



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

Third Review Meeting

Questions asked to France and answers

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Australia	H.2	1	<p>Are there any existing radioactive waste management facilities in France for which a Safety Assessment consistent with current international guidance is not available?</p>	<p>For each radioactive waste management facility operated by Andra (CSFMA, CSTFA disposal facilities) and by the other nuclear operators of Basic Nuclear Installations (BNIs), civil or working for defence, dealing with the treatment, conditioning, storage of radioactive waste, there is a safety assessment consistent with current international guidance.</p> <p>Concerning the classified facilities on environmental-protection grounds (ICPE), those having the most polluting and hazardous activities are subject to a licensed process which implies an impact statement and a waste study. For the uranium mines, now shut down, recent studies required by the "2006 Planning Act" on their long-term behaviour and impact are now available and will be analysed by the ASN in 2009. For wastes with enhanced natural radioactivity, the "2006 Planning Act" requires an appraisal in 2009 of the short and long-term management solutions proposing new solutions, if applicable.</p>
Australia	H.7 - p. 161	2	<p>Is a 10 year monitoring plan adequate to demonstrate the post-closure safety of a facility that may contain radionuclides with half-lives much longer than 10 years, and be composed of structures that may only maintain their integrity for the order of several thousand years?</p> <p>Long-term safety is very difficult to demonstrate. How has long-term safety been addressed? Over what period are the current disposal facilities expected to maintain their structural integrity?</p>	<p>The surveillance period of the Centre de la Manche facility should last about 300 years. During this period the monitoring plan (as well as the safety report, the general operating rules that the operator will implement in the next 10 years, the emergency plan) will be updated every 10 years and submitted to the ASN. All these revisions shall include the experience gained by the operator.</p> <p>For long-term safety assessment, two kinds of situation are studied:</p> <ul style="list-style-type: none"> - a normal evolution (during the surveillance phase of 300 years, and beyond) based on the most likely behaviour of the repository. The calculated dose must be less than 0.25 mSV/year, - "altered-scenarios situations": conventional intrusion scenarios with a transfer by air (road works, residence, playing grounds for children) and several altered (and conventional) scenarios leading to a transfer by the water (barrier failing, well at the post-closure phase, etc.). As indicated in the Report, the acceptability of the calculated impact in such situations depends on the exposure mode and time and on the conservative calculation hypotheses which have been selected. Andra has considered that for those situations an impact on the public of a few mSVs are acceptable (with a maximum of about 10 mSV if the considered scenario is improbable or if the hypotheses are very conservative). <p>The current disposal facilities are expected to maintain their concrete structure integrity over a long period (1000 or 2000 years).</p> <p>However, according to the Basic Safety Rule I.2, impacts are calculated in the hypothesis that, after the surveillance period, structures and waste packages have no longer a retention role (transfer by water), and even are detritus (transfer by air).</p>

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Australia	F.5	3	What is the frequency of emergency exercise at Spent Fuel and Waste management facilities?	On-site plans : The frequency of the internal emergency exercises is specified in the on-site emergency plan, which is approved by ASN. It depends on the complexity, size and risks of the facility. Off-site plans : Regulations require the authorities to organize a national emergency exercise at least every five years for each facility. In practice the periodicity is 2 or 3 years.
Australia	F.5	4	What arrangements are in place to exercise and/or confirm the effectiveness of radiation emergency plans for the shipment of spent fuel and radioactive waste by sea?	The sender is in charge of the safety of the transport, which includes an effective transport emergency plan. This plan is tested during exercises, are subjected to inspections.
Australia	J.1 - p. 169	5	The Report states 'The general regulatory framework for sources is described in § F.4.1.2.4. Any user to whom a sealed source has been delivered must have them collected by the supplier as soon as it is out of use and no later than 10 years after the initial approval appearing on the corresponding supply form. Those provisions relating to the recovery of sources and to financial responsibilities apply in France since the early 90s.' How are sources >10 years old managed?	If the user does not want to extend lifetime of radioactive sources above 10 years, such sources are sent back to their supplier who is in charge of their management. Furthermore, all radioactive source suppliers have to fund a financial warranty in order to guarantee sources management even if he is not able to. Source suppliers formed in 1996 a non-profit association, called "Ressources", with a view to constituting a guarantee fund to reimburse Andra or any other certified organisation the costs associated with the removal of sources from users, either in the case of default of the supplier normally responsible for removing them or in the absence of any supplier likely to do so when orphan sources are involved.
Australia	J.2 - p. 170	6	The report states 'The inventory of CEA radioactive sources is maintained via a database thanks to the input from the waste-holding units. The database indicates the status of the source (in use or disused), its disposal system, if known, or interim-storage conditions pending final disposal (surface or deep geological disposal, etc.).' Approximately how many disused sources does the database indicate are requiring management?	CEA has to manage several hundred thousands of disused sources: a part of them (~ some ten thousands) are high $\beta\gamma$ activity sources, some thousands are high α activity and neutron sources and several hundred thousands are of low activity (specially ^{241}Am fire detectors). At the end of 2008, ANDRA has proposed the different types of disposal conditions according to the nature and radioactivity of the different sources. Relatively, CEA is now studying the packaging and storage procedures in order to find the better way to manage each type of disused source.

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Australia	G.2	7	<p>Are there any guidelines for periodic safety review for Spent Fuel and Waste Management Facilities?</p>	<p>A regulatory decision to be promulgated in 2009 should detail periodic safety reviews for spent fuel and waste management facilities. Till the promulgation of this decision, some ASN guidelines on this topic are already used by operators. These guidelines are the basis of the draft decision to be issued.</p> <p>According to the "2006 TSN Act", the licensee of a basic nuclear installation (BNI) has to carry out periodic safety reviews of his installation by taking account of the best international practices (every 10 years). This periodic review must allow the situation of the installation to be appreciated with regard to the rules applying to it and must make it possible to update the assessment of risks or drawbacks the installation presents, by taking account in particular of the state of the installation, the experience learned from operation, and the evolution of knowledge and of the rules applying to similar installations. The licensee must send the Nuclear Safety Authority and the ministers tasked with nuclear safety a report including the conclusions of this review and, where applicable, the provisions it envisages taking to remedy the observed anomalies or to improve the safety of his installation. After analysing the report, the Nuclear Safety Authority can impose new technical prescriptions. It sends the ministers tasked with nuclear safety its analysis of the report.</p> <p>Safety reviews take place every ten years. However, the authorisation decree can lay down a different periodicity if this is justified by the specificities of the installations.</p> <p>An "ASN decision" about the safety review process and another about the content of a safety report are being prepared by the ASN, taking into account the experience gained in those fields and in line with the new regulatory context (TSN Act, decrees, orders). All the operators of BNI will have to comply with the requirements laid down in those decisions.</p>
Australia	G.4	8	<p>Is there any guideline for using burn-up credit in the design of Spent Fuel Facilities?</p>	<p>The V1 CRISTAL version, released in 2005, takes into account the "Burn-Up Credit" in the criticality studies.</p>
Australia	G.4	9	<p>What criteria are used in the Probabilistic Safety Analysis (PSA) for Spent Fuel and Waste Management Facilities? For the PSA, what criteria and objectives are used for individual and societal risk in environmental risk management?</p>	<p>For spent fuel facilities and waste management facilities, deterministic approaches are privileged. Therefore no criteria is yet determined. A case-by-case approach is privileged, depending on the site, the population and the environment. The IAEA reference level for evacuation and sheltering are taken into account. However, for spent fuel and storage facilities it is considered that a threshold of 10mSv must not be exceeded for the design basis accident (good practice). For waste repositories, different scenarios of altered situations (road works, buildings on the site...) after the surveillance period are considered. As indicated in the Report, the acceptability of the calculated impact in such situations depends on the exposure mode and time and on the conservative calculation hypotheses which have been selected. Andra has considered that for those situations an impact on the public of a few mSv IS acceptable (with a maximum of about 10 mSv if the considered scenario is improbable or if the hypotheses are very conservative).</p>

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Belgium	E.2.2.4.4 - p. 62	1	This chapter (Incident follow-up) mentions experience feedback that occur in France and abroad. Are incidents reported to neighbouring countries? Could France give more details please?	According to ASN bilateral agreements signed at various levels - governmental agreements (Belgium, Germany, Luxembourg, Switzerland) and administrative arrangements between ASN and its counterparts (about twenty) - ASN informs rapidly, in particular, regulatory bodies of neighbouring countries of significant events. Steering committees comprising ASN and its counterparts from neighbouring countries are also an adequate framework to address these issues and to identify topics of common interest.
Belgium	F.2.5 - p. 87	2	The National Report describes the procedure for the management of radioactive-sources. What is the procedure if the source owner can not be traced? Could France elaborate on the management of orphan sources?	All radioactive source suppliers have to fund a financial warranty in order to guarantee sources management even if he is not able to. Source suppliers formed in 1996 a non-profit association, called Ressources, with a view to constituting a guarantee fund to reimburse Andra or any other certified organisation the costs associated with the removal of sources from users, either in the case of default of the supplier normally responsible for removing them or in the absence of any supplier likely to do so when orphan sources are involved. If a source supplier cannot be identified when a source is discovered, in spite of information recorded in the national register, ASN can appoint ANDRA to take back orphan source. The financial conditions are defined case by case.
Belgium	B.5.5 - p. 26	3	It is stated that the waste producer is responsible for his waste until its final elimination. Does the waste producer, in the case of non conform waste, have the possibility to state that this non conformity is "introduced" by third parties? Does the possibility exist to refute certain financial responsibilities?	The waste producer is responsible for his waste, financially and also technically. If waste packages do not comply with waste acceptance criteria before being transferred to Andra, Andra has to decide of their acceptance. It is then a direct dialogue between Andra and the waste producer. No third party responsibility is introduced. Concerning the possibility to refute financial responsibility from the producer or state that the non conformity has been introduced by a third party, legal procedures are complex and long. Andra has no feedback experience on such a situation.
Belgium	G.4	4	Facility design and construction. Could France explain if "ageing management" is taken into account in the design of facilities?	Experience feedback from one's facilities but as well from other's similar facilities (Decree No. 2007-1557 of 2 November 2007 - article 11 b) have to be taken into account and assessed before submitting for a new license. In that respect, ageing management is taken into account in the design of basic nuclear installations (BNI). Moreover, it has to be demonstrated how the facility will be controlled and ageing checked as long as the BNI is supposed to be operated. The ageing management is one of the major points assessed during the periodic safety re-assessment of the BNI, by comparing the current level of safety of the facility to the safety requirements in force.

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Bulgaria	F.4.1.4.1 - p. 101	1	<p>Other general safety provisions: Radiation protection during the operating lifetime in item F.4.1.4. Discharge licenses (p. 101) it is noted that France implements the requirements pursuant to art 37 of the EURATOM Treaty and sends to the European Commission basic data on planned discharges of radioactive substances into the environment.</p> <p>Would you provide more information with regard to the content of such reports pertaining to specific nuclear facilities?</p>	<p>Pursuant to art 37 of the EURATOM Treaty, France sends to European Commission a specific report for any new nuclear facilities or any modification of their planned discharges of radioactive substances into the environment. The content of this report is defined by the recommendation 99/829/Euratom (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31999H0829:EN:HTML).</p> <p>The report includes "general data", prepared by the operator, on the corresponding creation/modification, and at least:</p> <ul style="list-style-type: none"> i) distance of the facility to the nearest member state, ii) result of the creation/modification on radioactive discharges, iii) impact of the radioactive discharges during normal operation on other member states, iv) impact of the radioactive discharges due to "standard" accidents on other member states.
Canada	General	1	<p>Could France elaborate on what the long terms plans are for fuel that is not reprocessed?</p>	<p>The national strategy is to treat and recycle all the spent fuels issued from electricity generating plants. This is why EDF's spent fuel is, after a few years, stored in AREVA's La Hague facility, dedicated to the treatment. In accordance with the provisions of the relevant law (Law n°2006-739 on the sustainable management of radioactive materials and waste), a national management program of radioactive materials and waste management has been enacted by a decree (Decree n°3008-357). The 13th article of the Decree n°3008-357 stipulates that the owners of radioactive materials have to conduct studies on the ways to manage their materials if they happen to turn into wastes. The studies have to be conducted before the end of 2010. From an operational viewpoint, since two more reactors might be loaded with MOX fuel in the years to come, an increase of the quantities of UOX spent fuel to be reprocessed is consequently scheduled from 2010 onwards. MOX spent fuel might be processed simultaneously with UOX fuel when Generation-IV reactors will progressively enter into operation: at that time, MOX fuel should no longer be used in PWRs, Plutonium would be recycled exclusively in Gen-IV systems.</p>
Canada	General	2	<p>What documents constitute the licensing basis of a spent fuel facility and a waste management facility?</p>	<p>It depends on the type of installation:</p> <ul style="list-style-type: none"> - for basic nuclear installations (facilities with a higher radioactive inventory): the license is a decree signed by the ministers in charge of nuclear safety, after consultation of the ASN; - for ICPEs (facilities with minor radioactive content): the authorization is delivered by the relevant prefect. <p>See page 55 et 58 of the report for details on the licensing procedures.</p>

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Canada	B.3 - p. 19	3	<p>How many years does the fuel reside in La Hague before it is dissolved? What are the criteria used to determine the number of years?</p>	<p>The period during which spent nuclear fuel resides in LH before its treatment depends on different factors: fuel characteristics, regulatory requirements, industrial constraints, etc. They govern the process of treatment-recycling of spent nuclear fuel.</p> <p><u>Industrial / Technical constraints:</u> Many parameters are to be taken into account: before shearing (cooling of spent fuel), between the different steps of the process (physical parameters), and in front-end and in back-end of the treatment: availability and authorizations of transport, waste disposal/storage management, schedule of loading in reactor. Workload is the major parameter influencing fuel to process planning. The overall planning is optimized; therefore the planning of nuclear fuel of one customer does not depend only on specific factors of this customer. Customers technical constraints have also to be considered: indeed, electric utilities have to optimize the treatment-recycling period of spent nuclear fuel to manage the front-end of the cycle at best (in case of recycling, an efficient phasing is an important parameter for plutonium and MOX quality).</p> <p><u>Regulatory requirements:</u> The Treatment-Recycling process is regulated by the law on the sustainable management of radioactive materials and waste and the treatment-recycling plant must have all the authorizations from the French authorities. The treatment of spent fuel of foreign radioactive has to be framed by an intergovernmental agreement, in which dates of arrival of spent nuclear fuel and departure of waste are specified. Generally, spent fuels are stored in La Hague roughly from 3 to 20 years (or more, generally in the case of French spent fuel). The last intergovernmental agreement between Italy and France is based on 6 years maximum for interim storage of foreign spent fuel in the La Hague pools.</p>

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Canada	G.1.2 - p. 127	4	How successful have operators been in getting employees to embrace safety culture?	<p>In France, the management system is used to promote a strong safety culture by :</p> <ul style="list-style-type: none"> - Training and retraining (every five years) operating teams to ensure that individuals are aware of the relevance and importance of their activities and of how their activities contribute to safety in the achievement of the organization's objectives, - Experience feedback : events are considered as a source of information and opportunity for discussion and improvement, - Definition of three-yearly implementation plans, <p>Managers encourage initiatives and attitudes conforming to a good safety culture : compliance with safety requirements, clear responsibilities in safety matters, questioning attitude...</p> <p>For AREVA, the success of actions to improve the operators' culture of safety is measured by means of indicators of safety such as the number of avoided incidents, the detection of "near miss" and other discrepancies, etc. Furthermore, to quantify the employees' safety culture, the AREVA nuclear safety general inspectorate organizes each year safety culture inspections to address several culture aspects such as the questioning attitude. Based on those results, AREVA considers that increasing the level of safety culture within the entities remains an area where performance improvement should continue. This is the reason why AREVA has developed tools to allow managers to initiate safety culture reviews in their entities.</p> <p>For EDF, safety culture is never taken for granted but has to be demonstrated every day and challenged through internal and external independent inspections, audits and benchmarks. Progress have been obtained in embracing safety culture and in monitoring practices, but are still varied and increasing the level of safety culture within the entities remains an area where performance improvement should continue. Questioning attitudes and experience feedback remain as priorities to ensure efficiency of defence in depth in all activities and to increase safety margins, both for operators and contractors.</p>
Canada	G.2.2.3.3 - p.132	5	Have the compliance issues regarding Transportation safety improved?	<p>Over the last few years, the enforcement of the provisions of the "Shipment Reference Framework" dramatically improved the performance of EDF as a consignor: in 2008, there was not a single discrepancy, as regards transportation regulations.</p>
Canada	General	6	What standards are followed for criticality safety?	<p>Criticality safety is assessed through the CRISTAL package that has been developed jointly by IRSN, CEA and AREVA. It takes into account APOLLO2 code - MORET 4 and APOLLO2 codes Sn and the "reference" evaluation through the TRIPOLI 4 code.</p>

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China	G.7 - p. 138	1	Will the new fuel management methods in reactor be applicable to the spent fuel arising from the new generation reactors?	The new management methods in reactor will be examined and assessed by ASN through their consequences in terms of safety, radiation protection, criticality and waste for the whole fuel cycle and especially for all the support facilities (reprocessing, fuel manufacturing...). The use of the spent fuel from the new generation reactors is one of the questions examined, beginning with their use in the reactors
China	F.4.2.3.2 - p.107	2	Can the organic waste liquid from the spent fuel reprocessing be fully recycled? If not, how is it treated?	At the outside of extraction cycles, the discharged solvent is chemical treated. A part of the treated solvent is distilled to obtain a separation of the different components with a high purity, the purified products are joined to the chemical treated solvent. The treated solvents are returned to the extraction cycles. The bottom of distillation (~20m3/year for one UP) is destroyed by pyrolysis and the mineral part is mixed with concrete.
China	H.2.2.4 - p.145	3	What actions does EDF take to reduce the generation of spent ion exchange resins?	In 2005, EDF has engaged a program of waste reduction at the source. Ion Exchange Resins (IER), water filters, technological and process waste are considered. In 2008, a benefit of 20 m3 of IER compared to 240 m3 conditioned on the two mobile machines (epoxy matrix embedding) was obtained only by keeping IER in operation until their efficiency limit. Chemists analyze in samplings of up/down streams : activity, chlorine, sodium and sulphates (this one representing sulphated radical IER deterioration).
China	E.2.2.4.5 - p. 64	4	What is the difference between “dismantling plan” and “decommissioning plan”?	Both terms have the same meaning. "Decommissioning plan" should be renamed "dismantling plan".
China	H.3.2.1 - p.150	5	Please provide information regarding why you choose clay formation rather than granite formation? What is the overwhelming advantage of clay formation in your case?	Sites for deep geological disposal are chosen on both criteria of geological adequacy and political acceptance. Only the clay formation in Meuse/Haute-Marne area has been chosen by the French Government for further investigations by means of URL taking into account the recommendations of the Safety Authority and the National Review Board. The granitic formation in the Vienne area was judged as inadequate to guarantee the possibility of a deep geological disposal.
China	E.2.2.4.5.2 - p.63	6	What is the projected total cost for CSM 300 yrs post-closure monitoring, and how is the money collected?	For the 300 years post-closure monitoring of the CSM (LLW short-lived waste disposal centre, closed in 1994), the cost calculation is based on the assessment of yearly expenses during three period (very active monitoring, active monitoring, and passive monitoring). The projected total cost is today assessed at around 1,1 billions undiscounted Euros. As for the funding of these liabilities, it is secured in particular by the provisions of the Article 20 of the 2006 Planning Act, which prescribes to all operator of Basic Nuclear Installations to constitute a sufficient dedicated fund to cover the long term provision for decommissioning (including SF and radwaste management). Hence, Andra and all the other operators have to earmark coverage assets, in particular for the funding of the CSM monitoring, for the waste they are responsible for.

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China	I.2.2 - p. 165	7	In France, who is responsible for the testing of the transportation packages? How does ASN authorize the transportation packages?	Package testing is performed by the applicant. Nevertheless, all the process, from the definition of the testing programme to the testing itself, is controlled by ASN.
China	J - p. 170	8	What is your appropriate disposal processes for disused radioactive sources? What is the financial arrangement for the disposal of the disused sources?	If the user does not want to extend lifetime of radioactive sources above 10 years, such sources are sent back to their supplier who is in charge of their management. Furthermore, all radioactive source supplier has to fund a financial warranty in order to guarantee sources management even if he is not able to. Source suppliers formed in 1996 a non-profit association, called "Ressources", with a view to constituting a guarantee fund to reimburse Andra or any other certified organisation the costs associated with the removal of sources from users, either in the case of default of the supplier normally responsible for removing them or in the absence of any supplier likely to do so when orphan sources are involved.
China	J.1 - p. 169	9	ASN has authorized that sealed radioactive sources with a shorter half-life than caesium-137 (i.e., about 30 years) be disposed of at the CSFMA. What is the detailed requirement for the acceptable waste package?	To be accepted at the CSFMA, the activity of a sealed radioactive source with a shorter half-life than Cs 137 or equal to Cs 137 shall be less than a value which has been calculated by Andra on the basis of several scenarios. For example, this value for Co 60 is 270 TBq per source and for Cs 137 it is 22 MBq per source (small or medium size) and 219 MBq per source (big size). Besides, sources which individually comply with the above criteria, must be conditioned in waste packages (several sources in each package).
China	J.1 - p. 169 & 170	10	Provide more information relevant to the collection campaign for the ionic detectors. Can you provide the proposals which you have formulated in the framework of the PNGMDR?	The collection campaign of the ionic detectors has been developed by ASN with the concerned industry. Any dismantler has to be authorised by ASN and a quality label has as well been implemented by industry to ensure that adapted procedures will be applied. It has been proposed through PNGMDR that the storage capacity in SOCATRI should be enlarged so that all ionic detectors could be stored.

