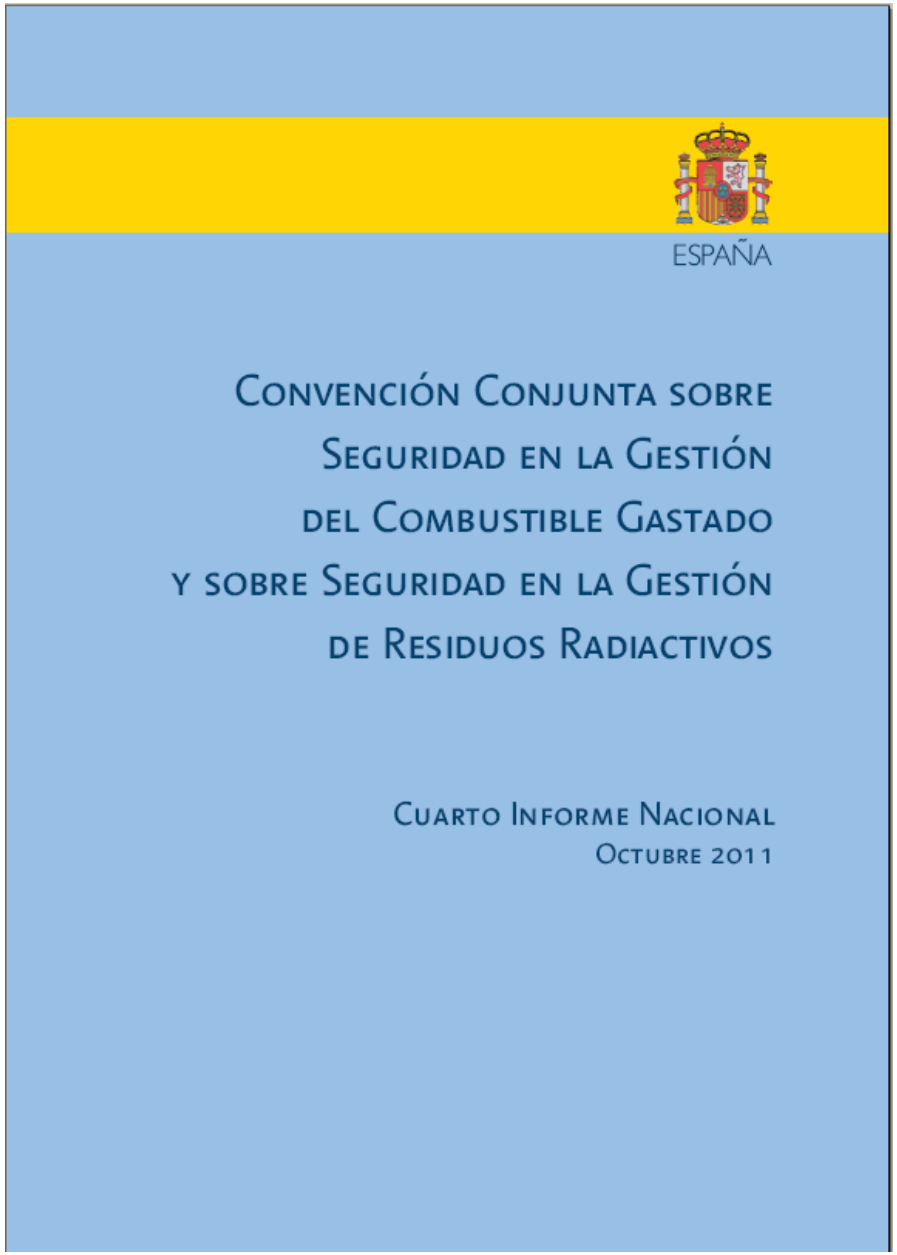
CUARTA REUNIÓN DE REVISIÓN DE LA CONVENCIÓN CONJUNTA

PREGUNTAS AL INFORME NACIONAL



RESPUESTAS A LAS PREGUNTAS FORMULADAS POR EL RESTO DE PARTES CONTRATANTES AL CUARTO INFORME NACIONAL DE LA CONVENCIÓN CONJUNTA DE SEGURIDAD EN LA GESTIÓN DEL COMBUSTIBLE GASTADO Y LOS RESIDUOS RADIACTIVOS

-12 DE ABRIL DE 2012-

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

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Q.No	Country	Article	Ref. in National Report
1	Australia	General	Pages 9, 113, 114 etc.
Question/ Comment	What process was undertaken for Municipalities to nominate sites for selection for the Centralised Temporary Storage Facility? And what processes did Municipalities undertake for engagement with their local residents? How will the "social licence" for siting the CTS facility be obtained once a nominated site is selected?		
Answer	According to the site selection process described in the report (pages 112-114), stated by the Resolution of December 23rd 2009 of the Secretariat State of Energy, the process was open to interested municipalities applying voluntarily following agreement by the Municipal Council. Following approval of the definitive list, the Interministerial Commission analysed the territories of the accepted candidate muicipalities in relation to the exclusion criteria set out in the bases for public call. Proceedings for allegations and public information and participation, lasting 20 days and relating to application of the criteria of the public call to the accepted candidatures were agreed by the Interministerial Commission, as contemplated in the procedure, and iniciated following publication in the Official State Gazette on March 6th 2010. Furthermore, 44 institutions and entities were notified individually. Likewise, the documentation relating to the applications submitted and analysis of municipal areas was published on the site website. A total of 14420 written allegations were received, as a result of which, certain modifications were made to the analysis reports on the municipal areas, and also the exclusion of a municipality was confirmed, due to its entire municipal territory being occupy by a SCI (Site of Communitary Importance) and a SPAs (Special Protection Area for birds). On completion of the aforementioned proceedings, the Interministerial Commission informed the candidate municipailities of the zones that had been excluded from their territories by way of letters sent on April 29th 2010, inviting them to provide alternatives within a month. The municipalities provided, on a voluntary basis, areas meeting the criteria stated in the 2009 resolution, and obviously not including those excluded by the Interministerial Commission. Finally, the Government selected the candidature of "Villar de Cañas" as the selected site for the CTS, by means of Agreement of Cabinet of Ministers of December, 30th 2011. Regarding social engagement, it must be underlined the broad social consensus reached by the candidature of Villar the Cañas, thanks to, among others, the following activities: The Municipal Council unanimously endorse its candidature, supported also by a second extraordinary plenary session involving the participation of the neighbours in the meeting. The Municipal Council has also developed an important work on communication and transparency, providing information through a specific web page (http://www.villardecanas.es/ATC/atc.htm) and also celebrating two divulgative meetings in cooperation with ENRESA, one for the mayors and councillors of the bordeuring municipailities and another one for the neighbours. It was also created a local platform supporting CTS, representing the majority of the neighbours. This platform celebrated a demonstration in front of the Miistry of Industry to support their candidature.		

	As a proof of this social support, additionally to the mandatory documents required by the Resolution, the Municipal Council attached, on own initiative: A very significant number of signatures from people totally supporting the candidature of Villar de Cañas, including neighbourgs, people with a second residence in the municipality, neighbours and people with residence in the surrounding municipalities and also people from the whole region of Castilla la Mancha. Agreements from the Municipal Councils of the bourdering Municipailities "Zafra de Záncara" and "Montalbanejo" unanimously supporting the andidature of Villar de Cañas. Agreement from the Municipal Council of the bourdering Municipality "Villares del Saz" and agreement from the board of directors of ADESIMAN (a federation for the development of the sierra and the region called "mancha conquense"), respecting the autonomy of Villar de Cañas to make a bid for the CTS. Finally, the Minister of Industry agreed on the selection of Villar de Cañas for the CTS with the President of the Autonomous Community Castilla la Mancha, the region where the Municipality is located. As regards the "social license", we don´t understand exactly the comment, since this term is not usual either in our national or international legislation. However, it must be said that the licensing process of the CTS will include proceedings for allegation and public participation.

Q.No	Country	Article	Ref. in National Report
2	Hungary	General	A.2, page 5
Question/ Comment	It is not clearly defined what is the definition of the 2nd and 3rd category radioactive facilities.		
Answer	As stated under article 34 of the regulation on nuclear and radioactive Facilities: By radioactive facility it is understood: a) Facilities of any class that contain a source of ionising radiation. b) Ionising radiation-producing devices that operate at a voltage greater than 5 kilovolts. c) Premises, laboratories, factories and facilities where radioactive materials are produced, used, held, treated, handled or stored, except for the incidental storage during the carriage thereof. Radioactive facilities are classified into three categories. a) First-category radioactive facilities are: 1st. Factories that produce uranium, thorium or their compounds.		

	2nd. Factories that produce natural-uranium fuel assemblies. 3rd. Facilities that use radioactive sources for industrial irradiation purposes. 4th. Complex facilities where very large inventories of radioactive substances are handled or where radiation beams of very high-energy fluxes are produced such that the potential radiological impact of the facility is significant. For the purposes of this Regulation, the facilities defined in Sections 1 and 2 are called nuclear fuel cycle radioactive facilities. b) Provided they are not classified as belonging to the first category, second-category radioactive facilities are: 1st. Facilities where radioactive nuclides that can be used for scientific, medical, agricultural, commercial or industrial purposes are handled or stored, the total activity of which is equal or greater than one thousand times the exemption values that are established in Instruction IS-05 of the Nuclear Safety Council. 2nd. Facilities that use X-ray-generating devices that may operate with a peak voltage greater than 200 kilovolts. 3rd. Particle accelerators and facilities where neutron sources are stored. c) Third-category radioactive facilities are: 1st. Facilities where radioactive nuclides are handled or stored the total activity of which is greater than the exemption values established in Instruction IS-05 of the Nuclear Safety Council and lower than one thousand times the exemption values. 2nd. Facilities that use X-ray-generating devices the peak voltage of which is lower than 200 kilovolts.

Q.No	Country	Article	Ref. in National Report
3	Korea, Republic of	General	p. 9 (A.3)

Question/ Comment	Section A.3 states the site selection process for Centralized Temporary Fuel Storage(CTS). - What are the site selection process and related requirements for CTS?
Answer	Regarding the site selection process, it is broadly described under article 6 (pages 112 to 114) of the report. Regarding the related requirements for the site, the Interministerial Commission established the technical, environmental and socio-economic criteria to be fullfilled by the candidate sites for the CTS facility. Those criteria can be found under the document "Basic criteria for the sitting of the CTS facility and Associated Technology Centre". According to the conditions established by the CSN´s favourable opinion to the generic design of the CTS, the above report states three main groups of factors to evaluate a potential site: -External natural phenomena and those induced by mandkind , with frequent and intense enough to eventually affect the safety of the installation. -Site Characteristics that may influence in the potential transfer of radioactive material to the environment and the people. -Data regarding density and distribution of the population and those regarding the implementation of emergency measures and the need

	to evaluate the risks for people and population. Those factors can be evaluated trough the following criteria of reference: -Sites having potential risk of suffering earthquakes, volcano activity, extreme environmentakl conditions, hurricanes, floods, eventual failure of dams, or possible accidents caused by the man (proximity of airports, transport nodes, industries with risk of explosions...) among others. -There are also some sites excluded bearing in mind the territory is under special protection due to its cultural, historic or environmental value: Areas forming part of the European Nature Conservation Network Natura 2000, National Parks, Nature Reserves and other equivalent areas managed by the Autonomous Communities, Sites of Community Importance and Special Protection Areas for birds (ZEPAS), protected areas belonging to the Ministry of Defense, Common Woodland Areas and lands forming part of the Spanish Network of Casttle Routes, areas containing items of interest belonging to the national heritage and potentially affected by the area of influence of the facility or by the construction works, among others. -Socio-economic factors will also be beared in mind, such as the availability of space, access capabilties, the existence of appropiate infraestructure, among others. Transport to the Facility wil be carried out by road or train, so sites requiring transport necesarily performed by air or sea are excluded. For more information www.emplazamientoatc.es

Q.No	Country	Article	Ref. in National Report
4	Korea, Republic of	General	p. 177 (K.4)
Question/ Comment	Section K.4 discusses the effect of nuclear accident in Fukushima on safety. What is the management plan for spent fuels under abnormal conditions?		
Answer	Licensees have analyzed the cooling systems of the spent fuel pools (SFP) and the strategies in place to face up to a loss thereof, as well as those aspects relating to the loss of radiation shielding that a decrease in the water level of the pools would entail. Licensees proposal for improvements so as to strengthen the response of the plants when faced with prolonged scenarios of loss of safety functions in combination with external events: a. Having alternative fixed and portable means to provide water to the SFP. b. Improving the instrumentation for measuring the level and temperature of the SFP. For a prolonged station blackout (SBO) situation (on-site and off-site power) licensees are implementing several measures to allow all plants to fulfill the criterion of equipment available during 72 hours with some off-site support. The most relevant proposals are the following: - Measures to ensure there is a direct current power supply to those controls and instruments needed to maintain the plant’s safety conditions in such a situation.		

