement Council Directive 92/3 Euratom on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community. This complies with the provisions of Article 27 of the Convention as they relate to transboundary movement of radioactive waste. Spent fuel that is destined for reprocessing does not fall within the scope of the Regulations.

Seq. No	Country	Article	Ref. in National Report
84	United States of America	Article 27	

Question/ Comment	What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .
Answer	The U.S. laws and administrative arrangements are discussed in Chapter I of the U.S. National Report. Essentially, the Atomic Energy Act of 1954, as amended, assigns regulatory and oversight responsibility for imports and exports of source, special nuclear and byproduct materials including when such materials are deemed to be radioactive waste by NRC. NRC export/import licensing regulations in 10 CFR 110 were amended in 1995 to conform to the guidelines of the IAEA Code of Practice on the International Transboundary Movement of Radioactive Waste. The provisions pertaining to radioactive waste remain in force, and are consistent with the guidelines in the Joint Convention. A specific NRC license is required for all imports and/or exports of radioactive materials that meet the definition of radioactive waste.

Seq. No	Country	Article	Ref. in National Report
85	Denmark	Article 28	

Question/ Comment	Section J; Disused Sealed Sources – Article 28: What is the status of the National Board of Health/National Institute of Radiation Hygiene plan concerning industrial

gamma radiography installations and the use of sealed radioactive sources in industry, hospitals and laboratories? How does this plan contribute to or ensure compliance with the requirements of this article?

Answer The National Board of Health/National Institute of Radiation Hygiene has issued Order no. 308 of 24 May 1984 concerning industrial gamma radiography installations and Order no. 918 of 4 December 1995 on the use of sealed radioactive sources in industry, hospitals and laboratories. These Orders implement all obligations under Article 28 of the Convention ensuring that the possession and storage of disused sealed sources take place in a safe manner. The orders stipulate requirements for granting authorisation including demands on possession, returning to manufacturer and storage of disused sealed sources. There is at present no disposal facility in Denmark for disused sealed sources.

Denmark has exported only a few equipments originally produced in Denmark but mounted with sealed sources produced outside Denmark. The total amount is less than 20. Denmark has until now never received any request for re-entry of these equipments. Due to the small number of these equipments no criteria for accepting or rejecting such a request has formally been made.

Seq. No	Country	Article	Ref. in National Report
86	Japan	Article 28	page J-5

Question/ Comment The regulatory authority is considering establishing a system for a national registry of sealed sources at least for category 1 and 2 sources (page J-5). We note that such a register is required by paragraph 11 of the Code of Conduct on the Safety and Security of Radioactive Sources, and that Japan has notified the Director-General of them IAEA of its intention to implement the Code. Is there any information on how long it may to make this decision and how long it would take to implement a national registry?

Answer In Japan, safety regulatory system based on the Law requires users of radioactive sources to get a license from the competent regulatory authority before use.
Every licensee is responsible for managing sources properly, and taking control of information on inventory and transactions of radioactive sources. Each licensee shall report those of information to the authority regularly.
Therefore, we consider that safety regulatory system in Japan meets the requirements of the Code of Conduct.
For strengthening the national register system, an online real time computer system for registering information for inventory and tracking of radioactive sources is planed. However, it is still uncertain when we will complete the system because of financial reason.

Seq. No	Country	Article	Ref. in National Report
87	Bulgaria	Article 32	page 10

Question/ Comment The capacity of the existing SFSF and at-reactor ponds will allow storage of spent nuclear fuel from the operating units until 2009, when the new dry storage facility is expected to be commissioned (page 10). What are the contingency plans for fuel storage in the unlikely event that the new dry storage facility is not available in 2009?

Answer The necessity to remove the SF from at-reactor ponds of the units 1-4 in order to start decommissioning is the main reason for construction of the new Dry SFSF. In case of delay in commissioning of the Dry SFSF, the SF storage term in at-reactor ponds will be prolonged and start of the reactors' decommissioning will be delayed. Yearly KNPP ships back to Russia SF for storage and reprocessing, which is sufficient to cover the operating units spent fuel generation.