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China	C.3 - p. 39	11	<p>How do ANDRA and ASN check the quality of the waste packages intended to the disposal?</p>	<p>Andra is responsible for verifying that waste accepted in its disposal facilities is compliant with waste acceptance criteria. A set of processes is set up to verify this compliancy (see hereinafter). ASN control that these processes as described by Andra are correctly operated by Andra & waste generators (see § B.5.7).</p> <p>ASN drew up the Basic Safety Rules III 2 e in 1986 and revised it in 1995 (concerning waste packages quality). ASN also set up the technical prescriptions of the CSFMA which comprise requirements regarding the waste packages. It also receives the waste packages specifications issued by Andra.</p> <p>ASN analyses the reports annually sent by Andra, concerning the quality of the waste packages generated by each major producer (EDF, AREVA NC, CEA). Finally ASN supervises Andra's activities through inspections.</p> <p><u>Waste compliance with waste acceptance criteria</u> Following the 1989 order of creation of the Centre de l'Aube facility, prior to any delivery of a package type, Andra must issue an "agreement" for this waste package type. This agreement expresses that Andra considers such packages produced in compliance with the repository requirements.</p> <p>Some parameters specified by Andra can be monitored directly on the waste package or during the process. Other waste packages cannot be checked directly during the fabrication process.</p> <p>Therefore during the agreement process, investigations are made to identify parameters of the package or of the conditioning process that can be monitored during the package fabrication and that will ensure indirectly compliance with Andra's requirements.</p> <p>The choice of the operational parameters relies on a qualification step. Experiments are performed on prototype packages or samples and must demonstrate compliance with waste acceptance criteria. Note that the waste generator may choose to qualify his package in a wide or a narrow range.</p> <p>Such an investigation is performed by the waste generator, with Andra's support, for each technical requirement for disposal.</p> <p>All these operational parameters are grouped in a list that gives a suitable description (or "specification") of the package relevant with Andra's requirements. This list, including the parameters and their values, is called "a contractual requirements sheet" or "CRS". It gives the description of the package that the generator agrees to manufacture and that Andra agrees to take in charge in the disposal facility.</p> <p>By the agreement process, Andra obtains confidence in the ability of the waste generators to produce waste packages. This confidence must be maintained by surveillance by Andra of packages quality.</p> <p>Monitoring is bases on the following means :</p> <ul style="list-style-type: none"> - computer check of packages declaration by the waste generator, - control of packages at delivery to the Centre de l'Aube facility, - audits in waste generators facility, - destructive and non destructive tests on actual packages. <p>A simplified version of this approach is used for VLL waste disposal.</p>

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China	B.1.3.1 - p. 15	12	As related to PNGMDR seeking to reduce the toxicity of radioactive waste, what is the status of separation/transmutation for high level waste liquid?	<p>Separation and transmutation R&D programs are going on in France, as required by PNGMDR. Programs are focused on minor actinide recovery from spent fuels, and then on their recycling into fast neutron systems. Several routes are explored (homogeneous or heterogeneous recycle, all-actinide recycle or part of them, critical fast reactors or ADS...) and recent advances have been obtained at laboratory-scale, notably for minor actinide recovery from spent fuel by adding complementary extraction steps to the COEX process.</p> <p>Our goal is to provide by 2012 an assessment of the explored routes, giving the main guidelines on the consequences related to their (optional) industrial implementation (fuels, processes, devices,...), taking into account diverse criteria.</p>
China	B.4.2 - p. 22	13	What are the major origins of VLLW in France, in the practical operation, how do you distinguish VLLW from LLW?	<p>VLLW mainly originates from dismantling of nuclear installations (concrete, metallic pieces, earths, rubbles). The rest comes from nuclear installations in operation: resins, activated charcoal, iodine traps, filters, if their radioactive content allows them to be received by the CSTFA repository.</p> <p>VLLW are distinguished from LILW-SL because of their activity level. A radioactive waste belongs to the VLLW category if its radioactive content complies with the waste-acceptance criteria laid down by ANDRA in the CSTFA repository specifications (see § D.3.3.3 of the Report). Otherwise the waste belongs to the LILW-SL provided that it complies with the waste-acceptance criteria at the CSFMA.</p>

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China	B.5.2.2 - p. 24	14	<p>As for case-by-case clearance, how is this implemented, and what is the role of ASN such cases?</p>	<p>Each operator of a Basic Nuclear Installation (BNI) determines the management of his waste, including on the long term, and proposes it to ASN in a document untitled "waste survey" (and in addenda in case of subsequent modifications). If acceptable, ASN approves the principles proposed by the operator.</p> <p>The long-term management of very low level (VLL) wastes is essentially their disposal in the CSTFA facility, directly or after incineration or fusion in a treatment facility (CENTRACO). However, the operator may propose another option, i.e. a recycling solution. In that case the VLL substance will be considered as a recoverable material and not as a waste. This type of solution has to be authorized. The procedures are the following:</p> <ul style="list-style-type: none"> - a procedure which implies the operator producing the considered substance. This procedure is based on an overall assessment of the considered solution, made by the operator/producer (organization, acceptance criteria, controls, traceability, etc.). ASN agrees or disagrees after examination. ASN considers that recycling of very low level materials can only be envisaged if they are re-used in BNIs (Basic Nuclear Installations). - a procedure detailing information and data (how the substance will be managed in the facility, impact on the staff, the public, and the environment, traceability,...) to be provided by recycling facility operator, <p>For conventional (i.e. non-nuclear) facilities, the DRIRE with the help of ASN agrees or disagrees after examination.</p> <p>Authorizations (<i>préfet</i> order) are complemented by technical prescriptions.</p> <p>For the record, there are very few examples of recycling up to now in France.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
China	B.6.1.1 - p. 29	15	<p>In the past 20 years, the LIL-SL decreased considerably.</p> <p>What are the major contributors for the reduction?</p> <p>During this period of time, how does the disposal requirement contribute the reduction?</p>	<p>In the past 20 years, Low and Intermediate Level Waste (LILW) has dropped from 380 m3/reactor, in 1985, to 98 m3/reactor, in 1995 (volumes are those of waste packages ready to be disposed of). In fact, process waste has more decreased than technological waste, respectively : 228 to 51 m3/reactor and 132 to 47 m3/reactor.</p> <p>The major contributors are both organizational and technical :</p> <ul style="list-style-type: none"> - Establishment of the environmental management policy at the EDF national level (later emphasized with 14001 ISO qualification); - Awareness of NPP teams in charge of waste management (creation of liquid effluents/solid waste committees); - Specific trainings; - Implementation of the computerized tracking system collecting packages data for 1992 (this getting more easy NPPs inter comparisons); - Good practices : <ul style="list-style-type: none"> . limitation in controlled areas of contaminable materials (i.e. : material packaging) . technological waste (plastic films) reduction at the sources - Shredding of ventilation filters - Optimization of the packages filling (i.e. water filters gathering in a same package) - New IER embedding process with an increase of IER volume per package <p>Since 1992, disposal requirements have contributed to the reduction of package volume because of high pressure compaction of all metallic drums shipped to the repository.</p>
China	B.6.1.1 - p. 29	16	<p>Please provide more information about the MERCURE process. As AREVA use cementation for ion-exchange resin, why does AREVA not use the MERCURE-similar process? Compared with cement solidification, what are the advantages and disadvantages of MERCURE?</p>	<p>The MERCURE process (encapsulation in an epoxy matrix) is used by EDF for final packaging of ion exchanger resins. Packages produced are intended for surface disposal facilities. The biological protection of the packages is provided by a concrete container reinforced with a leaktight steel liner. The final product, in which the resins are poured and fixed in an epoxy matrix and inserted in a concrete package and cover, is intended to comply with Andra standards, for safe disposal at both low and intermediate level repository at Soulaines. In a similar concrete package, the cement solidification used in La Hague facility gives the same level of safety in accordance with Andra standards. The MERCURE process was tested 20 years ago at La Hague facility. Today fixed facility of cementation is privileged because mobile process devices are difficult to use on site. The cementation process is also considered as more durable towards resins epoxy in conformance with the REACH approach. However the MERCURE method will probably be also useful for special dismantling operations</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
China	B.6.1.2.1 - p. 30	17	<p>Please provide the information of the bitumen solidification, what is the status in France ?</p> <p>What is your plan for those bituminized waste form produced in the earlier time?</p> <p>What is the characteristics of these waste form now?</p>	<p>Sludge, resulting from Marcoule effluent treatment, is embedded in bitumen matrices to form packages intended either for disposal at CSFMA or for storage pending final disposal.</p> <p>In the near future (~ 2014), Marcoule effluent treatment facility will be renovated and a new process will be implemented using cementation as embedment matrix. At present time, the effluent production is decreasing and most of the waste bituminized packages now produced are intended for disposal at CSFMA.</p> <p>Around 60500 bituminized waste drums are now stored at Marcoule site; roughly 6700 of them are stored at the Multipurpose interim Storage (EIP) facility. Before drum transportation to the EIP facility, CEA proceeds to complementary chemical and radiochemical characterization and drum re-packaging. The watching program of pre-selected bituminized waste packages stored at the EIP facility allows concluding that no damage of the drums is detected at present time.</p> <p>As far as bituminized waste management strategy is concerned, studies are carried out by ANDRA to evaluate the future feasibility of IL-LL (FAVL) disposal for the less active part of the Marcoule bituminized packages; the other drums are intended for geological deep disposal and as soon as the ultimate disposal packaging will be defined, the drums will be packaged according to ANDRA specifications.</p>
China	D.1.2.2 - p. 43	18	<p>As for dry-storage of spent fuel, compared with CASAD, what are the major modifications of ECUME?</p>	<p>ECUME facility was mainly planned to store spent fuel irradiated in PHENIX fast breeder reactor. The CEA solution implemented to manage these spent fuel is now storage and reprocessing at La Hague UP2 800 plant; consequently, the commissioning of a new Spent Fuel Storage Facility for civilian R&D programs is not anymore necessary.</p> <p>Generally speaking, CEA new waste management facilities are built on existing sites.</p>
China	D.3.3.1 - p. 46	19	<p>What are the major activities for the post-closure monitoring of the CSM?</p>	<p>The Centre de la Manche environmental monitoring includes monitoring activities that are similar to the activities performed during the operational phase. However, during post-closure period, it also includes the monitoring of the capping system in terms of water infiltration, topographical stability and membrane water tightness performances.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
China	G.1.2.2 - p.128	20	What is your regulatory requirement for dismantling plan?	<p>Regulatory requirements for dismantling plan are laid down in the decree of 2 November 2007. The operator must issue the first version of the dismantling plan as soon as he applies for the authorization of creation of the future BNI. This plan has to describe the methodology principles and steps, the end state and monitoring measures. It must be reviewed and updated periodically, in particular when the operator applies for an authorization for final shut-down and dismantling. An ASN's guide will be issued in 2009, detailing the decree provisions. The dismantling plan should comprise the following chapters:</p> <ul style="list-style-type: none"> - presentation and justification - general considerations on the dismantling - steps and dispositions of the considered dismantling - final state of the facility - dismantling cost assessment.
Czech Republic	F.6	1	What are the requirements and criteria, in regulation, aimed at reducing risk attributable to human and organizational factors?	<p>The requirements and criteria concerning the human means and organization of each operator of BNI (basic nuclear installations) are laid down in articles 7, 8 and 9 of the 1984 Quality Order. They concern:</p> <ul style="list-style-type: none"> - the human and technical resources of the operator, his organization, the skills and independency of the persons in charge of safety (see § F2.1 of the report), - controls, preventive and corrective actions to be carried out by the operator, - the capitalization of the experience gained by the operator in the field of human and organizational factors. <p>Those requirements and criteria will be updated and completed by a future order and an ASN decision (end 2009 or beginning of 2010) concerning the policy and management of the safety in BNIs. These documents will take account of WENRA works.</p> <p>In practice ASN actions, notably inspections, with regard to human and organizational factors concern analysis of the organization in place at the licensees, so that they can fully assume their operational responsibility. ASN does not stipulate a standard organization or training program for the persons in charge of operation.</p> <p>ASN also ensures that human and organizational lines of defence are in place, applying the principle of defence in depth.</p> <p>Finally, ASN checks the robustness of the experience feedback arrangements set up by the licensee.</p>
Czech Republic		2	Could you clarify the concept of minimum reversibility of waste in deep geologic repository for period of 100 years as required by 2006 Planning Act ? To which period in facility lifetime it refers to (operational, closure, post-closure)?	<p>Reversibility refers to the pre-closure period. The reversibility requirements will be defined by a future law, after the licence application for creation of the disposal facility has been submitted and reviewed, which must take place in 2015.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Czech Republic	B.4.2	3	In table 4 is for all „very short half-life (< 100 days)“ waste, independently of its activity, proposed only the „management by radioactive decay“. Was it also alternatively considered determination of uniform time period for decrease of activity of this category of radioactive waste on acceptable level from the point of view of the environmental protection?	Concerning the very short half-life wastes and effluents, the current regulation is based on ASN's decision of 29 January 2008 homologated by the ministry of health on 23 July 2008. The time period for radioactive decay must be at least 10 times the half-life value of the radionuclide present in the waste. Besides, before any release in the environment, the operator must check the remaining radioactivity (after decay) and ensure that it is below the regulatory thresholds.
Czech Republic		4	In France there are no pre-established thresholds below which it would be possible to consider radioactive waste to be non-hazardous due to its radioactivity. Would it be administratively not easier and more transparent to determine these thresholds exactly (with a safety reserve) for common radionuclides contained in waste?	ASN is aware of the advantages put forward by those in favour of universal pre-established thresholds (clearance levels) but ASN considers that this approach can be criticised in several ways (see § 2.3.1 p 81 of the PNGMDR available on English website of the ASN http://www.asn.fr/sections/the-french-nuclear-safety-authority under the heading "references"). In the light of the advantages and drawbacks, and a certain number of events that occurred in the early 1990s, ASN decided in the mid 1990s not to go down the clearance levels road, but preferred to manage VLL waste like waste produced by basic nuclear installations (BNI).
Czech Republic		5	How are the waste acceptance criteria linked to the results of safety assessment for CSTFA facility?	There is a close link between the safety assessment and waste acceptance criteria as waste acceptance criteria are intended to ensure safety. Therefore they are derived from the safety assessment and provide the description of the waste packages that are taken into account for the safety assessment. For instance waste packages activity limitation for short lived waste ensure safety of operations, specified containment properties of packages ensure safety during the operational and the institutional control period.
Czech Republic	L.2.2	6	How many bituminization units are operational in facilities listed in the table LL.2 (Radioactive-waste storage or reprocessing facilities)?	The only operational bituminization unit is located in La Hague (Basic nuclear installation - BNI n°18).
Czech Republic	G.6	7	Provide information (structure) of operational limits and conditions for Areva La Hague wet storage facility.	Operational limits and criteria (OLC) are defined on several aspects and especially on the following: - chemical composition, - cooling, - distance between spent fuel assemblies. These OLC are subjected to ASN prescriptions; the overstep of these OLC is considered as an incident and has to be declared to ASN. More details will be given in the national inventory published by ANDRA, in June 2009.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Czech Republic		8	<p>National report gives a lot of information on quality assurance processes.</p> <p>Are there any requirements to certify quality management system (consistent with ISO 9001/2000) of radioactive waste arising outside NPPs?</p>	<p>Each operator of basic nuclear installation (BNI) must comply with the requirements laid down in the 1984 Quality Order. This is verified by the ASN, notably through inspections.</p> <p>Certification ISO 9001/2000 is not required but most of the major nuclear operators have already been certified.</p>
Germany	G.7 - p. 138	1	<p>According to the report (p. 19), the current strategy in France is to reprocess spent fuel. Furthermore (p. 138), it is mentioned that – except in rare cases – no spent fuel has been officially designated so far for final disposal.</p> <p>Does that mean that the criteria for the suitability of a disposal site as well as the design of a deep geological repository are based on the assumption that there is no – or only a very small quantity of – spent fuel to be disposed of?</p> <p>Can you give any quantitative figures for this small quantity?</p> <p>How far does the suitability of a disposal site depend on this assumption?</p>	<p>The model used by Andra to determine radioactive waste inventory includes 4 scenarios concerning 45000 tHM of spent fuels (corresponding approximately to an operational period of 40 years of each reactor):</p> <ul style="list-style-type: none"> - S1 a: all spent fuels are reprocessed (UOX, URE, MOX), - S1b and S1c: spent fuels except spent MOX fuels are reprocessed, - S2: spent fuels are not reprocessed after 2010. In this scenario 29000 tHM of spent fuels are supposed to be disposed of (12500 tHM of UOX2, 14000 tHM of UOX3, 500 tHM of URE, 2000 tHM of MOX). <p>French policy is based on reprocessing of the entire spent fuel generated by existing nuclear reactors (part during the life of the existing NPPs and the rest in the future generation 4 of NPPs).</p> <p>Scenario S2 has been chosen as a precaution and at the same time it facilitates an useful comparison of French concepts and performances with international counterparts according to which many countries are considering long-term management solutions involving the direct disposal of spent fuel without any recycling (see § G.7 of the Report).</p> <p>Therefore the quantity of spent fuels in this scenario and taken into account in Andra research is significant (almost 2/3 of the total amount of spent fuels). The model also includes wastes from other origins (research, defence, dismantling...).</p> <p>UOX2: uranium oxide fuel with average burn-up 45 GWj/t UOX3: uranium oxide fuel with average burn-up 55 GWj/t URE: recycled reprocessed uranium fuel (after re-enrichment) with average burn-up 45 GWj/t MOX: fuel made of mixed uranium and plutonium oxides with average burn-up 48 GW/t.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Germany	E.1.1 - p. 53	2	<p>It is reported that there is a specific threshold value to distinguish between facilities with a higher radioactive inventory classified as basic nuclear facilities (BNIs) and placed under the regulatory control of the nuclear safety authority ASN, and classified facilities due to general environmental-protection requirements (ICPEs) with minor radioactive content under the control of the Ministry for the Environment. The threshold value itself is not mentioned in the report.</p> <p>How is the threshold defined and which value or values are applied?</p>	<p>Art. 28 of the TSN Act reads as follows : [...] III. – The following are basic nuclear installations: [...] 2°Installations meeting characteristics defined by a State Council decree, for preparing, enriching, producing, processing or storing nuclear fuels or treating, storing or disposing of radioactive wastes;[...]</p> <p>Pursuant to Decree 2007-830 of 11 May 2007 concerning the list of Basic Nuclear Installations :</p> <p>For the application of Article 28 of the TSN Act, the activity taken into account is the activity of the radionuclides present in the installation, or likely to be so, as those hold by the operator near the installation, The activity of those radionuclides is expressed by a « Q coefficient » calculated according to the method detailed in an appendix of this decree.</p> <p>Are considered as Basic Nuclear Installations (BNI):</p> <p>1°Installations for preparing, enriching, producing, processing or storing nuclear fuels or treating, storing or disposing of radioactive wastes, when those installations have a “Q coefficient” above $10e+6$;</p> <p>2°Other installations of storage or disposal of radioactive wastes, when those installations have a “Q coefficient” above $10e+9$;</p> <p>3°Installation related to the article L. 542-10-1 of the Environmental code and every installation of storage or disposal of radioactive wastes when those installations have a “Q coefficient” above $10+9$;</p> <p>4°Installations where radioactive materials can be hold, when the sum of « Q coefficient » calculated for each radioactive substance :</p> <ul style="list-style-type: none"> - is divided by $10e+11$ when the radioactive materials are in form of sealed sources - is divided by $10e+9$ when the radioactive materials are not in form of sealed sources <p>is above the unit;</p> <p>5°Installations where fissile materials can be hold, if the sum of the ratio between masses of the fissile materials mentioned below and their masses of reference is above the unit. The reference mass to take into account for this calculation is fixed :</p> <ul style="list-style-type: none"> - 200 g for plutonium 239, - 200 g for uranium 233, - 400 g for uranium 235 present in enriched uranium when the ratio is above 6 % -and 800 g for uranium 235 present in enriched uranium when the ratio is between 1 % and 6 %. <p>APPENDIX : Quantification of radionuclides activity present in an installation In an installation where there is one or several radionuclides, the « Q coefficient » above-mentioned is calculated according to the formula: $Q = \text{SUM for } i (A_i / A_{refi})$</p> <p>where A_i represents the activity (in Bq) of the radionuclide, i and A_{refi} represent the reference value of the radionuclide.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Germany	E.2.2.2 - p. 59	3	<p>It is reported that, pursuant to Articles L121-1 sqq. of the Environmental Code, the creation of any basic nuclear facility (INB) is subject to a public-debate procedure. Furthermore, the legislation distinguishes between statutory and optional public-debate procedure, depending on the project costs rather than the purpose of the project.</p> <p>Are there additional criteria, based on purpose or inventory of an INB for instance, for the determination of the necessity of a public-debate procedure, especially for the optional case?</p>	<p>Indeed, pursuant to the Environment Code, basic nuclear installation (BNI) creation entails the holding of a public debate:</p> <ul style="list-style-type: none"> – systematically, in all cases when dealing with a new electricity generating site or a new site not generating electricity and costing more than € 300 million; – possibly, when dealing with a new site not generating electricity from nuclear power and costing between € 150 million and € 300 million. <p>The Public Debate National Committee, an independent administrative authority (which is a part of the State but is not under the Government jurisdiction) is responsible for the organization of public debates. This standing committee is notably composed of Parliament members, local and civil society representatives. When the planned facility is under the above-mentioned 2nd category, the decision to organize or not a public debate is taken by this committee. Such decisions may be appealed under the supreme administrative Court.</p>
Germany	E.2.2.3.2.2 - p. 60	4	<p>Concerning the consultation of the public and of local authorities in the creation license procedure for a basic nuclear facility (INB) it is reported that “at the end of the inquiry, the Inquiry Commissioner must examine the comments made by the public as recorded in the inquiry proceedings or sent directly to him. He must also forward his report and opinion to the Prefect within a month after the inquiry.”</p> <p>Is one month for examination of the comments and reporting of the Commissioner’s opinion seems to be a rather short period, is the given deadline statutorily fixed or may it be extended, namely due to a high amount or complexity of objections presented by the public?</p>	<p>Article R. 123-22 of the Environment Code states that the inquiry commissioner must forward his report to the <i>Préfet</i> within a month after the inquiry. However, as stated by the Supreme administrative jurisdiction in a 1992 judgment, the non observance of this provision does not make the inquiry procedure irregular.</p>
Germany	F.2.3 - p. 86	5	<p>It is reported that “in accordance with Article 20 of the 2006 Planning Act, the General Directorate for Energy and Raw Materials (DGEMP), which has been designated as the competent authority, received from every operator a report estimating his dismantling and waste-management costs, within one year after the adoption of the law”</p> <p>Are these reports publicly available or treated as confidential?</p>	<p>These reports are treated as confidential. But the decree n°2007-243, implementing the Article 20 of the 2006 Planning Act, also provides for the establishment, by each operator, of a version of its report without confidential information. Furthermore, a public report is to be made every three years, by the National Financial Evaluation Commission, created by the article 20 of the 2006 Planning Act, on its assessment of the situation.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Germany	F.5.3 - p. 116	6	<p>Concerning emergency preparedness, the report comprehensively describes the provisions for basic nuclear facilities (INBs), but there is only a short description of emergency preparedness for accidents in non-INBs provided in Section F.5.3. The disposal facility for VLL Waste (CSTFA) at Centre de Morvilliers is considered a classified facility due to general environmental protection requirements (ICPE), and therefore is a non-INB facility.</p> <p>Could you comment on the provisions of CSTFA concerning emergency preparedness planning and the associated documents to be prepared by the operator?</p>	<p>A POI (Plan of Internal Organization in case of emergency) was prescribed by the prefecture to the CSTFA disposal facility. In case of emergency, the operator has to apply his POI. This plan concerns measures to be implemented within the establishment in the event of an accident. The operator is responsible of the management of internal operations. The POI defines the organizational measures, intervention methods and means to be implemented to protect the personnel, the people and the environment. The plan is set up by the operator under its responsibility. It aims to organize the operator's response and, in particular, detail means and equipments to be implemented and used. It is based on a hazards study including an analysis of different scenarios of possible accidents and their consequences. The POI has to describe emergency measures imposed to the operator under the supervision of the prefect, particularly with regard to alert of the public, the services, and the municipalities.</p>
Germany	D.1.1 & 1.2 - p. 41	7	<p>It is mentioned that the inventory of spent fuel storage facilities is shown in paragraphs L.1.2 and L.1.2. However, these two sections do not contain any information on inventories. Summarised data on total quantities of spent fuel stored at different facilities are given in Section D.2.</p> <p>Is it possible to provide information on how much of these quantities is MOX fuel?</p>	<p>Concerning the MOX fuel quantities, all required information is given in public reports such as the National Inventory published by ANDRA. The next version will be published in June 2009. The French National Inventory is accessible on the Andra Website (www.andra.fr)</p>
Germany	G.1.2.2 - p. 128	8	<p>While Electricité de France (EDF) and the French Atomic Energy Commission (CEA) are said to perform periodic safety reviews on a decennial basis, it has not become clear whether AREVA also does so. Instead, in Section G.1.2.2 AREVA states that "the periodic safety review is somehow permanent", while in Section G.1.3 ASN generally "considers that the case must be updated periodically".</p> <p>Does AREVA perform a periodic safety review comparable to the requirements that EDF and CEA are supposed to meet?</p>	<p>Since the TSN Act has been promulgated, a ten-year periodic safety review is a legal requirement (article 29 TSN Act). It was indeed not the case before.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Hungary	G.7 p.138	1	What percentage of the spent fuel removed from reactors is reprocessed to MOX fuel?	The perspective of loading MOX fuel into two more reactors reduces dramatically the percentage of UOX spent fuel being left unprocessed. As soon as in 2010, the tonnage of processing will be nearly equal to that of spent fuel being unloaded. As a consequence, most of the spent fuel to be stored for several decades will be MOX fuel. Typically, considering the tonnage of spent fuel currently unloaded, the percentage of spent UOX fuel to be reprocessed into MOX fuel will be higher than 95 %, from 2010 onwards.
Hungary	G.7 p.138	2	Is the full reprocessing capacity utilized by the present needs?	The spent fuel is reprocessed so that the plutonium stocks shall not increase.
Hungary	E.3.1.5 - p.75	3	The Regional Directorates for Health and Social Affairs and the Departmental Directorates for Health and Social Affairs participate in radiation protection controls both in the environment and in life quarters. What is their relationship to the Nuclear Safety Authority?	Cooperation between ASN and these entities takes place on the basis of a Convention signed with the General Health Directorate, which is the national entity covering the regional and departmental levels. A specific area of cooperation can be mentioned : the control of radon exposure in public buildings.
Hungary	J - p.169-170	4	No information can be found on the inventory of DSRS stored or disposed of (neither quantities nor nuclides). Could you provide these data in summary?	Disposal options for DSRS were identified in 2008 to be included in 2009 in the National waste management plan. They include surface disposal in existing facilities with very low level wastes (57Co DSRS for instance) or short lived low and intermediate level wastes (most 60Co and 137Cs DSRS...) as well as disposal in future repositories, near surface with for long lived low level waste (232Th, 226Ra, 241Am...) or in deep geological formation with long lived intermediate level wastes or high level wastes. Approximately 2 Million sealed disused sources are currently stored and inventoried in France. This amount includes 1,7 Million smoke detectors containing Americium 241. It also includes approximately 200 000 light sources (3H, 227Ra), 17 000 238Pu DSRS, 10 000 lightning conductors with Americium 241 and or Radium 226, 15 000 electronic tubes, 6 000 radium bearing objects.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Hungary	B.4.2 - p. 21-23	5	Please give the correct definition of low-level and intermediate-level long- and short-lived (IL-LL, LL-LL, LIL-SL) waste.	<p>As indicated in the Report there is no simple and single criterion to classify radioactive waste.</p> <ul style="list-style-type: none"> - In practice LILW-SL are wastes accepted (or acceptable if not yet sent) by the CSFMA repository (and previously by the Centre de la Manche facility). In particular the radionuclides content of each conditioned waste (activity of each radionuclide per mass) must be compatible with the waste-acceptance criteria at the CSFMA. These criteria have been established by Andra on the basis of the safety demonstration concerning this repository. In particular the acceptable level of long-lived radionuclides is very low. - LLW-LL and ILW-LL are wastes which cannot be accepted by the CSFMA repository because of their radionuclides content (in particular because of their long-lived radionuclides content). LL-LL waste should be disposed of in a sub-surface repository (several tens meters deep) and IL-LL waste should be disposed of in a deep geological repository (500 meters deep). LLW-LL category is mainly composed of graphite wastes and radium bearing wastes but could include certain spent sealed sources and some radioactive bitumized wastes. - IL-LL wastes are the other wastes (other than HLW) which cannot be accepted by the CSTFA, nor by the CSFMA, and does not enter into the LLW-LL category. <p>At the same time, each waste category defined above (based on the waste-acceptance criteria of the repositories, existing or under development) can easily be located in a matrix based on two criteria, the period and the activity of the waste.</p>
Hungary	D - p.41-51	6	<p>Waste volumes are reported, but the isotopic composition and activity concentrations are not given.</p> <p>Do you have these data?</p>	<p>All required information is given documented in public reports such as the National Inventory, public report, published by ANDRA. The next version will be published in June 2009.</p>
Hungary	G.2 - p.130 / G.7 - p.138	7	<p>For how long the existing storage capacity for spent fuel is sufficient?</p> <p>Do you have plans for storage after running out of present capacity?</p>	<p>A new capacity storage will be commissioned at La Hague in the next few years. This facility will provide sufficient capacity for the coming years. The application should be submitted by 2010.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Hungary	G.2.2.3.2 - p.130	8	<p>What conclusions were drawn for your own practice from the technical review initiated by EDF on criticality-hazard control, following the Tokai-Mura incident in 1999?</p>	<p>National and international experience feedback in the recent years regarding criticality hazard has been analyzed and implemented by EDF, especially regarding the core loading and unloading procedures: In the recent years, the following issues regarding criticality control have been analyzed:</p> <ul style="list-style-type: none"> - Experience feedback from core loading sequence errors, in which a fuel assembly was placed in a position in the reactor that is not compliant with the core loading plan, has led to the definition of procedures to limit the consequences of a possible error, such as “snake-mode” refuelling (along successive diagonals). Additional monitoring provisions are also in place at the plants to reduce the risk of such errors. - An event that occurred in a reactor on reaching criticality for plant restart in October 2004 led EDF to rewrite operations procedures for achieving criticality. The associated training program was also revised. Since September 2006, all EDF sites have used the same procedures, founded on best practices. The effectiveness of the new approach has been monitored during simulator training exercises and under real approach-to-criticality conditions. - In June 2005, monitoring of uniform dilution in refuelling outage and maintenance outage conditions was reviewed. Provisions relating to the monitoring of boron concentration during refuelling outages were reinforced. New conditions for the use of source-range channels in CPY-series 900-MW plants were proposed in early 2007. The boron concentration inside the reactor under cold shutdown conditions with the core fully loaded has been increased, and new source-range channel threshold settings were introduced in October 2005. - Two further events that occurred in the second half of 2006 highlighted the difficulty of controlling very low power levels in the reactor during certain operating transients. In accordance with the recommendations of a letter sent to nuclear power plant operators by WANO, an in-depth analysis was initiated in respect of the events concerned in early 2007, in order to learn any relevant lessons. <p>This experience feedback has enabled to establish a safety reference file regarding prevention of criticality hazard which is included in the safety report.</p>
Hungary	G.2.3 - p.132	9	<p>CEA is planning the construction of new facilities to replace the older ones by 2015. Does it mean that you are looking for new sites or only building new facilities on the existing sites?</p>	<p>ECUME facility was mainly planned to store spent fuel irradiated in PHENIX fast breeder reactor. The CEA solution implemented to manage these spent fuel is now based on storage and reprocessing at La Hague UP2 800 plant. Consequently, the commissioning of a new spent fuel storage facility for civilian R&D programs is not anymore necessary. CEA new waste management facilities are built on existing sites.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ireland	H.5.1	1	<p>It is noted that 'the Safety Guide of 12 February 2008 for the final geological disposal of radioactive waste provides for an initial period of 500 years corresponding to the memory preservation of the repository, thus allowing very little probability for human intrusions in the disposal area'.</p> <p>Can France give a brief summary on how 'memory preservation' will be achieved over the 500 year period?</p>	<p>The Safety Guide of 12 February 2008 for the final geological disposal of radioactive waste indicates: this memory preservation depends on the measures taken for archiving the institutional documents. Under this condition, memory regarding the existence of the repository is considered not to be lost before 500 years.</p> <p>For the moment, there is no detailed requirements on how the geological disposal will be preserved. Andra is working on different solutions.</p> <p>It should be noted that the measures to keep information and data have been defined for the Centre de la Manche facility (near-surface repository in post-closure phase): nature of information and data, permanent paper, location in several places...This experience might be useful for the deep geological repository.</p>
Ireland	F.5	2	<p>It has been reported that the EPR spent fuel will contain greater volumes of volatile radionuclides than spent fuel from currently operating PWRs.</p> <p>Can France outline how/if this is indeed the case and, if so, the necessary changes that have been made to emergency preparedness plans?</p>	<p>Due to higher burn up (60Gwt/j), spent fuel contains more fission gases per unit of mass. This is taken into account into the reprocessing facilities authorizations.</p> <p>There will be no change in the structure of the emergency preparedness plans.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ireland	I.1	3	<p>The report states that ‘... spent-fuel reprocessing contracts with foreign nuclear power companies require that the ultimate waste be returned to the country of origin’</p> <p>Can France give an indication of the period of time between receipt of spent fuel from a foreign customer to the eventual return of recycled and waste products?</p> <p>What are the factors that influence this?</p>	<p>The period of time between receipt of spent fuel from a foreign customer and the return of waste products may vary according to different factors. First, the period of cooling before the dissolution depends on regulatory requirements and industrial constraints.</p> <p>The conditions of introduction and return to the country of origin of ultimate waste are set in the 2006 programme act on the sustainable management of radioactive materials and waste: <i>“Their introduction for treatment can be authorised only as part of intergovernmental agreements and provided the radioactive wastes resulting after the treatment of these substances are not stored in France beyond a date set by said agreements. The agreement states the estimated periods for the reception and treatment of these substances and, where applicable, the prospects for the subsequent use of radioactive materials separated during treatment. The text of the intergovernmental agreements is published in the Official Journal of the French Republic.”</i></p> <p>The decision upon the duration for the period of time between receipt of the spent fuel and the return of waste is taken considering each situation after a case by case examination, and the advice of the National Safety Authority, which is mandatory by law.</p> <p>An example of the period of time between receipt of used fuel from a foreign customer and the return of waste products, may be found in the intergovernmental agreement between France and Italy, which was signed on May 2007 (French decree n°2007-742).</p> <p>In fact, the French industrial body proposes several services for an efficient recycling of these products (Uranium and plutonium). Recycled fuels are generally loaded in the reactors of the utility that send the used spent fuels to treatment.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ireland	B.1.4	4	<p>It is noted that France is actively pursuing reversible waste disposal within a deep geological formation for high-level and intermediate-level long-lived (HL-IL/LL) waste. What will be the disposal capacity of the facility? In addition, has the impact of higher burn up fuels, specifically those from the new EPR(s), been considered in potential repository designs?</p>	<p>The model used by Andra to determine the radioactive waste inventory includes 4 scenarios concerning 45000 tHM of spent fuels (corresponding approximately to an operational period of 40 years of each reactor):- S1 a: all spent fuels are reprocessed (UOX, URE, MOX),- S1b and S1c: spent fuels except spent MOX fuels are reprocessed,- S2: spent fuels are not reprocessed after 2010. In this scenario 29000 tHM of spent fuels are supposed to be disposed of (12500 tHM of UOX2, 14000 tHM of UOX3, 500 tHM of URE, 2000 tHM of MOX). This scenario is used as a precaution (see the Report § G.7).The model also includes waste from all other origins (nuclear research, defence, dismantling...).The repository is being designed for:- 6300 m3 HLW + 81 100 m3 ILW-LL + 0 tHM spent fuel (scenario S1a), or- 6300 m3 HLW + 80600 m3 ILW-LL + 2000 tHM spent MOX fuel (scenario S1b), or- 7400 m3 HLW + 80600 m3 ILW-LL + 2000 tHM spent MOX fuel (scenario S1c), or- 2600 m3 HLW + 73100 m3 ILW-LL + 29000 tHM spent fuel (scenario S2).UOX2: uranium oxide fuel with average burn-up 45 GWj/tUOX3: uranium oxide fuel with average burn-up 55 GWj/tURE: recycled reprocessed uranium fuel (after re-enrichment) with average burn-up 45 GWj/tMOX: fuel made of mixed uranium and plutonium oxides with average burn-up 48 GW/t.</p>
Ireland	B.6.1.3	5	<p>The report states that 'all waste resulting from the treatment of the fuel owned by foreign customers is returned to its owners as soon as technical and administrative conditions allow it'. In addition to the return of CSD-V packages, has any CSD-C packages been returned to foreign customers? How many CSC-C packages belonging to foreign customers remain in storage in France?</p>	<p>Wastes resulting from the fuel owned by foreign customers – and conditioned through treatment - are returned in due time, once the process completed. Besides, wastes which contain the major part of radioactivity are first and foremost returned. Thus, CSD-V packages (universal canisters for vitrified waste, which contain fission products) have been returned before CSD-C packages (universal canisters for compacted waste, which contain hulls and end-fittings waste, ie fuel assembly skeletons). CSD-V contains about 99,8% of the activity of fission products, and the remaining 0,2% are located in the CSD-C packages.</p> <p>As explained in the report (page 35, § B.6.1.3.3), the CSD-C packages are produced since 2001. Their shipment is scheduled in the coming year.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ireland	B.6.1.3	6	<p>Can France provide a comparison of the expected radionuclide content (e.g. H-3, C-14, I-129, Tc-99, Cs-137) of spent EPR fuel with that for spent fuel from a currently operating PWR?</p> <p>With regard to the EPR being constructed at Flamanville, does France intend reprocessing the resulting spent fuel?</p> <p>If reprocessing is the preferred management option, can France provide a comparison of the expected discharges per tHM reprocessed compared with spent fuel from a currently operating PWR for the following radionuclides: H-3, C-14, Co-60, Tc-99, I-129, Cs-137, plutonium and neptunium?</p>	<p>Treatment of used spent fuel is the strategy followed by EDF for all the French reactors. This is based on the fact that treatment of used spent fuel decreases the volume of final waste, activity being conditioned in very resistant packages. Then, this makes easier the radioactive waste management. Besides, 96% of used spent fuel contain reusable recycled radioactive materials (uranium and plutonium).</p> <p>On a technical point of view, fission products are proportional with the burn-up. The amount of waste normalized by the energy produced by the nuclear fuel (in GWe) will be less for an EPR than for a current PWR, first because of a better yield, and secondly because of a lower amount of waste hulls and end-fittings waste (fuel assembly skeletons).</p> <p>Radioactive effluents in the future are limited by stringent regulation. In addition, AREVA is involved in a continuous improvement progress, particularly in the field of radioactive liquid waste management.</p>
Ireland	B.6.1.3 M	7	<p>Can France provide details on the status of, and future plans for, the following reprocessing methods: (i) the COEX process (ii) the DIAMEX-SANEX processes and (iii) the GANEX process?</p>	<p>Details on these reprocessing processes could be found in the following reports: - « Rapport sur l'Évaluation du plan national de gestion des matières et des déchets radioactifs (PNGMDR) » Par M. Christian BATAILLE et M. Claude BIRRAUX, deputies Report N°3793 of the "Assemblée Nationale", 6 mars 2007</p> <p>In September 2009, an international forum will take place in Paris, "Global 2009", the world meeting on Nuclear Fuel Cycle. The results of the international studies for developing next generation systems will be particularly emphasised. Latest results of research in this scientific field will be available then. https://www.sfen.fr/index.php/plain_site/global_2009/general_scope_overview_plenaries</p>
Ireland	B.6.1.3.2 T	8	<p>The report states that 'Discussions about waste shipments to foreign AREVA customers are under way between those customers and relevant authorities with a view to use bitumen drums or other packaging yet to be designed'. Has there been a return of any waste, generated in the reprocessing of foreign customer fuels, to foreign customers (other than CSV-V and CSV-C packages)?</p>	<p>The French 2006 programme act (codified in the "Code de l'Environnement", Article 542-2-1) sets the return of CSD-V and CSD-C packages only. However, for some contracts signed before 2006, AREVA has some rights to return other wastes than CSD-V and CSD-C packages, including bitumen drums, whose shipment is forecast in the coming years. More details are available in the National Inventory issued by the French National Agency for radioactive waste management, called "ANDRA". The next edition of the National Inventory will be published in June 2009. http://www.andra.fr/index.php?id=edition_1_1_1&recherche_thematique=7</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ireland	B.6.2.3 - p. 35	9	<p>The report notes that it is now compulsory to carry out a systematic radiological control of the waste and effluents before disposal (from biomedicine and nuclear medicine). Can France provide further details on what this radiological control entails?</p> <p>The report also notes that "Aqueous liquid effluents containing radionuclides with shorter half-lives than 100 days may be directed after decay towards the public sewage collection network". Can France confirm that all short-lived hospital wastes are subject to delay-tank storage prior to release? What radionuclides are these measures typically applied to?</p> <p>The new provisions issued for comments in 2007 include the requirement for 'control conditions at facility outlets'. Could France elaborate on what these control conditions will be?</p>	<p>Concerning wastes and effluents generated by medical, biomedical and biological activities, the current regulation is the "Health code" (notably the article R1333-12) and the ASN's decision of 29 January 2008 homologated by the ministry of health on 23 July 2008.</p> <p>Each facility having this type of activity generally manages its very short-lived waste and effluents through radioactive decay. The main requirements are:</p> <p>1) The facility operator has to issue a management plan comprising:</p> <ul style="list-style-type: none"> - a description of the radioactive wastes and effluents produced - a description of their management, release and monitoring - the identification of a "zoning" (allowing a clear distinction of wastes and effluents, i.e. radioactive or not) - the identification of the storage areas - the identification and localisation of the outlets, as well as the monitoring dispositions, notably at the junction point with the external sewage. <p>The decay period shall be at least 10 times the half-life of the radionuclide having the longest half-life (but less than 100 days) in the solid waste or in the effluent (stored in tank for decay).</p> <p>In the case of solid waste the operator shall estimate by measurements the remaining activity before release in a non-radioactive circuit. The result shall be less than 2 times the background activity due to the natural radioactive surrounding. Measurements shall be made in a place where the background activity is low and with a suitable device.</p> <p>In the case of effluents, the activity shall be less than 10 Bq/l to be released in the sewage network (100 Bq/l for effluents originating from rooms with patients treated by I131). The activity storage tank is measured on samples as soon as the tank is closed and used for radioactivity decay. On this basis, the operator calculates the remaining time to reach the aforesaid values (10 or 100 Bq/g). After this period effluents can be released in the external sewage network.</p> <p>The facility operator has to set up the nature and periodicity of the controls at the junction point with the external sewage as well as the activity limits of the effluents released in this sewage. The provisions proposed by the facility operator shall be based on the radioprotection principles and they are part of the management plan.</p> <p>2) The facility operator must record the data related to its nuclear activities, in particular:</p> <ul style="list-style-type: none"> - quantities and nature of effluents and waste produced - results of measurements and controls prior to release - inventory of released effluents and waste. <p>3) The facility operator must also issue an annual report. ASN is preparing a guide recommending some technical rules in relation with the above-mentioned ASN's decision. Facilities already authorized will have 1 to 3 years to comply with the requirements laid down in this decision (depending on the nature of the requirement).</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ireland	D.1.2.1.3	10	The report states that a 'total of 4,164 CSD-V packages have been shipped back to foreign customers (i.e., rate above 75%)'. How many CSD-V packages belonging to foreign customers remain in storage in France?	The French 2006 programme act sets the return of CSD-V and CSD-C packages only and requires that information about the foreign return is given in public reports such as the National Inventory published by ANDRA. The next version will be published in June 2009. At the date of 31-12-2007 (date of reference for the 2009 French National Inventory) : a total of 4164 CSD-V packages have been shipped back to foreign customers (more than 77%), and 1212 CSD-V packages still remain to be shipped back to foreign customers. The French National Inventory is accessible on the Andra Website (www.andra.fr)
Ireland	D.4.2.1	11	It is noted that the volume of HL (vitrified) waste present in interim storage facilities at the end of 2004 was 1,851 m3. Can France indicate how many CSD-V containers this corresponds to? In addition, on average what is the volume of HL waste contained in a CSD-V container? Also, what are the typical constituents of a CSD-V container? For example, on average how much (in Bq) Cs-137, I-129, H-3, Tc-99, C-14 is contained in a typical CSD-V package?	The HL wastes are conditioned in different types of containers, but almost all of them are of CSD-V type (La Hague) or of a type similar to CSD-V (Marcoule). Therefore 1,851m3 amount approximately to 10,600 containers, as the capacity of HL waste in one CSDV-type container is 0.175m3. To be noted that the volume of 1851 m3 represents the French share of this type of waste on the territory at the end of 2004. In the order of 10e+15 Bq for ¹³⁷ Cs, 10e+7 Bq for ¹²⁹ I, 10e+12 Bq for ⁹⁹ Tc, 10e+9 Bq for ¹⁴ C, eight years after spent fuel removal from the reactor. There is no significant tritium activity in a CSD-V container.
Ireland	L.6.2	12	With regard to the EPR being constructed at Flamanville, can France give an indication of the expected radioactive discharges (gaseous and liquid) and how they compare with discharges from the PWRs currently in operation in France?	The expected radioactive discharges are proportionally smaller than the discharges of the other PWRs.
Ireland	L.6.2.1.2	13	It is noted in Table 31 that the rare gaseous discharges from Gravelines and Nogent-sur-Seine NPP sites, are ~ 9 times higher than those reported for other sites. Can France explain why this is the case?	These discharges, without significant radiological impact, are related to some non gas-tight fuel rods.
Ireland	L.6.2.2.2	14	It is noted, in Table 35, that the 2006 tritium liquid discharges from some of the EDF sites are very close to the discharge limits. For example Belleville-sur-Loire has a limit 60 TBq and 2006 discharge of 52.6 TBq, Cattenom has a limit 140 TBq and 2006 discharge of 131.0 TBq, etc. Does France plan to change the site tritium discharge limits or do they expect discharges to reduce at these sites in the future?	Discharge limits are revised when authorisations are renewed. The plan is to adapt the limits as close as possible to the estimated quantity of discharge for the normal operation. There is a recommendation to the operators to minimize the tritium d