	- Several backup measures with autonomous equipment (diesel generators, motor pumps, and so on). - Periodic tests to check the recovery of the off-site power supply from those hydroelectric stations which are close to the site. For dry spent fuel storage facilities the passive features of these systems provide their safety functions without the need of any electric source, external or internal. For accident conditions and extreme natural conditions passive systems still entails advantages since recovery of heat capacity may be achieved by conventional means. Licensees have been required to enhance contingencies plan and to implement mitigation strategies for off-design basis accidents (large scale fires) after the Fukushima accident.

Q.No	Country	Article	Ref. in National Report
5	Netherlands	General	A.3.
Question/ Comment	It is mentioned that the development of a specific regulatory framework for the clearance of radioactive material is being continued. What is the status of these developments?		
Answer	The situation of the Spanish regulations for clearance of residual materials is currently being considered by the CSN. One of the main actions under consideration is the convenience of a proposal for a general provision for clearance of residual materials including unconditional clearance values from EU RP-122 part.1. Such a general provision has to be issued by the Ministry of Industry (MINETUR). Conditional clearance authorisations would be maintained on a case by case basis. In addition, allowing for the experience gained by the CSN and the licensees from past years, a Safety Instruction on radiological control and the clearance of residual materials arising from nuclear facilities was issued by CSN on 2011. The CSN Instruction (IS-31, published in September 2011), compulsory for nuclear facilities, pursues two main objectives: to integrate and improve the current technical criteria for the radiological control of residual materials before getting out of controlled areas and to lay down the documentation supporting the application for a clearance authorisation. IS-31 addresses, inter alia, acceptable criteria for initial categorisation of residual materials, general provisions for clearance, criteria for acceptable clearance monitoring and measurement strategies, use of scaling factors based on representative sampling, averaging, quality control, competence requirements and reporting to the CSN. A part of the CSN Instruction also includes a detailed description of documents to be attached by the licensee in support of the authorisation application.		

Q.No	Country	Article	Ref. in National Report
6	Netherlands	General	A.3.
Question/ Comment	This section describes the creation of a tax to be paid by the licensees of operating permits for the financing of the management of radioactive wastes and spent fuel en the dismantling of nuclear facilities. How are these costs estimated, and how are they distributed among the different licensees? (for example, is it dependent of the installed power?) Does this tax also cover the costs of safe enclosure and eventual decommissioning of Vandellos 1?		

Answer	The cost study, in fact cost studies, referred in in Section A.4b) is a requirement of the RNFR prior to licensing any nuclear facility. In Section L, Annex B.1, the main actions to be undertaken by the operator in the three steps of the licensing procedure are indicated: Preliminary authorisation, Construction permit and Operation permit. In paragraph f) of Construction permit and I) of Operating permit, it stands what should be included by the utility, in the corresponding application, regarding economics of decommissioning and dismantling, in order to guarantee at this stage decommissioning, but regulation does not require a specific calculation method. Cost estimates are based in dedicated studies carried out by ENRESA plus the information arisen from ENRESA's decommissioning and waste management experience and also from the information shared with foreign sister organisations. The costs for the safe enclosure and the future complete decommissioning of Vandellos 1 NPP are covered by the pre-existing Fund, set up in 1984, which could be surplus, if necessary, through the Fee relating to the electricity tariff (tolls) as referred in Article 22.2 for the financing of the cost corresponding to the management of the radioactive wastes and spent nuclear fuel generated at those Nuclear Power Plants that were definitively shutdown prior or January 1st 2010		
Q.No 7	Country Slovakia	Article General	Ref. in National Report General
Question/ Comment	What is your operation experience in dry storage of the spent fuel?		
Answer	Dry storage of spent fuel was implemented in Spain in 2002 for the first time to provide additional capacity of interim storage to NPP Trillo. The chosen technology was dual-purpose metal casks. A second ISFSI, based also in dry storage techniques (multipurpose welded canisters in concrete overpacks), became operational in 2009, close to the José Cabrera NPP whose decommissioning was to be started soon after. Both in ISFSI Trillo and in ISFSI José Cabrera the operational experience has been excellent with no significant incidents to be recorded. In the first case, the total amount of SF stored in the ISFSI at the end of 2011 was 21 casks (441 fuel assemblies) while in the José Cabrera NPP the ISFSI hosted 12 casks (377 f.a.) on the same date.		
Q.No 8	Country United Arab Emirates	Article General	Ref. in National Report 8
Question/ Comment	This section discusses actions to establish safety criteria for spent fuel and high level waste. There is a reference to the WENRA reference levels; however it is not clear exactly what the Spanish CSN safety criteria are. Could you be more specific, and state the safety criteria? Did the recent NPP stress tests include an assessment of the safety of NPP spent fuel storage in spent fuel pools? Are there any planned enhancements to the spent fuel safety criteria?		
Answer	The set of CSN Safety Instructions mentioned in the safety report establishes legally binding safety requirements for licensees for interim storage of spent fuel facilities and dry storage casks and incorporate requirements from the International Atomic Energy Agency (IAEA) and the WENRA reference levels.		

	These basic safety criteria and requirements that must be fulfilled in the design, siting, manufacturing, construction, testing, operation and safety analysis of nuclear facilities for the storage of spent fuel and high-level waste in the following general areas: - Safety Management: organizational structure, safety culture, quality management and record keeping - Design: safety functions, storage and handling capacity. - Operation: emergency preparedness, operational experience feedback, operation facility modification, maintenance, in-service inspection and functional testing, specific contingency plans and waste/spent fuel acceptance. - Safety Verification: contents and updating of the safety case and periodic Safety Review For further information English version of these documents can be found at www.csn.es under Publications/Regulations. Yes, the NNPs stress tests have included the assessment of NPPs' spent fuel pools. Licensees have analyzed the cooling systems of the spent fuel pools (SFP) and the strategies in place to face up to a loss thereof, as well as those aspects relating to the loss of radiation shielding that a decrease in the water level of the pools would entail. Licensees proposal for improvements so as to strengthen the response of the plants when faced with prolonged scenarios of loss of safety functions in combination with external events: a. Having alternative fixed and portable means to provide water to the SFP. b. Improving the instrumentation for measuring the level and temperature of the SFP.		
Q.No 9	Country France	Article Article 4	Ref. in National Report K.4 - p. 177
Question/ Comment	Concerning the safety implications deriving from the Fukushima accident and its radiological consequences, the Spanish report indicates that Spain will continue to participate actively in the efforts being made for improving safety. Could Spain specify if, in the light of the Fukushima accident, specific safety reviews are currently in progress concerning the dry storage facilities for spent fuel located in Trillo and Jose Cabrera, the one foreseen in Asco and the project of centralised temporary fuel storage facility (CTS)? If yes, what are the main safety topics assessed and the main lessons already learned?		
Answer	For dry spent fuel storage facilities the passive features of these systems provide their safety functions without the need of any electric source, external or internal. For accident conditions and extreme natural conditions passive systems still entails advantages since recovery of heat capacity may be achieved by conventional means, for instance from the blocking of air inlets. Additionally, licensees of dry storage facilities in operation have been required to enhance contingencies for these events and to implement mitigation strategies for off-design basis accidents (large scale fires) after the Fukushima accident. Lessons learned from Fukushima will be applied to the licensing of the dry spent fuel storage facility foreseen in Ascó as well as to the projected centralised temporary spent fuel storage facility.		

	The main topics already addressed for off-design basis accidents are contingencies, fire extinction, spent fuel mitigation strategies, radiation mitigation, emergency preparedness and personnel training. Moreover, Spain will continue actively participating and following the international developments in order to implement any other further requirements may emerge, in particular in the design of the centralized spent fuel storage facility.		
Q.No 10	Country United Arab Emirates	Article Article 4	Ref. in National Report 103
Question/ Comment	The document state “the storage casks for the ITS facilities at the Trillo, Ascó and José Cabrera plants, these have been designed to re lease the heat generated by the fuel assemblies to the environment by means of passive convection, conduction and radiation mechanisms” .What are the advantages and disadvantages of the passive convection to heat removal in case of emergency like Fukushima disaster.		
Answer	Passive heat rejection systems of storage casks provide its safety functions without the need of any electric source, external or internal, with obvious advantages. For off-normal and accident conditions some events that might cause a blockage in the air inlets are consider in the safety analysis. For these situations time limits are set in the Technical Specifications and Operating controls before any degradation of fuel cladding may occur. In the most likeable scenario of debris or mud from a flooding, unblocking can be achieved with conventional means recovering the passive heat in time frames well below those time limits. Therefore the passive nature of these storage systems still entails certain advantages. Besides, licensees have been required to enhance contingencies measures for those situations after the Fukushima accident.		
Q.No 11	Country United Arab Emirates	Article Article 4	Ref. in National Report 101
Question/ Comment	Selecting Villar de Canas to host the centralised temporary storage facility is a key step in the country’s nuclear power framework. How is this affecting progress towards a final disposal solution.		
Answer	The site designation of Villar de Cañas and the further operation of the CTS completes the cycle for short-medium term management of SF and HLW and provides sufficient time to undertake the different steps of the final disposal program of these waste in safe and secure conditions. But this kind of waste needs to be definitively disposed of, account taken of the obligations of responsibility towards future generations and the mandate of not imposing undue burdens on them. These two principles are also a mandate of the European Directive 2011/70/ EURATOM. The next General Plan for Radioactive Waste Management will address this point, taking as a starting point the significant stock of studies and works that Spain has carried out up to now in the area of deep geological disposal (inventory of favorable host rocks, basic designs in clay and granite, performance assessments in clay and granite, R&D, etc.).		
Q.No 12	Country Netherlands	Article Article 4.2	Ref. in National Report G

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Question/ Comment	Article 38 of the Spanish Nuclear Energy Act establishes the principle of waste generation minimalisation. What does this mean in the decommissioning practice? Is there an obligation to reuse material where possible? Is the licensee obliged to decontaminate as far as reasonably possible?		
Answer	Minimization of waste is an overall principle of RWM as enounced in the Nuclear Energy Act. The practical implementation of this mandate is up to the licensees. The way minimization is to be carried out is presented when they applied for a decommissioning license. ENRESA has an objective of minimization and reuse of resulting materials as much as possible. While reuse is considered on a case by case base, minimization is arranged following a set of criteria among which: a) maximum amount of waste in any type of bag, container, etc., b) optimization of stuff by means of radiological classification and segregation , d) clearance, e) use of minimization techniques (incineration, super-compaction, etc.), f) minimization of stuff dispersion when cutting. The limit to decontamination is set by the exemption and clearance criteria as set in the corresponding decommissioning license.		
Q.No 13	Country Germany	Article Article 5	Ref. in National Report G, 108
Question/ Comment	In the national report it is mentioned that there are periodic safety reviews (PSR) for the storage pools performed every ten years. Are there also periodic safety reviews for the dry storage facility?		
Answer	According to the regulations and the licensing procedure dry spent fuel storage facilities located on site of Nuclear Power Plants (NPPs) are considered part of the plants. Therefore the scope of PSR includes both the exiting spent fuel pool and the dry storage facility, as it is established in the CSN Safety Instructions 26 and 29. In the particular case of the José Cabrera NPP, a plant under decommissioning with a dry spent fuel storage facility, the license and the approved decommissioning plan do not require a PSR since dismantling will take around 4-5 years from now and the spent fuel storage casks are expected to be transported to the Centralised Storage Facility when constructed and commissioned in the same timeframe		
Q.No 14	Country Belgium	Article Article 6	Ref. in National Report Section 6.3 Page 117
Question/ Comment	The report mentions that the standards include “phenomena induced by mankind”.Could Spain confirm that human intrusion and cyber attacks are also considered?		
Answer	During the licensing and commissioning phases of the Centralized Temporary Storage for Spent Fuel, certainly, we will address the issues related to human intrusion and cyber attacks and other threats related to the security of the facility. Nevertheless, considering the specific features of these issues, the details related to them will be defined later on during the process to design and built the facility and also many details related to these topics are considered sensitive information. Therefore, we cannot provide further details about the arrangements foreseen to cope with the referred issues.		
Q.No	Country	Article	Ref. in National Report

15	Germany	Article 6	G, 111
Question/ Comment	The national report describes the extent of the operating period for the Centralized Temporary Storage facility as being “some 60 years”. How do you consider ageing management for this facility?		
Answer	Service life meaning has a twofold focus. On the one hand, safety is the paramount objective: to maintain all safety functions such as confinement, shielding and integrity to allow for physical protection and natural draft cooling. On the other hand, future decision-making on spent fuel management options must not be jeopardized and the possibility to recover spent fuel assemblies in a good state must be kept. A prime concern is the durability of the facility with minimum maintenance, especially in the non-accessible parts. Durability studies for longer storage periods and surveillance of the structure behavior have to be considered during the initial steps of the basic design and during the detailed design development, especially when considering the strong accessibility limitations inherent to the facility and the relatively high temperatures involved. A facility of this type is designed to provide retrievability and reversibility: spent fuel canisters can be easily recovered from the storage wells, and reopened in the existing hot-cell. Spent fuel assemblies can then be taken out, inspected and re-canistered. A complete vault has been planned as a reserve, in order to allow a vault to be emptied in case of necessity and to permit entrance, inspection and repair of the evacuated vault. For the purpose of defining the ageing management plan, the facility is divided into three main elements: • The fuel assemblies that may need to be taken from the canisters in the future; • The confinement system formed by the stainless steel canisters and the stainless steel storage wells; • The thick walled reinforced concrete structure providing support, shielding and physical protection.		