Seq. No	Country	Article	Ref. in National Report
88	Bulgaria	Article 32	Annex L-1, p4

Question/ Comment: Research reactor spent fuel is wet-stored in the shaft repository associated with the research reactor IRT-2000. In this facility, can the quality of water in contact with the fuel be monitored and treated? Is it possible to verify the integrity of the spent fuel stored in this facility? Has there been any evidence of migration of radionuclides from this facility?

Answer: The integrity of the spent nuclear fuel as a system of fuel elements, put together into a fuel assembly was examined in 1999 a visual check of each fuel assembly was performed. There was no evidence found on damage of the integrity of a fuel assembly or of a fuel element.
The water quality in the shaft storage is determined by carrying monthly radio-chemical analyses when the following parameters are measured and controlled:
- pH and electrical conductivity;
- dry and ignition residue;
- concentration of Cs-137, Co-60 of other radionuclides;
- total beta-activity;
- turbidity (transparency).

Data from the radiochemical analyses, mentioned above, did not demonstrate tendencies leading to conclusions about damaged leak-tightness of the fuel.
In order to maintain the water-chemistry mode, a circulation loop was constructed for purification of the shaft storage water consisting of consecutively installed pump, a mechanical filter, mixed action ion exchange filter, a second mechanical filter and a water-meter for measurement of the quantity of processed water.
Sampling channels are constructed at the reactor site, from which drain water samples are taken aimed at controls of possible migration of radionuclides from the system for low-activity liquid RAW collection. The total beta-activity of the sample and radionuclide concentration is determined by performing gamma-spectrometric analysis. No migration of radionuclides has been recognised until now.

Seq. No	Country	Article	Ref. in National Report
89	Canada	Article 32	B.4

Question/ Comment: As part of its broader regulatory framework, does Canada have a national strategy for gaining or regaining control over orphan sources?

Answer: The Sealed Source Tracking System (SSTS) will enable better monitoring of the possession of high-risk sources. Within the framework of the SSTS, the Canadian Nuclear Safety Commission (CNSC) included an elaborate system of automatic alerting and reporting to CNSC staff, which is designed to prevent loss of regulatory control over possession of high-risk sources. Another system is set up to record any loss or theft of sources. Regular reports on loss or stolen sources are intended to alert CNSC staff, who must take regulatory action and then follow up with a licensee.

Seq. No	Country	Article	Ref. in National Report
90	Denmark	Article 32	

Question/ Comment: Section B; Policies and Practices – Article 32 (1):
a) Given the recent developments in decommissioning programs in Denmark, what are the new developments in radioactive waste management practices resulting from these programs?
b) Has there been a decision made regarding the management of spent fuel from DR 1 and the experimentally produced spent fuel (as mentioned in the 2003 National Report)?

Answer: a) Lessons learned in the DR 1 decommissioning project including both

recommendations on technical details as well as more conceptual concerns such as the importance of a “common understanding” of the project will be taken into account in the decommissioning planning for DR 2 and DR 3. In addition three new facilities for handling the decommissioning waste have been constructed: A laboratory for waste characterization and a laboratory for final characterization of waste that may be cleared and a storage facility for waste.

b) There has not yet been made any final decision regarding the management of spent fuel from DR 1 and the experimentally produced spent fuel.

Seq. No	Country	Article	Ref. in National Report
91	Denmark	Article 32	

Question/ Comment Section D; Inventories and Lists – Article 32 (2): With regard to Table 4; has the decommissioning of secondary systems of DR 3 commenced and if so, at what stage is the decommissioning process?

Answer Although the decommissioning plan for DR 3 has not been submitted to the Nuclear Regulatory Authorities, Danish Decommissioning may be allowed to demolish some secondary systems situated in the reactor periphery under certain strict provisions. For instance the foundation of the original cooling tower, which was taken out of operation in 1979 and replaced by another cooling system, has been demolished and is now released from regulatory control. The pipe lines of the subsequent cooling system have also been dismantled. Detailed plans of dismantling sequences of the DR 3 reactor are under preparation. Otherwise the decommissioning of secondary systems of DR 3 has not commenced.