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Italy	H.5.1	1	<p>What are the waste specifications for waste packages and the safety requirements for the facility in case of interim storage of High and Intermediate Level Waste?</p>	<p>Concerning HL and IL-LL wastes generated by La Hague reprocessing plant, specifications, called specifications of production, are established by AREVA NC. Each specification of production defines the main characteristics of the waste stream (for example vitrified waste) which will be produced (and conditioned), and how the quality of the waste packages will be ensured. Since the beginning each specification of production had to comply with the Basic Safety Rules for production and storage published in 1982 (RFS III 2 a, RFS III 2 b, RFS III 2 c, RFS III 2 d) and with the RFS III 2 f published in 1991 for deep geological disposal now replaced by the Safety Guide of 12 February 2008. Each of those specifications is examined by Andra and ASN and has to be approved before production of the corresponding wastes.</p> <p>With regard to La Hague storage facilities, requirements are laid down in the above mentioned RFS III 2 a,b,c and d, which not only deal with waste but also with storage, and in the technical prescriptions issued by ASN before the beginning of operations.</p> <p>The CEA has also issued specifications of production for their radioactive waste packages. EDF will do the same in due time (EDF produce few IL-LL wastes which are not yet conditioned).</p> <p>Requirements concerning their storage facilities are laid down in the technical prescriptions issued by ASN before the beginning of operations.</p>
Italy	F.6.3.2	2	<p>A cooperation between EDF and ANDRA is mentioned, established in order to find a suitable solution for conditioning graphite waste.</p> <p>Could some details on the possible solutions under evaluation be given?</p>	<p>The development of packages adapted specifically for deconstruction sites, transport and repository is the subject of collaboration between ANDRA and EDF. A thorough characterization of the graphite waste is under way and should be completed in 2010. Main results will be published. Graphite waste encompasses not only graphite itself but also some ion exchange resins or miscellaneous items that should be used in the dismantling process. Two conditioning processes are being developed, respectively for encasing graphite in 10 m3 reinforced concrete packages (armed or fiber) and for immobilizing resins in a mortar (the latter in cooperation with the CEA and Areva).</p> <p>This work, performed in close cooperation with ANDRA, is scheduled to be completed in 2010.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Italy	B.5 - p. 29	3	<p>It is mentioned that part of metal scrap is recycled within the nuclear industry.</p> <p>What are the criteria adopted for the level of radiological contamination in the metal scrap?</p>	<p>There is no pre-established level of contamination in metal scrap. Criteria are established on a case by case basis according to the justifications provided by the producer of metal scrap and by the future operator of the recycling facility (level of the remaining activity which can reasonably be reached, impact of the recycling process on staff, public, and environment, future use of the metal etc.). Criteria also depend on the status of the recycling facility (conventional facility or nuclear installation).</p> <p>It is reminded that there are few examples of recycling in France:</p> <ul style="list-style-type: none"> - one conventional facility: D'Huart industrie which melts beforehand decontaminated lead pieces (the final products are used as radiation shielding in BNIs), - one nuclear installation (BNI): Centraco which melts steel pieces, beforehand decontaminated or not (the final products, i.e steel cylinders, are used as radiation shielding in radioactive waste packages to be disposed of at the CSFMA: see the Report § B.6.1.1). <p>For D'Huart Industrie, the authorized level of contamination is 1 Bq/cm². Two projects are being contemplated by operators, which should greatly increase the volume of recycled VLL materials: acceptance criteria in the recycling facilities will be determined in due time. ASN considers that recycling of very low level materials can only be envisaged if they are re-used in BNIs (Basic Nuclear Installations).</p>
Italy	B.5.2.1	4	<p>As far as the classification of the “zoning” areas is concerned, could details of the radiological criteria adopted to declassify the zones be provided?</p>	<p>Before works, the operator has to define physical phenomena having led to a contamination or activation (real or possible) of the building structure. He has to quantify those phenomena, based on models, calculations and investigations (in situ, feedback from other experiences...). He also have to define and justify the remaining radioactivity level after cleaning in order to conservatively determine the thickness which at least should be removed (i.e the calculated thickness plus some margin for precaution). This is the first line of defence. At the end of the clean-up operations, the operator has to verify the conventional character of the remaining structures by making measurements according to a methodology defined (the methodology may be based on a statistical approach). This is the second line of defence. All these elements have to be documented. First elements are sent to ASN before clean-up works start. ASN may require further information and justification or refuse the operator's proposals. Other elements are sent to ASN after clean-up. ASN carries out an inspection with some measurements in situ or on samples. In addition, the third level of defence is based on the checking of waste leaving the site (detection devices).</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Italy	B.6.1.2.2 - p. 31	5	<p>What is the inventory of the bituminised radioactive waste stored at the Multipurpose Interim Storage facility?</p> <p>What is the experience gained in storing such packages?</p> <p>What is the strategy for this kind of waste?</p>	<p>Sludge, resulting from Marcoule effluent treatment, is embedded in bitumen matrices to form packages intended either for disposal at CSFMA or for storage pending final disposal.</p> <p>In the near future (~ 2014), Marcoule effluent treatment facility will be renovated and a new process will be implemented using cementation as embedment matrix. At present time, the effluent production is decreasing and most of the waste bituminized packages now produced are intended for disposal at CSFMA.</p> <p>Around 60500 bituminized waste drums are now stored at Marcoule site; roughly 6700 of them are stored at the Multipurpose interim Storage (EIP) facility. Before drum transportation to the EIP facility, CEA proceeds to complementary chemical and radiochemical characterization and drum re-packaging. The watching program of pre-selected bituminized waste packages stored at the EIP facility allows concluding that no damage of the drums is detected at present time.</p> <p>As far as bituminized waste management strategy is concerned, studies are carried out by ANDRA to evaluate the future feasibility of IL-LL (FAVL) disposal for the less active part of the Marcoule bituminized packages; the other drums are intended for geological deep disposal and as soon as the ultimate disposal packaging will be defined, the drums will be packaged according to ANDRA specifications.</p>
Italy	B.6.1.3 - p. 32	6	<p>The implementation of cold crucible technology for treatment of UMo solutions is foreseen.</p> <p>What is the planning for the operation of this facility?</p>	<p>The technological feasibility of cold crucible technology for treatment of UMo solutions has been demonstrated. The operation at an industrial level at La Hague facility is scheduled from 2010.</p>
Italy	D.1.2.1.4	7	<p>It is affirmed that "the production of bitumen drums at La Hague has almost disappeared".</p> <p>Is a complete relinquishment of this technology foreseen?</p>	<p>Effluent flows treated firstly and sent to bituminization are currently routed to vitrification.</p> <p>This new effluent management implemented at La Hague facility for 14 years, is aimed at concentrating a large part of medium activity effluents and at incorporating them by vitrification in the same packages as for the fission products. The activity and so the contribution of these effluents to the volume of glass returned to the client is insignificant. These low amounts have no impact on the mean characteristics of the glass.</p> <p>Waste volume has notably decreased because of this new technology. Its aim is to stop the production of bitumen drums to obtain a complete relinquishment of the bitumization technology. Moreover, since 2006, the 2006 planning Act sets the return of CSD-V and CSD-C packages only.</p> <p>Concerning the production of waste from operation linked with the recycling of current and future used nuclear fuel, major progresses have been achieved by AREVA.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Japan	H.5.1 - p. 155	1	Would you please explain the legal basis of the safety case?	<p>According to the law, each operator of basic nuclear installation (BNI) must demonstrate that the technical and organizational provisions are adequate to prevent and mitigate risks and to limit the facility nuisance (in the framework of the authorization procedure, and all along the life of the installation, periodically, including the dismantling phase). The "2006 TSN Act" and the decree of 2 November 2007 stipulate requirements to be provided by the applicant (and afterwards the licensee), confirming the practice already existing in this field.</p> <p>In the past, guidelines defined by ASN asked to operators to perform periodical safety reviews and to consequently update the content of the safety report. Several ASN decisions concerning such reviewing as well as the content of a safety report are being prepared by ASN. They will detail requirements laid down in the decree of 2 November 2007. The operators will have to comply with these future ASN decisions.</p>
Japan	H.5.1 - p. 156	2	What is the basis of determining the period of 500 years corresponding to the memory preservation of the repository? Why not 300 years or 700 years but 500 years?	<p>The Safety Guide of 12 February 2008 for the final geological disposal of radioactive waste indicates: this memory preservation depends on the measures taken for archiving the institutional documents. Under this condition, memory regarding the existence of the repository is considered not to be lost before 500 years.</p> <p>It should be noted that measures set to keep information and data have been defined for the Centre de la Manche facility (near-surface repository in post-closure phase): nature of information and data, permanent paper, location in several places, etc...This experience might be useful for the deep geological repository.</p>
Japan	H.5.1 - p. 156	3	<p>What is the basis of determining the 300 year monitoring phase? In H5.1, it is described "...the final geological disposal of radioactive waste provides for an initial period of 500 years corresponding to the memory preservation of the repository... That period corresponds also to a significant radioactive decay of the short-lived or medium-lived radionuclides involved".</p> <p>Were those different periods of 300 years and 500 years introduced based on different bases of reasoning as they are different from each other?</p>	<p>300 years correspond approximately to ten times the longer period of the short lived radionuclides in a LIL-SL waste (Sr-90 and Cs-137). That means that after 300 years Sr-90 and Cs-137 activities of any LILW-SL are divided by almost 1000 so that the impact expected should be low enough not to monitor the repository after this period. Nevertheless the verification has to be made on the basis of conventional scenarios, at the end of the surveillance period (i.e 300 years) and beyond, according to the Basic Safety Rule RFS I.2 issued in 1984.</p> <p>However it seems reasonable to consider that the memory of the repository existence will be kept during a longer period (archives, easement for use restriction) and this is why a conventional duration of 500 years has been adopted in the Safety Guide concerning the deep geological disposal facility.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Japan	H.7 - p. 161	4	France adopts 3.7GB/t at maximum and 0.37GBq/t on average for wastes containing alpha nuclides from the Fuel Fabrication Facility and the Enrichment Facility as the upper concentration limits on near-surface disposal. Please let us know how the build-up of descendant nuclides was taken into account in the limit setting. Please let us know the reason if it is not taken into account.	With regard to alpha nuclides, the waste acceptance criteria set up for the CSFMA (surface disposal facility) concerns the alpha activity at 300 years. This activity includes filiation nuclides. These criteria are applied to all waste packages, coming from all origins (Fuel Fabrication Facility, Enrichment Facility, NPPs, Reprocessing Plant, Nuclear Research Centres, Defence...) Waste package verification is completed through IT systems (Andra) and concern each radioactive waste package prior to its disposal in the CSFMA. A verification is made periodically with regard to the average concentration per cell and at the scale of all filled cells.
Japan	B.1.4 - p. 16	5	Please explain the basis of the minimum reversibility period of 100 years.	The minimum reversibility period has been deeply debated by French Parliament, even about the need to act a minimum length in the law. As a consequence, it has been decided to fix a length corresponding to the minimal industrial length of the disposal (taking into account the life length of the nuclear power plants, the storage before treatment and the storage after treatment, before the ultimate waste will be able to be sent to the disposal). This means that, as long as the last wastes have not been set to the disposal, reversibility must be guaranteed.
Japan	E.2.2.4.5.4 - p. 64	6	Please show us the condition or criteria of the site release in France.	There is no pre-established criteria for clean-up. Clean-up is dealt with on a case-by-case basis, according to the future use of the installation (if any) as well as the corresponding impact on the one hand, and the radiological state and its optimization (ALARA) on the other hand. With this respect, ASN has issued a guide (SD3-DEM-02) regarding clean-up methodology. The operator's methodology must be based firstly on contamination/activation modelling and the level of remaining contamination ((in order to determine the thickness to be removed) and secondly, after works, on systematic radiological controls to confirm the conventional character of the remaining structures. For information, the operator proposed a remaining activity at Brennilis less than 0.4 Bq/g for all radionuclides. Before clean-up, the operator must send a dossier to ASN, proposing the methodology he intends to apply. After clean-up, and with a view to modifying the "waste zoning" (nuclear zones becoming non-nuclear zones), the operator must send a report to ASN for approval, justifying that the clean-up methodology has been applied satisfactorily. After the review of the report, ASN carries out an inspection including random checks on the radiological state of the installation. To go further, i.e to remove an installation from the basic nuclear installation list, the operator has to: - describe the installation state (physical and radiological state) after cleanup and show that the expected end state has been reached, - confirm that all radioactive substances have been removed and managed according to authorized routes, - confirm the future use of the installation (if not demolished), - report on feedback from the dismantling operations.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Japan	K.2.1 - p. 173	7	Please correct JAERI to JAEA.	Thanks for this remark.
Japan	B.1.3 - p. 14-16	8	<p>It seems that the PNGMDR specifies both promotion and regulation of radioactive waste management.</p> <p>How do you keep independence of regulatory activities from promotion activities in radioactive waste management in PNGMDR?</p>	<p>Independence of regulatory activities in the PNGMDR is ensured by ASN involvement in the preparation, drawing up, and promotion of the plan. A working group, co-piloted by ASN and the DGEC (General Directorate for Energy and Climate) of the Ministry for Ecology, Energy, Sustainable Development and Town and Country Planning (Regional Development) is in charge of these activities. In particular, ASN, as administrative authority independent from the Government, ensures full compliance of the plan with the safety objectives and regulations. In addition, the PNGMDR working group has several members from environmental associations, which also contributes to the plan independence.</p>
Japan	B.1.3 - p.14-16	9	<p>The PNGMDR, issued in March 2007, seems to be a basic program and plays an important role in the regulatory activities of the radioactive waste management in France. Please give us your answers on the following questions.</p> <p>At what level or ranking in the hierarchy of the French law and regulation is “PNGMDR” placed?</p> <p>The relationship between the 2006 Planning Act and the PNGMDR is described in B1.3. But it is still not clear to us in what scope and to what extent the PNGMDR specifies the plan and the requirements in relation to the scope and content of 2006 Planning Act. The Decree NO 2008-357 seems to play a role to specify the conditions of the implementation.</p> <p>Please clarify the roles of the PNGMDR, the 2006 Planning Act and the Decree 2008-357 and the relationship to each other in more detail using specific examples.</p>	<p>The "2006 Planning Act" stipulates that a national plan (PNGMDR) must be established and updated every 3 years. The Act also sets up the objectives assigned to the PNGMDR.</p> <p>The PNGMDR aims at :</p> <ul style="list-style-type: none"> - appraising the existing management modes of radioactive materials and wastes, - identifying the foreseeable needs for storage and disposal facilities and, - determining the objectives to be reached for radioactive wastes which are not yet the subject of a definitive management mode. <p>Therefore the PNGMDR is both descriptive and guiding and is not of a regulatory nature. It is the function of the law and decrees to set up the objectives and requirements.</p> <p>The work done at the time with regard to the PNGMDR has been used to prepare the Planning Act.</p> <p>The decree n°2008-357 of 16 April 2008 sets up the prescriptions related to the PNGMDR. It also points out the entities in charge of each objective. For example Andra is in charge of the study concerning the disposal of spent sealed sources. The study must be sent to the competent ministries, which, in turn, will ask ASN to analyse the document and give its opinion accordingly. The PNGMDR will be updated in 2009.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Japan	B.1.4 - p. 16	10	<p>The purpose of separation and transmutation (partitioning and transmutation) is described to be "to reduce toxicity".</p> <p>Do you consider what measure can reduce toxicity?</p> <p>In the 1996 year act, 1 - 3 centuries were presumed for the long period intermediate storage. In the 2006 year act, the period has been reduced to 100 years.</p> <p>What is the reason or the meaning of this difference?</p>	<p>On the one hand, vitrified wastes radiotoxicity results from minor actinides after several hundreds of years. If minor actinides were not in wastes the impact in case of intrusion would be lower.</p> <p>On the other hand, heat generation is also due to minor actinides, notably ²⁴¹Am after 300 years. The absence of ²⁴¹Am, together with a certain decay period (beta emitters) could reduce the size of the repository and facilitate the safety demonstration.</p> <p>Present research concerns minor actinides, especially focusing on ²⁴¹Am.</p> <p>The "2006 Planning Act" is the only act dealing with the reversibility issue. It is reminded that the previous Act considered research on a reversible or irreversible repository without any other requirements. The "2006 Planning Act" stipulates: "this period cannot be less than one hundred years". It also stipulates that a bill laying down the reversibility conditions shall be presented by the Government to the Parliament before authorization of creation of the deep geological disposal facility.</p> <p>1/Partitioning and transmutation might allow the transmutation of some of the minor actinides. Nowadays these minor actinides are incorporated in the vitrified wastes issued from the treatment of the spent fuels. Thanks to partitioning and transmutation, some actinides would not any more have to be disposed.</p> <p>2/ The 2006 Planning Act defines waste management routes. Article 6 details the national plan compliances with the following guidelines :</p> <ul style="list-style-type: none"> - reduction of the quantity and toxicity of radioactive wastes... - radioactive materials awaiting treatment and ultimate radioactive wastes awaiting disposal are stored in specific laid out installations - after storage, ultimate radioactive waste, not disposed of at the surface or at a low depth, are disposed in deep geological formations. <p>The 2006 Planning Act has hence made the choice of the deep geological disposal as the reference for HLW, against the long term storage (1 – 3 centuries). The disposal will have to be reversible during at least 100 years.</p> <p>Concerning storage, no time length has been defined. The research are since the 2006 Act not anymore conducted on long term storage.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Japan	B.1.5 - p. 17	11	<p>Article 22 of the Planning Act requires that any officer responsible for nuclear activities and any company shall establish, update and make available to the administrative authority all the required information for the performance of that control.</p> <p>Does “all the required information for the performance of the control” only mean the necessary information required for reviewing, assessing and overseeing the facilities and activities relating radioactive waste managements?</p> <p>Does this also include the requirement that any individual who had obtained the information about the possibility of non-conformance has to report that information to the administrative information?</p>	<p>Article 22 of the "2006 Planning Act" refers to any entity having nuclear activities or handling naturally radioactive material. It stipulates that each of those entities shall establish, keep up-to-date, and make available to the administrative authority and, for matters within its competence, to Andra, the necessary information to implement and monitor the "2006 Planning Act" requirements.</p> <p>This information can be listed as follows:</p> <ul style="list-style-type: none"> - information needed by ASN to control the safety of the radioactive waste management by the entity and the corresponding installation (see also the "2006 TSN Act" article 48 § IV, V, VI), - information concerning financial provisions for long-term expenses (spent fuel management, radioactive waste management, dismantling) according to article 20 of the "2006 Planning Act" (see also the decree n°2 007-243 of February 2007 and the order of 21 March 2007) - information needed by Andra to draw up the national inventory mentioned in article 14 § 1° of the "2006 Planning Act" (described in B.1.1 of the French Report). Requirements concerning this information are laid down in the decree n°2008-875 of 28 August 2008 and the order of 22 October 2008. <p>Article 22 of the "2006 Planning Act" does not stipulate that any individual who had obtained information about the possibility of non-conformance has to report that information to the administrative information.</p>
Japan	B.4.1 - p. 22	12	<p>A shallow facility seems to be considered for the disposal of IL-LL waste.</p> <p>Is the shallow facility now being considered to be the same kind of CSFMA?</p>	<p>The design of the planned LL-LL waste repository is different from the CSFMA design. In particular the LL-LL should be a sub-surface repository (at a depth of several tens meters) whilst the CSFMA is a surface repository, above ground.</p>
Japan	G.1.2.1	13	<p>Japan has been intensifying efforts on seismic safety particularly after big earthquakes occurred in 1995 and 2007 in the country.</p> <p>What is the reason France started to strengthen protection against earthquake even though earthquake threat is very small in France?</p>	<p>At the beginning of the 20th century serious earthquakes occurred in south of France. Thus, ASN has decided to strengthen protection of basic nuclear installations (BNI) against earthquakes.</p> <p>The Fundamental Safety Rule N°2001-01 "Determination of the seismic risk for the safety of surface basic nuclear installations" (except for radioactive waste long-term repositories) is available at the ASN English website http://www.asn.fr/sections/the-french-nuclear-safety-authority/references/references.</p>
Korea, Republic of	G.7 p.139	1	<p>Section H.3.1 states the Bure site was licensed in 1999. Section G.7 also states that the studies conducted by Andra all show that spent-fuel disposal seems possible in the clay formation being investigated through the underground research laboratory located in Bure.</p> <p>Is it possible for the Bure site to be a candidate site for disposal of spent fuel and/or high level radioactive waste in the future?</p>	<p>The Bure site in the East of France (Meuse/Haute Marne) is the only site where an underground research laboratory has been constructed and therefore it is the only site which is being characterized. A "transposition zone" of 250 km² in the vicinity of the laboratory has been defined for a repository. The Report § H.3.2 indicates the objectives of the present research phase (in particular narrowing down the potential location of a deep geological repository within the "transposition zone") and the time-table set up by the decree n°2008-357 of 16 April 2008 in view of the licence application (end 2014, in compliance with article 3 of the "2006 Planning Act"). It should be noted that a public debate will be organized at that moment.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Korea, Republic of	H.1.2.3 - p.141	2	<p>In Section H.1.2.3, it is described that specific actions are also undertaken to reduce their quantities in delivered packages, especially in the case of lead.</p> <p>Please explain major origin of the lead (Pb) in waste packages and more details of the "specific actions" mentioned in Section H.1.2.3.</p>	<p>Lead has been used by producers in parts of certain waste packages disposed of at the LILW facility. At Andra's request, this lead been replaced by steel. Waste acceptance criteria state that any lead used to protect from radioactivity inside the waste package is not considered as part of the waste.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Korea, Republic of	H.2.2.4.2 - p.146	3	<p>H.2.2.4.2 states that 10 INBs, including eight first-generation reactors are under deconstruction, and L.3.1 shows some reactors dismantled. On the other hand, B.5.2.2 states that there are no universal and pre-established clearance thresholds.</p> <p>Are there any cases of clearance of buildings and associated lands of nuclear facilities which have been completely dismantled? If so, which criteria or standards are applied to release the buildings and/or sites from regulatory control?</p> <p>Please provide more detailed information on the past experiences and/or plans of reuse of nuclear facilities and their lands after completion of decommissioning.</p>	<p>Indeed about 25 basic nuclear installations (BNI) have been decommissioned. Most of them were former CEA BNIs: experimental reactors, accelerator, plutonium metallurgy unit...and located in CEA research centres. They have been demolished or re-used. They are listed in the ASN's annual report available at its website. For some of them there are conventional easements for the benefit of the state (recorded in the Mortgage Register to testify to their existence).</p> <p>There are no pre-established criteria to release the installation from regulatory control. Release is granted on a case-by-case basis, according to the future use of the installation (if any) as well as the corresponding impact on the one hand, and the radiological state and its optimization (ALARA) on the other hand. ASN has issued a guide (SD3-DEM-02) dealing with cleanup methodology. Methodologies proposed by operators must be based firstly on contamination and activation modelling (in order to determine the thickness to be removed) and secondly, after works, on systematic radiological controls to confirm the conventional character of the remaining structures.</p> <p>In order to be removed of the BNIs list, the operator has to :</p> <ul style="list-style-type: none"> - describe the installation state (physical and radiological state) after cleanup and show that the expected end state has been reached, - confirm that all radioactive substances have been removed and managed according to authorized routes, - confirm the future use of the installation (if not demolished), - report on feedback from the dismantling operations. <p>After the review of these elements, ASN carries out an inspection including random checks on the radiological state of the installation.</p> <p>Indeed, EDF has already performed some clearance of buildings, in particular at Brennilis. At this site, EDF, CEA and the French Authorities proposed a clearance methodology according to the waste zoning principle.</p> <p>There are no general criteria supplied by the French Authorities . Each nuclear waste producer can propose the level based on the impact study and according the waste zoning principles. The level can be different for each building. For example at Brennilis a building has been dismantled with a level of 0,4 Bq/g for all radioactive nuclides .</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Korea, Republic of	F.3.2.2 - p.90	4	Section F.3.2.2 of Article 23 states that the CEA has a methodological baseline guide on project management in the area dealing with INB design, operation and dismantling for radioactive waste management purpose. Are the applicants for radioactive waste management facilities required to take into account the baseline guide to their QA program?	According to the 1984 Quality Order, each operator has to create and develop his own system to obtain and maintain quality in relation with safety, verify its application, analyze incidents and make corrective actions. This system must be based on written procedures. The methodological baseline guide is part of the CEA quality system. It only applies to this operator.
Korea, Republic of	F.4.2.2 - p.103	5	F.4.2.3.2 states that the discharge licenses have always been issued based on practical dose constraints that are far lower than regulatory limits. Is the concept of "dose constraint" also applied to the radiation workers at nuclear power plants and radioactive waste management facilities?	The concept of "dose constraint" is not applied to exposed staff working at nuclear power plants and radioactive waste management facilities, but ASN requires the determination of yearly doses objectives under the regulatory limits for all exposed staff of BNI. Operators report annually on that item in the framework of the annual public report asked by ASN (TSN Act requirement).
Korea, Republic of	F.6.1.1 - p. 118	6	Generally the period for decommissioning is long. The report states that the supporting documentation submitted by the operator must detail the scheduled work over the short term, but a summary of subsequent operation is sufficient. When and how are the supporting documents revised during the decommissioning projects?	As indicated in the report (§ F.6.1.1 p 118), the decree authorizing the final shut-down and dismantling of the installation mentions which specific authorizations will be required in order to initiate certain important safety-related tasks. The operator sends its application to ASN. Other tasks impacting the installation safety must be declared to ASN, with supporting documents and necessary updates. Tasks not compromising significantly the installation safety, ASN may dispense the operator with the declaration procedure if he has implemented an internal control mechanism with sufficient quality, autonomy and transparency guarantees ("internal authorization"). In every case, the operator must maintain his documentation updated. Besides according to the "2006 TSN Act" the operator must carry out periodic safety reviews (every 10 years) and send a report to ASN accordingly. An ASN guide concerning dismantling should be issued in 2009, which should define in particular different elements to be included in the operator's report.
Korea, Republic of	F.6.1.1 - p.118	7	The report states that in case where the work does not compromise significantly the safety of the facilities, ASN may dispense the operator with the declaration procedure to modify his facility provided that he set in place an internal control mechanism with sufficient quality, autonomy and transparency guarantees ("internal authorisation"). What is the limitation and scope of the above declaration related to the internal authorization?	Regulatory requirements concerning "internal authorizations" are laid down in the decree of 2 November 2007 article 27. Internal authorizations apply to operations of minor importance (no change of the nature of the installation or its capacity, no modification of essential elements for human and environmental protection, no new BNI in the initial BNI perimeter). The operator must have set in place an internal control mechanism with sufficient quality, autonomy and transparency guaranties. The ASN's decision of 11 July 2008 homologated by the ministerial order of 26 September 2008 details conditions and requirements concerning the internal authorizations.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Korea, Republic of	J.1 - p.169	8	<p>Section J.1 states that the ASN has authorised that sealed radioactive sources with a shorter half-life than 30 years be disposed of at the CSFMA, and Section J.2 states that the CEA now has to manage all disused sources that are being returned by the industry and hospitals, etc. What is the long-term management plan for the long-lived disused sealed sources with a shorter half-life than 30 years, which are not allowed to be disposed of at the CSFMA?</p>	<p>As required by the "2006 Planning Act" and the decree n°2008-357 of 16 April 2008, Andra has issued a report concerning the long-term management of the spent sealed sources.</p> <p>Depending on its activity, a source which is not acceptable at the CSFMA is taken into account in the LL-LL waste project (sub-surface repository, at a depth of several tens meters) or in the deep geological disposal facility project.</p>
Korea, Republic of	B.5.2.2 - p. 24	9	<p>Section B.5.2.2 states that one facility actually processes metal scrap to be used in radioactive waste containers and in a conventional facility under certain conditions/cases. What are the applicable regulatory criteria (e.g. radiation dose, radioactivity concentration, amount, etc.) for permitting recycling of VLL metal scrap in nuclear industry and convention industry, respectively?</p>	<p>There is no pre-established level of contamination in metal scrap. Criteria are established on a case by case basis according to the justifications provided by the producer of metal scrap and by the future operator of the recycling facility (level of the remaining activity which can reasonably be reached, impact of the recycling process on staff, public, and environment, future use of the metal etc.). Criteria also depend on the status of the recycling facility (conventional facility or nuclear installation). It is reminded that there are few examples of recycling in France:- one conventional facility: D'Huart industrie which melts beforehand decontaminated lead pieces (the final products are used as radiation shielding in BNIs),- one nuclear installation (BNI): Centraco which melts steel pieces, beforehand decontaminated or not (the final products, i.e steel cylinders, are used as radiation shielding in radioactive waste packages to be disposed of at the CSFMA: see the Report § B.6.1.1). For D'Huart Industrie, the authorized level of contamination is 1 Bq/cm². Two projects are being contemplated by operators, which should greatly increase the volume of recycled VLL materials: acceptance criteria in the recycling facilities will be determined in due time. ASN considers that recycling of very low level materials can only be envisaged if they are re-used in BNIs.</p>