Q.No 16	Country Hungary	Article Article 6	Ref. in National Report G, 6.1. p. 111-116
Question/ Comment	Is there any delay in the process of establishing the Centralised Temporary Storage facility? What margin of time has been taken into account for any delay?		
Answer	The process to implement a Centralised Temporary Storage Facility (CTS) has recently come to the point of the designation of the site in the municipality of Villar de Cañas. Further steps towards the operation of the facility will be its detailed design, licensing and subsequent construction. The facility has been planned to optimize the Spanish system for SF and HLW management taking into account several variables like could be safety, security, economics, flexibility and storage capacity requirements. This last one is not conclusive in the short term although could be in the medium and long term according to the planned and operational lifetime of the Spanish NPPs.		

	Following the site designation by the Government it is envisaged that the CTS will hopefully start operation early in 2017.		
Q.No 17	Country Hungary	Article Article 6	Ref. in National Report G. page 111
Question/ Comment	What is the reason of choosing a new storage concept for CTS instead of dry cask storage method?		
Answer	The CTS is to store all SF and HLW arising in Spain. This implies managing a large and wide variety of SF designs that require also enough flexibility and adequate means to cover different scenarios and envisaged events or events (e.g. the necessity of having a hot cell to deal with some assemblies). The CTS is also planned for storing intermediate radioactive waste mainly coming from the reprocessing of the SF of Vandellós 1, presently in France, but to be sent back to Spain, and some internals arising from the decommissioning of Spanish nuclear power plants. The technology of the CTS, as decided some years ago, is the one that most properly fulfills the before-mentioned requirements.		
Q.No 18	Country Hungary	Article Article 6	Ref. in National Report G. page 111
Question/ Comment	What is the conceptual method for the storage of LILW in the CTS?		
Answer	LILW in the CTS come from the reprocessing of SF from Vandellós 1 in France. A second type of LILW is that of the internals of the reactors being (or to be) decommissioned in Spain. Both these streams will be stored in the CTS in concrete bunkers out of the vaults to host SF and HLW. The concrete bunkers will provide confinement by means of its structure as well as by the ventilation system, able to confine any potential hazardous emission to the outside of CTS. The waste packages will be downloaded from the transportation trucks in a dedicated discharge cell and then placed, stacked, in the concrete bunkers. Due to their low level of heat generation, there is no need of a particular heat-dissipation system but the ventilation one with the function said before. Emplacement of the waste packages in the bunker will be carried out according to the characteristics of each of them.		
Q.No 19	Country Hungary	Article Article 6	Ref. in National Report G. page 111
Question/ Comment	When is CTS going to be put into operation?		
Answer	The site where the CTS is to be constructed was designated late in 2011. Accordingly, ENRESA has started in 2012 all the activities to get the CTS operational as soon as possible. Taking into account all the necessities of site characterization, engineering, purchasing and licensing it is reasonably envisaged that the CTS will begin its operation early in 2017.		

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Q.No 20	Country United States of America	Article Article 6	Ref. in National Report G.6.1, 112
Question/ Comment	The Centralized Temporary Storage facility includes an associated technology center. Please describe the functions of this center, for example does it serve other missions beyond radioactive waste management?		
Answer	The Technology Center associated with the CTS is destined to help the long-term management of SF, to support all the other management facilities of ENRESA and to integrate and promote synergies in waste management and environmental R+D. To this end some of the main features of the technology center will include: • A sole laboratory for SF and radioactive waste, including • A conditioning cell able of dismounting fuel rods, • A hot cell for fuel rods, • Several facilities able to allow fuel inspection, research of SF components and fuel pellets behavior. • A conventional laboratory for material testing and environmental research.		
Q.No 21	Country Hungary	Article Article 8	Ref. in National Report G. page 125
Question/ Comment	It is not clear how the country's legislation applies the standards of IAEA and the standards of the country of the origin of the technology as the framework of safety analyses.		
Answer	The CSN safety instructions IS-20, IS-26 and IS-29 have recently set safety requirements from WENRA reference levels and IAEA standards as well. During the licensing of dry spent fuel storage systems licensing applicable standards and engineering manufacturing codes of the country of the origin of the technology has been account for as reflected in their License approvals		
Q.No 22	Country Germany	Article Article 9	Ref. in National Report G.9.2, 127
Question/ Comment	The report states that defective fuel rods are removed from the spent fuel assemblies. How do you manage the damaged fuel rods?		
Answer	Each Spanish NPP uses different techniques for inspecting the irradiated fuel. Overall, the inspection techniques used in Spain are: - in-mast sipping, - ultrasonic testing (UT), - can-sipping, - visual, - Eddy Current testing (ET) for external cladding corrosion,		

	- ET for fuel rod failures, - dimensional analysis for fuel assembly (FA) growth and deformation, - crud chemical analysis. In some cases, the inspections can be supplemented by hot cell examinations. The inspections are aimed at the characterization of the FA's for their further use at the reactor or for their wet and dry storage. Once one damaged fuel rod has been identified (mainly by sipping and/or UT), if the FA is deemed for reinsertion, the leaking fuel rod is removed from the assembly and a SS rod is inserted in the vacancy. The failed rod is stored in the spent fuel pool in a special storage basket. If the FA is intended for dry storage, the further treatment depends on the license conditions established for the dry storage spent fuel facility, as some containers are able to accept leaking FA without additional conditioning. All the FA's are clearly identified in the spent fuel data base, including removed fuel rods. This data base includes all their significant characteristics.

Q.No	Country	Article	Ref. in National Report
23	France	Article 10	B.4 and B.5 - p. 17 to 21, G - p. 129
Question/ Comment	Concerning spent fuel, high level waste and low-intermediate level long lived waste disposal, the Spanish report indicates that "...the activities to be performed are aimed fundamentally at the consolidation and updating of the knowledge acquired, with advantage taken of international developments in this area. The activities to be performed over the coming years will be as follows: - the generic designs... - the corresponding safety assessment... In parallel to the above, further..., with a dimension and scope in keeping with the research capabilities existing in the country." Could Spain indicate if these activities could lead to the launch of preliminary design studies of a geological disposal facility?		
Answer	Preliminary design studies of a geological disposal facility have been carried out in the past. The main outcomes of these activities have been two, non-site specific, basic designs and the corresponding complete performance assessments in two host rocks (granite and clay). On the other hand, Spain is participating in several international R+D initiatives and projects (EU, NEA, etc.) and has carried out some experimental work in foreign underground laboratories. Domestic R+ D has also continued to address many of the issues associated with a geological disposal facility. All of the above forms a sounded framework for addressing further, more detailed steps in the development of an underground disposal repository for SF, HLW and long-liver radioactive waste.		

Q.No	Country	Article	Ref. in National Report
24	Germany	Article 10	B.4.2, 19 G.10, 128

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Question/ Comment	The operation of a spent fuel disposal facility is scheduled for the year 2050. According to the report, a site selection plan was carried out until 1996. - Do you have any time schedule for making a final decision regarding site selection? - Is there any specific regulatory document (requirements or guidance) for a geological repository currently being developed? - Do you plan retrievability / reversibility for the disposal of spent fuel? If yes, what are the requirements?
Answer	The year 2050 is in the 6th General Plan for Radioactive Waste Management where the text states that this date is used for planning purposes, particularly as an assumption for all costs and financial estimates. Concerning the adoption of a scheduled plan for making a decision on site selection, this is a point where it is crucial to have a sounded, well informed and participative societal environment for working in parallel with the development of technical and R+D requirements. The process of site designation for the CTS has brought up a lot of lessons on how to improve interactions with the public and get a successful end with the acceptation of a radioactive waste management facility. No, given the deadlines established in the General Radioactive Waste Plan currently in force, the development of a regulatory standard or guidance for geological repository is not a priority at this moment. However, the CSN is participating in the development of the WENRA reference levels for disposal and will incorporate them in due time. Likewise, Spain will comply with the provisions regarding the regulatory framework established in the European Directive on spent fuel and radioactive waste management on time. Moreover the CSN is actively involved in the developments on long term requirements and criteria carried out at international level (especially those of IAEA and NEA). On the other hand it is pointed out that the current Spanish legal framework set up the licensing procedure applicable to a disposal facility, as well as the general requirement for the radiological protection of present and future generations The information compiled of the social process in the CTS together with an updated of all the technological developments in underground disposal will soon serve to address the points in the question, particularly to start planning a decision-making procedure and to begin discussing those concerning regulatory requirements and retriviability/reversibility.

Q.No	Country	Article	Ref. in National Report
25	Romania	Article 11	H, 134
Question/ Comment	Which is the current state of the acceptance processes regarding generation by the waste producers of final disposal units for direct incorporation in the cells at El Cabril?		
Answer	Currently, this request is being implemented only at Jose Cabrera NPP, plant undergoing decommissioning having ENRESA as its licensee. The methodology and WAC have been approved by the CSN and nowadays ENRESA is completing the documentation		

	needed for starting with the production		
Q.No 26	Country Romania	Article Article 12	Ref. in National Report H, 139
Question/ Comment	CSN has been issued in 2011 instruction establishing criteria for the radiological control of waste materials?		
Answer	The Instruction IS-31, on the criteria for the radiological control of residual materials generated in nuclear facilities, was issued by the Nuclear Safety Council in June 2011 and published in September 2011.		
Q.No 27	Country Romania	Article Article 12	Ref. in National Report H, 139
Question/ Comment	Which are the criteria specified in this instruction to be considered for the radiological control of waste materials generated in the con trolled zones of nuclear facilities?		
Answer	Prior to any residual material exiting, the controlled zones of nuclear facilities in order for it to be conventionally managed, it must be guaranteed that it is a non-impacted residual material or that its radioactive content complies with the clearance levels established in a specific authorisation or in the corresponding general provision. A process of categorisation and radiological control of non-impacted residual materials need to be performed. Non-impacted residual material is defined as a material for which there exists no reasonable possibility of having radioactivity levels greater than those of the natural radioactive background inherent to the material. Residual materials shall be categorized as non-impacted by means of a process of analysis and evaluation of the existing information on the residual material relating to: - Its characteristics (size, nature, shape, etc.) and its origin and place of provenance within the facility. - The operations carried out in the areas of the facility where the residual material has been located and the processes in which the material has been involved. - The results of possible radiological measurements on the residual material or in other locations allowing to obtain relevant information in relation to the ultimate aim. Residual materials which have initially been classed as non-impacted as a result of said categorisation process must be subjected, before exiting the controlled zone, to a radiological control which confirms this classification and which shall specifically consider whether the residual materials are sampleable or unsampleable according to the criteria included the Instruction. The residual material categorisation process shall be conducted in accordance with each facility’s specific operating procedures, the		

	nature, origin, amounts and frequency of generation of the materials being taken into account.		
Q.No 28	Country Romania	Article Article 12	Ref. in National Report H, 139
Question/ Comment	Which are the categories of waste materials affected and unaffected by this instruction and in which are the types of approval granted by the authorities for materials releases: generic or case by case?		
Answer	The residuals materials affected by IS-31 are any residual material exiting the controlled zones of nuclear facilities in order for it to be conventionally managed. All of the residuals materials can be categorized as: Non impacted/impacted. After this categorisation impacted residual materials can also be categorized as Clearable/Non clearable(Radioactive Waste) According to IS-31 the conventional management of non-impacted residual materials need not be granted specifically by regulatory authority. Clearance of impacted residual materials needs a specific approval by regulatory authority according to Spanish regulations.		
Q.No 29	Country Slovakia	Article Article 12	Ref. in National Report H.12.1,138
Question/ Comment	For your disposal facility, please describe the way of application of IAEA recommendations to limit activity of ling lived radionuclides up to 4000 Bq/g for individual waste package in relation to 400 Bq/g as average limit of those radionuclides.		
Answer	The limitation of the radionuclides present in the disposal units is established for the facility in the waste acceptance criteria documentation. This limitation ensures that the potential radiological impact is acceptable under any foreseeable circumstance and the residual activity is compatible with the free use of the site after a defined period. Both, the waste acceptance criteria for LILW and the waste acceptance criteria for VLLW establish requirements for the limitation of the activity of radionuclides, including the limitation for the long lived ones. The Operating technical specifications, which is one of the required documents for the operating permit (approved by Ministry of Industry (MINETUR) after a CSN favourable report), establish the radiological capacity for the whole facility, the radiological capacity for the platforms for LILW and for the VLLW, the activity concentration limits for the vaults and cells and the activity concentration limits for the waste packages. These Operating technical specifications also establish the requirements for the control of the packages accepted to verify the compliment of those radiological limitations.		
Q.No 30	Country Slovakia	Article Article 12	Ref. in National Report H.12.1,138
Question/ Comment	Does the safety case for your near surface repository take into account scenarios determining heterogeneous distribution of activity to enable e. g. disposal of some spent sources? If yes, what kinds of methodology and scenarios are applied?		

