



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL



ESPAÑA

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

FIFTH SPANISH NATIONAL REPORT  
OCTOBER 2014

### RESPUESTAS A LAS PREGUNTAS FORMULADAS POR EL RESTO DE PARTES CONTRATANTES AL QUINTO INFORME NACIONAL DE LA CONVENCION CONJUNTA DE SEGURIDAD EN LA GESTIÓN DEL COMBUSTIBLE GASTADO Y LOS RESIDUOS RADIATIVOS

-12 DE MAYO DE 2015-

NOTA ACLARATORIA: ESTE DOCUMENTO SÓLO SE ENCUENTRA  
DISPONIBLE EN INGLÉS POR SER EL IDIOMA DE TRABAJO DE LA  
CONVENCION CONJUNTA



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	Country	Article	Ref. in National Report
	France	Planned Activities	Section A.3. g) - p. 12
Question/ Comment	<p>Undertaking decommissioning of milling facility at "Saelices el Chico" is one of the challenges set out in the "Country Group 1 - Rapporteur's Report" of the Fourth Review Meeting.</p> <p>In the 5th National Report, it is stated that "By Resolution of the Directorate General for Energy Policy and Mines of 30 October 2012, ENUSA Industrias Avanzadas S.A., the licensee of this facility, was required to submit a new application for authorisation for dismantling within one year. This was presented correctly within the time limit and is currently undergoing assessment by the Nuclear Safety Council."</p> <p>Could Spain provide more information about the foreseen dismantling activities and also provide associated time schedule for licensing and dismantling?</p> <p>Why decommissioning of milling facility at "Saelices el Chico" is not explicitly mentioned in Section K.2, even if it is planned for the mid-term period?"</p>		
Answer	<p>After an initial assessment of the application, the Nuclear Safety Council requested ENUSA, in February 2014, to submit a new application regarding this license together with the appropriate documentation. This application and related documents should be presented no later than september 2015. Once the whole documentation is submitted, the Nuclear Safety Council will evaluate it and will submit a report to the Ministry of Industry, Energy and Tourism, responsible for granting the license.</p> <p>Since the decommissioning of milling facility at "Saelices el Chico" was one of the challenges set out in the Country Group 1 Rapporteur's Report of the Fourth Review Meeting we understood it better fitted under K1 section "Measures relating to challenges and suggestions identified at the Fourth Review meeting of the Joint Convention", as it appears now. However it could also be reflected in K2 section, because obviously we will deal with this planned activity in the medium term, but we preferred not to repeat it under k2 to avoid duplications.</p>		
	Country	Article	Ref. in National Report
	France	Planned Activities	Section K - pp. 179-182
Question/ Comment	<p>Section K has been properly written up according to the new Guidelines regarding the Form and Structure of National Reports (INFCIRC/604/Rev.3 Draft 3). This section should nevertheless more detail the activities planned for improving safety (K2.) and associate them to tentative schedules.</p>		
Answer	<p>This comment and also that interpretation about the mentioned INFCIRC/604/Rev.3 Draft 3 document are welcome, that may also be read as a brief "summary" that raises only the main activities planned to improve safety, pointing out to other sections under this Report for more detailed information.</p>		
	Country	Article	Ref. in National Report
	Australia	General	1
Question/ Comment	<p>Spain is proceeding on schedule with their Centralised Storage Facility (CTS) for their HLW waste including spent fuel and should be commended. Good account is being taken of lessons learned from the Fukushima accident, to improve nuclear safety in Spain.</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Answer	We appreciate your commendations		
	Country France	Article General	Ref. in National Report Executive summary
Question/ Comment	Spain's National Report should include an executive summary		
Answer	We appreciate your comment. INFCIRC/604/Rev.3 Draft 3's proposed structure has been, as far as possible, followed. Sections A and B may be read as summaries.		
	Country France	Article General	Ref. in National Report Overview matrix
Question/ Comment	According to the new Guidelines regarding the Form and Structure of National Reports (INFCIRC/604/Rev.3 Draft 3), Spain's National Report should include an overview matrix to be used by the Rapporteur during the Country Group review.		
Answer	Yes, you are totally right, please find it attached to these answers.		
	Country France	Article General	Ref. in National Report Section A.3.: pp.7-12
Question/ Comment	Analysis on "loss of large area due to explosion or fire" especially for the NPP under decommissioning is one of the challenges set out in the "Country Group 1 - Rapporteur's Report" of the Fourth Review Meeting. Progress in this area is not clearly addressed in the 5th Report. Could Spain detail how this challenge was considered and main results of the above-mentioned analysis, if performed? "		
Answer	<p>In June 2012, the CSN issued a "Technical Complementary Instruction" (regulatory requirement associated to the NPP operating licence; like an "Order") to Enresa, responsible for the decommissioning of Jose Cabrera NPP, in relation with the analysis on "loss of large areas due to explosions and fire" that Enresa had to perform due to the presence of an Independent Spent Fuel Storage Facility (ISFSI) on site.</p> <p>In response to this requirement, Enresa sent a first analysis report in December 2012. As a consequence of this analysis, Enresa implemented several improvements in the plant's fire protection system that were inspected and evaluated by the CSN's staff along 2013.</p> <p>As a result of the findings of this inspection and evaluation process, some additional measures were required to Enresa, who, in February 2015 sent a revised report including information about the new developments implemented in the plant's fire protection system. It is foreseen to inspect and review these new improvements along 2015. Among the major improvements we would highlight a new hydrant network dedicated for ISFSI implemented, and new fire equipment (vehicle and foam) available on site for using in case of a big fire.</p>		
	Country Norway	Article General	Ref. in National Report K3, page182
Question/ Comment	During the follow up IRRS mission in 2011, the mission acknowledged the strengthened area of better inspection activities and public communication. Can you please elaborate it little more which actions were taken to give better results.		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Answer	<p><b>IMPROVEMENTS IN PUBLIC COMMUNICATION</b></p> <p>Through the Integrated Regulatory Review Service (IRRS), Spain and the IAEA member States have helped to improve regulation and nuclear and radiation safety worldwide.</p> <p>Following the Ascó event, a special effort was made to bring the information to the public with the commitment to achieve effective transparency and communication with the public, which was recognized by the IRRS Mission and Follow-Up missions to Spain, held in 2008 and 2011, respectively.</p> <ul style="list-style-type: none"><li>- The Advisory Committee for information and public participation: This Committee has two meetings per year and our stakeholders take part on it. These meetings are really important since there is an exchange of information between the regulatory body and the stakeholders. The committee will make recommendations to the CSN to promote and improve transparency and the regulatory body may propose actions to promote access to information and public participation in matters within the jurisdiction of the Nuclear Safety Council.</li><li>- Questions and answers document: As a result from the Ascó event, a document was created to solve the most frequent questions of the public about any important issue. When an important issue seems to become relevant we usually do what we call a question and answers document that is later published in our web site so that the general public can consult it.</li><li>- Increased participation in social networks – Twitter: We use Twitter as a social media tool to communicate with our targeted audiences and the interaction with the social network audience has increased.</li><li>- The local committees: We normally have an annual meeting with the local authorities of the municipalities where nuclear power plants are. These are what we call Local Committees which have a special relevance since is where all the important information is shared. It also helps to spread the information by newsletters to those who were unable to assist to the meetings.</li><li>- Feature articles about Ascó: The CSN has a specialized nuclear safety and radiation protection magazine called ALFA and it has included some feature articles about the Ascó event, among other reports about specific issues that might be interesting for the public.</li><li>- CSN Web page: After what happened at Ascó, the CSN web page was renovated, new tools were created to facilitate the interaction between the regulator and the public. One of the new tools is a mailbox where the workers implied in the nuclear and radioactive area and also citizens can contact the CSN about certain incidents. The CSN web page is one of the main channels to keep the public informed.</li><li>- International working groups on communication: The CSN participates in several working groups internationally to address the issue of communication in the regulatory bodies. These working groups are very helpful to share experiences between the regulators of the different countries, it is where practices and policies are exchanged and new initiatives are studied. Specifically, issues related to social networks, new technologies, managing communication in a crisis situation, the regulatory strategies to communicate effectively with citizens and stakeholders and communication plans are discussed.</li></ul>
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# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p><b>IMPROVEMENTS IN INSPECTION PRACTICES</b>  Reinforcement of the CSN Resident Inspectorate at Ascó NPP and priority attention to issues relating to the event, this having implied an additional inspector being stationed at the plant since late 2008.</p> <p><b>ADDITIONAL INFORMATION</b>  Link included in footnote 1, page 182, Section K3 of the Spanish report elaborates much more on both areas. The link is to the IAEA report on the mentioned IRRS Follow-Up and is reproduced here:  <a href="http://www.csn.es/images/stories/actualidad_datos/noticias/follow_up_informe_final_ingls_2011.pdf">http://www.csn.es/images/stories/actualidad_datos/noticias/follow_up_informe_final_ingls_2011.pdf</a>  CSN actions for closing the 2008 IRRS Mission recommendations and suggestions, relative to inspection activities, are developed in Section 4.4, pages 21 and 22, of the linked report.  CSN actions for closing the 2008 IRRS Mission recommendations and suggestions, relative to public communication, are described in Section 1.2 (Suggestion S2), pages 12 and 13, of the linked report.</p>		
	Country Romania	Article General	Ref. in National Report Annex F
Question/ Comment	<p>Annex F  2. Fees charged to nuclear power plants  How is established the quantum of allocations for municipalities affected by nuclear power plants or storage or disposal facilities for spent fuel or radioactive waste? Is it by law or any Governmental decision? Please provide details on the way/mechanism MINETUR establishes the terms for licensees paying these allocations.</p>		
Answer	<p>The MINETUR establishes the rules for allocations for municipalities by means of Ministerial Orders. Since the first Ministerial Order on allocations for municipalities was enacted in 1988, several such instruments have been adopted. The Order currently in force dates of 13th July 1998, with some amendments and clarifications being done on 21st June 2001.</p> <p>The current regime distinguishes four different categories of municipalities, depending on the type of nuclear installation in the vicinity: NPPs that store their SF on-site (1), Centralized Interim Storage of SF (2), NPPs in decommissioning process (3) and installations for the disposal of LILW (4). In this consideration:</p> <ul style="list-style-type: none"> <li>• Allocations are estimated on an annual basis,</li> <li>• The overall magnitude of the annual fund for the municipalities around a given waste management facility is calculated by using a fixed amount per installation and a variable amount based on the volume/quantity of the RW or SF generated/stored/disposed of in that installation.</li> <li>• The distribution of the fund among the municipalities is calculated upon a double criterion: fixed per category (a fixed percentage of the fund goes directly to the municipalities of category 1, 2, 3 and 4), and proportional (the rest of the fund is distributed directly among the municipalities in consideration of the number of inhabitants and the distance to the nuclear installation). There is a minimum amount guaranteed for categories 1 and 2 and certain limits in the distribution of the funds.</li> </ul> <p>On a yearly basis, the MINETUR must, by means of a Resolution, determine the new allocations to be distributed according to the criteria established in the Order of 1998.</p> <p>ENRESA is the body legally entrusted to pay these funds to the municipalities. The installments come from the Nuclear Waste Fund. The law</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>establishing the financing of radioactive waste management (Law of the Electricity Sector of 1997, Sixth Additional Provision) establishes that “the license holders of the NPPs shall finance the allocations to the municipalities affected by NPPs or by facilities for the storage/disposal of SF or RW in the terms defined by the MINETUR”. Therefore, the allocations to the municipalities are one of the factors considered in the calculation of the fees that the NPPs must pay.</p>		
	Country China	Article Article 3	Ref. in National Report D, p35
Question/ Comment	<p>How to detect the broken spent fuel assemblies? How to store them temporarily? And how to process them in Spain?</p>		
Answer	<p>Until now, when the rod cladding has a minor defect (pinhole or hairline crack) the fuel assembly (FA) is classified as “undamaged” and managed for interim storage same as intact fuel; loaded in a cask without any conditioning. When the FA is grossly breached it is classified as “damaged” and conditioned according to the requirements of the storage/transport system. Grossly breached fuel has only be loaded in the HI-STORM 100 system using a “damaged fuel container”. In Spain the classification of spent fuel follows USNRC ISG-1 Rev. 2.</p>		
	Country Japan	Article Article 4	Ref. in National Report G p107
Question/ Comment	<p>Is the concept of Gd-credit taken into account in criticality analyses in Spain?</p>		
Answer	<p>Criticality analysis related to spent fuel storage does not give credit to fuel-related burnable neutron absorbers.</p>		
	Country Japan	Article Article 4	Ref. in National Report G p107
Question/ Comment	<p>Regarding interim dry storage using DPC, how would you manage the aging of DPC and loaded fuel? In this regard, is there any limit temperature for loaded spent fuel? If there is a limit temperature, on what basis is it set?</p>		
Answer	<p>Once the DPC loaded, the safe storage of the spent fuel relies on the inert atmosphere of the cask cavity and the limit of temperature imposed to the fuel cladding: &lt; 400 °C. This limit is based in the USNRC ISG-11 Rev. 3 and a usual practice in the USA. On the other hand, typical maintenance practices are apply to the loaded DPC: periodic inspections of correct behavior of the pressure transducers (monitoring the inter-lids gap) and periodic inspections of casks painting to ensure time does not affect to their properties against corrosion.</p>		
	Country Japan	Article Article 5	Ref. in National Report p113
Question/ Comment	<p>We suppose that the results of evaluating “loss of large area” for nuclear power stations under decommissioning are contained in ITS. Specifically what kinds of matter are indicated for reactors that are being decommissioned?</p>		
Answer	<p>For Jose Cabrera NPP, at present under decommissioning and with an Independent Spent Fuel Storage Facility (ISFSI) on its site, the Complementary Technical Specification issued on June 2012 required the analysis of additional measures to address situations that could lead to the</p>		





# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>loss of large areas of the facility and, as a consequence, that could affect the ISFSI. Specifically, the CSN required the implementation of improvement measures about the following:</p> <ul style="list-style-type: none"> <li>- Emergency control and management, considering aspects such as human and material resources and dosimetry of intervening personnel</li> <li>- Extinction of large fires, considering developments to address large fires in the vicinity of the ISFSI</li> <li>- Mitigation of spent fuel damages, including the analysis of strategies to maintain the spent fuel cooling and the radioactive material confinement; this requires the revision of emergency procedures, and also of other operation procedures needed to maintain electrical power supply to involved systems</li> <li>- Reduction of radioactive discharges</li> <li>- Cross-section aspects, such as procedure revision and elaboration, staff training, equipment availability or validation of foreseen actions</li> </ul>		
	Country United States of America	Article Article 6	Ref. in National Report Introduction, pg. 10
Question/ Comment	<p>Was the siting process for the centralized temporary fuel storage (CTS) facility a consent based siting approach? What role did the regional government, provincial council and local council take in planning and implementation for siting and transportation?</p>		
Answer	<p>Yes, the siting selection procedure involved the public, the stakeholders and the different Administrations to reach the higher consensus achievable. So, the Proceedings for allegations and public information and participation and the related documentation on this process was published in the Official State Bulletin and posted on the website. Furthermore, 44 institutions and entities were notified individually, among them the Autonomous Communities and Provincial Offices of the Government in whose territories are located the municipalities selected, the municipalities themselves, the Spanish Federation of Municipalities and Provinces and those organizations and associations having purposes relating directly to the subject of the procedure.</p> <p>In particular, when it comes to the local councils, these have played the main role in the process, since the municipalities presented themselves as candidates to host the CTS in a volunteering manner. ENRESA organized informative sessions in the willing municipalities both for the citizens and for the mayor and the councilors. In the case of Villar de Cañas, its candidature achieved the highest consensus, since the whole of the City Council endorsed the decision to apply for the CTS, established an informative ad-hoc web page for reporting their citizens, reached agreements with most of the adjacent municipalities and obtained a strong support from its neighbors, as it was reflected in the surveys and was made visible through the setting up of the platform “Yes we want the CTS in Villar de Cañas”.</p> <p>When it comes to the involvement of the Autonomous Regions and Provinces, all of them with municipalities’ candidates were individually notified and invited to submit comments and allegations.</p>		
	Country France	Article Article 10	Ref. in National Report Section G : p. 131
Question/ Comment	<p>It is stated in the 5th national report that "The proposal for the 7th GRWP submitted by ENRESA considers that the basic and preferred option is storage, followed by a disposal facility, which for the purpose of economic calculations and planning would begin operation in 2063".</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	Could Spain confirm that the postponement of availability of the deep geological disposal (from 2050 in the 4th NR to 2063 in the 5th NR) has been taken into account in the estimations in terms of necessary storage capacity in CTS?"		
Answer	The needs for capacity for the CTS facility are determined by the operating lifetime of the current NPPs, which is independent from the expected date in which a Geological repository may start operation. All the Spent Fuel from NPPs will be temporarily stored in CTS, whose capacity won't be even a deal taking into account its modular design.		
	Country Switzerland	Article Article 10	Ref. in National Report G, p. 131
Question/ Comment	It is stated that the proposal for the 7th General Radioactive Waste Plan (GRWP) submitted by ENRESA 2014 considers that the basic and preferred waste management option for spent fuel is temporary storage followed by a final geological disposal facility which would begin operation in 2063. As observed in the disposal programs of several countries, site selection and site confirmation (e.g. by an underground test facility) requires several decades in time. Is there a legislative and regulatory framework for final disposal of spent fuel and a road map for all steps of final disposal implementation?		
Answer	<p>As a consequence of the long time (even decades) mentioned in your question, Spain has been working since 1985 on the study of different options for definitive disposal at depth, in accordance with four basic courses of action:</p> <ol style="list-style-type: none"> <li>1) Site Selection Plan (SSP), carried out until 1996. This plan has provided sufficient information to be able to conclude that there are abundant granitic, clay and – to a lesser extent – saline formations in the Spanish subsoil capable of housing a definitive disposal facility. Furthermore, the existence of widely distributed and potentially valid locations has been identified.</li> <li>2) Development of conceptual designs for a definitive disposal facility in each of the aforementioned lithologies, seeking maximum convergence between them.</li> <li>3) Performance of safety assessment exercises on the conceptual designs, integrating the know-how acquired from the tasks and projects carried out on the basis of the successive ENRESA R&amp;D plans, which have demonstrated that geological disposal allows for compliance with the safety and quality criteria applicable to this type of facilities.</li> <li>4) The ENRESA R&amp;D plans have evolved and have adapted to the Spanish SF/HLW management programme. These plans have made it possible to acquire technical knowledge and set up national working teams for development of the definitive disposal option.</li> </ol> <p>This work will continue on the consolidation and updating of the knowledge acquired, with advantage taken of international developments in this area.</p> <p>The general legislative and regulatory framework, also for disposal facilities, is stated in the Nuclear Energy Law and in the Nuclear and Radioactive Installations Regulation, that establishes site, construction and exploitation licences for nuclear facilities and that has recently been amended to</p>		





# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>include the "authorization for dismantling and closure", devoted for disposal facilities for spent nuclear fuel and radioactive waste, as can be seen at article 19.2 and Annex B of the National report.</p> <p>According to the requirements of the Directive EURATOM 2011/70 and the Royal Decree 102/2014, the incoming 7th General Radioactive Waste Plan should contain the significant milestones and timeframes for the achievement of those milestones.</p>		
	Country China	Article Article 11	Ref. in National Report H, p138
Question/ Comment	Please illuminate the Process Control Programme (PCP) for the treatment and conditioning of waste in NPPs.		
Answer	<p>In the operation of nuclear power plants, low and intermediate-level waste are conditioned by the producer and stored at the plant until its subsequent transportation and reception at the El Cabril disposal facility. The stages of the management of LILW that are conducted at NPPs are subject, among others, to the process of licensing prior to its operation. To ensure its functioning within the limits and conditions required, producer prepares and applies the Process Control Programme and Enresa must ensure that all package of radioactive waste disposed in El Cabril meets the criteria established for its acceptance in this installation.</p>		
	Country Germany	Article Article 11	Ref. in National Report p. 135 - 141 (Section H)
Question/ Comment	<p>Council Directive 2011/70/EURATOM</p> <p>Could you please provide some information on the progress made towards a plan for the implementation of radioactive waste disposal in Spain?</p>		
Answer	<p>The disposal of VLLW and LILW is currently a reality in Spain and is carried out in the El Cabril facility as depicted in the Spanish National Report. As for the disposal of HLW and SF in deep geological formations, work has been on-going since 1985 and is currently focus in R&amp;D tasks. Up to now, Spain has accumulated a robust knowledge in performance assessment, site selection and geological screening and the many areas involved in DGR's R&amp;D. Presently, there is a proposal to the Government of a new draft General Radioactive Waste Plan which defines a roadmap with a series of milestones starting by the update of knowledge on geological disposal, and that would conduct to the construction of such facility by the decade of 2050 and its operation by the first half of the decade 2060.</p>		
	Country Romania	Article Article 11	Ref. in National Report H, pag 137
Question/ Comment	Please briefly describe the methodology developed and applied by UNESA and CSN for the clearance of the four waste streams mentioned: scrap metal, resins, activated carbon and wood.		
Answer	<p>Nuclide specific clearance levels for the conditional clearance of scrap metals to be recycled by melting, and for the recycle or disposal of building rubble are considered in Spain following EC specific recommendations RP-89] and RP-113.</p> <p>Nuclide specific clearance levels were also derived for certain slightly contaminated waste streams produced during the operation of nuclear plants:</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>used oils, hazardous wastes (used active charcoal and spent resins) and wood. The derivation of conditional clearance levels for these specific waste streams was conducted by the CSN with the participation of the Spanish Association of Electricity (UNESA) through a process called Common Project (CP) for all nuclear power plants (NPP). For each of the selected waste streams a CP applicable to all the Spanish NPP was elaborated by UNESA and submitted to the CSN for its appreciation. The content of the documentation included in a CP refers to the following aspects:</p> <ul style="list-style-type: none"> <li>- Origin, annual production in nuclear plants, physic, chemical and radiological characteristics of the waste stream.</li> <li>- Classification of the waste from the conventional point of view and description of the management routes on the basis of the regulatory standards in force.</li> <li>- Detailed radiological impact analysis, taking into account the annual production of wastes and the possible scenarios of exposure to radiation associated with existing conventional management routes and the proposal of clearance levels.</li> <li>- Methodology and criteria for radiological characterisation of the wastes and for the verification of compliance with the clearance levels.</li> </ul> <p>As result of the mentioned CP and the subsequent favourable appreciation of the CSN the technical and administrative basis for the conditional clearance of each waste stream were established in terms of clearance values, characterisation procedures, possible restrictions on the destination of the residual materials and the documentation that would be necessary in support of the licensee application for a clearance authorisation. Once a CP has been approved by the CSN, each licensee interested in the clearance of a waste stream would apply for a clearance authorisation to the MITYC, demonstrating compliance with the technical conditions established by the CSN in the CP approval statement. Before granting the clearance authorisation a favourable CSN report is compulsory. In specific cases related to specific wastes of a particular facility or with specific management route proposals, a licensee can also apply for a specific conditional clearance authorisation.</p>		
	Country Romania	Article Article 11.2	Ref. in National Report K, pag 137
Question/ Comment	Which are the main radionuclide identified in the spent resin and active charcoal cleared? Which are the source systems for these waste categories?		
Answer	The main radionuclide identified in the spent resins are Co-60, Cs-137, H-3, C-14, Ni-59, Ni-63. These spent resins come from the demineralizers placed on the Purification Systems of the Steam Generators Draining. In the case of the charcoal, the main source of this material are the filters of the off-gas treatment systems and its main isotopes are Xe-131m; Xe-133m; Xe-133; Xe-135m; Xe-135; Kr 85m; Kr 85; Kr 88; and I-131; I-132.		
	Country Romania	Article Article 11.2	Ref. in National Report K, pag 137
Question/ Comment	Was the cleared spent resin dried or in the slurry form?		
Answer	The resins are in a dried form		
	Country Romania	Article Article 11.2	Ref. in National Report K, pag 137



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Question/ Comment	Is the incineration one of the methods applied for the volume reduction for waste generated by power plants? How is resulted ash temporarily and final stored? Does El Cabril Facility have any restriction specific for this category of waste?		
Answer	The only one incinerator licensed for RW burning is operated by ENRESA at El Cabril Disposal Centre. Rather than for "volume reduction", incineration is being considered as a "treatment" technique for those organic wastes, mainly arisen by the operation of MIR installations, that according to El Cabril WAC cannot be disposed of directly and require of this type of treatment. Ashes resulting from such process are pre-conditioned in dedicated packages that will be incorporated into regular LILW Disposal Units in accordance to current WAC		
	Country Romania	Article Article 11.2	Ref. in National Report K, pag 137
Question/ Comment	Is the melting of metallic parts one option for the waste coming from operating or decommissioned facilities? Which is the destination of the melted metallic waste: reuse within nuclear industry or trade on the market? Are the metallic ingots accepted within El Cabril facility?		
Answer	Melting of metallic parts in not a common practice for RW management in Spain. ENRESA has explored and used this treatment technology several times only for dedicated cases i.e. pool racks, steam generator. In all cases, resulting materials become LILW that was disposed of at El Cabril ILW.		
	Country Romania	Article Article 11.5	Ref. in National Report K, pag 139
Question/ Comment	Which are the main toxic contaminants mixed with radioactive waste identified in the waste generated during decommissioning activities?		
Answer	The main toxic contaminant found during the decommissioning activities are asbestos		
	Country Romania	Article Article 11.5	Ref. in National Report K, pag 139
Question/ Comment	Are there any technologies in place for the removal of the biological and chemical contaminants from the waste?		
Answer	ENRESA has not applied any treatment or technology for removing toxic contaminants from the LILW or VLLW. The only technologies applied are the incineration and the stabilization (mixing with grout).		
	Country Romania	Article Article 11.5	Ref. in National Report K, pag 139
Question/ Comment	Which are the main biological and chemical contaminants ( hazards) mixed with radioactive waste generated by the power plants and how is their production limited within power plants? Which are the restrictions for acceptance of this kind of waste at El Cabril?		
Answer	The VLLW disposal facility at El Cabril can dispose of packages classified as hazardous waste. The only limitation established in the WAC is that the waste should be stabilized in order to comply with some leaching limits. However, most of the wastes to be stabilized come from the scrap melting incidents.		
	Country	Article	Ref. in National Report



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	Japan	Article 13	H p147
Question/ Comment	Is homogeneous distribution of radioactivity taken into account in the case of the safety of El Cabril repository? If yes, how do you ensure the homogeneity of radioactivity?		
Answer	Homogeneous distribution of radioactivity is a main requirement for the El Cabril SA. Homogeneity is achieved by proper distribution of radioactivity applying corresponding cumulative factors to the set of growing units considered: from the primary package, disposal unit, vault, platform to the entire disposal facility		
	Country Korea, Republic of	Article Article 13	Ref. in National Report H13, 144
Question/ Comment	How do the Waste Acceptance Criteria of VLLW disposal vault differ from those of LILW vault at El Cabril?		
Answer	The Spent Fuel is considered in Spain as "High Level Waste", not as "Special Waste". However, the management of these "Special Waste" is linked to the management of HLW and so they will be temporary stored in the Centralized Temporary Storage (CTS) facility when available.		
	Country China	Article Article 16	Ref. in National Report H, Para.3, p154
Question/ Comment	The information of the plans for the closure of El Cabril solid radioactive waste disposal facility is not mentioned in Article 16. Have the plans for the closure of El Cabril solid radioactive waste disposal facility been prepared and updated? If so, please give some information about the content of the plans.		
Answer	El Cabril solid radioactive waste disposal facility counts with a Closure Plan as response to the mandate referred in 14.3, Para 1, page 151. Furthermore, this Closure Plan was revised every time ENRESA applied for renewal of the Operating Permit (1996, 2001) and also when submitting the Periodic Safety Reviews (2003, 2012). A brief description of the content of such Plan is offered in 14.3, Para 2-5, page. 151		
	Country Germany	Article Article 16	Ref. in National Report p. 154 - 160 (Section H)
Question/ Comment	Management of ageing effects  Could you please add some information on the Spanish approach towards management of ageing effects during storage, in case such effects are observed on waste packages containing low or intermediate level radioactive waste?		
Answer	All LILW, after treatment and conditioning, are disposed of in the disposal center of El Cabril. Consequently, ageing of waste packages is controlled by the strict observance and compliance of the established Waste Acceptance Criteria (WAC) of the facility. On this respect, no deterioration has been observed in those packages conditioned following the stated WAC and stored in the appropriate conditions. A different aspect is the ageing of the vaults where LILW packages are disposed of which are subject to several R&D projects to control and monitor the long-term behavior of the reinforced concrete structures.		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	Country Korea, Republic of	Article Article 16	Ref. in National Report H, 159
Question/ Comment	<p>It is stated that ENRESA is authorised to carry out the necessary tests and checks for LILW characterisation and acceptance at the El Cabril disposal facility.</p> <p>- Is there any additional inspection or check to the ENRESA's actions as above by the regulatory body?</p> <p>- And if so, please explain the detailed contents and the relevant regulation.</p>		
Answer	<p>CSN conducts regular audits over the acceptance activities carried out by ENRESA. These cover both methodology and processes. Audits are mainly aimed to verify that ongoing regulations and procedures are properly followed. CSN has also capacity to conduct whatever complementary checks they might consider appropriate.</p>		
	Country Norway	Article Article 16	Ref. in National Report 16.2.1, page 157
Question/ Comment	<p>It is stated that the PSR for the operational period 1992 – 2001 was undertaken in December 2003 and for the subsequent period in November 2012. Does this refer to the beginning of the review work or the finalization of the review report?</p>		
Answer	<p>Corresponding Review Reports were submitted in December 2003 and November 2012</p>		
	Country Switzerland	Article Article 16	Ref. in National Report 16.1.2, p. 155
Question/ Comment	<p>It is mentioned that ENRESA has implemented a system of inspections, production controls and verification tests that guarantee that the waste packages received at the El Cabril disposal facility fulfil the acceptance criteria. Does also the CSN carry out independent verification and inspections to check the compliance of the waste packages with the acceptance criteria?</p>		
Answer	<p>CSN conducts regular audits over the acceptance activities carried out by ENRESA. These cover whole methodology and processes. Audits are mainly aimed to verify that ongoing regulations and procedures are properly followed. CSN has also capacity to conduct whatever complementary checks they might consider appropriate.</p>		
	Country Bulgaria	Article Article 19	Ref. in National Report E
Question/ Comment	<p>Within what time period the information for EIA is provided to stakeholders and what are the channels of communication with them?</p>		
Answer	<p>According to the Law 21/2013 of 9 December on environmental assessment, the enquiries to stakeholders may be driven either by conventional or electronic means, always than it can be certified that the enquiry was carried out. The time periods stated in the Law may not be less than 45 working days in the case of plans and programmes and no less than 30 working days in the case of projects.</p>		
	Country Japan	Article Article 19.1	Ref. in National Report p54