Korea, Republic of	B.1.4 - p.16	10	<p>Section B.1.4 states that new facilities will need to be created or existing facilities will need to be modified no later than 2015, for conditioning and storage facilities. Please provide more detailed information on the plan for modification of existing facilities (e.g. types of facilities, modification methods, processes to be modified, etc.) which are being considered.</p>	<p>Presently new storage capacities are created in La Hague for vitrified waste canisters, by extending the existing storage facility. In Marcoule, because of the fast increasing volume of the re-conditioned drums of bituminous waste, the design of additional storage capacities will be initiated, soon. In the different cases, the complementarity in term of capacities and operation between storage and disposal is taken into account.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Korea, Republic of	D.3.3.2 - p.47	11	<p>B.3.3.2 states that CSFMA's package-acceptance criteria are derived from operational-safety and long-term studies and maximum radiological capacities have been set for a certain number of radionuclides in the CSFMA's creation-licensing Decree. In addition, other limits were set forth in the facility's technical specifications.</p> <p>Are the limits for Nb-94 and I-129 in a package set forth in the CSFMA's technical specifications?</p> <p>If so, please provide information on the maximum radioactivity of Nb-94 and I-129 in a package.</p>	<p>Yes, limits per package for ⁹⁴Nb and ¹²⁹I do exist for CSFMA Aube repository and they are part of the waste acceptance criteria. Limits are 120Bq/g for ⁹⁴Nb and 1,400Bq/g for ¹²⁹I.</p> <p>The mass to be considered is the mass of the package minus the mass of the metallic container and the radiological metallic shielding.</p>
Lithuania	F.4.2.3.2 - p. 108	1	<p>In your report it is mentioned, that the result of the steps being taken is particularly visible for discharges into the sea, which had risen appreciably during the period in which LWR fuels were being treated in the old facilities and the reduction process must be continued.</p> <p>Are there foreseen measures to reduce radioactive liquid discharges of nuclear facilities?</p>	<p>In the report, it is first mentioned that "result of the steps being taken is particularly visible for discharges into the sea, which had risen appreciably during the period in which LWR fuels were being treated in the old facilities". "The application of the principle of the Best Available Technology leads to continue the reduction process, by considering progress performed in similar process or plant".</p> <p>In the 2006 OSPAR BAT (Best Available Technologies) report, in the part devoted to AREVA NC La Hague plant, aims to set out information on the current reduction of discharges, the environmental monitoring program and the impact in terms of doses. Indeed, As a result of initiatives by the Nuclear Safety Authority, authorisations for most radioactive liquid discharges effluents granted to nuclear installations have been much reduced by the Nuclear Safety Authority in 2003. Limits are set up as low as technically and economically possible, thus requiring the operator continuously to optimise his treatment and waste processes by using the best available techniques at an acceptable cost. The technical improvements implemented are explained there.</p> <p>This report can be downloaded on the OSPAR website (see page 28 and followings): http://www.ospar.org/documents/dbase/publications/p00298_Rapport%20de%20mise%20en%20oeuvre%2091_4.pdf</p> <p>In 2007, authorisations have once again been reduced. A new BAT report will be submitted to the OSPAR Commission in 2010. The last technical improvements will be developed.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Lithuania	B.5.2.2 - p. 24	2	<p>It is stated in the report "In France, there are no universal and pre-established clearance thresholds below which it would be possible to consider a specific nuclear waste to be non-hazardous due to its radioactivity."</p> <p>Is it more social problem (acceptance of public, political decision) or there were economic justification of not having such thresholds (clearance levels)?</p> <p>Are there some discussions in France to have such levels?</p>	<p>The non-existence of universal and pre-established thresholds is the ASN's policy. Therefore it is a social issue.</p> <p>There is no discussion in France to have universal and pre-established clearance level.</p>
Luxembourg	E.2.2.3.2 & H.3	1	<p>The implementation of a final repository for high-level waste evokes a high level of international interest. However, site selection and licensing procedure follows similar mechanisms as for other INB's. Creation of a CLI and consultation with the public, local authorities and technical organizations seems indeed to be entirely limited to France.</p> <p>Would ASN see a benefit of involving international independent bodies and neighbouring countries into the licensing procedures and going beyond the obligations laid down in the EURATOM treaty?</p>	<p>It should be reminded that the "dossier Argile 2005" concerning the Bure site has been reviewed by a group of international experts under the aegis of the OECD. For the future, participation of international bodies and neighbouring countries in the licensing procedures has not been considered so far.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Luxembourg	H.3.2.1	2	<p>No later than end of 2009, ANDRA shall propose, among others, various options regarding design of the deep geological repository.</p> <p>Could you explain how the decision process between these different options will be conducted?</p> <p>We would appreciate if France was illustrating in its answer the roles and responsibilities of the different actors involved in taking a final decision.</p>	<p>A public debate is scheduled in 2012 on the basis of a given project. This project will then be finalised, taking into account the conclusions of the public debate. Among the various options, Andra will have to propose and justify this project as the best from the industrial optimization and safety points of view.</p> <p>With regard to the application for authorization, the role and responsibilities of the different actors are the following (Article 12 of the "2006 Planning Act"):</p> <ul style="list-style-type: none"> - Andra will submit the application for authorization - a commission will organize the public debate and issue the record accordingly - CNE is in charge of the evaluation of research and studies and will issue a report on the application expressing its opinion - ASN with its technical supports (IRSN and Advisory Expert Group) is in charge of the reviewing of the file transmitted by Andra and will transmit its conclusions and opinion to the Government - Andra application will be transmitted, along with the record of the public debate, CNE report and ASN opinion to the Parliamentary Office for Science and Technology Assessment which will assess it and report on its work to the competent committees of the National Assembly and Senate - then the Government will present to the Parliament a bill laying down the reversibility conditions - after enactment of this Act, authorization for the creation of a deep geological facility will have to be issued by a State Council decree after a public enquiry.
Luxembourg	H.3.2.1	3	<p>Given that local elected officials can submit their application for hosting the LL-LL repository in their commune up to the end of 2008, while geological survey shall start already in 2009, what is the timeframe for ANDRA to selecting two or three zones?</p>	<p>Local municipalities were allowed to submit their expression of interest until the end of October 2008. At the end of 2008 and on the basis of these expressions of interest, Andra has submitted all information needed by the French government to select several zones for in situ investigation phase planned to be performed in 2009 and 2010.</p>
Luxembourg	F.2.2	4	<p>It is understood that the large waste producers, according to the "polluter pays" principle, finance ANDRA's research activities. Is the research tax also used to finance research programs on radioactive waste management in other institutions, like Universities? Are there other contributors to finance research on radioactive waste management in France not listed in the national report?</p>	<p>The research tax is dedicated to research on long term storage and deep geological disposal. The full amount is managed by Andra. Andra is allowed to finance from this fund research on long term storage and deep geological disposal made by research institutions like universities (contracts). Other institutions like CEA may utilize part of the budget received from the state to develop research programs related to waste management. Waste producers have also their own research programs.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Luxembourg	F.5	5	<p>According to a general principle On-site and Off-site Emergency Plans have to be drawn up for each INB. This includes waste disposal facilities. It is further stated that several accident scenarios have to be adopted as a basis for emergency planning. Please describe a worst-case accident scenario for an existing French repository, such as the LIL Waste Disposal Facility (CSFMA). At what stage of the implementation of a new repository are these accident scenarios defined and the respective emergency plans drafted?</p>	<p>Mainly three kind of scenarios have been taken into account : a transport accident, a fire, a sabotage. These accident scenarios are proposed by the licensee within its request of creation of a basic nuclear installation (BNI). The emergency plan is approved before the commissioning of the installation.</p>
Luxembourg	B.1.4	6	<p>The 2006 Planning Act describes three complementary research areas for HL-IL/LL waste. Within this complementary approach it seems that no interactions between these three programmes will be considered. We would expect that each program produces results at certain dates that might be interesting to be considered in the respective other research areas. At such milestone previous decisions could be possibly revised. France however choose to define a clear timetable for all three areas by law, with projections over several decencies and not considering potential results in the respective other research areas. Could France explain the rational behind the choice of having non-interacting complementary research areas?</p>	<p>The 2006 Planning Act defines waste management routes. Article 6 details the national plan compliances with the following guidelines :</p> <ul style="list-style-type: none"> - reduction of the quantity and toxicity of radioactive wastes... - radioactive materials awaiting treatment and ultimate radioactive wastes awaiting disposal facilities are stored in specific laid out installations - after storage, ultimate radioactive waste, not disposed of at the surface or at a low depth, are disposed of in deep geological formations. <p>The three research areas are designed for each goal and are therefore interacting and complementary. Nevertheless, timescales might be different : the industrial results of partitioning and transmutation will not be available before 2040 while the research on the deep geological disposal aim at the availability of a disposal facility in 2025. If the research on partitioning and transmutation conducts to a potential industrial implementation, research will have to be conducted on wastes produced by these new plants. This is why Andra also takes part to the program conducted by the CEA on partitioning and transmutation.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Luxembourg	B.1.4	7	<p>Why does partitioning and transmutation only involve residues generated after 2040?</p>	<p>The 2006 Planning Act defines waste management routes. Article 6 details the national plan compliances with the following guidelines :</p> <ul style="list-style-type: none"> - reduction of the quantity and toxicity of radioactive wastes, - radioactive materials awaiting treatment and ultimate radioactive wastes awaiting disposal facilities are stored in specific laid out installations - after storage, ultimate radioactive waste, not disposed of at the surface or at a low depth, are disposed of in deep geological formations. <p>Partitioning and transmutation research activities address the first goal. However, results cannot be satisfactory and France has made the choice that the present generation has to be responsible for its wastes. This means that France is treating and reprocessing its spent fuels.</p> <p>Industrially, partitioning and transmutation will not be available before GEN IV nuclear reactors (2040). As a consequence, such residues will be generated after 2040 and GEN IV fuel will however be composed of materials partly issued of the treatment and reprocessing of passed spent fuels.</p>
Netherlands	A.2.1.1 / E.1.1.1	1	<p>Reference is made to the TSN Act, which grants the public “access right to the information held by nuclear operators (...) responsible for radioactive substances...” In addition INB operators “...shall prepare a yearly report...”.</p> <p>What kind of information can citizens get from the operators, other than provided in the yearly reports?</p> <p>Are there questions that can not be answered because of conflicts with security issues?</p>	<p>Licensees are required to communicate to whomever so requests, the information in their possession, whether received or produced by them, concerning the risks related to their activities and the safety or radiation protection measures they have taken to prevent or mitigate these risks. This obligation applies to specific documents, while yearly reports constitute a synthesis.</p> <p>As with the other access rights mentioned above, the TSN act contains provisions, designed in particular to protect public safety or industrial and commercial confidentiality. The procedures involved in the enforcement of this right are similar to those concerning the other information access rights: if a licensee refuses to communicate the information requested, the applicant may refer the matter to the administrative documents access commission (CADA) an independent administrative authority, which will then rule on whether or not the refusal is justified. Should the parties involved fail to abide by the CADA ruling, the administrative courts will decide on whether or not the information should be released.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Netherlands	E.1.1	2	<p>Above which threshold is a facility regarded to be an INB?</p>	<p>Art. 28 of the TSN Act reads as follows : [...] III. – The following are basic nuclear installations: [...] 2°Installations meeting characteristics defined by a State Council decree, for preparing, enriching, producing, processing or storing nuclear fuels or treating, storing or disposing of radioactive wastes;[...]</p> <p>Pursuant to Decree 2007-830 of 11 May 2007 concerning the list of Basic Nuclear Installations :</p> <p>For the application of Article 28 of the TSN Act, the activity taken into account is the activity of the radionuclides present in the installation, or likely to be so, as those hold by the operator near the installation, The activity of those radionuclides is expressed by a « Q coefficient » calculated according to the method detailed in an appendix of this decree.</p> <p>Are considered as Basic Nuclear Installations (BNI): 1°Installations for preparing, enriching, producing, processing or storing nuclear fuels or treating, storing or disposing of radioactive wastes, when those installations have a “Q coefficient” above 10e+6 ; 2°Other installations of storage or disposal of radioactive wastes, when those installations have a “Q coefficient” above 10e+9; 3°Installation related to the article L. 542-10-1 of the Environmental code and every installation of storage or disposal of radioactive wastes when those installations have a “Q coefficient” above 10e+9; 4°Installations where radioactive materials can be hold, when the sum of « Q coefficient » calculated for each radioactive substance : - is divided by 10e+11 when the radioactive materials are in form of sealed sources - is divided by 10e+9 when the radioactive materials are not in form of sealed sources is above the unit; 5°Installations where fissile materials can be hold, if the sum of the ratio between masses of the fissile materials mentioned below and their masses of reference is above the unit. The reference mass to take into account for this calculation is fixed : - 200 g for plutonium 239, - 200 g for uranium 233, - 400 g for uranium 235 present in enriched uranium when the ratio is above 6 % -and 800 g for uranium 235 present in enriched uranium when the ratio is between 1 % and 6 %.</p> <p>APPENDIX : Quantification of radionuclides activity present in an installation In an installation where there is one or several radionuclides, the « Q coefficient » above-mentioned is calculated according to the formula: $Q = \sum \text{for } i (A_i / A_{refi})$ where A_i represents the activity (in Bq) of the radionuclide, i and A_{refi} represent the reference value of the radionuclide.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Netherlands	F.6.1.1	3	<p>The 2006 Planning act requires operators to assess the dismantling costs of their facilities. Such costs can be calculated in many ways.</p> <p>How do the authorities ensure that the cost calculations presented for various facilities are comparable with respect to the methodology used?</p> <p>Are there national standards for such calculations?</p>	<p>There is no national standard for the cost calculation. It is the responsibility of each operator to implement a cost assessment method. The law states that this assessment must be based on a reference decommissioning strategy chosen prudently, taking into account uncertainties, contingencies, and lessons learnt. The main operators have developed their cost methodologies, for instance with softwares using a description of the facilities and a list of technical and economic ratios, regularly updated to take into account the last lessons learnt. Decommissioning strategy and cost assessment have to be described by each operator in their triennial reports (required by the Article 20 of the 2006 Planning Act). But the control authority can also prescribe audits to refine its judgement. If the role of the State is not to approve the cost assessment of the operators (who remain fully responsible), it can prescribe corrective measures when there is an inadequacy or insufficiency for instance in the cost assessment. The 2006 Planning Act also state enforcement means in case of default related to cost assessment, financial coverage, or communication requirement.</p>
Netherlands	F.6.3.3	4	<p>Finished CEA-dismantling projects are discussed in this section.</p> <p>Are there any data available on the costs - in terms of labour, materials, and waste management - of finished dismantling projects?</p>	<p>CEA uses a cost evaluation model, named ETE-EVAL, to pre-determine the cost of each dismantling project. The feedback of facility dismantling allows refining calculation parameters.</p> <p>AREVA uses the same ETE-EVAL model and shares the same input data base with CEA. As an example, for the dismantling of AT1 facility (R&D reprocessing facility, shut down in 1979), the cost breakdown for the dismantling/cleaning of the AT1 facility is the following:</p> <ul style="list-style-type: none"> - Operation : 39% - Waste treatment : 12% - Equipments :11% - Project management : 10% - Dismantling : 23% - Sundries : 5%
Netherlands	F.6.3.3	5	<p>In this section it is mentioned that AREVA NC has to deploy an extensive action plan aimed at integrating organisational and human factors more effectively.</p> <p>What can be reported on the ASN review of the actions taken so far?</p>	<p>AREVA NC has changed the organization in charge of the ATPu :the management team has been replaced and AREVA NC has also revised and improved staff formation.</p> <p>ASN's inspections have shown that organizational and human provisions are now satisfactory.</p>
Netherlands	B.1.3.1	6	<p>Orphan waste is mentioned, resulting 'most of the time from historical activities'.</p> <p>What are other sources of orphan waste?</p>	<p>Orphan wastes result from activities which no longer exist, without financially solvent owner. There is very few examples of other orphan wastes.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Netherlands	B.1.6	7	<p>In this and other sections, funding of dismantling of facilities and managing of spent fuel is mentioned.</p> <p>How do the authorities ensure, that funds set aside, in future will not be used for other purposes than dismantling?</p>	<p>The Article 20 of the 2006 Planning Act provides for several safeguards in order to ensure the securing of the funding of long term liabilities. Indeed, even though the coverage portfolios for decommissioning liabilities are hosted and managed by each operator, they are accounted separately from the other assets of the operators, they are dedicated to their purpose, they are subject to a specific State control (through an inventory of the subscribed assets, which is to be sent to the State every three months), they also are subject to a specific internal control by the operator (which gives rise to an annual report to the State), and they are protected by law in case of bankruptcy of the operator (the 2006 Planning Act states that nobody can claim to have a right over the coverage assets, except for the State).</p> <p>The State does not have to approve the outflows from the coverage fund, but, if needed, it can prescribe corrective measures related to the coverage fund management policy, or if it observes an insufficiency of the level of coverage. At last, the Article 16 of the 2006 Planning Act provides that, in case of any breach to the Article 20 provisions, the State can externalise the operator's coverage portfolio to a fund managed by the national agency Andra, by imposing upon the operator to pay any required amount to Andra's fund, with a daily penalty if need be, in order to cover the long term nuclear provisions of the operator.</p>
Netherlands	B.5.1	8	<p>Law 75-633 first gets the date 15 July 1975, but is referenced as the '1995 Law'.</p> <p>What is the correct date?</p>	<p>The correct date is 1975 and the law should have been named " 1975 Law".</p>
Netherlands	B.5.2.2	9	<p>It is stated that France does not have clearance levels below which radioactive waste will be considered non-hazardous. However it is mentioned that in some cases clearance authorisations may be granted. What criteria have to be met to allow this?</p>	<p>As mentioned in the Report, the regulation (Public Health Code) does not allow addition of radionuclides to consumer goods or construction material. However under certain conditions and at the cost of a heavy procedure, the Minister of Health might waive that rule (except for foodstuffs, materials placed in contact with foodstuffs and water intended for human consumption, toys, jewellery, or cosmetic products, for which such practice cannot be justified). The Public Health Code stipulates that for such a waiver, the opinion of ASN and the High Committee of the Public Health should be required. For its part, ASN is not in favour of such waivers. ASN considers that recycling of very low level materials can only be envisaged if they are re-used in BNIs (Basic Nuclear Installations). This is what has been done actually (re-use of recycled lead as radiation shielding in BNIs, and re-use of recycled steel in radioactive waste packages as radiation shielding). Up to now there are very few examples of recycling in France. Two projects are being contemplated by operators, which should greatly increase the volume of recycled VLL materials: acceptance criteria in the recycling facilities will be determined in due time.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Netherlands	B.5.2.2	10	It is mentioned that, in the case of clearance, traceability is assured. Could you please provide more information about how this traceability is assured in practice?	Traceability concerns on one hand the origin and characteristics of the materials and on the other hand the final destination (re-use in a BNI) of the materials treated by the recycling facility. Traceability is ensured when radioactive materials coming from a basic nuclear installations (BNI) are re-used in a BNI. There is information in the "waste survey" document and in the application files for authorization. Besides producer and recycler record the identification and the characteristics of the materials (respectively the materials produced and the final product after treatment and manufacture). Those data must be archived.
Netherlands	B.5.2.3 - p. 25	11	It is stated that a status report on the long-term impact of mine tailing disposal sites will be carried out in 2008. Is it now (2009) possible to report on the (preliminary) results? Will the report address mining activities of French companies abroad?	ASN has received reports from AREVA NC (9 sites). They are currently reviewed by ASN and IRSN. The methodology applied to evaluate the impact has been accepted by ASN. These reports do not address mining activities of French companies abroad.
Netherlands		12	The Third National Report of France is a comprehensive, clearly written document that contains an abundance of relevant information.	France is thankful for this comment.
Russian Federation	E.2.2.3.2.3 - p. 60 / E.3.1.4 - p.75	1	What was a reason to set up four Advisory expert groups (GPEs) in 2007? What are the fields of nuclear activities (technical issues, specific nuclear facilities) that the specific GPE reviews? What is their legal status and what is the funding source (resource) to perform the safety review?	GPEs existed before but were set up by ministerial orders. After ASN became an independent administrative authority (apart from the Government), GPEs were set up by decision of the ASN President : Advisory Committees for reactors, for laboratories and plants, for waste and for transport. They analyse the safety-related technical problems raised by the construction, commissioning, operation and shutdown of nuclear facilities and their auxiliaries and the transport of radioactive materials. They are consulted by the ASN Director General concerning the safety and radiation protection of installations and activities within their particular field of competence. They in particular review the preliminary, provisional and final safety cases for each of the BNIs. They are in possession of reports presenting the results of the analyses conducted by IRSN and issue an opinion plus recommendations. Each GPE may call on any person recognised for his or her particular competence. It may hold a hearing of licensee representatives. They comprise experts nominated for their individual competence. They come from university and associative backgrounds, as well as from the licensees concerned by the subjects being dealt with.
Slovakia	H.5.1 - p. 155	1	What kinds of scenarios do you consider for activity heterogeneity in repository?	In general scenarios after the surveillance period (300 years) consider that all materials are detritus. They also consider that materials in place and therefore activity will be homogenized by the works (road, residence). However some scenarios take account of the activity heterogeneity. For example, for the Centre de la Manche facility: uncovered packages due to the collapse of a slope or the hypothesis of a house on the repository.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Slovakia	+ Article 16	2	Does your regulatory body accept results of probabilistic safety assessment in establishing activity concentration limits for disposal facility?	ASN considers that safety assessment has to be based on a deterministic approach with reasonably conservative models and parameters. Besides, additional calculations with more pessimistic values of one or the other parameter are part of the safety assessment. Another aspect concerns the "altered-scenarios situations" for which the dose criteria can exceed the limit allowed for normal situations (0.25 mSV/year), depending on the scenario (essentially if it is improbable) and the calculations hypothesis (in particular mode and time of exposure).
Slovakia	F.2 - p. 81	3	What is your financial mechanism in order to collect appropriate and adequate financial resources for decommissioning of radwaste management facilities (other than NPP)? Please specify in more details.	The Article 20 of the 2006 Planning Act provides a mechanism of financial securing for all long term liabilities of Basic Nuclear Installations (BNI). Concerned operators have to : - assess their long term liabilities, - constitute financial provisions, - constitute a sufficient and adapted coverage portfolio, with a specific internal control. These dispositions are under the supervision of the State, which can enforce corrective measures if needed. This mechanism is does not apply only to NPP, but also to other reactors (research), to fuel cycle facilities, to a low level waste treatment facility, to industrial irradiators, to radioactive waste disposal centres... The scope of the long term liabilities includes dismantling, retrieval and conditioning the legacy waste, spent fuel management, and radioactive waste management (including monitoring of the disposal centres after their closure). Hence the cost related to radioactive waste facilities is to be funded (i) by the operators of Basic Nuclear Installations for the waste they produce, (ii) by the radwaste facility operator for the waste for which he has the responsibility of funding.
Slovakia	B.6.4 - p. 37	4	What are the main safety criteria (requirements) which formed the bases for the modification to the SOCATRI Decree ? What kind of addition research and development or storage modifications were necessary to be made at the storage areas to store Am and Ra (acceptance criteria) ?	The authorization decree of the Socatri facility is to be modified in order to allow the storage of waste from the new enrichment plant (Georges BESSE II), uranium issued from reprocessing plants and radioactive sources issued from lightning conductors on this site. In the framework of the facility authorization application, the operator will have demonstrated that safety requirements in force (mainly concerning criticality, containment and radiation protection) are satisfied.
Slovakia	D.3.3.3 - p. 47	5	Does the very low level waste repository project take into account possible gas generation due to long term microbiological degradation of organic material or corrosion of metallic material?	This is not required by rules, all the more so since - the waste acceptance criteria limit the total organic matter content, - the confinement system is not sensitive to gas accumulation as it is opened with available paths for potential gas release into the atmosphere.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Slovakia	D.3.3.3 - p. 47	6	How safety assessment for very low level repository takes into account possible migration of long lived radionuclides form nearby located LILW repositories?	The migration of long lived radionuclides form VLLW et LILW repositories do not cumulate, for the following reasons : - even if the VLLW and the LILW disposals are located nearby, they are built above two different aquifers (Aptian for LILW, Barremian for VLLW), - only the local stream can collect water from the natural outlets of these aquifers. Therefore, the timeframes for releases are different and the potential impact of this pathway is very small for each repository.
Slovenia	J.1 - p. 170	1	Setting the deadline for replacement of ionising smoke detectors with non-radioactive ones (e.g. optical) is a good practice. Could you please provide information on the users' response and what is the current status of campaign?	A ministerial order relating to the organisation of the collect campaign has not been promulgated yet but should about to be.
Slovenia	J.1 - p.169	2	There is a prohibition on the sale of certain consumer products, containing added radionuclides (e.g. tritium in compasses). Are there any restrictions on those consumer products which had been sold before the regulation entered into force? Are there any restrictions on consumer products, containing added radionuclides (e.g. tritium) but below 1 GBq, i.e. exemption level?	Whatever the radiation activity is, any addition of radionuclides is prohibited. This rule has no exemption, whenever the product was introduced on the market.
South Africa	F.3.2.3 - p. 91	1	How does Areva do environmental analysis to identify impacts and rank them in terms of risk?	To comply with the French environmental regulation, AREVA has to perform an environmental impact assessment for each facility or activity. In addition, the AREVA environmental policy asks for all nuclear sites to be certified ISO 14001. As part of this approach AREVA develops for each site environmental-analysis and monitoring practices in order to identify all impacts and, as part of a continuous improvement process to rank them in order to minimise those which could have an impact on the environment or the public.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
South Africa	F.3.2.4 - p. 93	2	What is "a low noise signal approach"?	A "low noise signal" is a term which means precursor low level events, small tendencies or reliability results which do not constitute by themselves any deviation but the trend of which can reveal some possibility of further improvement. The safety management guide, which has been implemented in 2004, stress forwards the importance of progress through the creation of "improvement loops" at the level of each plant, each department and each team, via the use of key-performance indicators and by regular sharing of experience feedback and information on low-level precursors. Work undertaken aimed at improving consideration of those low-level events and precursors. Rollout of the associated actions will take place over the period 2007-2010. The program will be based around encouragement by managers of feedback, and increased management presence in the field to observe and understand work situations. A directive has been implemented to describe those actions, inspired from IAEA tecdoc.
South Africa	F.4.2.2 p. 105	3	p. 105 - Why are they looking for C-14 in environmental samples at individual sites? Why do they analyze for Ca (food) and K (water, irrigated) in national samples Page 197/8)?	Carbon-14 is observed in liquid or gaseous releases of some CEA's facilities, produced by nuclear research reactors, research activities using labelled molecules. It is likely to be found in the environment where monitoring is adapted. CEA monitors Carbon -14 in: - Liquid and gaseous effluents, - Environmental components : air, water, plants and fish Measurements detailed p. 197 and 198 are performed by IRSN to monitor radioactivity in the environment. Potassium analysis by chemical measurement is used to deduct the amount of potassium in 40 water samples.
South Africa	F.4.1 - p. 96	4	What special requirements for water intake are prescribed by ASN for INB's?	Firstly, in accordance with a principle included in the general regulation, the INB operators have to design and to operate their INBs in order to limit the water intakes. Requirements on facilities aim to ensure : i) there is no possible contamination or pollution by any backflow of taken in water and ii) all taken in water quantities are well known by the INB operator by use of any ad hoc measuring devices (flowrates and quantities). These arrangements are completed by individual water intake limits (underground and surface) expressed in maximal flowrates and quantities (per year and per day) with limitations related to local conditions (e.g. flow rate in the river).
South Africa	F.4.2.1.3	5	Last sentence is confusing. Please clarify?	Volumes of potentially radioactive effluents produced by the disposal facilities are very small .