Answer	By means of the licence issued in 2008, the licensee of El Cabril is authorized to dispose of radioactive wastes of very low level activity and low and intermediate level wastes. Wastes are to be distributed homogeneously in the containers and in the vaults for LILW and in the disposal cells designed for the allocation of the VLLW. The disposal of radioactive sources with half lives lower than five years is possible in the vaults for LILW. The scenarios and the potential radiological impact due to the presence of these short lived radionuclides in the radioactive sources are considered to be acceptable for long term safety as demonstrated in the safety case.		
Q.No 31	Country Netherlands	Article Article 12.2	Ref. in National Report H, 12.3
Question/ Comment	The strategies for the management of the solid radioactive wastes generated at the Spanish 2nd and 3rd category radioactive waste facilities are based on temporary storage for their radioactive decay. As decay times of different radionuclides may differ substantially, what is the maximum storage period that is allowed? What are the conditions for decay storage in terms of waste properties? Who is the owner of the waste during decay storage?		
Answer	What is the maximum storage period that is allowed? No upper limit for storage time is required in regulations or established in procedures. Guidance for waste management has been developed jointly by ENRESA and Spanish Radiation Protection Society. In that guidance decay at the facility where the radioactive waste has been produced is recommended for material containing radio-nuclides with half life up to five years. Decay times at the facility will depend on the capacity of the available storage and the subsequent management option: conventional for short half live materials and withdrawal and storage by ENRESA for intermediate to long half life materials. What are the conditions for decay storage in terms of waste properties? No specific conditions are required in regulations or established in procedures. As mentioned before decay storage is recommended for materials containing radio-nuclides up to five years half life. Who is the owner of the waste during decay storage? The owner is the licensee of the authorized facility where the wastes have been produced.		
Q.No 32	Country Netherlands	Article Article 12.2	Ref. in National Report H, 12.2.2.
Question/ Comment	During 2011 the publishing of a CSN instruction is expected, with a view to establishing criteria for the radiological control of waste materials prior to their leaving the radioactive waste zones of the nuclear facilities for conventional management. Assuming that this conventional waste is to be reused, what is done to enhance public acceptance of waste stemming from nuclear facilities?		
Answer	A final draft of the CSN Instruction was submitted for comments to national organisations by October 2009. The comments made by stakeholders were debated and appropriately introduced in a high ratio. The stakeholders involvement is always implemented following the regulation making process adopted by the CSN in a formal procedure.		

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Q.No 33	Country United States of America	Article Article 13	Ref. in National Report H.13.5, 146
Question/ Comment	What type of information regarding the performance of the El Cabril disposal facility is provided to the public? Has the public outreach been successful in increasing local community support, if so what are the lessons learned?		
Answer	ENRESA regularly submits to the different authorities official reports and documents that reflect his activities comprehensibly. In relation to the operation of the El Cabril centre, the neighbouring Town Councils and the corresponding Regional Governments of Andalusia and Extremadura are regularly given with reports and summaries of the activities and also the results of the Environmental and Radiological Monitoring Plans. Furthermore, ENRESA has in place an active communication and information programme aimed to provide to the stakeholders and public in general with relevant information about on-going activities and projects at the El Cabril. As an example, this programme includes regular meetings with representatives from the Town Councils, sessions with media mass, open-gate policy for group visits to the centre and web site services including FAQ and hot line.		
Q.No 34	Country Japan	Article Article 16	Ref. in National Report H, 157
Question/ Comment	16.2.4. of Section H states that "In December 2001, on completion of a characterisation campaign on the CE-2a container per-formed in accordance with the French Fundamental Safety Rule RFS-III.2, ENRESA submitted to the CSN a request for authorisation of a modification with revised acceptance criteria. These proposed that the criteria be applied to the disposal units, thus allowing credit to be given to the properties of the container, leaving the acceptance crite ria for primary waste packages as the specification guaranteeing their quality, as agreed on between ENRESA and the producers". Please provide more detailed information about quality of the waste packages. How is the quality of the waste package assured? How is the quality of the waste management facilities assured?		
Answer	ENRESA currently possess an acceptance methodology for primary packages from nuclear facilities, compliance with which is part of the Operating Technical Specifications of the El Cabril disposal facility. The methodology for the acceptance of LILW produced by the nuclear facilities is based on the preparation of specific acceptance documentation for each waste package-type and producer, including a description of the characteristics and activity of the wastes and the waste package production processes. Compliance with the acceptance criteria will be specifically checked by ENRESA. In this respect, ENRESA has implemented a system of inspections, production controls and verification tests that guarantees that the waste packages received at the El Cabril disposal facility comply with		

	the acceptance criteria, for which it applies to the different types of packages generated at the nuclear facilities a quality methodology and criteria previously authorised by the regulatory authorities. In a last step in this methodology, ENRESA is authorised to perform destructive and non-destructive technical verification tests, performed mainly at the laboratory of the El Cabril disposal centre. All activities relating to the management of spent fuel and radioactive waste are subject to a quality assurance programme (QAP). The licensee of the authorisation for the regulated facility or activity is responsible for establishing and implementing the QAP. QAP's are required to comply with standard UNE 73-401 "Quality assurance at nuclear facilities", the requirements of which are equivalent to those of Appendix B of the USNRC's 10 CFR50 and to those of the IAEA 50-C/SG-Q codes and guide lines on quality assurance at nuclear power plants and other nuclear facilities. The quality assurance standards of the country of origin of the project and the guidelines and codes issued by the IAEA may also be acceptable for the establishment of quality assurance programmes. The CSN has issued several safety guides to facilitate the implementation of the QAP's.

Q.No	Country	Article	Ref. in National Report
35	Korea, Republic of	Article 16	p.155 (H.16.2)

Question/ Comment	IAEA SSR-5 "Requirement 20" recommand that "waste acceptance requirements and criteria for a given disposal facility have to ensure the safe handling of waste packages and unpackaged waste in conditions of normal operation and anticipated operational occurrences". - What is the acceptance criteria of radioactive waste disposal? - What is the anticipated operational transient state considered when establishing requirements?
Answer	Referring the answer to El Cabril disposal facility, the specific information about activity limits for individual radio-isotopes as well as numerical values of waste acceptance criteria is included in the authorisation granted by the MITYC and also in the official documents governing the operation of the facility. The official document "Waste Acceptance criteria" establishes the limits and criteria that need to be accomplished by the Disposal Unit (DU) in order to be accepted and consequently disposed of in the disposal cells. As example, the basic LILW Disposal Unit (DU) of El Cabril is a prismatic container able to accept 18, 220l drums of conditioned wastes, and includes the conditioned wastes and the filling and sealing mortar. There are two Levels with different acceptance criteria, depending essentially on mass activity limits and activity distribution criteria. In addition Level 2 DU needs to meet confining objectives. All have to meet non radioactive contain criteria, and recoverability and transportability criteria. Regarding the conditioned wastes, there are also two levels with activity limits derived from those of the corresponding DU. Matrices of immobilised wastes have to meet different criteria and quality objectives for compression and immersion tests. In addition matrices for Level 2 packages need to demonstrate its capacities to leaching and thermal cycles. If wastes are conditioned with a hydraulic agglomerate wall, this is also subject to diffusion tests.

	Mass activity limits are established for individual radioisotopes. In the table below, limits for some specific isotopes are given (kBq/g) as example: Isotope / DU Level 1 / DU Level 2 H-3 / 7.4 / 1000 Co-60 / 3.7 / 50000 Cs-137 / 3.7 / 330 Total â-ã / 37 / n.a Total á (at 300y) / 0.185 / 3.7 The official document “Waste Acceptance criteria” establishes the limits and criteria that need to be accomplished by the Disposal Unit (DU) in order to be accepted and consequently disposed of in the disposal cells. As example, the basic LILW Disposal Unit (DU) of El Cabril is a prismatic container able to accept 18, 220l drums of conditioned wastes, and includes the conditioned wastes and the filling and sealing mortar. There are two Levels with different acceptance criteria, depending essentially on mass activity limits and activity distribution criteria. In addition Level 2 DU needs to meet confining objectives. All have to meet non radioactive contain criteria, and recoverability and transportability criteria. Regarding the conditioned wastes, there are also two levels with activity limits derived from those of the corresponding DU. Matrices of immobilized wastes have to meet different criteria and quality objectives for compression and immersion tests. In addition matrices for Level 2 packages need to demonstrate its capacities to leaching and thermal cycles. If wastes are conditioned with a hydraulic agglomerate wall, this is also subject to diffusion tests. Mass activity limits are established for individual radioisotopes. In the table below, limits for some specific isotopes are given (kBq/g) as example: Isotope / DU Level 1 / DU Level 2 H-3 / 7.4 / 1000 Co-60 / 3.7 / 50000 Cs-137 / 3.7 / 330 Total â-ã / 37 / n.a Total á (at 300y) / 0.185 / 3.7 The assessment of the radiological impact of El Cabril includes two groups of scenarios related to the phase of operation and to the long-term behavior. During the phase of operation they have been considered to be the routes of external and air exposure under normal operation and accidental conditions. In general, for every considered scenario particular hypotheses have been supposed in order to evaluate the doses

	more there of the critical individual. The radiological consequences of these scenarios are lower than the radiological limits imposed by the CSN. In the phase of operation: Scenarios via air They are assessed both systems that liberate gases to the atmosphere in order to assure that the dose than the hypothetical member of the public in the limit of the restricted area should belong lower to the accepted limits: • Controlled ventilation system • Chimney of the incinerator The gaseous effluents arise, principally of: • Process of waste compression of packages from nuclear facilities • Extraction of samples of the active packages in the laboratory • Waste incineration of the institutional producers that could not be conditioned otherwise • Incineration of organic radioactive liquids In accidental conditions, the following scenarios have been considered: • Incident involving a primary package during its handling producing losses of integrity (drop case) • Fire of wastes out of the incinerator • Loss of confinement during compacting operations or abnormal functioning of the system of controlled ventilation Scenarios of external exposure During the normal operation they have been assessed the doses for exposure to: • Disposal unit located in the disposal cell • Transport lorries loaded with primary packages located close to the Temporary Reception Building and • Primary Packages into the Buildings (Temporary Reception, Conditioning, Active laboratory)

Q.No	Country	Article	Ref. in National Report
36	Korea, Republic of	Article 16	p.150 (H.15.2)

Question/ Comment	Article 16 (ix) of the Joint Convention states that "plans for the closure of a disposal facility are prepared and updated". - How often is the plan for the closure of disposal facilities updated?

	- what are the criteria for review of the regulatory authority?		
Answer	The Plan for closure is one of the elements of the Operating permit for El Cabril for which permit is established a system of Periodic Safety Review (PSR), to be performed every ten years. The PSRs do not replace the activities of analysis, control and monitoring that are carried out continuously at the El Cabril centre, but are aimed at providing an overall assessment of t he safety and radiological protection of the installation and at analysing the experience acquired and ensuring that the licensee is committed to the implementation of possible improvements, taking into account the current situation and whatever new technology-related or regulatory circumstances may have occurred. ENRESA submitted the first El Cabril PSR to the competent authorities in December 2033, this including the analysis for the period elapsing from the beginning of operation (1992) to the current authorisation.		
Q.No 37	Country Netherlands	Article Article 16.1	Ref. in National Report H
Question/ Comment	In the case of radioactive facilities, the producer is required to request the removal of his wastes. What is the maximum period within a waste producer has to remove the waste from its site?		
Answer	Currently, there is not a maximum period within the licensee of a radioactive installation has to request ENRESA for the removal of the accumulated radioactive waste. In fact, most of this installations produce quite limited amounts of radioactive waste being confirmed that all them have sufficient capacities for properly and safely store them for a time. Additionally, should be said that, in normal circumstances, ENRESA carries out the removal of this wastes by campaigns designed to collect the wastes within a given geographical area. Besides that, ENRESA has capacities to carry out specific removal operations if requested.		
Q.No 38	Country Korea, Republic of	Article Article 17	Ref. in National Report p.158 (H.17)
Question/ Comment	Section H.17 discusses the El Cabril Disposal Facility for the disposal. - Do you have a closure plan for this disposal facility? - Is there a standard for establishing the institutional management period after closure?		
Answer	The institutional management period after closure is to be defined by the competent authorities in due time. The Safety Assessment performed prior to authorisation of El Cabril facility is made up of three differentiated parts: - Safety assessment during the operating phase - Safety assessment during the surveillance phase, with institutional supervision for a maximum 300 years and - Safety assessment for the period after 300 years. Related information can be found under Article 17.3 Institutional controls and future forecasts. In summary can be said that: institutional controls imposed to restrict the use of sites at which stabilised radioactive wastes arising from the former facility remain in situ shall be contemplated specifically in the declaration of decommissioning issued (article 12 f RNRF)" Furthermore it is added "The institutional controls that will be required in future declarations of closure are not yet defined from the point of view of the organisations responsible for long-term control. It is expected that shared responsibilities will be assigned		