Seq. No	Country	Article	Ref. in National Report
92	Denmark	Article 32	page 3, Table 1

Question/ Comment Without a detailed inventory of the fission product and actinide activities in the spent fuel it is difficult to carry out a detailed health impact assessment for these materials. Does such an inventory exist?

Answer The isotope specific activities in the DR 1 core solution, March 2006:

Isotope Activities in GBq
Sr-90 60
Cs-137 70
Pu-238 1.6
Pu-239+240 0.2
Am-241 1.8
U-234+235+238 as uranyl sulphate 0.2

The isotope specific activities in the remains from post irradiation characterisation of experimentally irradiated fuel, March 2006:

Isotope Activities in TBq
Sr-90 370
Cs-137 380
Pu-238 11
Pu-239+240 4
Am-241 17
U-234+235+238 0.03

The activities are calculated from safeguards information and estimated mean values for burn-up. The total sum differs slightly from the values given in Table 1 in the

national report due to revised estimated mean values for burn-up.

Seq. No	Country	Article	Ref. in National Report
93	Denmark	Article 32	page 5, Tables 2 & 3

Question/ Comment: Without a detailed inventory of the fission product and actinide activities in the spent fuel it is difficult to carry out a detailed health impact assessment for these materials. Does such an inventory exist?

Answer: Tables 2
Isotope specific activities in the Storage Hall, March 2006:

Isotope Activities in TBq
Sr-90 1.9
Cs-137 2.3
Pu-238 0.1
Pu-239+240 0.04
Am-241 0.2

Isotope specific activities in the Drum Store and the Centralvejslager, March 2006:

Isotope Activities in TBq
H-3 23
Co-60 80
Ni-63 17
Cs-137 290
Sr-90 8
Pu-238 0.4
Pu-239+240 0.1
Am-241 1.9

H-3, Co-60, Cs-137 and Am-241 are mainly from storing of disused sealed sources.

The uranium extraction materials in taillings and remaining untreated ore contain 25 GBq Ra-226, 50 GBq Th-232 and 50 GBq uranium isotopes.

Seq. No	Country	Article	Ref. in National Report
94	Denmark	Article 32	Annex A-10

Question/ Comment: “gross â/ã-activity” – what does the reference to ã mean here?

Answer: As stated the release of dissolved gross beta/gamma activity from the Waste Management Plant is less than 0.2 GBq/year. Gamma is mentioned because the part of gross beta not related to Ka-40 is conservatively considered to be Cs-137.

Seq. No	Country	Article	Ref. in National Report
95	Denmark	Article 32	Annex A-10

Question/ Comment: 1999 tritium release?
Are there legal and/or regulatory requirements to assess the impact of such releases on the environment and on human health? If so, a reference to these requirements would be a useful addition to the report.

Answer: The Operational Limits and Conditions for Danish Decommissioning includes nuclide specific reporting levels for anomalous discharges to the atmosphere or to Roskilde Fjord. In 1999 was the requirement prompt reporting to the Nuclear Regulatory Authorities for expected or actual semi-annual releases exceeding ten times typical values over previous years. Reporting according to the “10-factor-rule”

has never occurred, neither in 1999.

In 2004 new Operational Limits and Conditions for Danish Decommissioning were established. Release limits for tritium were with reference to the dose limits for members of the public of 0.05 mSv/y laid down to 1,000,000 GBq/year. Besides extraordinary reporting is required if the expected or actual release in a month exceeds 100 GBq.

There are no legal and/or regulatory requirements to assess the impact of such releases on the environment and on human health. However, the Nuclear Regulatory Authorities are empowered to claim such an assessment.

Seq. No	Country	Article	Ref. in National Report
96	Finland	Article 32	p22-24, Table D1-D3

Question/ Comment Tables D.1-D.3 : Are data available on the activities of individual radionuclides ?

Answer See answer 3

Seq. No	Country	Article	Ref. in National Report
97	Finland	Article 32	page 68

Question/ Comment Inventory tables: Are data available on the activities of individual radionuclides?

Answer Activities for the most important nuclides must be determined for all waste packages to be disposed of. Activities of significant gamma emitters are generally determined by gammaspectro-metry while the activities of difficult-to-measure nuclides are calculated by means of scaling factors in most cases. A record of nuclides specific activities in waste packages disposed of shall be submitted annually to STUK. For instance, the record of the Olkiluoto repository includes 14 nuclides with half-lives more than 5 years.