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
South Africa	B.1.2	6	<p>Section B.1.2 states that certain types of radioactive material such as depleted uranium, spent-fuel elements and fissile material extracted from irradiated fuel after reprocessing, are not regarded as radioactive waste. This type of waste is not managed under the ambit of the PNGMDR. The existence of such waste is acknowledged and recommendations for long-term management are made.</p> <p>Which legal tools are used to manage this waste?</p> <p>What are the interim arrangements for management of these waste types?</p> <p>Is this waste incorporated in this report or it is excluded?</p>	<p>Some of the radioactive substances in the fuel cycle are considered to be recoverable. At present they are only partly recovered, but complete recovery is envisaged, particularly if the nuclear generation programme continues and new types of reactors are developed. They are not therefore considered to be waste. However, this issue has been examined in the PNGMDR framework, the option of disposing of them should lead to a decision to abandon them, which would justify characterising them as a waste. This also makes the PNGMDR consistent with the national inventory of radioactive waste and recoverable material, published by Andra.</p> <p>All these materials are stored in nuclear facilities, controlled by ASN as any other nuclear installation (safety review, inspections...).</p> <p>The following measures have been taken:</p> <ul style="list-style-type: none"> - spent fuel: as a precaution, CEA and Andra have respectively investigated the feasibility of a long-term storage facility and of a direct disposal facility for spent fuel which would not be reprocessed (see G.7 of the French Report), - the decree n°2008-357 of 16 April 2008 establishing the prescriptions related to the PNGMDR requires that each owner of recoverable materials shall determine their long-term management solutions (end of 2010), if their reuse is foreseen. The future and status of those materials will be reviewed periodically and especially at every update of the PNGMDR. As they are still considered as recoverable materials, they are not included in the report. Only indications concerning the precautionary actions are provided.
South Africa	B.1.4	7	<p>Section B.1.4 refers to reversible waste disposal.</p> <p>Does waste disposal not, in accordance with IAEA glossary refer to Emplacement of waste in an appropriate facility without the intention of reversal?</p>	<p>On the one hand, the IAEA documents distinguish a facility with no intention of retrieving the waste (disposal) and a facility with the intention of retrieving the waste (storage).</p> <p>On the other hand the IAEA documents acknowledge that "the development of disposal facilities that incorporate design or operational provisions to facilitate reversibility, including retrievability, is considered in several national programmes" and indicate that no relaxation of safety standards or requirements could be allowed on the grounds that waste retrieval may be possible or facilitated by a particular provision. This requirement is applied in France.</p> <p>In France reversibility for a geological disposal is considered as a precaution for whatever reason in the future (technical, social...) and not with the firm intention of retrieving the waste. The arrangements and measures proposed by Andra will be discussed and a law will lay down the reversibility conditions before authorization of creation.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
South Africa	B.4.2	8	<p>Section B.4.2 includes heat release only under IL-LL and the specific heat energy release is not quantified.</p> <p>Why was heat energy boundaries not considered in the waste classification scheme?</p>	<p>It is agreed that the Report should have mentioned the heat release of the HL waste (HLW).</p> <p>The HLW category is composed of vitrified fission products and, for certain scenarios (see § G.7 of the Report), spent fuels. Both of them generate significant heat energy (around 2000 watts per container of vitrified fission products at the production date).</p> <p>ILW-LL is a waste category with a lower quantity of beta emitters. The heat energy release of this type of waste is either none or very low (the maximum of heat release concerns the containers of compacted hulls and ends: around 20 watts per container at the production date).</p> <p>Therefore heat energy boundaries are implicitly taken into account in the classification scheme.</p>
South Africa	B.4.2 - p. 22	9	<p>An additional category of very short lived waste with a half-life of less than 100 days is considered.</p> <p>How is waste with half lives between 100 days and 31 years classified?</p>	<p>Waste containing one or several radionuclides with half lives between 100 days and 31 years may be classified as:</p> <ul style="list-style-type: none"> - VLLW if it is accepted by the CSTFA repository, - LILW-SL if it is not accepted by the CSTFA but is accepted by the CSFMA facility. <p>In particular the radionuclides content of each conditioned waste (activity of each radionuclide per mass) must be compatible with the waste-acceptance criteria at the CSFMA.</p> <p>If the waste is not accepted by the CSTFA nor the CSFMA, notably because of its long-lived radionuclides content, it is classified as LLW-LL or ILW-LL or HLW, according to its nature and radioactivity.</p>
South Africa	B.5.2.2	10	<p>Section B.5.2.2 states that no universal and pre-established clearance threshold is defined. Clearance authorisation is granted on a case by case basis.</p> <p>How is clearance considered in cases where that material may have potential to cross international borders?</p>	<p>ASN has never authorized a radioactive material, produced in France, to cross international borders in order to be cleared abroad.</p> <p>The problem is the entry in France of materials cleared in other countries (notably European countries). From the French view point there is a need of harmonisation at least at the European level as indicated in the Report § B.5.2.2.</p>
South Africa	B.6.3	11	<p>Section B.6.3 deals with Mine-tailing management. It is not clear how mine tailings are effectively regulated.</p> <p>Is there plans to develop legislation in future and how will existing environmental contamination be addressed?</p>	<p>Mining is regulated by the "mining code" (from exploration to closure). The redevelopment of the site, it is also framed by the "code of environment" that defines the terms upgrading and monitoring the environmental impact.</p> <p>Mine tailing storages are also covered by the code of environment and are authorized by the prefect. Within the framework of the National Plan of Management of the materials and Radioactive Waste (PNGMDR), the decree of 16 April 2008 imposes to operators to assess the long-term impact of mine tailings. These studies are currently under review and, if appropriate, further actions will be prescribed to the operators of these storage facilities.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
South Africa	D.3.1.4	12	<p>Section D.3.1.4 on Polluted sites refer. Under which legislation is the rehabilitation of polluted sites authorised ? Provide more detail on this authorisation process and the criteria applied?</p>	<p>The code of environment prescribes the rehabilitation process of polluted sites. The operator is responsible for the rehabilitation of the site either after an accident or the cessation of activity. But, the Ministry of Ecology has set up a national commission to secure sites where there is no longer a responsible.</p> <p>The process of rehabilitation of polluted sites is governed by a methodology validated by the Ministry of Ecology. It is a management process on a case by case basis depending on the pollution and on the future use of the site.</p>
South Africa		13	<ol style="list-style-type: none"> 1. Waste/ effluent treatment technologies are commendable. 2. Definitions and explanations motivating actions are excellent 3. The following was interesting to note: <ul style="list-style-type: none"> - ICPE's handled as separate waste stream [p94]. - PREVAIR - automated collection and tracking of doses [p109]. - No mention is made of site exclusion boundary. 4. The following can be commended: <ul style="list-style-type: none"> - The new planning Act 2006-739 (p11) that includes R&D for radioactive wastes. - The IAEA 12 day audit (p12) for Integrated Regulatory Review Service, with finding that best international standards were met. <ul style="list-style-type: none"> - The Radioactive waste inventory also includes a prospective inventory (Section B.1.1 p13) - The operating licence covers all water intakes and effluent discharges [p101 F.4.1.4.1]. - Discharge licences have limited time periods [p 66]. - Reversibility of repositories [p 17]. - Revaluation of the safety aspects of INB's every 10 years [G.2.1. p 130]. - Licence for shutdown required at least one year prior to shutdown [p 63]. - Precautionary principle applied to waste management: Planning for alternatives [G 6.7 p 138]. - Internal quality management takes into account stakeholder expectations [p 74]. - Assessment of recycling for sources [p87]. 	<p>France is thankful for these comments.</p>