	depending on the different objectives of the institutional controls imposed (physical protection, documentary records, etc.).		
Q.No 39	Country United Kingdom	Article Article 19	Ref. in National Report Not Present In Report
Question/ Comment	There is nothing on delicensing within the report. Can sites be “delicensed”?		
Answer	Yes, as stated in the Law on Nuclear Energy: "Very grave infringements may, along with the fines provided, result in the revocation, withdrawal, or temporary suspension of the authorizations, licenses or registrations in Registers. Effectiveness of these measures may be ensured by the intervention or sealing of nuclear substances, radioactive materials, or equipment units producing ionising radiations, or the implementation of any applicable provisional measure"		
Q.No 40	Country United States of America	Article Article 19	Ref. in National Report E.19.2, 49
Question/ Comment	The CSN President appointed an Advisory Committee on Public Information and Participation on January 15, 2011. This Committee will be in charge of issuing recommendations to CSN to guarantee and improve participation. Has this Committee issued any such recommendations regarding spent fuel, radioactive waste, and disused sealed source management? If so, please describe.		
Answer	No recommendations regarding spent fuel, radioactive waste and sealed sources management have been raised yet. The Committee on Public Information and Participation was constituted on 2011. During this year the Committee has celebrated its first two meetings, which have mainly been devoted to the definition of the rules and Terms of Reference. A commission has been created to analyse the proposals for recommendations to the CSN. By the time being, the recommendation proposals mainly refer to actions and requirements related to the Fukushima accident, particularly related with emergencies planning and public communication and engagement regarding the results of the safety reassessment to the nuclear facilities in Spain.		
Q.No 41	Country Australia	Article Article 19.2.4	Ref. in National Report Pages 107, 159, 160 etc.
Question/ Comment	How does the Spanish regulator assess the long-term viability and capability of an operating organisation of a radioactive waste management facility such as the CTS?		
Answer	Long term viability and capability are guarantied by Law, since the management of radioactive waste and spent fuel and the dismantling and decommissioning of the nuclear facilities are considered as an essencial public service for which the State is responsible, and since the setting up of the Fund for the financing of activities included in the General Radioactive Waste Plan. The management of this service is commissioned to ENRESA, that operates under the aegis of the MITYC, through the Secretariat of State for Energy, which undertakes the strategic management and tracking and control of its technical and economic actions and plans.		

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Q.No 42	Country United Kingdom	Article Article 20	Ref. in National Report P59 section 4
Question/ Comment	The report states that coercive fines can be implemented against facilities. Who sets the values of these fines?		
Answer	The competence to impose sanctions within the Central Administration belongs, depending on the category of the infringement, to the Council of Ministers, to the Ministry of Industry, Tourism and Trade (MITYC) or to the Directorate General for Energy Policy and Mines. Those Autonomous Communities that have transferred to them functions corresponding to the MITYC in relation to 2nd and 3rd category radioactive facilities shall adhere to the requirements of their own standards. For further information regarding the sanction procedure please see the third Spanish National Report.		
Q.No 43	Country United States of America	Article Article 20	Ref. in National Report E.20, 54
Question/ Comment	Several "Autonomous Communities" exercise executive functions originally attributed to the Ministry of Industry, Tourism and Trade (MITYC) by the Regulation on Nuclear and Radioactive Facilities in relation to 2nd and 3rd category radioactive facilities. In response to a question from Belgium during review of the Third National Report, 2nd and 3rd category facilities were defined. Please elaborate on how the CSN or MITYC oversees the regulatory functions of the Autonomous Communities for 2nd and 3rd category radioactive facilities.		
Answer	As stated in the Regulation on Nuclear and Radioactive Facilities, under article 2.2 "the executive functions that in this Regulation are incumbent on the Ministry of Industry, Tourism and Trade in relation to second-and third-category radioactive facilities shall be understood as vested on the Autonomous Communities when they have said functions transferred to them". No functions from CSN are transferred to the Autonomous Comunities. Additionally, article 3.2 states that "the Autonomous Communities shall inform the Ministry of Industry, Tourism and Trade at least once a month of the permits they have granted, and they may set up, within their own territory and within the scope of their competences, their own registers."		
Q.No 44	Country United Kingdom	Article Article 21	Ref. in National Report Page 70
Question/ Comment	On page 70 of the report it is stated that the financial resources of operators are checked. How is this done especially with respect to future disposal costs which will probably not be currently available.?		
Answer	The financing system in place is based on anticipated payments of regulated fees which are accumulated in the up-front Fund for financing of the activities contemplated in the General Radioactive Waste Plan (GRWP), including radioactive waste management and decommissioning. Annually, ENRESA submits to MINETUR for review and consideration the report “Economic-financial study of the cost of the activities contemplated in the GRWP in force” that may allow to the Government to adopt whatever measure to mitigate any		

	discrepancy between the previous estimation and the last available data. In the case where a shortfall in the value of the fund is identified, corrective measures could be implemented immediately, as the established fees can be revised by the Government.		
Q.No 45	Country Netherlands	Article Article 22.2	Ref. in National Report F
Question/ Comment	The management of radioactive wastes generated at facilities such as radioactive facilities, CIEMAT or other companies is covered by the fee mentioned in section 22.2. What is the distribution factor for these non-nuclear facilities?		
Answer	With regards to the fee applied for the services covering the management of Radwastes generated at Radioactive facilities, CIEMAT and others, there is no any distribution factor among these facilities, but a fare stated in the Law for each type of service, which fixes the contribution to the Fund for each particular service rendered.		
Q.No 46	Country United Arab Emirates	Article Article 22.2	Ref. in National Report 72
Question/ Comment	The report states that the costs for management of radioactive waste finances are in accordance with the Law of 11/2009. This section further indicates that there are fees to the NPPs for spent fuel, decommissioning, and dismantlement. Can you provide the estimates of costs for spent fuel disposal/reprocessing, and dismantlement and decommissioning of an NPP, and how the resulting fees are calculated? The report states that there are 2 NPPs undergoing decommissioning and dismantlement: Please explain how the actual costs to date have compared with the predicted costs and those collected? What financial vehicle (eg investment fund) is used for deposits to assure funding is available when needed? How does the current economic conditions affect the assurance of funding for the spent fuel disposal and decommissioning of NPPs?		
Answer	The cost study, in fact cost studies, referred in in Section A.4b) is a requirement of the RNFR prior to licensing any nuclear facility. In Section L, Annex B.1, the main actions to be undertaken by the operator in the three steps of the licensing procedure are indicated: Preliminary authorisation, Construction permit and Operation permit. In paragraph f) of Construction permit and i) of Operating permit, it stands what should be included by the utility, in the corresponding application, regarding economics of decommissioning and dismantling, in order to guarantee at this stage decommissioning, but regulation does not require a specific calculation method. Cost estimates are based in dedicated studies carried out by ENRESA plus the information arisen from ENRESA's decommissioning and		

	waste management experience and also from the information shared with foreign sister organisations. According to Law 11/2009 Ninth final provision. Modification of the Nuclear Energy Act, Law 25/1964, and of the Electricity Industry Act, Law 54/1997, Point 9, states that "e) Determination of sum: The fee to be paid throughout the operating lifetime of the facility shall be the result of multiplying the payment basis by the fixed unit tariff and the coefficient of correction set out below, such that the amount to be deposited shall be the result of applying the following formula: C = B.i. x T x Cc Where: C = Sum to be deposited B.i. = Payment basis in kWh T = Fixed unit tariff: 0.669 Euro cent5s/kWh Cc = Applicable coefficient of correction in accordance with the following scale: Gross nuclear power plant power (MWe) PWR BWR 1-300 301-600 601-900 901-1200 1.15 1.06 1.02 0.99 1.28 1.17 1.12 1.09 PWR = Pressurised Water Reactor BR = Boiling Water Reactor In relation to the expenses already incurred for the decommissioning of Vandellos 1 NPP and Jose Cabrera NPP it can be said that they are aligned with corresponding cost estimates. Furthermore, it should be said that a significant average of the full cost is still to be

	incurred as in the case of Vandellos 1 NPP it is currently in dormancy status, after achieving decommissioning Level 2 status in 2003, and the activities for decommissioning Jose Cabrera NPP aimed to reach green field status are still on-going. In 1984, an external up-front Fund was set up to cover the expenses included in the successive GRWP being ENRESA the manager of such Fund. R.D. 1349/2003 sets up the basic principals for Fund management: "Article 10. Financial management of the Fund 1. The financial management of the Fund shall be governed by the principles of security, profitability and liquidity, and may materialise through the following: a) Fixed or variable yield securities quoted on the stock exchange of a regularly operating organised and officially recognised market open to the public, or at least to financial entities, Government debt, mortgage market securities and other financial assets and instruments. b) Instruments for structuring, transformation or coverage of financial investment portfolio investment operations. c) Deposits in financial entities, credits and loans to be formalised by way of public documents or policies intervened by a commissioner for oaths. d) Real estate. e) Foreign securities open to quotation on overseas exchanges or organised markets. f) Any other asset or instrument of investment that, in compliance with the principles governing the financial management of the Fund, is considered to be appropriate by the tracking and control Committee referred to in article 11. The supervision, control and qualification of transitory investments relating to financial management of the Fund is undertaken by the tracking and control Committee attached to the Ministry of Industry, Energy and Tourism (MINETUR) via the Secretary of State for Energy. This committee shall operate under the presidency of the Secretary of State and shall be made up of the Auditor General of the State Administration, the Sub-Secretary of Science and Technology, the Director General of the Treasury and Financial Policy and the Director General of Energy Policy and Mines, with the Sub-Director General for Nuclear Energy acting as secretary. The functions of the tracking and control Committee are as follows: a) Development of the criteria regarding the composition of the assets included in the Fund. b) Tracking of the financial investments, verifying application of the principles explained above. c) Drawing up of six-monthly reports describing the situation of the Fund and the investments corresponding to its financial management, along with the qualification issued by the committee, including whatever observations might be considered appropriate. This report shall be submitted to the Minister of Industry, Energy and Tourism and the Chancellor of the Exchequer.

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Q.No 47	Country Korea, Republic of	Article Article 24	Ref. in National Report p.86 (F.24.2.3, Table 10)
Question/ Comment	What is the method for determining the C-14 effluents specified in Section F.24.2.3(Table 10)?		
Answer	C-14 in gaseous effluents is sampled by absorption of carbon dioxide in alkaline solution. Inorganic and organic C-14 activity is separately quantified. While inorganic carbon is released as carbon dioxide, the organic carbon that is released in form of methane and other hydrocarbons is previously oxidized in a catalytic oven becoming carbon dioxide. The C-14 activity in the alkaline solution is measured by liquid scintillation.		
Q.No 48	Country Romania	Article Article 24.2	Ref. in National Report F, 83
Question/ Comment	Please briefly describe the monitoring of gaseous effluents from El Cabril disposal facility.		
Answer	The facility is provided with detectors for a continuous monitoring of the total alpha and beta activities. On the other hand, gaseous effluents are sampled in a continuous way and then analysed to determine: - Tritium, C-14 and principal gamma emitters on monthly bases - Total Beta and Total Alpha on weekly bases		
Q.No 49	Country United Kingdom	Article Article 25	Ref. in National Report Page 90
Question/ Comment	Why are no emergency exercises considered necessary on disposal sites?		
Answer	There should have been any kind of misunderstanding .The question refers to Pg 90 where information about Basic Standard on Self-Protection and Basic Nuclear Emergency Plan (PLABEN) is provided, so we cannot identify where your question arises from. Nevertheless a mandatory site emergency drill is performed annually at El Cabril low and intermediate level radioactive waste disposal facility. The objective of this emergency drill is to check the suitability of the facility's Site Emergency Plan through the performance of a set of activities covering the majority of the radiological emergency response actions established in the said Plan.		
Q.No 50	Country United Kingdom	Article Article 25	Ref. in National Report Page 95
Question/ Comment	ENRESA takes over responsibility for radioactive waste management upon commencement of decommissioning. How is this defined and does this mean that no decommissioning can take place before this time?		