The most important category of LILW not yet disposed of is ion exchange resins and evaporator bottoms at the Loviisa NPP, held in storage tanks. The nuclide specific activities of the liquid waste in each tank have been determined by sampling and gammaspectrometry.

Seq. No	Country	Article	Ref. in National Report
98	France	Article 32	page 20

Question/ Comment A draft of the National Plan for Management of Radioactive Waste and Recoverable Material (PNGDR-MV) has been released for public comment. It is also noted that the principles and recommendations of the PNGDR-MV could be appended to the Bill on the future of high-level long-lived waste which will be tabled in Parliament in 2006 (page 20). Has a process been defined for finalising and implementing the PNGDR-MV? Will the outcomes of the plan definitely be included in the Bill, or are there other means to incorporate this information into legislation and/or regulations?

Answer Some recommendations of the Draft National Plan for the Management of Radioactive Waste and Recoverable Material were retained by the Government in the draft law that was submitted to the Council of ministers in March 2006. The draft law also identified the need to establish and periodically update a Plan for the Management of Radioactive Waste and Recoverable Material by decree.

Seq. No	Country	Article	Ref. in National Report
99	France	Article 32	page 15

Question/ Comment: A program has been launched to find a repository site for low level long-lived waste, particularly for graphite wastes and those containing radium. The schedule for start of operation of this repository is estimated to be 2010 (page 15). Is it possible to achieve this schedule, given that a site for the repository has not yet been selected?

Answer: The need for a long lived low level waste repository (graphite waste and waste containing radium) is in the draft National Plan for Management of Radioactive Waste and Recoverable Material.
Andra has already performed generic safety studies which allow to define site criteria for such a repository. Now a site has to be selected. Therefore, it does not seem possible to achieve the schedule for start of operation of this repository initially estimated to be 2010.
The start of the operation is now expected to be 2013.

Seq. No	Country	Article	Ref. in National Report
100	France	Article 32	page 16

Question/ Comment: A working group reporting into the PNGDR-MV is working on the inclusion of a recommended disposition route for sealed sources, unsuitable for near-surface disposal (page 16). Has this route been included into the current version of the PNGDR-MV? If so, why are the details of this route not included in the country report? If not, when is it expected that these details will be finalised?

Answer: DGSNR has recently authorized ANDRA to accept in the Centre de l'Aube repository packages made up only of sealed sources with a period lower than the one of the 137Cs, under the condition that the package meets different criteria, mainly in terms of activity, of conditioning and type of source (one single radionuclide)
The orientations of the PNGDR MV indicate that the long-term channels for the other sources must be decided by 2009. They concern in particular the possibility to dispose of these sources in the LL-LL waste repository or in deep geological formation, both repositories being under study.

Seq. No	Country	Article	Ref. in National Report
101	France	Article 32	page 22

Question/ Comment: The waste producer has financial responsibility for the waste even after it is transferred to a storage facility or repository belonging to ANDRA (page 22). What financial responsibility is carried by the waste producer? Does this responsibility include public liability for incidents that occur at the facility? How is this financial arrangement organised and the funding to address this responsibility guaranteed?

Answer: The waste producer remains responsible for its waste, even after it is put in a storage or repository facility. This general position does not exclude the responsibility of the National radioactive waste management agency as licensee of facilities, in particular in respect to the Paris Convention. It doesn't exist any specific financial arrangement regarding the responsibility of the waste producers ; the French system is based on the possibility, not limited in time, to come back to the producers, in case it is needed (consolidation works, new legal obligations...).

Seq. No	Country	Article	Ref. in National Report
102	France	Article 32	

Question/ Comment: There is only a small amount of detail on the spent fuel inventory in various facilities in France. Is it possible to provide more detail, or does this raise security concerns?

Answer The spent fuel inventory is described in the Inventory of Radioactive Waste and Recoverable Material which is periodically published by Andra, on the website: www.andra.fr.

Seq. No	Country	Article	Ref. in National Report
103	Japan	Article 32	pages A-3 and B-6

Question/ Comment What arrangements are being made for the disposition of waste arising from research activities?