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South Africa		13	<p>1. Waste/ effluent treatment technologies are commendable.</p> <p>2. Definitions and explanations motivating actions are excellent</p> <p>3. The following was interesting to note:</p> <ul style="list-style-type: none"> - ICPE's handled as separate waste stream [p94]. - PREVAIR - automated collection and tracking of doses [p109]. - No mention is made of site exclusion boundary. <p>4. The following can be commended:</p> <ul style="list-style-type: none"> - The new planning Act 2006-739 (p11) that includes R&D for radioactive wastes. - The IAEA 12 day audit (p12) for Integrated Regulatory Review Service, with finding that best international standards were met. - The Radioactive waste inventory also includes a prospective inventory (Section B.1.1 p13) - The operating licence covers all water intakes and effluent discharges [p101 F.4.1.4.1]. - Discharge licences have limited time periods [p 66]. - Reversibility of repositories [p 17]. - Revaluation of the safety aspects of INB's every 10 years [G.2.1. p 130]. - Licence for shutdown required at least one year prior to shutdown [p 63]. - Precautionary principle applied to waste management: Planning for alternatives [G 6.7 p 138]. - Internal quality management takes into account stakeholder expectations [p 74]. - Assessment of recycling for sources [p87]. 	France is thankful for these comments.

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South Africa		14	<p>1. Inventories not included as stated in text [L1.1 p41 D.1.1; L1.2 p41 D1.2; L2 p44 D.2].</p> <p>3. CLI not explained adequately.</p> <p>4. Lack of processing facilities and final disposal solutions for specific wastes [p119; 147] is of some concern.</p> <p>5. It is not clear as to what method is used to establish the hazard potential of a facility [p 69].</p> <p>12. There is an Annex (L4, p 189) with major references and a Bibliography (L7, p205) but, except for mentioning the IAEA's Joint Convention, there are no other international publications referenced.</p>	<p>CLI are local information committee.</p> <p>CLI members are : representatives of Conseils généraux, of the municipal councils or representative bodies of groups of communes and Conseils régionaux (regional councils) concerned, members of Parliament for the département, representatives of associations for protection of the environment or economic interests, representative employee and medical profession labour unions, as well as qualified personalities. The representatives of the State's departments, ASN, and those of the licensee have an automatic right to participate in the work of CLI, in an advisory capacity. CLI is chaired by the Chairman of the Conseil général or by an elected official from the département designated by him for this purpose. CLI receives the information it needs to function from the licensee, from ASN and from the other State departments. It may request expert assessments or have measurements taken on the installation's discharges into the environment. CLIs are financed by the regional authorities and by ASN.</p> <p>The CLIs generally held one or more annual plenary sessions, often supplemented by meetings of the specialist committees. The CLIs also dealt with subjects such as the TSN act and its implementation, the safety of the electrical grid and natural radioactivity. They are generally involved in the emergency exercises, the conclusions of which are presented to them.</p> <p>They are invited to take part in ASN's inspections. CLI can also ask for or carry out separate particular investigations.</p> <p>In order to inform the population, nearly half of CLIs publish newsletters. Others are offered space in the publications of the <i>Conseil général</i> or the commune .Information about CLI activities appears on ASN's website and that of the national CLI association (ANCLI). Some CLIs also have their own websites.</p> <p>Historical wastes (graphite wastes, tritiated wastes, wastes generated by UP 2-400 reprocessing plant at La Hague, some oils and solvents stored by CEA). Those wastes are taken into account in the National Management Plan for Radioactive Materials and Waste. The "2006 Planning Act" has laid down target dates for their long-term management. For the moment the LL-LL repository is the only project delayed (target date: 2019 instead of 2013 due to the site selection and local acceptance).</p> <p>Finally, as indicated in § K.2.1 of the Report, the regulatory aspects of safety and radiation protection lead to numerous exchanges and international co-operation (IAEA, OECD/NEA, the European Union, WENRA, bilateral relations with approximately 15 foreign safety authorities). These exchanges and international co-operation are used by ASN as a reference for its activities, even though the corresponding documents (IAEA Safety requirements for example) are not directly address in the French regulation.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Spain	I	1	<p>As specified in the report, Transboundary movements concern primarily the spent-fuel reprocessing operations performed at the La Hague Plant for European and Japanese customers.</p> <p>On the other hand, the recent 2006 Planning Act. Article 8 states that the disposal of imported radioactive waste and of waste arising from the reprocessing of spent fuel and of imported waste is prohibited in France.</p> <p>Although acceptance criteria are referred in different parts of the Report (D.3.3, Table 8...) could you please briefly extend the information on the acceptance criteria for reprocessing waste, in particular those for vitrified waste?</p> <p>Is it envisaged additional further actions derived from 2006 Planning Act (e.g definition of the waste owner)?</p> <p>Could it have another effects?</p>	<p>Andra is in charge of laying down, in compliance with nuclear safety rules, the specifications for the disposal of radioactive wastes and giving the competent administrative authorities an opinion on the specification for conditioning wastes proposed by the waste producer. This has been confirmed by the "2006 Planning Act".</p> <p>Concerning the HL wastes and IL-LL wastes produced at La Hague reprocessing plant, COGEMA (and now AREVA NC) have issued specifications for the conditioning of each type of waste since 1991. The objective was to have a high quality production based on a qualified process and quality assurance. All the specifications were submitted to the ASN and Andra's opinion was required, before approval. No production of packages was allowed before approval.</p> <p>On the other hand, as research and studies (design, safety...) concerning the deep geological facility are under way. Andra could not and still cannot finalize the waste acceptance specifications. Therefore ANDRA, together with the waste producer, chose a progressive procedure whereby the only specifications required were those related to knowledge. Andra also defined requirements concerning qualification of the process and management of production applicable to all waste producers (on the basis of what was already done by AREVA NC with its specifications for conditioning), so that surveillance could be implemented and nonconforming packages identified.</p> <p>Most approvals for inclusion of the different HL and LL-LL wastes in the deep geological formation disposal studies were granted in 2003. Therefore the design and safety of the disposal facility take these wastes into account.</p>
Spain	B.1.1 - p.13	2	<p>Preparing the "National Inventory" is an integral part of the tasks entrusted by the government upon Andra every three years, with a view to provide an accountable and prospective overview and to securing a sound national reflection on the overall waste-management issue.Does the existence of the National Inventory mean that Andra has a centralised database supported by the producers? It the National Inventory widely distributed to the Government departments, national institutions (e.g the Parliament, the national commission, academic associations, etc), as well as to the regional and local authorities and stakeholders?What is the experience of having the national inventory in terms of questions received by Andra from the main stakeholders and the public?</p>	<p>1) Yes, Andra has built a Database based on information received from the waste producers/owners. It became mandatory for them in 2006 to inform Andra.</p> <p>2) Yes, the National Inventory is distributed as widely as possible to institutions and officials. It is also fully accessible to anyone from Andra web site about their waste and radioactive materials (www.andra.fr).</p> <p>3) Due to its quality and unquestionable reported facts, the National inventory report published every three years has now become the reference in France for institutions, associations, the public and all involved stakeholders.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Switzerland	F.5	1	Is there a regulatory guideline which defines the frequency of crisis exercises?	Yes, the ministerial decree n°2005-1158 states that national exercises are compulsory at least every 5 years for the INB that have an off-site emergency plan. In practice, the frequency is lower, 3 years on average and every 2 years for major sites. Each year, ASN prepares a programme of national nuclear emergency exercises, announced by the préfets in a circular signed jointly by ASN, the DSND, DDSC and SGDN. Since 1985 therefore, the number of national exercises has risen and in 2007 there were 9.
Switzerland	B.6.1.3 - p. 32	2	Bituminized sludge is foreseen for the deep geological repository. What is the French position about the deep disposal of organic material?	The feasibility of deep disposal of organic material has to be examined on a case-by-case basis. Special attention must be paid to the specificities of each type of waste containing organic materials: quantity of gas generated by radiolysis, nature and quantity of complexing agents, nature and quantity of corrosive agents, chemical toxicity... The specificity of the bituminized sludge has been taken into account in the project. There is no contra-indication as to its disposal in a deep geological repository.
Switzerland	B.6.1.3 - p. 32	3	The report mentions the introduction of an improved effluent management system (NGE) in La Hague, which involves the concentration and vitrification of radioactive effluents. Could you please provide more details about the conditioning of the resulting sludge?	Previously, effluents used to be processed by a chemical precipitation, process which generated sludge. Currently, effluents are concentrated in specific evaporators. The major part of the effluents comes out in distillate form, almost without radioactivity and is released. The minor part, very concentrated, contains almost all the initial activity. This concentrate is vitrified and there is no resulting sludge.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	H.1.2.3 - p.141	1	<p>Is it possible to concretise what is meant by:</p> <p>1) “short” and “medium” safety,</p> <p>2) “Andra specifications” (Are there the acceptance criteria for Radwaste disposal?)</p>	<p>The sentence refers to short term safety and medium term safety.</p> <p>There are waste acceptance criteria for radwaste disposal.</p> <p>Waste acceptance criteria for radwaste disposal are the following:</p> <p>Following the 1989 order of creation of the Centre de l’Aube facility, prior to any delivery of a package type, Andra must issue an “agreement” for this waste package type. This agreement expresses that Andra considers such packages will be produced in compliance with waste acceptance specifications (criteria based on the RFS III 2 e and on the repository requirements).</p> <p>Some parameters specified by Andra can be monitored directly on the waste package or during the process. Other waste packages cannot be checked directly during the fabrication process.</p> <p>Therefore during the agreement process, investigations are made to identify parameters of the package or of the conditioning process that can be monitored during the package fabrication and that will ensure indirectly compliance with Andra’s requirements.</p> <p>The choice of the operational parameters relies on a qualification step. Experiments are performed on prototype packages or samples and must demonstrate compliance with waste acceptance criteria. Note that the waste generator may choose to qualify his package in a wide or a narrow range.</p> <p>Such an investigation is performed by the waste generator, with Andra’s support, for each technical requirement for disposal.</p> <p>All these operational parameters are grouped in a list that gives a suitable description (or “specification”) of the package relevant with Andra’s requirements. This list, including parameters and their values, is called “a contractual requirements sheet” or “CRS”. It gives the description of the package to be manufactured and that Andra agrees to take in charge in the disposal facility.</p> <p>Monitoring is based on the following means :</p> <ul style="list-style-type: none"> - computer check of packages declaration by the waste generator, - control of packages at delivery to the Centre de l’Aube facility, - audits in waste generators facility, - destructive and non destructive tests on actual packages. <p>A simplified version of this approach is used for VLL waste disposal.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	H.4.1 - p. 153	2	<p>The IAEA Safety Standard WS-R-5 “Decommissioning of facilities using radioactive material” doesn’t cover waste disposal facility. However the text says that Dismantling Plan is required in France even for disposal facility.</p> <p>Is it possible to concretise:</p> <p>1) What must be included in Dismantling Plan for waste disposal facility?</p> <p>2) What is meant by “dismantling of disposal facility“ and «decommissioning of disposal facility»?</p>	<p>Of course "dismantling of disposal facility" and "decommissioning of disposal facility" do not make sense. A disposal facility is closed when the operational phase is finished (closure phase) and the following phase may be called "surveillance phase".</p> <p>The decree of 2 November 2007 indicates that for a radioactive waste disposal facility the "dismantling plan" is replaced by a document describing the closure of the disposal facility and defining the surveillance phase and the corresponding provisions. This includes a safety assessment concerning the period after closure.</p>
Ukraine	E.2.2.3.2.3 - p. 60	3	<p>What is the status of Advisory expert groups – consultants?</p> <p>Are these groups part of ASN?</p> <p>Is there any duplication with IRSN work?</p>	<p>In 2007, four GPEs have been set up by decision of the ASN President : Advisory Committees for reactors, for laboratories and plants, for waste and for transport. They analyse the safety-related technical problems raised by the construction, commissioning, operation and shutdown of nuclear facilities and their auxiliaries and the transport of radioactive materials. They are consulted by the ASN Director General concerning the safety and radiation protection of installations and activities within their particular field of competence. They in particular review the preliminary, provisional and final safety cases for each of the BNIs. They are in possession of reports presenting the results of the analyses conducted by IRSN and issue an opinion plus recommendations.</p> <p>Each GPE may call on any person recognised for his or her particular competence. It may hold a hearing of licensee representatives. They comprise experts nominated for their individual competence. They come from university and associative backgrounds, as well as from the licensees concerned by the subjects being dealt with.</p>
Ukraine	E.2.2.4.5.4 - p. 64	4	<p>After the operator completes all activities within the license for dismantling activity, he must prepare the decommissioning application to exclude this facility from INBs list.</p> <p>Which organization and by which documents makes the resolution on the particular facility to be excluded from the INBs list?</p> <p>Which organization (authority) is responsible for determining the conditions of further site use?</p>	<p>In accordance with Article 29-VII of the TSN Act, when a basic nuclear installation (BNI) has been decommissioned and no longer requires the implementation of the provisions of the TSN Act, ASN submits a decision declassifying the installation to ministers tasked with nuclear safety for its final approval. On the basis of this decision, the facility is excluded from the BNIs list.</p> <p>Concerning further site use : as stated in Article 31 of the TSN Act, the administrative authority (the préfet, local State representative) can prescribe public utility easements related to use of the ground and the execution of work subject to a notification or an administrative authorization. These easements may also relate to use of the ground on the footprint of the installation and around said footprint. They are prescribed upon advice of ASN, under the conditions set forth in the Environmental Code.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	E.2.2.5.2 - p. 65	5	<p>If the RFS are not statutory in nature, why should they be redrafted in the form of guides?</p> <p>Who and when accepted this decision about the necessity of such reform?</p> <p>How long does it last?</p>	<p>ASN drafts and issues non regulatory texts, so-called guides, which, from then on, cover the former non-prescriptive texts of ASN (RFS and former guides) with the view to clarify and rationalize the ASN publications. If they are not regulatory texts, they, nonetheless, comprise an positive interpretation of regulation as RFS (and former ASN guides) used to do.</p> <p>This change is only a format issue. RFS, as and when they be updated, will become ASN guides.</p>
Ukraine	E.3.1.2.2.2 - p. 73	6	<p>What is the periodicity of qualification commissions for inspectors?</p> <p>Does the inspector training include the probation period at facilities they are going to inspect?</p>	<p>Junior Inspectors are designated by written application once they have acquired the necessary competences through their professional experience, tutoring and appropriate training. This training and tutoring lasts from 9 to 15 months. They have also a two week training period on nuclear facilities but not on those they will inspect.</p> <p>Senior Inspectors are designated by a qualification commission which meets 4 times a year and whose decisions are based on a written application and an interview with the inspector.</p> <p>Inspectors are not assigned to a specific facility, because ASN did not opt for the system of resident inspectors. ASN considers that its inspectors must work in a structure that is large enough to allow experience to be shared and must take part in inspections of different licensees and installations, in order to acquire a broad picture of nuclear safety and radiation protection.</p>
Ukraine	E.3.1.3.1 - p. 74	7	<p>When prepared by IRSN "opinions" are mentioned apparently it means the particular document.</p> <p>Is it possible to clarify what exactly is included in this document (is it a detailed report on expert assessment with conclusions and recommendations or something else?)</p>	<p>For the minor modifications to facilities, the "opinions" consist in results of safety assessments.</p> <p>For the major changes or new facilities, the "opinions" consist in detailed reports on safety assessments (with summaries).</p> <p>For the transport, the "opinions" could be results or detailed reports on safety assessments.</p> <p>In all the cases, the "opinions" allow of conclusions and recommendations.</p>
Ukraine	F.6.3 - p. 122	8	<p>Did the ASN agree the updated by EDF documents, substantiating the new "dismantling strategy" which the EDF had to present by the end of 2008?</p>	<p>The new "dismantling strategy" concerns the nine shutdown reactors. This strategy has been presented by EDF and assessed by ASN and its TSO in 2004. EDF has to update its strategy in order to take account of the current context (notably the delay concerning the LL-LL waste repository). EDF should its reviewed strategy by mid 2009 and not by the end of 2008 as initially expected.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	F.1.2 - p. 79-80	9	<p>From the text of the chapter it can be concluded that the ownership of the waste is not transferred to Andra, even in case of Radwaste disposal in disposal facility. It is clear from written at page 80 that the basis for such approach is financial, that any time Radwaste can be extracted and transferred to Radwaste producer.</p> <p>In that context it is not clear what is meant by "disposal of RAW" in France?</p>	<p>To summarize, RAW disposal in France means that :</p> <ul style="list-style-type: none"> - waste remains the property of its producer, - Andra takes charge of the waste to dispose of it in one of its facilities, - this is done providing the waste and the waste package meet Waste Acceptance Criteria as defined by Andra.
Ukraine	F.4.1.4.1 - p. 101	10	<p>Does the Regulatory Authority ASN agree (consider) yearly forecast of INB operators planned discharges? If "Yes" than what are the regulatory decisions made as a result of such consideration?</p>	<p>No. There is no obligation for basic nuclear installations (BNIs) operators to submit at ASN yearly forecasts of discharges. However operators have to publish an annual report which is setting out the nature and the results of measures for all BNIs' discharges in the environment and the nature and the quantities of radioactive wastes stored in BNIs. Failing to publish this data is punished by the law.</p>
Ukraine	F.6.1.1 - p. 118	11	<p>The IAEA Standard WS-R-5 "Decommissioning of facilities using radioactive material" requires the development of Decommissioning Plan meanwhile the Para F.6.1.1 says that operator must develop Dismantling Plan. Also the text of E.2.2.4.5.1 says that in France the "technical phase" final shutdown and dismantling is set for INB, for realization of which the operator must acquire the final shutdown/dismantling licensing decree ("regulatory phase"). In this respect:</p> <p>1) Is the Dismantling Plan in France similar to Decommissioning Plan, required by IAEA WS-R-5?</p> <p>2) What is the meaning of "decommissioning" in France? (Is it possible to give the definition as far as it is not in para E.2.2.4.5.4)</p> <p>3) Are there any IRRS-2006 mission remarks concerning the usage of terms "decommissioning" and "dismantling"? If "Yes" - of what kind?</p>	<p>Please find hereinafter the requested definitions:</p> <ul style="list-style-type: none"> - "démantèlement" concerns all operations carried out to reach a defined end state allowing the "declassification" of the basic nuclear installation (BNI), i.e. release from the BNI list (and therefore from BNIs regulatory control). It is translated "dismantling" in the report. The "dismantling" phase follows the operational phase of the BNI and ends when the "declassification" process is finished. Compared to the IAEA glossary, the word "démantèlement" is nearer from "decommissioning" than "dismantling". - "assainissement" concerns the operations leading to the decrease or elimination of radioactivity or other hazardous substances. It is translated "cleanup" in the report. Some "cleanup" operations may be carried out in the framework of the decree authorizing the creation of the BNI, provided that they are consistent with the safety case of the BNI in operation. The other actions are carried out during the "dismantling" phase. - "déclassement" concerns the administrative procedure leading to release the considered BNI from the BNI list (and therefore from BNIs regulatory control). In the report it is translated "declassification" or "decommissioning". <p>The Dismantling Plan in France is similar to the Decommissioning Plan defined in the IAEA document WS-R-5.</p> <p>There are no IRRS-2006 mission remarks concerning the use of "decommissioning" and "dismantling" terms.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	F.6.1.1 - p. 119	12	<p>It can be concluded that “INB declassification procedures is under consideration of ASN”. Is it possible to clarify what is the form and content of these documents? Can they be compared with “clearance procedure”?</p>	<p>Regulatory requirements for dismantling are laid down in the "2006 TSN Act" (articles 29 V and VIII) and the decree of 2 November 2007 (articles 37 to 40). In line with these texts, ASN is finalizing a guide concerning the final shut-down, dismantling and declassification of BNIs (basic nuclear installations). Its content should be:</p> <ul style="list-style-type: none"> - dismantling strategy - dismantling plan - end of the operational lifetime of the BNI and procedure for shutdown and dismantling authorization - regulatory and technical aspects concerning the period preceding final shutdown - regulatory and technical aspects concerning dismantling - end state after dismantling operations, declassification, easements. <p>Besides a specific guide address the complete cleanup of the installation in order to be declassified (SD3-DEM-02). It defines what is an acceptable methodology to do so. ASN is revising this guide to take account of the experience gained so far.</p> <p>In France there is no clearance procedure (except for recoverable materials to be re-used in a BNI). The dismantling procedure defined by the law, decree and guide is specific to dismantling and declassification of a BNI and each dismantling of BNI is dealt with on a case-by-case basis.</p>
Ukraine	F.6.2.3 - p. 120	13	<p>What does the term “deconstruction” or “deconstruction program” mean? (the authors use the term “dismantling” before)?</p>	<p>Deconstruction and dismantling have the same meaning and correspond to the French word "démantèlement". The dismantling (deconstruction) phase concerns all the operations carried out to reach a defined end state allowing "declassification" of the basic nuclear installation (BNI), i.e release from the list of BNIs (and therefore from BNIs regulatory controls). The dismantling (deconstruction) phase follows the operational phase of the BNI and ends when the "declassification" process is finished."</p>
Ukraine	F.2.2.1.1 - p. 82	14	<p>Is it possible to provide the cost of storage/disposal of RAW mass or volume unit in the storage LIL Waste Disposal Facility and VLL Waste Disposal Facility?</p>	<p>Sales price of storage of 1 m3 of waste on the LIL waste facility is of approximately 2900 €. Sales price of storage of 1 m3 of waste on the VLL waste facility is of approximately 390 € (all data from 2007 activity report). This data includes conditioning activities that are performed on the disposal facilities.</p>
Ukraine	C.3 - p. 39	15	<p>Is it possible to clarify what means by “secret facilities”?</p>	<p>"Secret facilities" are facilities dedicated to the defence programme. These facilities are called "SBNI" (Secret Basic Nuclear Installation) and are controlled by the DSND (Délégué à la Sûreté Nucléaire et à la radioprotection pour les activités et les installations intéressant la Défense - Delegate for nuclear safety and radiological protection for installations and activities concerning Defence).</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	B.5.2 - p. 23	16	<p>The clarification is necessary why the name of Para A.5.2 contains separation of RAW and VLL waste, though “very-low-level waste” according to classification of Para A.4.2 are related to one of the Radwaste categories and are to be disposed in NSTFA.</p>	<p>The only justification of the name of Para A.5.2 ("Conventional waste, radioactive waste and VLL waste") relies on the following historical reasons:</p> <ul style="list-style-type: none"> - The VLL waste category exists because of the French decision not to have universal/pre-established clearance thresholds, - The CSTFA (VLL waste repository) is an installation classified on environmental grounds (ICPE) under the supervision of the ministry in charge of environment and energy, whilst the other radioactive waste repositories are basic nuclear installations (BNIs) under the supervision of an independent administrative authority (ASN) and the ministries in charge of nuclear safety. <p>These particularities do not change the fact that very low level wastes are radioactive wastes.</p> <p>Therefore Para A.5.2 should be renamed "Conventional waste and radioactive waste"</p>
Ukraine	B.5.7 - p. 27-28	17	<p>Taking into consideration the role of ANDRA in Radwaste management (A.5.6), is it possible to concretize what are the specific tasks of ASN as Regulatory Authority in part of “the development of suitable management systems for each waste category, with due account that any delay in the search for waste-elimination solution multiply the volume and size of on-site storages”?</p>	<p>Andra has a major role in the search for radioactive waste-elimination solutions. ASN tasks concerning the development of suitable management systems for each category are the following:</p> <ul style="list-style-type: none"> - ASN co-runs the PNGMDR working group with the General Directorate for Energy and Climate (DGEC). On the basis of a preliminary version of the PNGMDR, target dates were set by the "2006 Planning Act" for the implementation of new radioactive waste-elimination solutions, so as to meet the objectives of a sustainable management of radioactive wastes, - ASN prepared the decree n°2008-357 of 16 April 2 008 setting up PNGMDR prescriptions, - ASN periodically inquires the progress of Andra's research and studies as well as the difficulties encountered (meetings, reports...), - ASN draws up the necessary safety guides concerning the future repositories (ILW-LL, HLW and ILW-LL) and ensures that constraints related to the authorization procedures (in the ASN's areas of competence) are taken into account at early stage.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	B.1.6 - p. 18	18	How is the calculation, accumulation and inflation protection of funds for decommissioning, Radwaste and SF management performed?	<p>The calculation of long term liabilities of nuclear facilities (decommissioning, SF management, and radwaste management) is performed by operators, on the basis of a decommissioning strategy, taking into account uncertainties, contingencies, and lessons learnt.</p> <p>Funds are collected as soon as the facility is operated: apart from a transitory period until mid-2011, the market value of the dedicated fund must cover the value of the concerned financial provision.</p> <p>When the provision is discounted, it has to comply with several rules in order to ensure that the value of the fund will grow enough to cover the liabilities at the estimated schedule: ceiling rate for the discounting rate, the discounting rate must not exceed the return rate expected from the coverage fund. Besides, the rule being a coverage of the provision, the operator should complete its fund if need be.</p> <p>All these elements are under the control of the State, which does not approve the situation of the operator (who remain fully responsible) but which can address remarks, prescribe audits, prescribe corrective measures, give fine, and even take all the necessary assets from the operator if needed.</p>
Ukraine	B.1.6 - p. 18	19	What is the mechanism for funds gathering (charging) that are accumulated for further decommissioning, Radwaste and SF management? Where are they stored until the time of usage, after all it is forbidden to use them for other purposes?	<p>In France, assets for the funding of long term nuclear liabilities (decommissioning, SF and radwaste management) are earmarked in internal segregated funds. Indeed, they are in the accounts of the operators, managed by them, but they are accounted separately, subject to a specific control by the State (and also a specific internal control by the operator) and protected by law in case of bankruptcy of the operator.</p> <p>The mechanism to gather the assets is that the market value of the dedicated fund must cover the concerned provision, apart from a transitory period until mid-2011. It means that sufficient coverage assets have to be constituted as soon as the facility is operated.</p> <p>As for the use of the fund, the State does not approve the outflows from the coverage fund, but, if needed, it can sanction the operator or prescribe corrective measures related to the coverage fund management policy, or if it observes an insufficiency of the level of coverage.</p>
Ukraine	D.3.3.1 - p. 45-46	20	What kind of radionuclide gives major input in formation of collective dose due to discharges from Centre de la Manche?	<p>No collective dose is calculated, only dose to members of the critical group.</p> <ul style="list-style-type: none"> - For present situation, dose is linked to tritium releases in the streams form the aquifer. - For long term evaluation, considering water transfers for the normal evolution scenario the main contributors are : <ul style="list-style-type: none"> . Carbon 14, Tritium and Technetium 99 during the monitoring phase, . Plutonium 239, Radium 226 and Chorine 36 for post monitoring phase.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	D.3.3.1 - p. 46	21	<p>In the penultimate paragraph it is said that Safety report and Storage monitoring plan will be reviewed each 10 years within post-closure period.</p> <p>Are there any requirements to the structure and content of Safety report for post-closure period?</p> <p>What is the post-closure period for disposal facility?</p> <p>In the last chapter it is said that two copies of the document will be stored in two separate locations. Is it possible to know where exactly they will be stored?</p>	<p>Up to now there is no requirement concerning the structure and content of the safety report for the post-closure period.</p> <p>The post-closure period of the Centre de la Manche facility includes the surveillance period during which the repository will be monitored (access restrictions, surveillance and repairs if necessary). This surveillance period is expected to last about 300 years, being understood that surveillance/monitoring will probably decrease in the course of time. The decree n°2003- 30 of 10 January 2003 stipulates that during this period the monitoring plan shall be updated with a 10 year periodicity (as well as the safety report, general operating rules to be implemented in the next 10 years, the emergency plan) and submitted to ASN. All these revisions shall take account of the operator experience feedback. Therefore this is a step-wise approach.</p> <p>Documentation is archived in 2 separate locations:</p> <ul style="list-style-type: none"> - at the Centre de la Manche facility - at the National Archives.
Ukraine	D.3.3.2 - p. 47	22	<p>From the text one can conclude that “for all other altered-scenario situations, the annual value of 0.25 mSv remains a reference, but may be exceeded”.</p> <p>What is the maximum allowed annual value CSFMA?</p>	<p>During its operating phase and the normal evolution of the repository, the maximum allowed annual value is 0.25 mSV/year.</p> <p>The altered-scenario situations relate to:</p> <ul style="list-style-type: none"> - conventional scenarios of intrusion leading to a transfer by air (road works, residence, playing fields for children) at the end of the monitoring phase (i.e 300 years after closure) - several altered (and conventional) scenarios leading to a transfer by the water table (barrier failing, well at the post-closure phase etc.). <p>As indicated in the Report, the acceptability of the calculated impact in such situations depends on the exposure mode and time and on the conservative calculation hypotheses which have been selected. Andra has considered that for those situations an impact on the public of a few mSVs is acceptable (with a maximum of about 10 mSV if the considered scenario is improbable or if the hypotheses are very conservative).</p> <p>Therefore the approach is the following:</p> <ul style="list-style-type: none"> - definition of the altered scenarios and hypotheses, - calculations, - analysis of the results versus the type of scenario, hypotheses, exposure mode and time.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	D.3.3.2 & D.3.3.3 - p. 46-48	23	<p>How ANDRA controls adherence to the criteria on acceptance of conditioned radwaste in the process of radwaste processing? Is it possible to provide parameters of packages with radwaste handled for disposal to LIL Waste Disposal Facility and VLL Waste Disposal Facility?</p>	<p>Concerning LIL waste disposal : Following the 1989 order of creation of the Centre de l'Aube facility, prior to any delivery of a type of packages, Andra must issue an "agreement" for this waste package type. This agreement expresses that Andra considers that packages of this type to be produced will comply with the repository requirements. Some parameters that are specified by Andra can be monitored directly on the waste package or during the process. For instance the weight of a package can be measured and compared with the maximum specified weight, dose rate can be measured. For others it is not possible to control them directly during the fabrication process of the package. This is the case for containment parameters (leaching rate, diffusion coefficient). For these parameters it would be necessary to destroy the package and then to perform experiments that may last more than one year. Therefore during the agreement process investigations are made to identify parameters of the package or of the conditioning process that can be monitored during the fabrication of the packages and that will ensure indirectly compliance with Andra's requirements. For the diffusion coefficient example these operational parameters may be the composition of the cement use to make the diffusion barrier, its water content... The choice of the operational parameters relies on a qualification step. Experiments are performed on prototype packages or samples and must demonstrate compliance with waste acceptance criteria. Note that the waste generator may choose to qualify his package in a wide or a narrow range. Such an investigation is performed by the waste generator, with Andra's support, for each technical requirement for disposal. All these operational parameters are grouped in a list that gives a suitable description (or "specification") of the package relevant with Andra's requirements. This list, including the parameters and their values, is called "a contractual requirements sheet" or "CRS". It gives the description of the package that the generator agrees to manufacture and that Andra agrees to take in charge in the disposal facility. By the agreement process, Andra obtains confidence in the ability of the waste generators to produce waste packages. This confidence must be maintained by a surveillance by Andra of packages quality. Different means are implemented for surveillance :</p> <ul style="list-style-type: none"> - computer check of packages declaration by the waste generator, - control of packages at delivery to the Centre de l'Aube facility, - audits in waste generator facilities, - destructive and non destructive tests on actual packages. <p>A simplified version of this approach is used for VLL waste disposal.</p>
Ukraine	D.3.3.3 - p. 48	24	<p>How many packaged are in 1 waste batch (CSTFA)?</p>	<p>The notion of waste batch corresponds to a homogeneous group of waste, as produced by producers. It does not correspond to any given amount of waste packages.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	B.4.2 - p. 22	25	<p>The Radwaste classification contains the category “very-short-lived waste - residues that result notably from medical uses”.</p> <p>Does it mean that this category includes Radwaste with the half-life less then 100 days (“very short-half-life”) and its management is “management by radioactive decay”?</p> <p>If “Yes”, then:</p> <p>1) How are “very-short-lived waste” separated from other categories in medicine, for example “very-low-level waste”?</p> <p>2) What are the activity levels of “very-short-lived waste”?</p> <p>3) How does the Regulatory Authority control compliance with safety requirements while sorting, storing and further management with “very-short-lived waste” in medical establishments, for example to avoid inclusion of other Radwaste to this category, in particular “very-low-level waste” and to meet the terms storage for radioactive decay of “very-short-lived waste”?</p>	<p>Very short-life radionuclides are mainly used by hospitals and biological laboratories (diagnostic, research). Waste containing such radionuclides is usually managed by radioactive decay.</p> <p>However laboratories may also use short-life radionuclides. In that case, the different categories of waste (waste managed by decay, waste to be incinerated, waste to be disposed of) must be segregated (different receptacles) and separately managed.</p> <p>The activity of very short-life waste and effluents after decay shall be low enough to meet the requirements laid down in the ASN decision of 29 January homologated by the ministry of health on 23 July 2008:</p> <ul style="list-style-type: none"> - wastes: 2 times background activity, - effluents: 10 Bq/l (100 Bq/l for the effluents coming from patients treated with iodine 131). <p>ASN control is based on the review of the waste and effluent management plan of each facilities and on inspections.</p>
Ukraine	B.4.2 - p. 22	26	<p>Table 4 contains the column “very short-half-life”. It is necessary to clarify why does this column refers to all Radwaste categories by activity including highly active Radwaste. How are the Radwaste with “very short-half-life” and managed as “management by radioactive decay” separated from other Radwaste for example from those Radwaste subject to disposal in near surface repositories.</p>	<p>This column only means that there are wastes and effluents, in hospitals and biological laboratories, which are managed by radioactive decay. Main criteria are radionuclide half-life (less than 100 days) and compliance with the authorized thresholds before release into the environment. Therefore a very short-life high level waste does not make sense.</p> <p>Radwaste containing “very short-half-life” and managed as “management by radioactive decay” are separated from other Radwaste for example from those Radwaste subject to disposal in near surface repositories (separate receptacles). The establishment must explain in its management plan for its waste and effluents how the different categories of waste and effluents are sorted, managed and monitored.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	B.5.2.2 - p. 24	27	<p>This chapter contains at the same time the concepts of “VLL-waste” and “VLL materials” (“VLL metal scrap”) and the last is used in the “recycling” context.</p> <p>Is it possible to concretize what does “VLL materials” mean (represent) and at what stage of Radwaste management they are formed?</p> <p>Where are the RAW-containers made of “VLL metal scrap” used (repositories for disposal or storing of Radwaste etc)?</p>	<p>The term “VLL materials” means slightly radioactive substances which are recovered or intended to be recovered in order to be re-used.</p> <p>“VLL materials” are mainly composed of metal (steel, lead) originating from dismantling of BNIs or, to a lesser extent, from maintenance operations. A BNI operator planning to make slightly radioactive substances recovered determines the management solution (in a recycling facility) and propose his solution to ASN in his “waste survey” document. This solution shall be agreed by ASN and the recycling facility shall receive the necessary authorization.</p> <p>The operator sorts out the different categories of VLL materials and VLL waste according to the different management solutions indicated in the “waste survey” document (and further addenda if necessary).</p> <p>The steel treated by Centraco and recycled in radioactive waste packages are used as radiation shielding (see Report § B.6.1.1).</p>
Ukraine	B.6.1.2.2 - p. 31	28	<p>In the context of “contaminated metal waste” management it is foreseen to use it (after deactivating) – “lead recycling in the nuclear sector”. Para 5.2.2, page 24 concerns the usage of “VLL metal scrap” for RAW-containers production.</p> <p>Is it possible to clarify weather this is the same process – the reuse of materials (metals) in nuclear industry?</p> <p>If “yes” than why are the different definitions for these materials used?</p>	<p>In France, there are no universal and pre-established clearance thresholds below which it would be possible to allow a specific nuclear waste to be declared non-hazardous due to its radioactivity.</p> <p>Consequently, the reuse of VLL materials is performed through the recycling within the nuclear industry.</p> <p>Two applications are now operational in France:</p> <ol style="list-style-type: none"> 1) making, in a nuclear facility (basic nuclear installation - BNI), of steel cylinders (containers) by melting VLL metal scrap, 2) making, in a conventional facility, of biological protections using pre-decontaminated lead.
Ukraine	B.6.2.2-6.2.3 - p. 34-35	29	<p>The chapter concerns Radwaste management (research laboratories) with the half life less than 100 days.</p> <p>As far as authors do not use the term “very-short-lived waste” it is necessary to clarify if namely this category is under consideration with specific for this category “management by radioactive decay”?</p> <p>How are “very-short-lived waste” separated from other types of radwaste in research laboratories?</p> <p>Which one Regulatory Authority does supervise over the correct management with Radwaste which is stored for radioactive decay in situ – that is supervise over compliance with all procedures for safe management of such Radwaste?</p>	<p>The “very-short-life waste” (waste containing one or several radionuclides with half-life less than 100 days only) is taken into consideration. Its management is now regulated by the ASN decision of 29 January homologated by the ministry of health on 23 July 2008.</p> <p>The Radwaste with “very short-half-life” and managed as “management by radioactive decay” are separated from other Radwaste for example from those Radwaste subject to disposal in near surface repositories (separate receptacles). The establishment must explain in its management plan for its waste and effluents how the different categories of waste and effluents are sorted, managed and monitored.</p> <p>ASN control is based on the review of waste and effluent management plans of each establishment on inspections.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
Ukraine	L.3 - p. 187	30	<p>In the Table 21 «Decommissioned reactors or in the progress of being decommissioned » concerning the facilities Chinon A1D (ex-Chinon A1) and ZOE Fontenay-aux-Roses the last column contains "museum". What does it mean?</p>	<p>Chinon A1 (graphite gas reactor) has been transformed in a storage BNI (storage facility having a Basic Nuclear Installation status). This reactor, with graphite elements inside, is still in place. Fuels and effluents have been removed. Chinon A1 is used as a "museum" and can be visited on request, waiting the complete dismantling of the plant later on.ZOE was the first French reactor (experimental reactor). Taking into account the works done (removal of wastes, effluents, radiological cleanup) and the facility status, this reactor has been removed from the BNI list. It is now an ICPE (installation classified on environmental-protection grounds). The building can be visited on request.</p>
United Kingdom	E 2.2.4.5.4 - p. 64	1	<p>The report states that "If all dismantling operations reach the final expected state as approved by ASN, the facility may be decommissioned and removed from the list of basic nuclear installations (BNI) in accordance with the procedure referred to in the licensing decree for the final shutdown and dismantling of the facility", and "In order to preserve the past memory of a BNI on a given site and to forecast, if need be, the future use of the facility, public easements relating to soil use on and around the actual footprint of the facility may, in accordance with Article 31 of the TSN Act, be instituted after the decommissioning or disappearance of the facility. Public easements relating to soil use and the conduct of work subject to an administrative statement or authorisation may also be undertaken on existing facilities, including those in service, in accordance with Article 31 of the TSN Act.</p> <p>What legal process will be used to release a site from regulatory control for unrestricted use after the completion of decommissioning?</p> <p>What safety and environmental criteria will be used to determine whether decommissioning has ended and the site operator can be relieved of its responsibility for the safety of the facility?</p>	<p>In accordance with Article 29-VII of the TSN Act, when a basic nuclear installation (BNI) has been decommissioned and no longer requires the implementation of the provisions of the TSN Act, the ASN submits to the approval of the ministers tasked with nuclear safety a decision declassifying the installation. On the basis of this decision, the facility is excluded from the BNIs list.</p> <p>However, as stated in Article 31 of the TSN Act, the administrative authority (the prefect, local State representative) can prescribe public utility easements related to use of the ground and the execution of work subject to a notification or an administrative authorisation. These easements may also relate to use of the ground on the footprint of the installation and around said footprint. They are prescribed upon advice of the Nuclear Safety Authority, under the conditions set forth in the Environmental Code.</p> <p>There are no pre-established criteria to release the installation from regulatory controls. Release is granted on a case-by-case basis, according to the future use of the installation (if any) as well as the corresponding impact on the one hand, and the radiological state and its optimization (ALARA) on the other hand.</p> <p>ASN has issued a guide (SD3-DEM-02) dealing with cleanup methodology. The methodology proposed by the operator has to be based firstly on contamination and activation modelling (in order to determine the thickness to be removed) and secondly, after works, on systematic radiological controls to confirm the conventional character of the remaining structures.</p> <p>To release its installation from the list of BNIs, the operator has to:</p> <ul style="list-style-type: none"> - describe the state of the installation (physical state, radiological state) after cleanup and show that the expected end state has been reached, - confirm that all radioactive substances have been removed and managed according to authorized solutions, - confirm the future use of the installation (if not demolished), - report on feedback from the dismantling operations. <p>After the review of these elements, ASN carries out an inspection including random checks on the radiological state of the installation.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United Kingdom	E.2.3.2 - p. 68	2	<p>The report states that "At the end of all or part of mining operations, the operator must declare his cessation of activity and indicate which steps he intends to take to protect the interests referred to in Article 79 of the Mining Code. The Prefect either acknowledges the declaration or specifies additional measures. Pursuant to the Law of 30 March 1999, hereinafter called the "1999 Law", when major risks are likely to compromise the safety of property or persons, the operator must install and operate the necessary equipment for monitoring and preventing such risks. Once the claim expires, the responsibility for risk monitoring is transferred unto the State".</p> <p>It is not clear what the term "Once the claim expires" means, can you please explain it?</p> <p>Does "responsibility for risk monitoring" include responsibility not only to monitor, but also to control, risk?</p> <p>What legal process will be used to release a mining site from regulatory control for unrestricted use after the completion of decommissioning?</p> <p>What safety and environmental criteria will be used to determine whether decommissioning has ended and the site operator can be relieved of its responsibility for the safety of the facility?</p>	<p>The Mining Code sets up that if the concession is not abandoned by the operator in spite of a redevelopment of the site according to requirements defined and verified by the prefecture, there still exists a residual police that allows to prescribe some measures of security, to upgrade the environmental monitoring...</p> <p>As long as the concession is not abandoned, the operator remains responsible for environmental monitoring and to take all measures to control risks.</p> <p>Once the concession is abandoned, the State becomes responsible of the site management.</p> <p>The redevelopment of a mining site is defined by a doctrine of the Ministry of Ecology. The release of these sites is made with the introduction, where appropriate, of restrictions of use (e.g. easements) to ensure that future use of the site will remain compatible with soil pollution.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United Kingdom	E.3.1.1.1 - p. 70	3	<p>The report refers to ASN having an ethical code. Can you please provide more information on this ethical code and describe its main features?</p>	<p>ASN rules of ethical conduct are actually included in its Rules of procedures. They read as follows :</p> <ul style="list-style-type: none"> - Respect of professional confidentiality and duty of discretion : Disclosure of secret information is liable to the penalties set forth at Articles L. 226-13 and L. 432-9 of the Penal Code. Commissioners and ASN staff are bound by a duty of discretion, in particular under the professional confidentiality obligation mentioned at Article 26 of Act 83-634 of 13 July 1983 on the rights and obligations of public officials. Under the obligation, interested parties may not disclose information that comes to their attention in the exercise of their duties, except for the needs of their office and in cases where third parties are acknowledged to have a right of access to secret information, and may not divert official documents or communicate them to third parties. Commissioners and ASN staff shall ensure that they do not circulate information or take public positions that could adversely affect the ASN stringency, impartiality, legitimacy or credibility. The College may hear an ASN agent who, by taking a position or failing to react, has called ASN into question. - Abuse of authority and breaches of the duty of integrity : Abuse of authority committed against individuals and breaches of the duty of integrity are liable to criminal prosecution as set forth at Articles 432-4 to 432-16 of the Penal Code. - Conflicts of interest :Each Commissioner and each ASN agent shall take all necessary provisions not to hold interests in activities subject to their oversight, such that they could adversely affect the impartiality of their judgment. ASN agents shall inform their immediate superior of any situation that could entail such conflicts and propose ways of bringing it to an end. The superior may remove the person concerned from certain areas of work. - Guarantees of independence with regard to persons or entities subject to oversight by ASN : Both in the exercise of their duties and at other times, Commissioners shall ensure that they do not place themselves in a position that could compromise their independence with regard to persons or entities over which ASN has oversight or which could be perceived as being liable to compromise impartial exercise of their duties. - Communication between members of the College : College members shall transmit to each other any important information brought to their attention.