Answer	As indicated in 26.1, according to article 4, section e) of Royal Decree 1349/2003, the responsibility for operations deriving from the decommissioning of nuclear and radioactive facilities corresponds to ENRESA. For its part, the Regulation on Nuclear and Radioactive Facilities indicates that when the operating permit for a nuclear facility expires, the responsibility for decommissioning lies initially with the licensee of the facility who, prior to granting of the corresponding authorisation is in charge of the so-called pre-dismantling activities. For granting of the dismantling authorisation, the licensee of the operating permit must previously have conditioned the operating radioactive wastes generated during the operation of the facility (art. 28), in accordance with the acceptance criteria of the storage installation to which they are to be transferred. Secondly, the licensee of the facility must have unloaded the fuel from the reactor and the irradiated fuel storage pools or, otherwise, have a spent fuel management plan approved by the MITYC, (currently MINETUR) following a report by the CSN (art. 28). As was indicated in the Third National Report, the obligations are also specified and set out in detail in a contract between ENRESA and the nuclear power plant owners, approved by the MITYC.		
Q.No 51	Country Czech Republic	Article Article 26	Ref. in National Report B/190
Question/ Comment	In order to obtain the operating permit, so-called “Dismantling and Decommissioning Forecasts” must be submitted. Can be the “Dismantling and Decommissioning Forecasts” considered for a preliminary decommissioning plan? Are the regular revisions mandatory?		
Answer	First consideration to future activities related to radioactive waste management and decommissioning is paid under the request for Construction permit which should be accompanied by a specific document related to F) Technological, economic and financing forecast for dismantling and decommissioning. Further steps in the licensing process require for more specific information related to these aspects. The operational permit renovation allows to update these forecast if convenient.		
Q.No 52	Country Korea, Republic of	Article Article 26	Ref. in National Report p.95 (F.26)
Question/ Comment	What is the regulatory standard for the restrictive and free release of the site after completion of the decommissioning?		
Answer	In 2007, the Nuclear Safety Council (CSN) issued Instruction IS-13, on the Radiological Criteria for the Release of Nuclear Installation Sites. The following conditions are associated with the release of nuclear sites: - Radiological criteria		

	The effective dose to the representative individual of the critical group from residual activity on the site's ground after its release shall not exceed a value of 0.1 mSv/year. The new background radiation dose at the released site shall be considered the sum of the dose from residual activity plus the existing dose previous to the operation of the installation. - Radiological criteria for restricted release A total or partial release of a site with use restrictions shall be considered acceptable: 1. Provided that it can be proved that any additional reductions in the residual activity, required to release the site without restrictions, may result in actual harm to the public or the environment, taking into account all possible radiological damages in the process; or provided that the residual levels associated with the restricted conditions are as low as reasonably achievable, taking into account social and economic factors (ALARA). 2. Provided that the operator supplies sufficient means to establish and keep legal and institutional controls to reasonably guarantee that the effective dose from residual activity to the representative individual of the critical group does not exceed 0.1 mSv/year. This value shall apply to the entire ground of the site. 3. Provided that it can be ensured that the dose received by the representative individual of the critical group as a consequence of any allowed uses does not exceed the maximum established value. Should the institutional control on the restrictions fail and render them ineffective, the dose received by the representative individual of the critical group shall not exceed a value of 1 mSv/year. - Evidence of compliance with radiological criteria. The operator shall put forward a set of release levels and provide evidence of compliance with the radiological criteria and with the site's planned end use. In José Cabrera NPP Decommissioning Plan a set of release levels for different radioisotopes have been proposed using the RESRAD code for their calculation. The RESRAD code uses realistic and specific site parameters for the calculation of the release levels. It is necessary also that the operator provides evidence for the methodology used to perform the final radiological classification for the site, in order to demonstrate that all established radiological criteria are met.

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Q.No	Country	Article	Ref. in National Report
53	Korea, Republic of	Article 26	p.96 (F.26.1)
Question/ Comment	Section F.26.1 states that the licensee who was in charge of pre-dismantling activities in the beginning carries the responsibility for decommissioning when the nuclear reactor operation license expires. What are the pre-dismantling activities and the national policy for decommissioning?		
Answer	As stated in the current General radioactive Waste Plan in force, the reference scenario foresees the total and immediate dismantling (Up to Level 3) of all the light water NPP's, to be initiated 3 years after their definitive shutdown. Before obtaining the decommissioning license, the Regulation on Nuclear and Radioactive Facilities establishes that the license holder will communicate the Ministry of Industry its intention to definitively shutdown the plant, at least, one year in advance. The Ministry will state the definitive shutdown of the plant after obtaining the binding report of the CSN, stating the conditions for the activities to do before getting the decommissioning license. These predismantling activities will include the removal of all the Spent Fuel from the reactor and the storage pool and the conditioning of all the operation radioactive waste. Decommissioning activities are envisaged for a period of 7 years after it, that will lead to the total release of regulatory control of the site. As regards Vandellós I NPP (the only Spanish NPP using gas as refrigerator), and with Level 2 dismantling having been completed, this plant became a passive installation that will remain in this situation, under the responsibility of ENRESA, throughout the dormancy period (initially estimated at 25 years), until such time as total dismantling is undertaken, partial release of the site being possible during this intermediary period.		

Q.No	Country	Article	Ref. in National Report
54	Russian Federation	Article 26	F., page 95
Question/ Comment	What decommissioning options (immediate dismantling after shut down, delayed dismantling, other) are permitted by the national regulator for different facilities?		
Answer	As stated in the current General radioactive Waste Plan in force, the reference scenario foresees the total and immediate dismantling (Up to Level 3) of all the light water NPP's, to be initiated 3 years after their definitive shutdown. Decommissioning activities are envisaged for a period of 7 years after it. Thus, complete and immediate dismantling was chosen for the decommissining of Jose Cabrera NPP, releasing practically all the site and thus allowing it to be used without restrictions. As regards Vandellós I NPP (the only Spanish NPP using gas as refrigerator), and with Level 2 dismantling having been completed, this plant became a passive installation that will remain in this situation, under the responsibility of ENRESA, throughout the dormancy period (initially estimated at 25 years), until such time as total dismantling is undertaken, partial release of the site being possible during this intermediary period.		

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Q.No 55	Country Slovakia	Article Article 26	Ref. in National Report 26.4,97
Question/ Comment	Please provide your experience with selection, archiving and long term transfer of operational information relevant for decommissioning including guidance on implementation of these records for preparation of decommissioning plant.		
Answer	Nuclear Safety Council Instruction IS-24, of May 19th 2010, regulating the filing of nuclear facility documents and records and their retention period is the key reference on this topic. The documents and records necessary for the decommissioning of the installation, as well as the generated ones during the same one, which they document how there has been realized the above mentioned decommissioning and the final condition of the site, will remain up to the obtaining of the declaration of closure. With the declaration of closure, the documents and records of the final condition of the site will be put at the disposal of the CSN, this transfer of documentation being regulated in the same terms that the indicated ones in the Instruction of February 5, 2003, of the Nuclear Safety Council, number IS-04, by that there are regulated the transfers, file and custody of the documents relative to the radiological protection in Nuclear Power Plants in order to his decommissioning and closure. See also response to Q 58		
Q.No 56	Country Hungary	Article Article 26.1	Ref. in National Report F, 26.2 p. 96-97
Question/ Comment	The Report states: "Generally speaking, the financing of nuclear power plant dismantling and decommissioning is defined and regulated by the Electricity Industry Act, Law 54/1997. The sixth additional provision of this Act, modified by Law 11/2009, of October 27th, establishes two different financing routes, as described in Art. 22.2., depending on the operational status of the facility in question as of January 1st 2010." Q: Please clarify the situation on financing the PIMIC-project, especially dismantling of JEN-1 experimental reactor and the irradiated fuel reprocessing pilot plan.		
Answer	The PIMIC project involves the dismantling of JEN-1 research reactor and other instalations and pilot plants that cannot be considered as operational reactors, but as a research facilities. The fee relating to the electricity tariff (explained under pages 72 and 73) also includes the quantities set aside to cover the part of the Fund for the financing of the costs of managing Radwastes arising as a result of research activities determined by the MITYC to hace been directly related to nuclear electricity generation. PIMIC project is being financed partly by this fee, in those activities that MITYC has determined to be directly related to nuclear energy generation, and partly by CIEMAT.		
Q.No 57	Country Bulgaria	Article Article 26.4	Ref. in National Report p. 97
Question/	The report describes the procedure for transfer of responsibilities and rights in respect of facilities being decommissioned.		

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Comment	Could Spain clarify how it uses the possibility of Article 2, point j of the Convention? Is a specific Governmental decision needed for the change of facility purpose and is the operator changed and how?		
Answer	In relation to Article 2, point J of the JC, nuclear facilities in the process of being decommissioned are not designated by the Spanish framework as radioactive waste management facilities.		
Q.No 58	Country Netherlands	Article Article 26.4	Ref. in National Report F
Question/ Comment	Could you please specify what information is exactly to be retained?		
Answer	The documents and records necessary for the decommissioning of the installation, as well as the generated ones during the same one, which document how there has been realized the above mentioned decommissioning and the final condition of the site, will remain up to the obtaining of the declaration of closure. With the declaration of closure, the documents and records of the final condition of the site will be put at the disposal of the CSN, this transfer of documentation being regulated in the same terms that the indicated ones in the instruction of February 5, 2003, of the Nuclear Safety Council, number IS-04, by that there are regulated the transfers, file and custody of the documents relative to the radiological protection in Nuclear Power Plants in order to his decommissioning and closure. The not permanent documents and records will remain during a period not least than five years. They will be considered to be like the permanents ones, the documents and records that fulfill one or more of the following criteria: • They document how the nuclear installation has been designed and constructed, • They provide evidence of how the nuclear installation has been tested and put in service, in agreement with the design criteria, • They document the characteristics of the elements accepted for their use in the nuclear facility, demonstrating that the quality of the original equipment and of the supplies is fulfilled by them with the design specifications, • They document the elements and activities accepted, with non-conformities, • They demonstrate the capacity of functioning component, as for his relation with the nuclear safety and the radiological protection, • They contain necessary information for maintenance, reparations, substitutions or modifications of equipment, • They contain necessary information to carry out inspections or structures' tests, systems and components of the installation, • They demonstrate that the maintenance of the plant is carried out in conformity with the requirements of design and the approved maintenance program, • They contain information necessary for the appropriate training of the personnel, • The contain significant information to determine the reason of an accident or malfunctioning of an structure, system or component, • They confirm the reliability of the design on the basis of the historical behavior of the plant, • They demonstrate the fulfillment of applicable regulations,		

	• They demonstrate that the doses to the personnel and effluents releases are kept below the established limits, • They contain information required for the proper management of the nuclear substances and radioactive waste generated, • They document the characterization, conditioning and storage of the nuclear substances and the radioactive waste generated or managed in the facility, • They contain information necessary for the decommissioning of the facility, • They document how the installation has been decommissioned and the final condition of the site.		
Q.No 59	Country Czech Republic	Article Article 28	Ref. in National Report 28.11/121
Question/ Comment	In this section the management of Ra-226 needles is described. Are these needles disposed in the existing disposal facility or are they waiting for future disposal in another disposal facility? If yes, what method for storage is used?		
Answer	Ra-226 needles from old medical practices are subjected to interim storage in the existing disposal facility. So far, the way for disposal has been to send them to an authorized disposal facility outside Spain.		
Q.No 60	Country Portugal	Article Article 28	Ref. in National Report J, 169
Question/ Comment	Regarding the IAEA Code of Conduct on the Safety and Security of Radioactive Sources, could Spain please provide specific practical information about the application of this code?		
Answer	The IAEA code of conduct includes many provisions related to radiation safety, regulatory body, authorization and others previously regulated through the IAEA International BSS and, for the case of the UE countries, through Directive EURATOM/96/29. All these provisions are incorporated into Spanish national regulations and fully implemented. New provisions included in the Code of Conduct are mainly related to Radiation Security. To implement these requirements Spain has translated into national regulations and implemented Directive EURATOM/2003/122 on the control of high-activity sealed radioactive sources and orphan sources. Practical implementation of this Directive has been carried out through Royal Decree 29/2006. New requirements related to control of High Activities Sealed Sources (HASS) have been introduced: - Sources marking, labeling, pictures, storage and periodic testing. - Records for each source to be written by the holders and sent to the authorities when any change in the situation of the source takes place, including theft and loss control. - National Inventory of HASS to be built up and managed by CSN. - Requirements for surveillance and recovery provisions for radioactive orphan sources at places, as metal scrap factories and other locations, where they are more likely to be found. In addition, Royal Decree 1308/2011, on security of nuclear materials and facilities and radioactive sources, has been released		

	November 2011. This regulation is intended to implement a security system at the facilities where radioactive sources are located with the following objectives: - Protect against theft or unauthorized handling. - Assure availability of adequate measures to find and recover control on theft or lost sources. - Protect against any malefic action with potential for radiological consequences or severe influence on the operation of facilities or activities. - Mitigate or reduce radiological consequences from sabotages. CSN is currently developing technical regulations and guidance for the implementation of this regulation for radioactive sources, it is planned to have it fully implemented by the middle of the year 2013.		
Q.No 61	Country Belgium	Article Article 32	Ref. in National Report Sections B.3 page 16
Question/ Comment	Could Spain please provide an example of “occasional incidents” mentioned in the list?		
Answer	Mainly, we refer to the incidents involving the smelting of a radioactive source in steelyards, as a result of being Spain one of the main consuming and importing countries of metal scrap in the UE.		
Q.No 62	Country Belgium	Article Article 32	Ref. in National Report Section B.5 page 21
Question/ Comment	According the report that mentions “On-going improvement of knowledge of the waste…”, does this mean that already disposed waste can be recharacterised?		
Answer	The “On-going improvement of knowledge of the waste and regarding methods and techniques to the performance of the disposal system and safety assessment” means that ENRESA is working on the improvement of methods of determination of the activity of those radionuclides more difficult to measure. This variable is currently obtained using factors of scale methodologies or average activity concentrations. These both approaches normally tend to overestimate activities. A second area of work is the improvement and development of tools used in the determinations of safety assessments. The entire program does not mean that ENRESA is planning the re-characterisation of the waste.		
Q.No 63	Country France	Article Article 32	Ref. in National Report B.3 - p. 15 and 16, B.4 - p. 17 to 20
Question/ Comment	Research reactors (ARBI, ARGOS, CORAL and JEN-1) had been operated in Spain and now, these reactors are totally dismantled or in dismantling stage. Nevertheless, in the Spanish report, there is no information on the management of spent fuel coming from these		

	research reactors. Could Spain give information on the management of the spent fuel removed from ARBI, ARGOS, CORAL and JEN-1 reactors (storage, reprocessing, storage facility location of the spent fuel and / or radioactive waste)?
Answer	Preliminary design studies of a geological disposal facility have been carried out in the past. The main outcomes of these activities have been two, non-site specific, basic designs and the corresponding complete performance assessments in two host rocks (granite and clay). On the other hand, Spain is participating in several international R+D initiatives and projects (EU, NEA, etc.) and has carried out some experimental work in foreign underground laboratories. Domestic R+ D has also continued to address many of the issues associated with a geological disposal facility. All of the above forms a sounded framework for addressing further, more detailed steps in the development of an underground disposal repository for SF, HLW and long-liver radioactive waste.