Answer Methods of disposal with institutional control include near-surface disposal without engineered barriers, near-surface disposal with engineered barriers and sub-surface disposal with engineered barriers. Near-surface disposal without engineered barriers is conducted partly for the waste comes from a dismantled research reactor while operation entities improve safety regulation systems on the remaining part of the wastes.
As for radioactive waste from RI (radioisotopes) usage, preparations for enactment of specific provisions are under way based on the amended “Law Concerning the Prevention from Radiation Hazards due to Radioisotopes and Others.” In dealing with waste from research and development facilities, discussions on safety regulations have been undertaken.

Seq. No	Country	Article	Ref. in National Report
104	Japan	Article 32	page B-9

Question/ Comment In Table B.3-2, the legislation etc. for safety regulations for a number of wastes is identified as being the subject of future discussion. Is there a timeframe in which these laws and regulations will be developed?

Answer The general procedure for establishment of regulations for a certain radioactive waste disposal starts with the Atomic Energy Commission’s issuance of a basic concept for its disposal which is followed by Nuclear Safety Commission’s fundamental concept of safety regulation and a safety examination guideline for the disposal facility. Accordingly the authorities prepare laws, ordinances and technical standards needed.
The Nuclear Safety Commission’s forthcoming activities in the radioactive waste disposal area are;
- A discussion for the basic concept for licensing review of HLW geological disposal in its Special Advisory Board on High-Level Radioactive Waste Disposal Safety has just started this April.
- A discussion for a guideline for licensing review of intermediate depth disposal for relatively higher radioactive waste from power reactors such as core internals etc. has been continued towards the establishment by about the first half of fiscal year 2007.
- The draft of the Basic Concept for Near Surface Disposal of Solid Radioactive Waste Generated from Industrial and Research Institutes has completed last year and it will be official version after public comments.
- Those for clearance for RI waste and Uranium waste will be discussed towards completion by about the first half of fiscal year 2007.

Nuclear and Industrial Safety Agency also has started a discussion for preparation of a law of safety regulation for HLW geological disposal. Preparation of regulations for other wastes disposal will be commenced following the conclusion of the NSC’s discussions.

Seq. No	Country	Article	Ref. in National Report
105	Japan	Article 32	page B-3

Question/ Comment	How much interaction with Provincial Governments is required under the regulatory framework? Do the provinces have responsibility for any regulations or approvals for activities associated with the management of spent nuclear fuel or radioactive waste?
Answer	The national government has the sole authority to regulate safety management of spent fuel and radioactive waste, issuing the Establishment License, approving the Design and Construction Method, conducting the Periodic Inspection and the Nuclear Safety Inspection, etc. The operator of a spent fuel or radioactive waste management facility, responding to the local government's request, concludes a safety agreement with it including timely disclosure of safety information on the facility to the local government, and operates the facility paying full respect to the agreement.

Seq. No	Country	Article	Ref. in National Report
106	Japan	Article 32	page B-4

Question/ Comment	NUMO is pursuing an open solicitation process for a candidate site for HLW (page B-4). Q. Have any offers or expressions of interest been received from communities? If there are no sites identified using this volunteer approach, are there any contingency plans for the selection of a site for the repository?
Answer	There are no official applications from the local government by now (as of end of March 2006), while there are some enquiries concerning the open solicitation process from some of them. NUMO is actively responding to them. The national government, together with NUMO and utilities is making continuous efforts to provide local communities with more information about the final disposal of HLW, and to activate local economies, so that as many local governments are encouraged to apply.