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United Kingdom	F 1.2 - p. 80	4	<p>"The report states "As for the respective responsibilities of the waste producer and when the radioactive waste is taken over by Andra, it should be noted that the waste producer remains responsible for his waste, even after storage or disposal by Andra. The ownership of the waste is not transferred to Andra. However, as mentioned above, that principle does not exclude Andra's responsibility as an BNI operator and in relation to the Paris Convention."</p> <p>Please explain the apportionment of responsibilities between the two parties. How does regulator ensure that the licensee is the body that is in control of licensable activities on the licensed site? If there is a legal infringement caused by the processing of waste before it arrives on the licensed site, but which only becomes evident after arrival, how is the responsibility apportioned?</p>	<p>Andra is responsible, among other things, for laying down, in compliance with nuclear safety rules, the specifications for disposal of radioactive waste and for operating its disposal facilities as any operator of Basic Nuclear Installation (BNI). The waste producer is responsible for the quality of his waste and for the data required by Andra including those required for each package. Andra checks the compliance of these data with the criteria laid down in its specifications and take them into account in the safety case of the disposal facility.</p> <p>There is no ambiguity as to the licensee (Andra), the licensed sites (CSFMA and CSTFA), and control of licensable activities.</p> <p>Non conformities detected by Andra in relation with a waste package are dealt with by this Agency in relation with the producer. If the conclusion leads to a corrective action, the financial consequences are supported by the producer.</p> <p>The waste producer responsibility extends to all other financial aspects as explained in the report § F.1.2 (notably in the case of potential consolidation work or additional provisions resulting from new legal obligations).</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United Kingdom	F 5.2.4.4 - p. 115	5	<p>The report states "Since the overall mechanism and structure must be tested on a regular basis in order to be fully operational, nuclear and radiological emergency exercises are organised. Governed by an annual circular, those exercises involve the operator, local and national public authorities (e.g., prefectures), ASN and the IRSN. By testing emergency plans, the structure and procedures, they contribute to the training of relevant agents. Their main purposes are determined at the beginning of each exercise and aim mostly at assessing correctly the situation, in returning the deficient facility to a safe state, in taking appropriate measures to protect the populations and in ensuring sound communications with the media and the public concerned. In parallel, they also provide an opportunity to test the alert system of national and international authorities."</p> <p>Are exercises conducted at various levels of participation, such as site, local, regional, nationwide?</p> <p>If so, approximately how many of each level are carried out each year?</p> <p>What are the responsibilities of the regulatory bodies in exercises?</p> <p>How do the various organisations involved coordinate their activities?</p> <p>Which organisation has overall control during an emergency? Does this vary according to the severity of the incident?</p>	<p>Each year, ASN prepares a programme of national nuclear emergency exercises, and this programme is announced by the préfets in a circular signed jointly by ASN, the DSND, DDSC and SGDN. These exercises involve the licensee, the local and national public authorities – particularly the préfetures - ASN and IRSN. The main aims of the exercises are defined at the beginning of the exercise. They are primarily to ensure a correct assessment of the situation, to bring the installation on which the accident occurred to a safe condition, to take appropriate measures to protect the population and to ensure satisfactory communication with the media and the populations concerned.</p> <p>Exercises are conducted at the different levels.</p> <ul style="list-style-type: none"> - On-site emergency plans are tested by internal exercises conducted by the operator. The frequency of the internal emergency exercises is specified in the on-site emergency plan, which is approved by ASN. It depends on the complexity, size and risks of the facility, and is usually several times a year for each facility ; - off-site emergency plans are tested during national exercises. Regulations require the authorities to organize a national emergency exercise at least every five years for each facility. In practice the periodicity is 2 or 3 years, which correspond to about 10e-12 exercises per year at the national level." <p>Review meetings are organised in each emergency command post immediately after each exercise. Along with the other participants in the emergency exercise, ASN aims to identify the good and bad practices highlighted during the experience feedback meetings in order to improve the response organisation as a whole. Experience feedback from nuclear or radiological emergency exercises also brings to light those actions or procedures which need to be improved. All the stakeholders take these points on board and actively look for solutions. In this respect, ASN calls all participants together twice a year to review good practices and identify areas for improvement. ASN thus brought together the heads of the communication units of the various public and private stakeholders to examine the communication aspects of an emergency situation, in order to identify areas for improvement.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United Kingdom	F 6.1.1 - p. 117	6	<p>The report states that "Operators must put aside funds during operation for dismantling and other future liabilities".</p> <p>(1) Please describe the methodology used to establish these costs?</p> <p>(2) Which organisation regulates the management of these reserved funds?</p> <p>(3) How does that organisation ensure that the funds are well managed so that they will be adequate when called upon, that estimates of ultimate costs are well founded, that adequate amounts are paid into the fund and that they are kept separate and cannot be used for other purposes by the utility?</p> <p>(4) What contingency is included in the funds to cater for a premature shutdown of a nuclear power plant (due to failures etc.) being necessary - do the funds cover individual NPPs or the whole fleet?</p>	<p>Answers to those questions are detailed the Article 20 of the 2006 Planning Act and its implementing decrees and orders (Decree n°2007- 243 and Order of the 21/03/2007 on the securing of the funding of nuclear liabilities).</p> <p>(1) Cost assessment is performed by operators, on the basis of a reference decommissioning strategy, chosen prudently, taking into account uncertainties, contingencies and lessons learnt. These methodologies are assessed (but not approved) by the State, which can prescribe audits or corrective measures if needed. Among methodologies developed by main operators, there are for instance softwares, based on facilities inventory and on technical and economic ratios, updated to take into account the lessons learnt.</p> <p>(2) These reserved funds are managed by operators, but are subject to a specific control from the State, through an "Administrative Authority", defined by both Ministers in charge of economy and of energy, with ASN technical support and the financial expertise from other public services. We can also mention that the operator has also to set up an internal specific control on the funding of long term liabilities, which is also assessed by the administrative authority.</p> <p>(3) The administrative authority controls the completeness of the level of coverage of the financial provisions, the composition of funds (which have to comply to regulatory constraints regarding the eligibility of the assets, their risk exposure and level of diversification), assesses their constitution policy, their management policy, and their internal control procedures. On all these points, the administrative authority can sanction operators if needed (prescribe corrective measures, give fine, impose to put more money in the fund...). There are several safeguards ensuring that enough money is earmarked for the purpose of decommissioning: apart from the previous control by the State (with the ability to prescribe corrective measures, eg. if insufficiency of the level of coverage), there is also a specific internal control, the funds are accounted separately from the other assets of the operators, they are dedicated to their purpose, they are protected by law in case of bankruptcy of the operator, and the law authorizes the State, if needed, to externalise the operator's coverage portfolio to a fund managed by the national agency Andra.</p> <p>(4) The Act defines a transitory period, until mid-2011, to allow operators to constitute their coverage portfolios. Apart from this transitory period, the level of coverage required is that the market value of the fund must be at least equal to the value of the concerned provisions; therefore, as soon as the facility is operated, the fund must be completed to cover its decommissioning provisions. This is a safeguards for the case of an early closure, even if the provision is discounted. Anyway, the operator is responsible to complete its fund for a full coverage of the provision, the calculation of the provision being updated in case of change of the schedule for decommissioning (including decision for an early closure).</p> <p>The law requires a dedicated fund per operator of "Basic Nuclear Installations": there is no individual fund for each NPP but a single fund for EDF, and a fund for each other operator of such installations, which also comprise nuclear fuel cycle facilities, research installations, low level waste treatment facility, industrial irradiators...</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United Kingdom	K 1.1 - p. 171	7	<p>The report states that, it is an objective " to formalise all pending requirements and administrative practices into regulatory texts in order to maintain ASN's clear and strong position once market deregulation will increase economic stresses on operators".</p> <p>How, up to now, has ASN established confidence that changes to licensees' organisations, structures, resources and the disposition of resources, both at their sites and elsewhere (such as at Headquarters, design offices etc.) are planned and implemented in such a way that they do not compromise safe operations?</p> <p>How will this methodology change as a result of the objective noted above?</p> <p>What submissions are made by licensees to demonstrate the planning and implementation of the changes to organisations and what inspections and assessments did ASN make in concluding that the changes could be approved?</p> <p>Have there been follow up inspections and assessments to ensure that predicted outcomes took place?</p>	<p>Based on the TSN Act and on the implementation Decree No. 2007-1557 of 2 November 2007, several implementation texts (decrees, orders, decisions) are being published ; some of them directly concern safety and management policies (organisations, structures, resources). In this frame, these items will be regulatory checked, inspected and assessed.</p> <p>The requirements and criteria concerning the human means and organization of each operator of BNI (basic nuclear installations) are laid down in articles 7, 8 and 9 of the 1984 Quality Order. They concern:</p> <ul style="list-style-type: none"> - the human and technical resources of the operator, his organization, the skills and independency of the persons in charge of safety (see § F2.1 of the report), - controls, preventive and corrective actions to be carried out by the operator, - the capitalization of the experience gained by the operator in the field of human and organizational factors. <p>Those requirements and criteria will be updated and completed by a future order concerning the policy and management of the safety in BNIs and a "ASN's decision" (end 2009). The future order and ASN's decision will take account of WENRA works.</p> <p>In practice ASN's actions, notably the inspections, with regard to human and organizational factors concern the analysis of the organization in place at the licensees, so that they can fully assume their operational responsibility. ASN does not stipulate a standard organization or training program for the persons in charge of operation.</p> <p>ASN also ensures that human and organizational lines of defence are in place, applying the principle of defence in depth.</p> <p>Finally, ASN checks the robustness of the experience feedback arrangements set up by the licensee.</p> <p>In 2008 ASN and its technical supports (IRSN, advisory expert group) assessed EDF's safety management in the context of competitiveness. A number of good practices were noted but some areas should be improved. ASN underlined the importance of the document INSAG 18 "Managing Change in the Nuclear Industry: The Effects on Safety".</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United States of America	H.7 - p. 161	1	<p>The report describes a rigorous, long-term institutional control program for CSM. The program suggests active institutional measures (monitoring, site improvements, periodic safety updates, recordkeeping) for three hundred years. France seems to have achieved a high degree of public acceptability for its nuclear program.</p> <p>Please provide examples of how public input may have influenced the institutional control program.</p>	<p>The influence of the public is not so much on the institutional control program but mainly on the autorisation procedure which had an influence on this program. It is rather the authorization procedure which had an influence on this program. Part of the procedure (mainly the public inquiries) implied the public and the concerns and remarks of the public have been analysed by the Inquiry Committee.</p> <p>The procedure was the following:</p> <ul style="list-style-type: none"> - a public inquiry in 1995 under the responsibility an Inquiry Committee, - a mission given to a Commission by the Government in 1996 to assess the situation of the Centre de la Manche facility and to provide its opinion on the environmental impact of the disposal facility, - a second inquiry (in 2000), also under the responsibility of an Inquiry Committee - the assessment made by ASN and its technical supports. <p>Andra provided answers to the recommendations made by the Inquiry Committees and Commission and updated them in the last version of the safety report (2008). Here are examples of those recommendations:</p> <ul style="list-style-type: none"> - durability of the cover put in place to be questioned versus a new cover which would allow a more passive control program, - optimization of the control programme in order that monitoring become more and more passive, - transmission of the information to the future generations (data, syntheses, media, location...), - information and participation of the public during the institutional control phase.
United States of America	E.1.1.1 - p. 55	2	<p>The Transparency and Security in the Nuclear Field Act of June, 2006(TSN Act) provides the right of access to any individual to information held by public authorities on nuclear safety and radiation protection. It includes the right to information held by nuclear facility operators, and a requirement for operators to prepare a yearly report on a number of areas such as nuclear safety and radiation protection, incidents and accidents, discharges, waste data, and waste reduction.</p> <p>How many cycles of yearly reports have taken place?</p> <p>What is the process of collection, review, and approval of these reports? With the large number of nuclear facilities, this seems to be a daunting task.</p>	<p>First reports were drafted in 2006. A second cycle has been completed in 2007. Most of reports produced by operators have been published on the Internet. Reports have also been presented to local information committees. ASN carried out an analysis of these reports and drafted a guiding document on the drafting of such reports.</p> <p>Utilities have been consulted on the draft guiding document ; public will be consulted in 2009. The final version should be completed by 2009.</p> <p>In the future, consultation of operators will continue to identify best practices.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United States of America	C.3 - p. 39	3	<p>Please describe with specificity the identities and responsibilities of the entities that regulate the safe management by governmental agencies of spent fuel or radioactive waste resulting from governmental activities, including spent fuel or radioactive waste no longer within military or defence programmes, and detail the steps to ensure the effective independence of the regulatory functions from other functions where organizations are involved in both spent fuel or radioactive waste management and in their regulation.</p>	<p>Andra is in charge of the management of the radioactive wastes from all origins. Among them there are the Defence activities (research centres for nuclear deterrent, other military activities), either classified or declassified. The waste acceptance criteria for a given repository are the same whatever the producer is. This is also true as regards the verification made by Andra on the waste packages quality.</p> <p>In the deep geological project, the wastes (and spent fuels in some scenarios) from all origins are also taken into account.</p> <p>ASN directly controls Andra activities for the design and operation facilities (and post-closure) as well as the acceptance of the wastes in the repositories. ASN also controls operators of BNIs (basic nuclear installations) in the field of radioactive waste management: waste studies, zoning of the installation, treatment facilities, storage facilities... This applies to all the civilian installations and to the declassified defence installations. If they are still classified, the national-defence facilities are controlled by the Delegate for Nuclear Safety and Radiation Protection for National Defence Installations and Activities.</p> <p>By anticipation of the texts and because it is a strong preoccupation of ASN , there has already been several permanent group assessments on this item and some others are planned ; the most recent is the one for EDF (safety in a competitiveness context : 2008) ; The CEA organisation was checked in 2000 and will be reassessed in 2010, the AREVA group organisation will be assessed in 2011 ; the reassessment is settled regarding the actual context (technical, economical, financial...)</p>
United States of America	B.1.4 - p. 16	4	<p>The 2006 Planning Act provides for the development of a reversible HLW repository within a deep geological formation by 2025. The goal is for the repository-license application to be reviewed in 2015.</p> <p>What sites are being characterized and when will a selection and decision made to proceed with preparation of the license application?</p>	<p>The Bure site in the East of France (Meuse/Haute Marne) is the only site where an underground research laboratory has been constructed (in a clay layer) and therefore it is the only site which is being characterized.</p> <p>The next steps are:</p> <ul style="list-style-type: none"> - 2009: Andra will propose a zone for implantation of the disposal facility and at the same time will issue additional design studies, - 2012: Andra will issue a report for a public debate which should take place in 2013/2014, - end of 2014: Andra will apply for a licence. <p>Afterwards, the authorization procedure will take place according to the "2006 Planning Act". A new Act, laying down the reversibility conditions, will be promulgated and the authorization for the creation of the facility shall be issued by a State Council decree adopted after a public inquiry. The objective is to start the operational phase of the deep geological disposal facility in 2025.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United States of America	B.1.5 - p. 17	5	<p>Section B.1.5 discusses management policy based on transparency and democratic dialogue. It cites implementing a CLI for each treatment and disposal facility. CLI is not defined in the report text or in the List of Main Abbreviations. CLIs are also mentioned in Section E.1.1.1 as having legal status.</p> <p>Please define CLI and describe its functions, authorities, and membership.</p>	<p>CLI are local information committee.</p> <p>CLI members are : representatives of Conseils généraux, of the municipal councils or representative bodies of groups of communes and Conseils régionaux (regional councils) concerned, members of Parliament for the département, representatives of associations for protection of the environment or economic interests, representative employee and medical profession, labour unions, as well as qualified personalities. The representatives of the State's departments, ASN, and those of the licensee can participate in the work of CLI, in an advisory capacity. CLI is chaired by the Chairman of the Conseil général or by an elected official from the département designated by him for this purpose. CLI receives information needed from the licensee, ASN and the other State departments. It may request expert assessments or measurements taken on the installation's discharges into the environment. CLIs are financed by the regional authorities and by ASN.</p> <p>The CLIs generally held one or more annual plenary sessions, often supplemented by meetings of the specialist committees. The CLIs also dealt with subjects such as the TSN act and its implementation, the safety of the electrical grid and natural radioactivity. They are generally involved in the emergency exercises, the conclusions of which are presented to them. They are invited to take part in ASN inspections. CLI can also ask for or carry out separate particular investigations. In order to inform the population, nearly half of CLIs publish newsletters. Others are offered space in the publications of the <i>Conseil général</i> or the commune .Information about CLI activities appears on ASN website and that of the national CLI association (ANCLI). Some CLIs also have their own websites.</p>
United States of America	B.5.2.2 - p. 24	6	<p>France has licensed three facilities to recycle VLL materials within the nuclear industry. Only one is operating.</p> <p>What are the reasons or impediments for not operating the other two?</p> <p>What types of products other than steel cylinders from VLL scrap are being considered?</p>	<p>In one case (metallic containers used for transportation of UF6 to be re-used in a nuclear installation), the owner changed and the new one did not wish to develop this activity (mainly because of public acceptance and media issue). In the other case (vitrification of asbestos prior to disposal) it was for contractual reasons (cost).</p> <p>Steel cylinders are used as radiation shielding in radioactive waste packages (see § B.6.1.1 of the Report). Another example is the lead re-used as radiation shielding in nuclear facilities. Another use of steel might be bars for reinforced concrete in the future cells of a radioactive waste disposal facility.</p>