Q.No	Country	Article	Ref. in National Report
64	Hungary	Article 32	B.4, page 17
Question/ Comment	It would be more informative, if the technology used in the existing Individualised Temporary Storage (ITS) sites (Jose Cabrera, Trillo) would be named and more detailed.		
Answer	The ITS of Trillo is provided with a technology based on dual purpose metal casks (ENSA DPT). Their multiple wall design (stainless steel – lead – stainless steel – neutron shielding – stainless steel) guarantees the confinement of the system, monitoring the maintenance of pressure in the space between the two main layers of the cask. The casks are placed in a dedicated building to meet NPP dose rate design criteria. The building has a capacity for 80 casks, each of them holding 21 fuel elements, non-encapsulated. The casks that formerly were licensed for a maximum fuel burnt-up of 45 GWd/tU has been relicensed to achieve a higher burnt-up level of 49 GWd/tU. The ITS of José Cabrera is based on the use of welded metallic canisters inserted in metal-concrete or totally metallic modules for the storage and transport functions, respectively. These containers are stored temporarily at the plant itself in an outdoor facility, also especially constructed for this purpose. The dry storage system for spent fuel used at this nuclear power plant is the Holtec International HI-STORM 100 system which consists of a set of three components: the multi-purpose canister, the concrete and metal storage module and a transfer cask for transfer of the canister from the pool to the storage or transportation over-packs. Each canister has capacity for 32 W PWR 17x17 fuel assemblies, and the storage pad holds 12 modules which will be complemented with 4 more, containing decommissioning wastes (GTCC in the American terminology). The HI-STORM 100 system is the storage-only counterpart of the HI-STAR 100 transport system. HI-STAR is engineered to transport the canister. Since the canister is designed to meet the requirements of both storage and transportation regulations, the HI-STORM 100 system allows rapid decommissioning of the ITS by simply transferring the loaded canister directly into the HI-STAR 100 over-pack for off-		

	site transportation. This alleviates the additional fuel handling steps required by storage-only casks to unload the cask and repackage the fuel into a suitable transportation cask.		
Q.No 65	Country Hungary	Article Article 32	Ref. in National Report B.4.1, page 18
Question/ Comment	Comment to Figure 4.: There is no visible difference between already decommissioned uranium mills and mills under decommissioning, however the legend shows their difference. Eight operating nuclear reactors are mentioned in A.2. chapter and one nuclear power plant, that is shut down. Figure 4. shows that Vandellos I is already in the decommissioning phase.		
Answer	"La FUA" (Fábrica de Uranio de Andújar) was a milling facility located in Andújar (Jaén) for the production of yellow cake, in operation from 1959 to 1981. Dismantling and restoring activities started in 1991 and finished in 1995. Nowadays, the site is subject to a surveillance and control period until it can be released from regulatoy control. "Planta Lobo-G" was a milling facility located in La Haba (Badajoz) for the production of yellow cake between 1977 and 1990. Dismantling activities where carried out between 1995 and 1998, leading to the current surveillance and control period until it can be released from regulatory control. "Planta Elefante" was a milling facility located at Saelices el Chico (Salamanca) producing yellow cake since 1975 for a period of 20 years. Dismantling activities lasted from 2001 to 2004. The site faces now a surveillance and control period until it can be released from regulatory control. "Quercus" was a milling facility located at Saelices el Chico (Salamanca) that produced yellow cake from 1997 to 2003, the latter being the year of its shutdown. Decommissioning process is still pending a final decision of the licensee. There are 8 nuclear reactors (6 sites) currently operating in Spain: Santa María de Garoña NPP, Ascó I&II NPP, Almarazo I&II NPP, Cofrentes NPP, Vandellós II NPP and Trillo NPP Additionally, there are two reactors under decommisioning: José Cabrera NPP is currently in decommissioning phase, started in 2010 the duration of which is envisaged for 6 years up to IAEA level 3, this is the total release of the site. Vandellós I NPP option for decommissionong was a deferred strategy, being now in a dormancy period after which the site will be released from regulatory control. The Spent Fuel was sent to France for reprocessing.		

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Q.No	Country	Article	Ref. in National Report
66	Korea, Republic of	Article 32	p. 19 (B.4.2)
Question/ Comment	Section B.4.2 deals with the study on the final disposal options for spent fuel and high-level waste. What are the site selection plan and the disposal schedule based on this study?		
Answer	As mentioned in Section B.4.2 Spain has being working since 1985 in the several elements required for implementing a plan to end in a geological disposal facility. Accordingly a Site Selection Plan was carried out, conceptual designs for each of the most favorable lithologies were developed as well as performance assessments exercises for them. R+ D in underground disposal are currently going on to acquire and improve technical knowledge. Additionally, the process of site designation for the CTS has brought up a lot of lessons on how to improve interactions with the public and get a successful end with the acceptation of a radioactive waste management facility. Both strategic lines will soon allow to decide more detailed steps in the development of an underground disposal repository for SF, HLW and long-liver radioactive waste.		
Q.No	Country	Article	Ref. in National Report
67	Portugal	Article 32	B.5, 20
Question/ Comment	Could Spain please explain how the management of scrap metal waste contaminated with NORM is carried out in practical terms?		
Answer	In 1999 several Governmental bodies (herein including the regulator of nuclear safety) jointly with ENRESA and sectorial representatives of the iron and other metals recycling industry, including the most relevant Trade Unions, signed a Protocol to co-operate in the radiological surveillance of scraps. The aim of the Protocol is to collaborative work in the early prevention and detection of contaminated scraps or radiological stuff that could be incorporated inavertedly to the installations of the recycling facilities. One of the points addressed in the Protocol is the case where these materials are detected. In that case, if the result of the additional radiological measures, following detection, is below the applicable radiological criteria defined by the authorities, all the stuff is managed following “conventional” routes, which in the case of scrap metal containing NORM´s means normal processing. On the contrary, when the measured radioactive levels are above the applicable radiological criteria the contaminated scrap is managed as a radioactive waste.		
Q.No	Country	Article	Ref. in National Report
68	Romania	Article 32	B3, 16
Question/ Comment	Taking in consideration the large amount of tailings from uranium mining and processing (around 75 million tons of mining tailings and some 14 million tons of process tailings), what are the management actions applied furthermore for these tailings: advanced processing or final disposal?		
Answer	Management actions for tailings from uranium mining are set up in the 6th General Radioactive Waste Management Plan of 2006.		

	According to the Plan the policy is dismantling of the installations where the tailings have been produced and “in situ” restoration of the corresponding facilities and affected land. In some cases, remedial action is also undertaken where some lots of land around the tailings fall under regulatory requirements. Restoration of tailings is done by means of its “in situ” stabilization and further cover with a multi-barrier system to avoid water infiltration and emissions of gaseous uranium descendants. Presently there 4 disused milling facilities in Spain, all of them dismantled or under long-term surveillance.		
Q.No 69	Country United Arab Emirates	Article Article 32	Ref. in National Report 15
Question/ Comment	What are the characteristic limits (toxicity, radioactivity and half-life) used in characterizing radioactive waste as very low level waste		
Answer	Definition for VLLW: The management of this category and its limits changes country to country while in this case it has been taken as primary reference the French concept that it is assumed to be the most proper for the Spanish case. In a brief definition, it could be said that are considered as VLLW those wastes with specific activities bellow and/or in the order of 100 Bq/g being the case that each radionuclide is having an individual limit arisen from the Safety Assessment (SA)		
Q.No 70	Country United Kingdom	Article Article 32	Ref. in National Report Page 16 and page 37
Question/ Comment	On page 16 the amount of LILW waste is quoted as 173,000m3 whereas the inventory on page 37 only shows a volume of just over 40,00m3 can Spain explain the reason for the difference?		
Answer	173000 m3 is the foreseen total amount of RW to be disposed of, which is the sum of the waste already generated (data in table 5, page 37) and the estimations of future generation.		
Q.No 71	Country United States of America	Article Article 32	Ref. in National Report A.2, 4
Question/ Comment	The government is responsible for defining national policy for managing spent fuel and radioactive waste through the General Radioactive Waste Plan (GRWP). This plan is on a four year cycle and was last updated in 2006. Has this plan been updated since the national report was issued, if not what are Spain's plans for an update?		
Answer	According to the Royal Decree 1349/2003, ENRESA will draw up and send the GRWP to the MITYC every four years, or whenever this Ministry so requires. However, the decision of approving the GRWP belongs to the Government, who, in this case, made it conditional on the selection of a site for the Centralized Temporary Storage Facility. So, a new proposal for a Plan is envisaged for the short time. Anycase, ENRESA must submit every year an update of the costs of the envisaged activities of the GRWP and the adaptation of the next year budget to the mentioned update.		
Q.No	Country	Article	Ref. in National Report

72	United States of America	Article 32	K.4, 177
Question/ Comment	What are Spain's national initiatives, mentioned in the national report, as a result of the Fukushima accident specifically related to spent fuel and radioactive waste management? For example, were emergency response and preparedness capabilities reviewed following the Fukushima incident? If so, please describe the conclusions reached and lessons learned.		
Answer	Licensees have analyzed the cooling systems of the spent fuel pools (SFP) and the strategies in place to face up to a loss thereof, as well as those aspects relating to the loss of radiation shielding that a decrease in the water level of the pools would entail. Licensees proposal for improvements so as to strengthen the response of the plants when faced with prolonged scenarios of loss of safety functions in combination with external events: a. Having alternative fixed and portable means to provide water to the SFP. b. Improving the instrumentation for measuring the level and temperature of the SFP. For a prolonged station blackout (SBO) situation (on-site and off-site power) licensees are implementing several measures to allow all plants to fulfill the criterion of equipment available during 72 hours with some off-site support. The most relevant proposals are the following: - Measures to ensure there is a direct current power supply to those controls and instruments needed to maintain the plant's safety conditions in such a situation. - Several backup measures with autonomous equipment (diesel generators, motor pumps, and so on). - Periodic tests to check the recovery of the off-site power supply from those hydroelectric stations which are close to the site. For dry spent fuel storage facilities the passive features of these systems provide their safety functions without the need of any electric source, external or internal. For accident conditions and extreme natural conditions passive systems still entails advantages since recovery of heat capacity may be achieved by conventional means. Licensees have been required to enhance contingencies and to implement mitigation strategies for off-design basis accidents (large scale fires) after the Fukushima accident. All our nuclear installations are going to assess if the dimension of their emergency response organizations have a size enough to cope emergencies as postulated at stress test. It is foreseen that their internal and external communication will be ameliorated specially at SBO situation and emergency management center will be refurbished at the site in the long term.		
Q.No 73	Country Argentina	Article Article 32.1.1	Ref. in National Report Page11
Question/ Comment	Are you planning to develop a procedure to apply clearance levels for surface contamination? Are approved clearance levels valid for homogenous solids and/or liquids?		