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Question/ Comment	Two national taxes on the generation and storage of SF/RW have been introduced under the Law 16/2013. Can you provide their respective purposes?		
Answer	<p>The use of nuclear energy in the production of electricity compels the society to assume some burdens difficult to be economically estimated, such as those related to the management of the radioactive waste produced or the use of materials that may be used for proliferation purposes.</p> <p>Even when the successive General Radioactive Waste Plans foresee the needs for funding both the management of the radioactive waste and the decommissioning of the nuclear facilities to be paid by the licensees, there is still a high risk of uncertainty in the estimations difficult to eliminate, that, if was not too accurate, may be moved to the society, particularly when it comes to the disposal after the cease of operation of the facilities (technological development may change in the future the way in which radioactive waste will be managed in the future, institutional control of radioactive waste and spent fuel will be faced in the very long term...). Additionally it must be raised the needs for funding to keep operative the emergency plans in the regions housing nuclear power plants or some costs associated to the commitments assumed by the State regarding the Non-proliferation regime and the Physical Protection Convention.</p>		
	Country Germany	Article Article 19.2.1	Ref. in National Report p. 60 (Section E)
Question/ Comment	<p>Clearance levels</p> <p>With respect to clearance levels, the report mentions only the clearance levels for unconditional clearance as recommended in RP-122/I of the European Commission. However, in the past, clearance levels from RP 89 and RP 133 for metal scrap as well as buildings and building rubble have also been applied. Are those recommendations (RP 89 and RP 113) of the European Commission no longer applied in Spain?</p>		
Answer	<p>Both unconditional and conditional clearance processes are used in Spain. Unconditional clearance does not require a specification in regard to future use, recycling or disposal of the residual materials. General clearance levels applicable to unconditional clearance (RP-122/I of the European Commission) imply that any possible disposal route after clearance is permitted without radiological restrictions.</p> <p>Conditional clearance includes restrictions associated mainly with the nature of the waste and the final destination after clearance. Values of clearance levels for the conditional clearance of scrap metals to be recycled by melting, and for the recycle or disposal of building rubble are applied in Spain following EC specific recommendations RP-89 and RP-113.</p>		
	Country Japan	Article Article 20	Ref. in National Report p64
Question/ Comment	<p>The report says that CSN is a public law entity and independent from the administration (State General Administration). Even though the independence from the administration is necessary, it is not easy to accomplish. It seems that the “public law entity” mechanism will make it possible to achieve such autonomy. Please elaborate the institutional mechanism for achieving the autonomy.</p>		
Answer	<p>According to the first article of the Law creating the CSN (Law 15/1980), and to the Royal Decree 1440/2010, approving the organizational structure of the CSN, this is the sole competent body of the State in matters of nuclear safety and radiological protection. It doesn't depend on any Minister, only on Parliament. The CSN issues mandatory reports to the Ministry of Industry, Energy and Tourism (or to the Autonomous Communities, in any cases), regarding nuclear safety, radiological protection and physical protection, prior to the resolutions which the Ministry adopts for the granting of</p>		





# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>authorizations. Such reports are binding whether they are of a negative nature or deny an authorization for concession, as well as in terms of the conditions they establish if they are positive. The Ministry has no legal capacity to do other than act consistently with the report of the CSN.</p> <p>The Law 15/1980 gives CSN responsibility for regulatory review and assessment, inspection, and the establishment of safety principles, criteria, regulations and guides about nuclear and radioactive facilities.</p> <p>In addition, the bulk of the financial resources available to the CSN flow from fees established under the Law on Fees and Public Prices for Services Rendered by the Nuclear Safety Council (Law 14/1999). The level of fees is adjusted annually through the government Budget process in accordance with a cost index and re-affirms its independence.</p>			
	<table border="1"> <tr> <td>Country Romania</td> <td>Article Article 20</td> <td>Ref. in National Report pag 65-66</td> </tr> </table>	Country Romania	Article Article 20	Ref. in National Report pag 65-66
Country Romania	Article Article 20	Ref. in National Report pag 65-66		
Question/ Comment	The report mentions that as regards MINETUR, certain competences such as authorization of some facilities are transferred to Autonomous Communities and some as its assigned functions may concede to Autonomous Communities in accordance with the general criteria agreed by the CSN for these purposes. Since other countries intentions are to reunite such competences to a sole organization, often to a regulatory body, while Spain has approached segregation or distribution of these; please provide relevant needs and/or benefits that determined Spain to promote such legal provisions/procedures?			
Answer	The Spanish Constitution establishes the principle of decentralization of administrative functions and so, according to that, granting licensees for those radioactive facilities (2nd and 3rd class) lower in importance but higher in number has been transferred to the Governments of the Autonomous Regions, while the Government of the State keeps granting nuclear and first class facilities. However, technical competences regarding nuclear safety and radiation protection have not and cannot be transferred to any Government or Region since the Law 15/1980 set up the Nuclear Safety Council as the sole authority in Spain competent for nuclear safety and radiation protection and so, all the Governments (regional or State) must request its mandatory (and binding if negative or conditional) report before granting any license for nuclear or radioactive facility.			
	<table border="1"> <tr> <td>Country Japan</td> <td>Article Article 20.1</td> <td>Ref. in National Report p67</td> </tr> </table>	Country Japan	Article Article 20.1	Ref. in National Report p67
Country Japan	Article Article 20.1	Ref. in National Report p67		
Question/ Comment	The report says that MINETUR does not promote nuclear energy, but grant licensing (authorizations) and propose regulations. Please elaborate the allocation of roles between MINETUR and CSN. Does the scope of reviews by MINETUR overlap with the scope of reviews by CSN? Or, are the roles divided between the two? What is the difference between “regulatory proposal” and “regulatory development refer to nuclear safety”?			
Answer	The distribution of competences regarding nuclear are clearly established by Law (Law on Nuclear Energy and Law on creation of Nuclear Safety Council) and by Royal Decree (Regulation on Nuclear and Radioactive Facilities). Regarding the licensing procedure, the Ministry of Industry, Energy and Tourism drives the procedure (requests mandatory reports, addresses notifications, public hearing when prescribed, coordination with autonomous governments and with environmental procedures...) and grants (or not) the authorizations after the mandatory and binding (when negative or conditional) report on nuclear safety & radiation protection from the Nuclear Safety Council. This means that MINETUR cannot grant a license after a negative report from the Nuclear Safety Council. This also means that,			