Pays	Référence ds le rapport	Quest N°	Questions	Réponses
United States of America	B.6.1.3.4 - p. 33	7	<p>France reports recent achievements in reducing volumes of HL/IL-LL waste, particularly eliminating bituminization in the latest generation plants.</p> <p>Please share more details on waste reduction during your national presentation in May 2009.</p>	<p>Today, the volume of HL-IL waste issued from spent fuels, after treatment is less than 0,5 m³/tHM. This provides a net gain by a factor of 4 to 5, with respect to the disposal concepts studied by ANDRA in the framework of the 1991 Act (until 2006; now, the disposal concept is almost only based on waste conditioned through treatment technologies). More details will be given in the national inventory published by ANDRA, the national agency for radioactive waste management, in June 2009.</p>
United States of America	D.1.2.2 - p. 43	8	<p>A new spent fuel storage facility at Marcoule was to be commissioned in 2008.</p> <p>Has this facility been commissioned? If not, what are the issues delaying commissioning?</p>	<p>ECUME facility was mainly planned to store spent fuel irradiated in PHENIX fast breeder reactor. The CEA solution implemented to manage these spent fuel is now storage and reprocessing at La Hague UP2 800 plant; consequently, the commissioning of a new Spent Fuel Storage Facility for civilian R&D programs is not anymore necessary.</p> <p>Generally speaking, CEA new waste management facilities are built on existing sites.</p>