	Through which methods and measures does the CSN control the clearance of materials?
Answer	The holder of a clearance authorization has to develop specific procedures for characterization of surface contamination prior to the clearance decision. Surface contamination clearance levels are applied for the specific clearance of scrap metals to be conventionally melted and for the clearance of buildings to be reused. Clearance levels are applied to solid and liquid residual materials. A residual material is defined as any material for which no use is foreseen and need to be properly managed. Liquid and gaseous effluents object of specific release authorisations are not considered residual materials in this context. According to the CSN Instruction IS-31, issued on September 2011, the residual materials generated in controlled areas are submitted to a first categorisation process with the main objective of determining whether the material is impacted or non-impacted. Residual materials with no reasonable potential for containing radioactivity (excluding inherent levels) in detectable quantities are initially categorised as non-impacted. This categorisation process is conducted by the license holder and is based on the analysis and assessment of existing information as well as the knowledge of the process where the materials were involved. Before the release of the material, the non-impacted category needs to be confirmed by control measurement following specific procedures and criteria included in IS-31. Impacted residual materials are then classified according to the different management routes: potentially clearable materials, materials that can be decontaminated and radioactive wastes. Technically the clearance authorisation is typified as an administrative procedure permitting the conventional management of certain residual materials containing very low levels of radioactivity and arising from controlled facilities, without any type of radiological restrictions. During the operational period of a nuclear facility the license holder has to submit an application to the Ministry of Industry (MINETUR) in order to obtain a clearance authorisation. As part of the official documents supporting the dismantling authorisation of a nuclear facility a “Control Program for Clearable Materials” including all technical issues and organisational aspects related to the clearance processes has to be authorised by MINETUR. The scope of the authorisations can be the unconditional clearance of any residual material or the conditional clearance of specific residual materials e.g. scraps metals to be melted, building rubbles to be recycled or disposed of. The license holder shall apply for a clearance authorisation to the MINETUR in support of which it is necessary to attach certain documentation. CSN is in charge of the assessment of the supporting documentation so as to establish the pertinent limits and conditions to be accomplished during the clearance process. The majority of nuclear facilities in operation have already obtained authorisation for the clearance of used oils and some of them have also authorisation for the conditional clearance of scrap metals and active charcoal. None of them has applied so far for unconditional clearance authorisation. Nuclear facilities in the dismantling period have applied for unconditional clearance authorisations and also for conditional clearance of

	scrap metals and building rubble. Generally the format and contents of limits and conditions included in the authorisations are related to: Scope of the authorisation, Clearance levels values, Verification of clearance levels, Destination of cleared residual materials, Clearance records and traceability, periodic Reporting to the CSN. Clearance of residual materials is periodically inspected by the CSN staff in the different facilities. Specific inspection procedures have been approved by the CSN.		
Q.No 74	Country Netherlands	Article Article 32.1.1	Ref. in National Report B.1.
Question/ Comment	The General Radioactive Waste Plan (GRWP) is drawn up by ENRESA, approved by the Government, and communicated to the Parliament. What were the main comments of the Parliament on the last GRWP?		
Answer	The Secretary of State of Energy explained the Members of the Parliament (Congress and Senate) a summary of the content of the VI General Radioactive Waste Plan endorsed by the Government on June 2006. The main points highlighted during the subsequent discussion related the Centralized Temporary Storage Facility project: the importante of achieving a social consensus, the participation of the public and transparency and the dates and milestones of the project. Any case, different Parliamentary questions in another Parliament sessions asked the Government to assure the voluntary nature of the municipalities to host the CTS or to report about the candidates, among others.		
Q.No 75	Country Netherlands	Article Article 32.1.1	Ref. in National Report B.2.
Question/ Comment	Section B2 cites the definition of radioactive waste, as established in the Spanish Electric Industry Act: If no further use is foreseen, waste material or products containing or being contaminated with radionuclides in concentrations or levels of activity in excess of those established by the MITYC, are considered to be waste. Does the Spanish regulation (or practice) specify a maximum period within which reuse should take place, or require a certain perspective of reuse? If not, an owner of waste material could for instance keep contaminated material on its site for a long time argueing that the material will be reused some time in the future, wihout specifying when.		
Answer	The material will be considered as waste until the owner decides a use for it and the regulator agrees.		
Q.No 76	Country Netherlands	Article Article 32.1.3	Ref. in National Report B5
Question/ Comment	It is stated that suitable mechanisms are in place to garantuee the safe management of wastes arising from facilities that do not require any authorisation within the framework of nuclear energy legislation. Besides steelyards and metal recyling plants, also e.g. the decommissioning of cyclotrons leads to the generation of quantities of radioactively contaminated of activated metal waste.		

	What are the preferred or compulsory management routes in Spain for these wastes? And what are the suitable mechanisms referred to in section B5?		
Answer	According to R.D. 1349/2003 ENRESA is the solely responsible organisation for the management of all type of radioactive wastes produced in Spain that are managed in an integrated manner through the available management routes for each RW class without prejudge of their origin. For such cases, Spain has mechanisms that allow actions to be taken to recover the regulatory control of such materials, particularly significant being the agreement between the public administrations and companies potentially affected by such cases, formalised by way of a Protocol signed in 1998. In the development of such Protocol, Law 2/2001 by its Additional provision fifteen. Amendment of additional provision six of Law 54/1997, dated 27 November, governing the Electric Sector establishes the taxes to be paid by the services rendered under the umbrella of such Protocol.		
Q.No 77	Country Hungary	Article Article 32.1.5	Ref. in National Report B.3, page 16
Question/ Comment	"Occasional incidents" are mentioned twice. Is the reason for it that the list combines the origins of radioactive waste from nuclear and non-nuclear but radioactive facilities and the incidents in these cases could be different regarding its source term?		
Answer	No, there is a mistake in the English version of the National Report		
Q.No 78	Country Hungary	Article Article 32.1.5	Ref. in National Report B.2. page 15
Question/ Comment	Some waste categories need to be clarified: It is mentioned in the B.2. chapter: “… High Level Wastes (HLW) are those that contain long-lived alpha emitters with half lives of more than 30 years ….. main exponent of this type of wastes is the spent fuel (SF) removed from nuclear reactors.” while later in the Report spent fuel is not regarded as high level waste. Table 1.: In case of long lived VLLW “in situ stabilization at mining sites” is the route of management. Later in the Report there is no further explanation about this solution, only disposal at El Cabril is considered. Are there any candidate sites for disposal of long lived VLLW? Where is the limit between the VLLW and the L/ILW in terms of activity concentration? Are there any limitations as far as VLLW disposal is concerned based on the half time of the nuclides in he waste?		
Answer	For reference about the Disused uranium mining installations restoration plan please see D.4 Facilities under decommissioning phase that provides a brief picture of the works completed in 2000 (first set) and 2007 (second set) in which long lived VLLW were disposed of on site. In relation to long lived VLLW other than arisen from the former uranium mining sites, it is foreseen that, if materials happen to be classified under such category, they should be managed in an integrated manner jointly with other long lived RW (i.e. Centralised Temporary Storage prior to geological disposition)		

	Please see attached table regarding data of operational wastes from NPPs. There are concentration limits for different â-ã emitters radionuclides at El Cabril facility; upper limits are different for LILW and VLLW. With regard to á emitters even though there are different limits for LILW and VLLW, there is a global inventory limit for the facility (2,7 E+1 TBq) and all wastes together 370Bq/g. Definition for VLLW: The management of this category and its limits changes country to country while in this case it has been taken as primary reference the French concept that it is assumed to be the most proper for the Spanish case. In a brief definition, it could be said that are considered as VLLW those wastes with specific activities bellow and/or in the order of 100 Bq/g being the case that each radionuclide is having an individual limit arisen from the SA		
Q.No 79	Country Hungary	Article Article 32.1.5	Ref. in National Report B.2., pages 14-15
Question/ Comment	"The classification of radioactive waste in Spain, from the point of view of its management and in accordance with the criteria adopted by the IAEA and the European Commission, contemplates the following categories:…." Does Spain have a waste classification system on the basis of activity concentration?		
Answer	Spain does not have a legal or official classification system for radioactive waste. Most of the time IAEA criteria are used for comparative or communication purposes but doesn't imply they are incorporated in existing regulations. After looking at the inventory, Spain decides which kinds of management routes or disposal facilities are required. When defined then comes a natural classification of waste based on the envisaged routes or facilities. Roughly speaking, it could be said that the Waste Acceptance Criteria of the so said facilities are the criteria for waste classification.		
Q.No 80	Country Hungary	Article Article 32.2.1	Ref. in National Report D.1. page 30
Question/ Comment	What is the type and the capacity of the dry storage facility on the José Cabrera site?		
Answer	The ITS of José Cabrera is based on the use of welded metallic canisters inserted in metal-concrete or totally metallic modules for the storage and transport functions, respectively. These modules are stored temporarily at the plant itself in an outdoor facility, also especially constructed for this purpose. Each canister has a capacity for 32 fuel assemblies, and the storage pad (reinforced concrete 60 cm thick) holds12 modules which will be complemented with 4 more, containing decommissioning wastes. More information could be found in Section G, responses to Article 5 and in responses to Q.7 and Q. 64.		
Q.No 81	Country Hungary	Article Article 32.2.3	Ref. in National Report D.3. page 33

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Question/ Comment	What type of temporary storage is at Juzbalo site?		
Answer	Temporary storage at the “El Cabril” facility: The “El Cabril” facility has two sets of installations used for the temporary storage of solid wastes: the “modules” and the transitory reception building. The first are three buildings constructed during the 1980’s for the long-term temporary storage of wastes. Each has a nominal capacity for 5,000 220-litre drums. At present the process of identifying units produced prior to 1992 continues, the aim being to transfer them to the disposal cells following verification of the compliance with the acceptance criteria. In addition, these installations are used to house special heterogeneous wastes pending treatment for final disposal. The transitory reception building, located on the “El Cabril” site, has an area for the buffer storage of waste packages. In addition there are areas for temporary storage in the Auxiliary Conditioning Building, the Technology Building and the Conditioning Building.		
Q.No 82	Country Hungary	Article Article 32.2.3	Ref. in National Report D.3. page 33
Question/ Comment	It is not clear what portion of the capacity of El Cabril site is already in use.		
Answer	As regards LILW, 63% of the disposal capacity is in use. As regards VLLW, 7% of the current constructed capacity is in use.		
Q.No 83	Country Netherlands	Article Article 32.2.3	Ref. in National Report D3
Question/ Comment	In the El Cabril facility systems have been installed for the conditioning of wastes from incidents at steelyards. How is this waste conditioned? Why is not chosed for decay storage of these wastes?		
Answer	The greater part of this waste stream, consisting of dust from fumes, dry sludges, inert wastes, slag, earths and refractory materials, will be conditioned by mixing them with the waste package blocking mortar in the disposal units. This conditioning will allow the wastes to be immobilised in a solid matrix. without them occupying additional volume at the facility and without altering the configuration of the disposal unit of the El Cabril Disposal Facility. The rest of the wastes generated: plastics, rubber, cloths and dust filters, will be conditioned by pressing, this producing compacted slabs which will be immobilised in containers or incinerated, as the case may be.		
Q.No 84	Country Hungary	Article Article 32.2.4	Ref. in National Report D.4.1, page 37
Question/ Comment	In case of Vandellos I NPP why Ni-63 takes the place of Cs-137 as main radionuclide of the waste?		
Answer	Vandellos 1 NPP is a 497 MW gas graphite reactor type (gas cooled reactor) being the case that the most of the activity associated to the radioactive waste currently stored on site corresponds to the graphite sleeves from the fuel assemblies		

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Q.No 85	Country Netherlands	Article Article 32.2.5	Ref. in National Report D5
Question/ Comment	In accordance with the policy set out in the 6th GRWP, the Jose Cabrera NPP is being dismantled to IAEA level 3, with a view to the site being released for use of any type. What are the release criteria in the case of 'release for use of any type'? How are these derived, or what are they based on?		
Answer	In 2007, the Nuclear Safety Council (CSN) issued Instruction IS-13, on the Radiological Criteria for the Release of Nuclear Installation Sites. The following conditions are associated with the release of nuclear sites: - Radiological criteria The effective dose to the representative individual of the critical group from residual activity on the site’s ground after its release shall not exceed a value of 0.1 mSv/year. The new background radiation dose at the released site shall be considered the sum of the dose from residual activity plus the existing dose previous to the operation of the installation. - Radiological criteria for restricted release A total or partial release of a site with use restrictions shall be considered acceptable: 1. Provided that it can be proved that any additional reductions in the residual activity, required to release the site without restrictions, may result in actual harm to the public or the environment, taking into account all possible radiological damages in the process; or provided that the residual levels associated with the restricted conditions are as low as reasonably achievable, taking into account social and economic factors (ALARA). 2. Provided that the operator supplies sufficient means to establish and keep legal and institutional controls to reasonably guarantee that the effective dose from residual activity to the representative individual of the critical group does not exceed 0.1 mSv/year. This value shall apply to the entire ground of the site. 3. Provided that it can be ensured that the dose received by the representative individual of the critical group as a consequence of any		

	allowed uses does not exceed the maximum established value. Should the institutional control on the restrictions fail and render them ineffective, the dose received by the representative individual of the critical group shall not exceed a value of 1 mSv/year. - Evidence of compliance with radiological criteria. The operator shall put forward a set of release levels and provide evidence of compliance with the radiological criteria and with the site's planned end use. In José Cabrera NPP Decommissioning Plan a set of release levels for different radioisotopes have been proposed using the RESRAD code for their calculation. The RESRAD code uses realistic and specific site parameters for the calculation of the release levels. It is necessary also that the operator provides evidence for the methodology used to perform the final radiological classification for the site, in order to demonstrate that all established radiological criteria are met.