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>after a positive report from CSN, MINETUR may deny a license claiming for reasons different from nuclear safety. MINETUR must include in its Resolutions the conditions on nuclear safety and radiation protection raised by the CSN's report.</p> <p>Regarding the supervision and control of the nuclear safety and radiation protection in the nuclear and radioactive facilities, the Law on creation of CSN assigns this to the CSN, as the sole authority competent for those matters in Spain, not having the MINETUR any role to play in that.</p> <p>Regarding the procedure for making regulations, the CSN draws up the proposals on regulations about nuclear safety or radiation protections, driven by the MINETUR to the Cabinet of Ministers for endorsement as a Royal Decree. The Law on creation on the Nuclear Safety Council assigns the NSC the function for proposing the Government the the regulations needed on nuclear safety and radiation protection, and also its review when needed. Proposals for regulating other nuclear topics different from nuclear safety or radiation protection may come from other bodies or ministries and not only the CSN.</p> <p>Additionally, The Nuclear Safety Council is empowered to issue its own standards through the approval of CSN Instructions, which are technical standards relating to nuclear safety, radiological protection, emergencies and physical protection. These are incorporated in the internal legal system and are binding upon those within its scope of application once notified or published in the Official State Gazette.</p>		
	Country Japan	Article Article 20.2	Ref. in National Report p75
Question/ Comment	Concerning CSN's judicial and parliamentary control, what kind of control is conducted?		
Answer	<p>As regards parliamentary control, the CSN must inform the Congress and the Senate on relevant matters about nuclear safety and radiological protection for nuclear and radioactive facilities. Also responds to parliamentary initiatives (oral and written questions, bills, etc) and complies with the resolutions issued in response to the annual reports that CSN must submit to parliamentary control.</p> <p>Concerning judicial control, the resolutions adopted by the CSN's Plenary Assembly or the President in the exercise of its assigned public functions bring administrative proceedings to an end. These resolutions become definitive and may be appealed before the Courts of Justice.</p>		
	Country Japan	Article Article 20.2	Ref. in National Report p77
Question/ Comment	The report says that the number of visitors to the interactive information center has reached 100,000. Please explain the specific purpose for which the information center was established, and what kind of achievement was made. Please elaborate whether or not this facility is permanent and how it is operated.		
Answer	<p>The Spanish Nuclear Safety Council (CSN) interactive information center was created in 1998, in order to fulfill the function conferred by Law to the CSN of informing public opinion on matters of its competence. As well as the role and activities of the CSN, a more broad scope has been implemented for the information center, to include modules about the ionizing radiation history and physics, its applications and risks, and how these risks are handled and controlled under the institutional and regulatory framework.</p> <p>The creation of the information center was a joint effort carried out by CSN technical staff with the external support of expert and companies specialized on scientific exhibitions and media. Modules have been designed in a simple, practical and interactive way.</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>The information center explains, in a simple but rigorous way, what ionising radiation is, what its applications are, and what the risks associated and how these risks are controlled. Its general informative approach provides an adequate tool for communicating with a wide audience from the public, contributing to public interest and knowledge on nuclear safety. Two main messages are delivered: (1) Ionising Radiation is a natural phenomenon and (2) risks associated to its applications need to be controlled. Information is continuously updated and staff/guides in charge for the visits are conveniently and continuously trained for their tasks.</p> <p>From the feedback received from visitants to the information center (survey conducted at the end of visit; some schools have repeated their visits), the information center objectives are achieved, especially regarding the CSN functions and activities. Around 10,000 visitors per year are received. From 1998 to June 2014, the information center has received more than 103,000 visitors (students, particular individuals, institutions, etc.). In the near future, a virtual visit to the information center will be available through the CSN website.</p> <p><b>OPERATION OF THE CSN INTERACTIVE INFORMATION CENTER</b></p> <p>The information center organizes two guided visits per day / Two hours per visit from Monday to Friday. Guided tours consist on a visit to the different modules, a video show in a theater and some free time to explore and interact with the different modules. Guided visits must be requested in advance. Groups are usually composed by 30-35 individuals.</p> <p>The center is also open to non-guided tours / one hour per visit.</p> <p>The information center is staffed by specifically dedicated and trained staff.</p>		
	Country Russian Federation	Article Article 22	Ref. in National Report Section F, pp. 84-85, Annex F
Question/ Comment	<p>The Report says that the national framework defines ENRESA as the corporation responsible for the management of radioactive waste and spent nuclear fuel, and the dismantling and decommissioning of nuclear facilities.</p> <p>What are the specific features of ENRESA's legal status as the corporation responsible for radioactive waste and spent nuclear fuel management and dismantling/ decommissioning of nuclear facilities? Could you please elaborate whether taxes are imposed on RW disposal and decommissioning activities the way they are imposed on any other commercial nuclear activities? Due to ENRESA's legal status and its mission, is it subjected to some tax reliefs or is it provided by any preferential economic advantages?</p>		
Answer	<p>The legal status of ENRESA is that of a public company under the tutorship of the Ministry of Industry, Tourism and Trade (MINETUR). This is established by the law, in particular by the article 38 bis of the Nuclear Energy Act: "1. The management of RW, including SF, and the decommissioning of nuclear installations, constitutes an essential public service for which the State is responsible (...). ENRESA is commissioned to render this public service, in accordance with the General Radioactive Waste Plan, approved by the Government. In this regard, ENRESA is set up as a resource and a technical service of the Administration, and it will perform the functions entrusted to it by the Government. 2. (...) The tutorship of ENRESA corresponds to the Ministry of Industry (...) who shall carry out the strategic direction and monitoring and control of their actions and plans, both technical and economic." Accordingly, ENRESA is subjected to both Public Law and Commercial Law.</p> <p>ENRESA is the only agency (or public company) implementing radioactive waste management in Spain.</p> <p>ENRESA has legal personality; it is a public company operating in the market. Being a company, despite its non-profitable character, it is subject to obligations such as the payment of taxes (e.g. taxes on economic activities, municipal taxes or environmental taxes). A particular tax affecting</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>ENRESA's activities is that charged on the centralized storage or disposal of radioactive waste and spent fuel that levies every additional unit (m3/kg) of these materials introduced in the centralized storage or disposal center. Also in the fiscal area, ENRESA is relieved on paying the tax on the financial yielding of the assets in the Nuclear Waste Fund which is financially managed by the Company. All expenses of ENRESA are covered by the Fund as far as they are contemplated in the General Radioactive Waste Plan.</p>		
	Country Russian Federation	Article Article 22	Ref. in National Report Section F, pp. 84-85, Annex F
Question/ Comment	<p>Could you please elaborate on the way waste producers calculate the RW disposal costs and the procedure for establishing annual fees paid by each waste producer into the Nuclear Waste Management Fund?</p>		
Answer	<p>The figures for cost estimates included in the General Radioactive Waste Plan (GRWP) are not calculated by the waste producers. The cost estimates for the activities of SF and RW management and decommissioning are a part of the General Radioactive Waste Plan (GRWP). The GRWP is the document where the Government establishes the policy and strategy on SF and RW management and the decommissioning of nuclear installations. The body responsible for submission to the Government of the draft GRWP is the Ministry of Industry, Tourism and Trade (MINETUR), upon a report by the nuclear regulator (CSN) and the hearing of the Autonomous Communities. When the Government adopts the GRWP, it must present its contents to the Parliament.</p> <p>It is the responsibility of ENRESA to elaborate every four years, or when required by the Ministry, an update of the GRWP and submit it to the Ministry of Industry. In this exercise, inter alia, ENRESA updates the cost estimates for all the activities covered by the GRWP. These updates are necessary to adapt the contents of the GRWP to the last technical, societal and political developments (for example, decisions on the lifetime of NPPs can have a direct impact on the cost estimates).</p> <p>In the 6th Edition of the GRWP, currently in force, cost estimates are indicated up to the horizon of 2070.</p> <p>Regarding the way how ENRESA calculates these cost estimates: separate calculations are done for different courses of action: Management of LILW, Centralized Interim Storage, Geological Repository, Dismantling of nuclear installations, Research and Development activities, Structural Costs (salaries, taxes, etc.) and "others". When calculating the costs expected for the activities in each of these lines, ENRESA takes as a basis the experience in recent similar activities in decommissioning and waste management. The cost estimates for geological disposal are based on a generic conceptual design in granite done in Spain.</p> <p>Once those cost estimates are done, it is necessary to subtract from them the funds already collected to-date. The resulting amount is that that still needs to be collected until the end of management, by the year 2070 as foreseen in the 6th GRWP (this year can vary in future revisions of the GRWP). The resulting amount is split for each year of the planning period, applying a discount rate of 1.5% (net present value). Such annual amounts must be paid by the waste producers by means of taxes and fees according to the rules established in the Law of the Electricity Sector (Law of 1997, Sixth Additional Provision). The different fees are those explained in annex F of the Spanish national report. For the owners of the NPPs, the fee is calculated in the form of a certain amount of money per produced kilowatt-hour.</p>		
	Country Japan	Article Article 22.1	Ref. in National Report p83
Question/	<p>The report says that drug testing of operators' staff and subcontractors is statutory. Does this mean that they are checked every time before they</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Comment	engage in their works?		
Answer	No; the tests are done on a random-basis according to the protocols adopted by the nuclear facilities.		
	Country Japan	Article Article 22.2	Ref. in National Report p85
Question/ Comment	The report says that the funding for ENRESA's activities is specified under the Law 54/1997. Is the calculation of the required amount also specified under the Law? Please explain the calculating of the funding if possible.		
Answer	<p>The criteria for calculating the cost estimates are not defined in detail by the Act 54/1997 What the legal framework establishes is: (1) that the cost estimates are a necessary part of the General Radioactive Waste Plan (GRWP) (art. 6 of the Royal Decree 102/2014), and (2) that ENRESA must update this GRWP, which includes such estimates, every four years (art. 9.4 of the same Royal Decree). ENRESA calculates these estimates and passes them to the Ministry of Industry, Tourism and Trade (MINETUR). MINETUR being the body responsible for submitting the draft GRWP to the Government, will accept or reject the proposals of ENRESA. MINETUR is also responsible for setting the scenario and the financial assumptions before ENRESA's makes the calculations.</p> <p>As to the way how the cost estimates are calculated, please find the explanations given to the precedent question from the Russian Federation (question number 42).</p>		
	Country Switzerland	Article Article 22.2	Ref. in National Report Annex F, p. 211
Question/ Comment	Is the Fund also supposed to finance the construction of a central interim storage facility and a final repository? If yes, how do you ensure that the Fund entails sufficient funds for the financing of these facilities?		
Answer	<p>Yes: the construction, operation and dismantling/closure of the Centralized Interim Storage facility, as well as of the final repository for HLW and SF, is included in the cost estimates and therefore in the Fund. The mechanism provided by the law, by which ENRESA must regularly update the contents of the General Radioactive Waste Plan (and inside this document, in particular the chapter on cost estimates), allows ENRESA to adapt its calculations regularly to the last technical, societal, political and economic developments. This allows the system to react to increases or decreases in the costs. Furthermore, the law governing the funding system for SF and RW management and decommissioning (Law of the Electricity Sector of 1997, Sixth Additional Provision) establishes that "The tax rates and tax elements for determining the quota for these rates may be revised by the Government by Royal Decree, based on an updated cost of the activities referred to in the economic and financial memory of the General Radioactive Waste Plan".</p> <p>The Law provides also for potential shortfalls due to the anticipated shut-down of nuclear power plants making a distinction on whether the shut-down is decided by the license-holder or it is due to reasons not relating to the will of the licensee.</p>		
	Country China	Article Article 24	Ref. in National Report F.24.1.2, p92
Question/ Comment	Please provide the date of individual dose distribution according to 0~5mSv/a, 5~10mSv/a, 10~15mSv/a, 15~20mSv/a and 20~50mSv/a.		





# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Answer	Excell sheet has been prepared with this data: "Respuesta pregunta 46"		
	Country Norway	Article Article 24	Ref. in National Report 24.2.4, page 96
Question/ Comment	How often the regulatory authority goes to the regulatory site visits at different facilities in order to control the activities related to both controlled and uncontrolled releases to the atmosphere?		
Answer	The Inspection Plan for the surveillance of controlled released to the atmosphere foresees a visit every two years. An uncontrolled release is treated like a special incident or accident and so, it will demand as many inspections as the situation requires.		
	Country France	Article Article 25	Ref. in National Report Section F: pp. 96-99
Question/ Comment	Regarding the lessons learned from the Fukushima nuclear accident, and the issue of managing large amount of waste (solid and liquid) for this kind of situation, could Spain present the provisions made in anticipation of a potential nuclear accident in terms of: <ul style="list-style-type: none"> <li>• Objectives and strategy for recovery and waste management (waste characterization and segregation ; volume reduction)?</li> <li>• Dedicated waste management facilities during the post-accidental phase?</li> </ul>		
Answer	In the year 2012 Licensees were required (ITC-4) to develop a guide for controlled water injection and contaminated water management. Such a guide should address water management, use of particle retaining substances, rainwater network isolation, etc. Post-accidental phase of an emergency is still under development in Spain.		
	Country Japan	Article Article 25	Ref. in National Report p99
Question/ Comment	Please explain the lessons learned from the international training (CURIEX) conducted in November 2013.		
Answer	<p>A list of lessons learned can be provided:</p> <ol style="list-style-type: none"> <li>1) Need of a more often revision of the state of the infrastructures devoted to the off-site emergency plan.</li> <li>2) Need of a better coordination among different action groups when activating off-site planned resources.</li> <li>3) Need of more flexible scenarios for drills and exercises, so that responses to scenarios can be better adapted to a potential real situation.</li> <li>4) Need of a predefined approach to integrate international help within off-site EP&amp;R plans.</li> <li>5) The off-site plans should consider creating a local sited incident command post.</li> <li>6) Need of better logistic support impedimenta for access control activation and implementation.</li> <li>7) The new SIRDEE communication network for local off-site response was successfully tried.</li> <li>8) Need of a lung and thyroid internal dosimeter unit for local use, in addition to the already existing whole body internal dosimeter .</li> <li>9) Need of a mobile lab for environmental samples analisis.</li> </ol>		
	Country Romania	Article Article 25	Ref. in National Report pag 98-99





# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Question/ Comment	<p>Please mention if any improvements related to responsibilities and activities on management of radioactive wastes resulted from emergency situations were found out necessary post Fukushima?</p> <p>What activities ensure the ENRESA's active role in off-site response, namely "in the debates on the effectiveness of de contamination techniques in urban and rural area"?</p>		
Answer	<p>In the year 2012 Licensees were required (ITC-4) to develop a guide for controlled water injection and contaminated water management. Such a guide should address water management, use of particle retaining substances, rainwater network isolation, etc. Regarding ENRESA's role, the recovery phase after an emergency is still under development in Spain. ENRESA, whose role is totally defined for the urgent phase regarding radiological waste management, takes part in the process for development of the recovery phase, provided that Enresa is a member with an active role in such a phase.</p>		
	Country Switzerland	Article Article 25	Ref. in National Report p.99
Question/ Comment	<p>Do the ERO drills and exercises consider/postulate the unavailability of the usual means of communication? If yes, have sufficiently hardened alternatives been put into place?</p>		
Answer	<p>Yes, drills and exercise consider unavailability of usual means of communications, both in on-site and off-site response strategies. Nevertheless this scenario is very unlikely to happen, provided that licensees have been required since long to implement new, redundant and independent communication networks for internal and external communications. With regard to off-site response, CSN has recently established an agreement to make use of the National Emergency Communications Network (SIRDEE) in real emergencies and drills.</p>		
	Country United States of America	Article Article 26	Ref. in National Report 26.4, pg. 101
Question/ Comment	<p>Please elaborate on the requirements or guidance for licensees on the specific types of records that should be kept in support of the decommissioning process.</p>		
Answer	<p>Nuclear Safety Council's Instruction IS 24, of 19th May 2010, regulating the filing and periods of retention of the documents and records of nuclear facilities.</p> <p>The documents and records needed for the dismantling of the facility as well as those generated during the dismantling documenting how said dismantling has been conducted and the final state of the facility will be kept until the declaration of decommissioning is obtained. Together with the declaration of decommissioning, the documents and record on the final state of the site will be placed at the CSN's disposal, this transfer of documentation being regulated in the same terms as those set in the Nuclear Safety Council's Instruction IS-04, of 5th February 2003, regulating the transfers, filing and safekeeping of documents related to radiological protection in nuclear power plants upon their dismantling and decommissioning.</p> <p>Nuclear Safety Guide 4.2 " Site Restoration Plan"</p> <p>The application of NUREG-1575, "Multi-agency Radiation Survey and Site Investigation Manual (MARSSIM) ", is recommended as a method for performing and demonstrate the final radiological status of contaminated sites.</p>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	The application of MARSSIM implies that the radiological characterizations that support the site release is carried out according to the Process Objective. Data Quality ANSI / HPS N13.59-2008 standard. This standard gives a characterization approach to minimizing cost through an iterative process and can properly handle the uncertainties inherent radiological characterizations.		
	Country China	Article Article 28	Ref. in National Report J, Para1, p174
Question/ Comment	It is mentioned that a financial guarantee must be established to ensure safe management before completing the procedure for prior authorization for the startup of a radioactive facility whose authorization includes a source. Please give more information about the financial guarantee, for example the procedure and standard of the collection and utilization of the money, and how it will be supervised?		
Answer	This guarantee may consist, according to the Royal Decree 229/2006, in an insurance policy, a blocked bank account or any other financial guarantee agreed with a duly authorised financial entity. According to the IS-28 of the CSN, Publicly-owned facilities (by the State, an Autonomous Community or a local authority) are exempt from setting up this financial guarantee. The Nuclear Safety Council supervises this guaranty in their periodic inspections. The licensee will also submit a copy of the agreement to return the disused source back to the manufacturer.		
	Country United States of America	Article Article 28	Ref. in National Report J
Question/ Comment	The U.S. commends Spain on a very comprehensive report and program for the management of disused sources.		
Answer	The comment is welcome.		
	Country China	Article Article 32	Ref. in National Report B, p15-p17
Question/ Comment	(1) Please illuminate the final disposal plan of the Special Waste (SW) in B.2. (2) Radioactive waste is classified as five categories in accordance with the disposal requirements in GSG-1 issued by IAEA in 2009. Was the GSG-1 referenced in Spain?		
Answer	(1) As mentioned in Page 17, Section B.2, and second bullet point the management of SW is connected to that of High Level Waste. Also in page 23, point B.4.2 the Spanish Report states that “the proposal for the 7th General Radioactive Waste Plan submitted by ENRESA to MINETUR considers that the preferred option is temporary storage, followed by a definitive disposal facility” (deep geological repository). (2)As mentioned in the Report, radioactive waste is categorized in Spain according to the characteristics of the disposal facility where it will be directed to. The criteria in the IAEA’s GSG-1 are taken into account but not directly referenced.		
	Country China	Article Article 32	Ref. in National Report B.2, Para. 1, p17
Question/ Comment	It is mentioned in P17 that waste is categorized in Spain along the lines of the categorization of management facilities, which are authorized for a determined volume, radiological inventory and certain limits of concentrations of activity according to the nature of the different radionuclides		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>present. Please give more information about the principle, methods and practical classifications of the categorization of management facilities.</p>						
Answer	<p>The used method follows an iterative approach. Having estimated a radioactive waste inventory (SF is considered a waste in Spain), the resulting overall amount is split as much as possible into different groups with similar characteristics, each of them suitable to be disposed of in the same type of facility. This installation is then defined taking into account the expected waste volumes, radiological inventory and limits for activity concentration. Any waste eligible for being disposed of in the designed facility is then categorized accordingly. For instance, El Cabril's vault installation is the disposal facility for LILW, while El Cabril's trench installation is the disposal facility for VLLW.</p>						
	<table border="1"> <tr> <td>Country</td> <td>Article</td> <td>Ref. in National Report</td> </tr> <tr> <td>China</td> <td>Article 32</td> <td>B.4, Para. 1&amp;2, p21</td> </tr> </table>	Country	Article	Ref. in National Report	China	Article 32	B.4, Para. 1&2, p21
Country	Article	Ref. in National Report					
China	Article 32	B.4, Para. 1&2, p21					
Question/ Comment	<p>Several concepts of storage facility are mentioned in Page20 and 21. They are Independent Spent Fuel Storage Installations (ISFSI) facilities in place as an alternative or supplement to storage in the plant pools, an on-site ITS facility that spent fuel assemblies from plant are stored here in casks and additional capacity for the temporary storage of spent fuel focuses on the construction of a Centralized Temporary Storage (CTS) facility to house spent fuel, HLW and SW using a dry storage system. Please give more information about the purpose and difference between ITS and ISFSI. Will spent fuel stored in ITS or ISFSI be transferred to CTS after the CTS facility has been constructed?</p>						
Answer	<p>The Spanish system uses three concepts for the interim storage of SF, HLW and SW:</p> <ul style="list-style-type: none"> <li>• Pools inside the Nuclear Power Plants to store the SF as soon as it removed from the reactors.</li> <li>• Dry storage systems (deploying either metal casks or metal canisters in concrete containers), by the NPPs but independent of them, to store SF or SW and called either ITS or ISFSI (Independent Temporary Storage or Independent Spent Fuel Storage Installation),</li> <li>• A dry storage system composed of a compound of vaults (for storage of SF and HLW) and metal canisters in concrete containers (for storage of SW) and located out of the NPPs site to form a Centralized Temporary Storage (CTS).</li> </ul> <p>The overall strategy is to store all SF, HLW and SW in the CTS when licensed and eventually constructed. As the necessity of having additional storage capacity has appeared before the CTS is operational, ITSs or ISFSIs should be considered as an intermediate step. All SF and SW in ITSs and ISFSIs shall be transferred to the CTS when this latter is available.</p>						
	<table border="1"> <tr> <td>Country</td> <td>Article</td> <td>Ref. in National Report</td> </tr> <tr> <td>China</td> <td>Article 32</td> <td>B.5, Para.3, p24</td> </tr> </table>	Country	Article	Ref. in National Report	China	Article 32	B.5, Para.3, p24
Country	Article	Ref. in National Report					
China	Article 32	B.5, Para.3, p24					
Question/ Comment	<p>It is mentioned in P24 that the El Cabril centre also has waste characterization and verification laboratories, where the required tests for the acceptance of different types of waste and the verification of their characteristics are carried out. Is it required in Spain that the performance of the waste form shall be verified by the other qualified organization before the operation of facilities, e.g. NPPs, or before the waste forms be sent to the disposal facility? It is mention in P159 that ENRESA is authorized to carry out the necessary tests and checks for LILW characterization and acceptance. The acceptance process controls are mainly process audits, production controls and destructive and non-destructive technical verification tests.</p>						