Seq. No	Country	Article	Ref. in National Report
107	Japan	Article 32	page K-2

Question/ Comment	What is the period for developing disposal options for high beta and gamma wastes, TRU wastes and uranium wastes?
Answer	The high beta-gamma waste is synonym for the Relatively Higher Radioactive Waste from Power Reactor of Low-Level Radioactive Waste on Table B.3-2 of the second National Report. It is thought to be disposed of by Japan Nuclear Fuel Limited (JNFL) in its Rokkasho site in tunnels and/or silos constructed deep enough to avoid general use of underground (Intermediate depth disposal). JNFL has conducted site characterization since 2002. As the detailed characterization a test cavern was excavated at a depth expected for the actual repository depth of about 100m and researches focused on its rock mechanical behavior have been conducted. The Nuclear Safety Commission is discussing about a guideline for license review of intermediate depth disposal facility to be issued by the first half of fiscal year 2007. TRU waste including those to be returned from overseas reprocessing and uranium waste are thought to be divided, based on their radionuclides composition and their activity concentrations, into wastes for geological disposal, intermediate depth disposal, near surface disposal and material to be cleared. The wastes for geological disposal are possibly co-disposed with HLW. In order to dispose of wastes along this principle it is needed to newly establish or renew; 1) Upper bounds of radionuclides concentration

2 Fundamental guidelines for license review of disposal facility.

In regard of R&D for disposal of TRU waste, utilities and former JNC cooperatively published the 2nd technical report on TRU waste disposal in Japan last year. They made technical assessment of co-disposal of TRU wastes with HLW waste and its technical feasibility is presented in the report.

Seq. No	Country	Article	Ref. in National Report
108	Korea, Republic of	Article 32	page 1

Question/ Comment The report notes that there is no national policy for spent fuel and that this will be decided later (page 1). Is there a timeframe for developing a final disposition strategy for spent fuel in Korea?

Answer The time schedule for the HLW disposal has not fixed yet. However, it is anticipated that the start of the repository operation would not be earlier than 2040.

Seq. No	Country	Article	Ref. in National Report
109	Korea, Republic of	Article 32	page 16

Question/ Comment Liquid radioactive waste at KAERI is processed by evaporation and then solar evaporation, with the residues immobilised in bitumen (page 16). Have there been any occupational problems associated with the use of bitumen? What restrictions are placed on co-storage of bituminised wastes with other wastes (including combustible material.)? How is the solar evaporation carried out and monitored?

Answer The liquid waste is evaporated by steam and the concentrate is immobilized in bitumen. There have been no operational problems until now. The bituminized waste is stored in a separate section for the convenience of management. Solar evaporation is utilized for the treatment of the liquid waste with lower activity than 0.185 Bq/ml. Many cloth(fabric) sheets of 1 m wide and 5 m length are installed and the liquid waste are forced to flow from top to bottom of the sheets for the extension of contract surface with air. And the air is allowed to flow through the sheets to evaporate the water. The required energy for evaporation is obtained from the sun. The radioactivity in ventilated air is continuously monitored.

Seq. No	Country	Article	Ref. in National Report
110	Korea, Republic of	Article 32	

Question/ Comment It is not clear from the country report whether any additional information was sought as a result of the last review meeting. A short summary of the outcomes of the last review and the manner in which they have been addressed in the current report would be helpful.

Answer The 2nd National Report has reflected the result of the last review generally. Revised and added parts are specially highlighted in bold and italic including the outcome of the last review meeting.

Seq. No	Country	Article	Ref. in National Report
111	Latvia	Article 32	Annex 1

Question/ Comment The detailed inventories provided in Annex 1 are what we would expect to see in each country’s national report. They provide a sound basis for any health impact assessment that is required by law and/or regulation.

Answer Thanks for comment

Seq. No	Country	Article	Ref. in National Report
112	Latvia	Article 32	pages 24-29

Question/ Comment Inventory tables – do the gaps mean that the relevant radionuclide is not present, or that its activity has not been determined?

Answer	Yes – gaps mean, that relevant radionuclides are not present (not reported) for certain vaults from any waste generator.

Seq. No	Country	Article	Ref. in National Report
113	Latvia	Article 32	page 30
Question/ Comment	Does the use of the electronic database for updating the radionuclide concentrations allow for ingrowth of decay product radionuclides?		
Answer	Yes and No. Initial data base (~ 1986-1990 in FoxPro) was prepared for calculations of total inventory at any time, taking into account also all daughter products. The current version of new data base (from ~ 2002-2003) is modernised for Windows and use of Access, but some modules for decay calculations are not yet finished, thus for safety assessments manual calculations were used to get information on decay products.		