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>What is the performance indicators required being tested and checked for the accepted LILW? And how are the tests and checks carried out to the difference types of LILW by ENRESA?          Was it happened that the performances of the waste form did not meet the requirements of the acceptance criteria in practice? What have been done for this situation?</p>		
Answer	<p>Acceptance performance is carried out by ENRESA as a prerequisite for packages before its delivery to El Cabril LILW centre.          Performance indicators tested for LILW packages to be accepted for disposal are: 1) Activity criteria limits 2) Production process 3) Fissile content 4) Non radiological criteria: lack of substances that promote leaching, could explode... 5) General criteria: package identification, dimension, degree of filling, transport criteria, lack of free liquid...          In such situation, it would be responsibility of the owner (utility) to recondition those packages that they do not meet El Cabril WAC. If so, ENRESA would support them through his technical advise</p>		
	Country Japan	Article Article 32	Ref. in National Report p.17-18
Question/ Comment	<p>The origins of the waste produced are described on pages 17 and 18 of the 5th National Report. But there is no description on the spent fuel/waste management of Santa María de Garoña NPP on the list. According to the 4th National Report (on p.16), "depending on the management option decided on for the fissile material from reprocessing in Great Britain of the spent fuel from Santa María de Garoña Nuclear Power Plant, sent prior to 1983, this will or will not be considered for management as radioactive waste." After the Fukushima Daiichi accident, the reprocessing plant (THORP) in UK will be closed in 2018 and the MOX plant was closed. In the face of such dramatic changes in situation, are there any changes and negative impacts for the management option for the spent fuel/waste storage from Santa María de Garoña NPP?</p>		
Answer	<p>Regarding the U recovered from the reprocessing, an agreement was reached in march 2013 to transfer the most of it to a germany company, acting as intermediate to a chinese electric company. The rest of the uranium will be transferred to the NDA. Regarding Pu, ENRESA hasn't decided yet the best option, and keeps working on it.</p>		
	Country Japan	Article Article 32	Ref. in National Report D p.34
Question/ Comment	<p>The storage pools at the Trillo and Santa María de Garoña NPPs are located in the reactor buildings. The Santa María de Garoña NPP ITS is currently in the licensing phase. Can you provide what kind of countermeasures are being taken for these storage pools, for the loss of the heat removal function after the Fukushima Daiichi accident?</p>		
Answer	<p>1. Santa María de Garoña NPP is a General Electric BWR-3 plant with Mark-I containment. The Spent Fuel Pool (SFP) is located in the reactor building (secondary containment). For the loss of the heat removal function after the Fukushima Daiichi accident, countermeasures have been requested by CSN and have been implemented by the licensee:</p> <ul style="list-style-type: none"> <li>• Enhancement of the capability to supply water to the SFP: a new diesel engine mobile pump is available in the site which can provide water for the SFP. The corresponding equipment associated (hoses, connections) are available in the site. The strategy has been tested and validated in the plant, and has been included in procedures.</li> <li>• New additional instrumentation to monitor SFP water level: safety and seismically qualified, redundant, with dedicated batteries, readable locally</li> </ul>		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	<p>and from the control room and shutdown panel. The enhancement of SFP water temperature is still under consideration.</p> <p>2. Trillo NPP is a KWU PWR-3 loop plant. The SFP is located inside the containment. For the loss of the heat removal function after the Fukushima Daiichi accident, countermeasures have been requested by CSN and have been implemented by the licensee:</p> <ul style="list-style-type: none"> <li>• Enhancement of the capability to supply water to the SFP: new electrical mobile pump is available in the reactor building or annulus (secondary containment) to provide water for the SFP; the electrical supply can be provided by new mobile diesel engine generators available in the site. The corresponding fixed connection points are available for SFP injection. The strategy has been tested and validated in the plant, and has been included in procedures.</li> <li>• Enhancement of the electrical supply to the instrumentation which monitors SFP water level and temperature.</li> </ul>		
	Country Korea, Republic of	Article Article 32	Ref. in National Report B5, 24
Question/ Comment	<p>It is stated that nuclear facilities have their own treatment capabilities for conditioning waste in accordance with ENRESA's waste acceptance specifications for the El Cabril disposal facility. In the remaining cases, producers deliver their waste to ENRESA in accordance with agreed technical specifications, and ENRESA carries out the necessary conditioning tasks.</p> <p>- Are these conditioning tasks performed in El Cabril disposal facility? What equipment or systems are prepared for conditioning in the disposal facility? Does ENRESA charge for the expense of the conditioning tasks to producers?</p>		
Answer	<p>ENRESA operates installations at El Cabril center for the purpose of treatment and conditioning of MIR (Medical, Industrial and Research) waste as well as secondary waste resulting from the regular operation of El Cabril itself. Treatment capacities at El Cabril include: a super-compactor for pre-compacted waste from nuclear facilities and an incinerator, in this case mainly for MIR waste. ENRESA also possesses final conditioning capacities consisting in the resources needed to receive and handle primary packages duly conditioned by the nuclear facilities producers. ENRESA operates at El Cabril final conditioning systems for the emplacement and immobilization of such primary packages into the "Disposal Units" that will be lately disposed of into the vaults. All producers pay regulated fees for the services being rendered by ENRESA. Further explanation about this financing scheme can be found in Annex F.</p>		
	Country Norway	Article Article 32	Ref. in National Report D.4, Table 5, page 43
Question/ Comment	<p>What is the total storage capacity for the LILW at El-Cabril facility? Additionally what is the estimated time when the facility will be full and for how long it will remain under the regulatory control after its closure?</p>		
Answer	<p>El Cabril LILW Disposal Facility is composed by 28 vaults having a total capacity for around 50,000 m<sup>3</sup>. According ENRESA's last studies, it is foreseen that such capacity will be completed by 2025. Current SA estimates an institutional control period for about 300 years for the original site.</p>		
	Country Norway	Article Article 32	Ref. in National Report D.4, Table 5, page 43
Question/	<p>There seemed to be relatively larger volumes of LILW and VLLW at Vandellos I NPP. Can we relate this to the on-going decommissioning activity</p>		





# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

Comment	at the plant site? If it is so then what are its effects on the total decommissioning cost?		
Answer	Inventories of LILW and VLLW currently stored at Vandellos 1 NPP are a part of the RW produced during the decommissioning of such unit between 1998-2003. Since then, such inventories are being safely stored awaiting for transportation for disposal at El Cabril centre. Its store cost is a little part of the total latency cost		
	Country Switzerland	Article Article 32	Ref. in National Report B.1, p. 15
Question/ Comment	Could you please provide more information about the periodicity of the revision of the General Radioactive Waste Plan (GRWP)?		
Answer	According to the Royal Decree 102/2014, the General Radioactive Waste Plan will be periodically reviewed, bearing in mind the scientific and technical progress, the operating experience as well as recommendations, lessons learned and good practices from peer reviews. ENRESA was assigned, by this Royal Decree, to submit to the Ministry of Industry, Energy and Tourism, a revision of the Plan each four years, or whenever the Ministry requests it. Additionally, ENRESA is obliged to annually submit an economic and financial update of the costs of the activities under the General Radioactive Waste Plan, as well as its adequacy to the current financing mechanisms.		
	Country Norway	Article Article 32.1.2	Ref. in National Report B.1, page 16
Question/ Comment	It is stated that in accordance with the current legislation, the General Radioactive Waste Plan (GRWP) is regularly revised by taking into account number of factors. Can you please specify, what is the time frame of next revisions?		
Answer	The General Radioactive Waste Plan is currently under review in the Ministry of Industry, Energy and Tourism, after the submission of the proposal from ENRESA. After the endorsement by the Cabinet of Ministers it will become the 7th GRWP.		
	Country Norway	Article Article 32.1.2	Ref. in National Report B.1, page 17
Question/ Comment	What is the difference between spent fuel temporary storage as special waste and spent fuel temporary storage as high level waste?		
Answer	The Spent Fuel is considered in Spain as "High Level Waste", not as "Special Waste". However, the management of these "Special Waste" is linked to the management of HLW and so they will be temporary stored in the Centralized Temporary Storage (CTS) facility when available.		
	Country Switzerland	Article Article 32.1.2	Ref. in National Report B.4.1, p. 20
Question/ Comment	It is stated that certain Spanish NPPs have individual dry storage installations. What will happen to these installations when the Centralised Temporary Fuel Storage (CTS) facility will become operational? Is it planned to transfer the spent fuel currently in dry storage in these installations to CTS? Do those facilities have a hot cell for the transfer and conditioning of spent fuel?		
Answer	The existing dry Individual Temporary Storage (ITS) Facilities will gradually transfer all the Spent Fuel currently stored in them to the Centralized		





# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	Temporary Storage Facility at Villar de Cañas. There is no any hot cell in these ITSS, but there is one foreseen for the CTS.		
	Country Norway	Article Article 32.1.4	Ref. in National Report B.4, page 20
Question/ Comment	The statement about the distinction between high level waste and spent fuel is not clear. In the categorization definition of radioactive waste, the above mentioned statement is not supported.		
Answer	Your comment is right, the reflected statement may induce the reader to confusion. The intention was only to raise that Spent Fuel is understood as a waste, according to the GRWP, and classified as HLW, but making clear that HLW comprises more that only Spent Fuel. So, HLW is waste that contains long lived alpha emitters with half-lives of more than 30 years in appreciable concentrations that generate heat as a result of radioactive decay, due to their high specific activity. The primary component of this waste is Spent Fuel discharged from nuclear reactors and considered as waste in accordance with Spanish policy		
	Country Norway	Article Article 32.1.4	Ref. in National Report B.4.1, page 21
Question/ Comment	Regarding the 4 casks containing the reactor internals etc. at Jose´ Cabera ITS facility, can you please tell that when and how this waste will be disposed-off in CTS.		
Answer	The Centralized Temporary Storage facility will not be a disposal facility, but a storage one. Those wastes will be stored in the CTS when this facility become operational.		
	Country Switzerland	Article Article 32.1.4	Ref. in National Report B.3, p. 19
Question/ Comment	It is stated that as a result from the reprocessing of spent fuel in France 12 m3 of HLW and 4 m3 of special waste of various types will return to Spain. Could you please provide more information about the special waste? What kind of waste packages it concerns?		
Answer	The special waste to be returned from France consist of 12 canisters of intermediate level vitrified waste (type CSD-B) and 12 canisters of compacted waste (type CSD-C)		
	Country Switzerland	Article Article 32.1.4	Ref. in National Report B.5, p. 25
Question/ Comment	It is mentioned that significant advances made in volume reduction include the development of semi-industrial plasma treatment equipment. Could you please provide more information about this installation? What kind of waste can be treated in this installation?		
Answer	ENRESA is currently working in the development of a semi-industrial plasma treatment equipment to explore its feasibility as an additional management source for volume reduction. Such installation is under development so studies and test are being conducted also in relation to the kind of wastes that could be treated. However, it can be anticipated that due to WAC limitations for El Cabril disposal facility, it only might be treated RW with a quite low activity i.e. some filters, metal wastes and others to be determined.		
	Country	Article	Ref. in National Report



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

	Switzerland	Article 32.1.4	D.3, p. 37
Question/ Comment	What kind of conditioning technique is used for the immobilisation of operational wastes in the NPPs? Are there subsequent treatment processes in the El Cabril disposal facility necessary?		
Answer	All operational RW is being immobilized by cementation as this is the only one immobilization matrix currently approved for the El Cabril LILW disposal facility. Those primary packages duly immobilized by the NPPS are later directly placed, without any further treatment, into the so-called "Disposal Units" which will be disposed of into the vaults. The exception are the compactable wastes arriving at the El Cabril installation for its compaction.		
	Country Switzerland	Article Article 32.2.4	Ref. in National Report A, p. 11
Question/ Comment	It is stated that responding to a suggestion of the last IRRS mission a national inventory of radioactive waste has been established in Spain. Which organisation was responsible for the establishment respectively which organisation is responsible for the maintenance of this national inventory?		
Answer	For planning and operational needs, the establishment and maintenance of the National Inventory of RW was one of the early responsibilities assigned to ENRESA since it was set up in 1984. Furthermore, taking into account the last IRRS mission statement, Royal Decree 102/2014 gives explicit mandate to ENRESA to set up and manage the National Inventory for RW even on disposal.		



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

APPENDIX REGARDING QUESTION 46:

Overall				
	No. of exposed workers	Colective dose (person·mSv)	Average dose (mSv/year)	Percentage
0	6245	0	0	64,74
0≤1	2176	820,35	0,38	22,56
1≤5	1015	2275,88	2,24	10,52
5≤10	193	1314,94	6,81	2,00
10≤15	18	205,79	11,43	0,19
15≤20	0	0	0	0,00
20≤50	0	0	0	0,00
≥50	0	0	0	0,00
<b>Total</b>	<b>9647</b>	<b>4616,96</b>	<b>1,36 (*)</b>	

Staff				
	No. of exposed workers	Colective dose (person·mSv)	Average dose (mSv/year)	Percentage
0	1709	0	0	77,79
0≤1	369	127,89	0,35	16,80
1≤5	106	227,71	2,15	4,83
5≤10	13	74,27	5,71	0,59
10≤15	0	0	0	0,00
15≤20	0	0	0	0,00
20≤50	0	0	0	0,00
≥50	0	0	0	0,00
<b>Total</b>	<b>2197</b>	<b>429,87</b>	<b>0,88 (*)</b>	

Contracted				
	No. of exposed workers	Colective dose (person·mSv)	Average dose (mSv/year)	Percentage
0	4592	0	0	61,15
0≤1	1811	692,57	0,38	24,12
1≤5	909	2048,06	2,25	12,10
5≤10	180	1240,67	6,89	2,40
10≤15	18	205,79	11,43	0,24
15≤20	0	0	0	0,00
20≤50	0	0	0	0,00
≥50	0	0	0	0,00
<b>Total</b>	<b>7510</b>	<b>4187,09</b>	<b>1,43 (*)</b>	

(\*) Only workers with measurable doses are considered



# QUINTA REUNIÓN DE REVISIÓN DE LA CONVENCION CONJUNTA

## PREGUNTAS AL INFORME NACIONAL

### OVERVIEW MATRIX:

Type of liability		Long-term management policy	Funding of liabilities	Current practice / facilities	Planned facilities
Spent Fuel		Expected 60 years lifetime operation of the Centralized Temporary Storage Facility followed by a foreseen disposal facility.	Polluter pays principle. Fund for financing activities under the General Radioactive Waste Plan. Incomes from the NPPs during exploitation through Fee 2*. Management of SF from NPPs shutdown before 2010 through Fee 1* via electricity tariff.	NPP pools, Some Individual Temporary Storage Facilities	Centralized Temporary Storage Facility at the municipality of "Villar de Cañas". Future foreseen disposal facility
Nuclear Fuel cycle wastes	U tailings	Under surveillance programmes	Financed by the licensee and, in the case of legacy activities, by Fee 1* via electricity tariff	Conditioning and remediation activities on site	N/A
	Juzbado Nuclear Fuel manufacturing Facility	Disposal of at El Cabril facility.	Polluter pays principle. Fund for financing activities under the General Radioactive Waste Plan. Incomes from Juzbado during exploitation through Fee 3*	Pre-conditioning and temporary storage at Juzbado site by the licensee; transport, conditioning and disposal at El Cabril facility by ENRESA.	N/A
	Nuclear facilities operational radioactive wastes	Disposal of at El Cabril facility.	Polluter pays principle. Fund for financing activities under the General Radioactive Waste Plan. Incomes from the NPPs during exploitation through Fee 2*	Pre-conditioning and temporary storage at the NPP site by the licensee; transport, conditioning and disposal at El Cabril facility by ENRESA.	N/A
	Waste from Vandellós I SF reprocessed abroad	Expected 60 years lifetime operation of the Centralized Temporary Storage Facility followed by a foreseen disposal facility	Fund for financing activities under the General Radioactive Waste Plan. Incomes through Fee 1* via electricity prize	To be returned from abroad	Centralized Temporary Storage Facility at the municipality of "Villar de Cañas". Future foreseen disposal facility
Non-power wastes		Disposal of at El Cabril facility.	Polluter pays principle. Fund for financing activities under the General Radioactive Waste Plan. Incomes from the radioactive facilities through Fee 4*	Temporary storage at radioactive facilities by the licensee. Pre-conditioning at the radioactive facilities; transport, conditioning and disposal at El Cabril facility by ENRESA.	N/A
Decommissioning		Site to green field if possible. LILW and VLLW to be disposed of at El Cabril. HLW or SW to the Centralized Temporary Storage Facility	Polluter pays principle. Fund for financing activities under the General Radioactive Waste Plan. Incomes from the NPPs during exploitation through Fee 2*. NPPs shutdown before 2010 through Fee 1* via electricity tariff	Immediate decommissioning strategy for all LWR. Deferred strategy for Vandellós I NPP.	N/A
Disused Sealed Sources		Return to supplier; if not possible but complies with allowance criteria, disposal of at El Cabril; if not possible, safe storage at El Cabril and submitted to CTSF when available. After that final disposal of at the foreseen disposal facility	Cost assumed by the licensee of the facility	Return to supplier; if not possible but complies with allowance criteria, disposal of at El Cabril; if not possible, safe storage at El Cabril and submitted to CTSF when available.	Centralized Temporary Storage Facility at the municipality of "Villar de Cañas". Future foreseen disposal facility

Four Fees feed the Fund: Fee 1 via electricity tariff for legacy and NPPs shutdown before 2010; Fee 2 for NPPs operative after 2010; Fee 3 for Juzbado and Fee 4 for radioactive facilities