Seq. No	Country	Article	Ref. in National Report
114	Latvia	Article 32	page 33
Question/ Comment	Figure 2.2: The total beta activity results for 2003 and 2004 show a large difference between the two years. However, this difference is not there for the individual nuclides shown in the same graph. What is the explanation for the large difference in total beta between 2003 and 2004?		
Answer	The main differences are for K-40 (you can see also in Table), but as in short version only range is given, there should be additional explanation. We will take it into account for next report.		

Seq. No	Country	Article	Ref. in National Report
115	Sweden	Article 32	Page 21
Question/ Comment	Section B32.4: Is any short-lived LILW released from regulatory control after it decays below exemption levels? If so, what happens to this material?		
Answer	For clarification it must be pointed out that short-lived LILW is indeed released from regulatory control in Sweden, but after it decays below clearance levels, not exemption levels. Studsvik Nuclear AB carries out volume reduction of radioactive waste, by e.g. melting of scrap metal. The melted scrap may have to decay for a shorter period of time before it can be released from regulatory control. The melted scrap is recycled by conventional recycling companies. At Westinghouse Electric Sweden AB's fuel fabrication plant calcium fluoride decay approximately six months before being released from regulatory control. After release it is transported to SAKAB, a company managing non-radioactive hazardous waste, for disposal.		

Seq. No	Country	Article	Ref. in National Report
116	Sweden	Article 32	page 31
Question/ Comment	BLA: The maximum permitted dose rate for low level waste seems to be 2mSv per hour. This is approximately 50,000-100,000 times the background dose rate. Is this really low level waste?		
Answer	Yes, since it is not provided with additional shielding during handling and transport.		

Seq. No	Country	Article	Ref. in National Report
117	Sweden	Article 32	page 33
Question/ Comment	Table D7: The radionuclide inventory is important for near-surface disposal because of the different leaching rates of different radionuclides. Are such inventories available for the sites listed in this Table?		
Answer	In the licenses for the existing facilities for shallow land disposal in Sweden the radionuclide content has been limited to a total inventory of 100 or 200 GBq and a		

limitation of the content of alfa-emitting nuclides to 1/1000 of the total activity content. According to the licences issued by SSI, the activity concentration in each waste package for radionuclides with a half-life longer that 5 years should be less than 300 kBq/kg. For each of the existing facility a nuclide specific inventory is being maintained. Up to now, the focus has mainly been on the inventory gamma-emitting and transuranic radionuclides and not so much on e.g. long-lived pure beta-emitting radionuclides. In the regulations for shallow-land disposal presently being developed by the SSI, nuclide specific concentrations limits, including long-lived radionuclides, will be evaluated.

Seq. No	Country	Article	Ref. in National Report
118	Ukraine	Article 32	pages 15 and 16

Question/ Comment Tables B.5.1 – B.5.4 : When waste of unknown radionuclide composition is managed is there any attempt to determine the radionuclide composition of the waste? If not, are there any plans to do this in the future?

Answer In the framework of future TACIS projects, the construction of solid radwaste processing facilities is being planned, which would include equipment for identification of radionuclide composition and activity of radwaste.

Seq. No	Country	Article	Ref. in National Report
119	Ukraine	Article 32	page 59-62

Question/ Comment Tables 4.1-4.6: Are data available on the activities of individual radionuclides?

Answer

Seq. No	Country	Article	Ref. in National Report
120	Ukraine	Article 32	page 11

Question/ Comment The report states that there have been delays in construction of the spent fuel storage facility 2. What arrangements have been made for the additional funding needed as a result of the delay?

Answer Based on the results of independent audit of project SFSF-2 the issue is submitted to the Assembly of Donors. The Assembly will decide the value of additional financial costs.

Seq. No	Country	Article	Ref. in National Report
121	United States of America	Article 32	page 28

Question/ Comment Greater than Class C (GTCC) waste is currently being stored in DOE facilities (page 28). When might an NRC-licensed facility be available for the storage of this waste?

Answer DOE is initiating environmental studies of disposal alternatives for GTCC waste, including sealed sources. In August 2006 DOE must submit a report to Congress with a proposed schedule to complete the environmental study. Until the environmental study is completed, DOE is unable to identify a definitive schedule for having a disposal facility operational.