

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
1	Canada	General	Comment	Given the status of its NPP program, it is recommended that Mexico become a Contracting Party to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.	Posted	We appreciate your recommendation and interest in our National Report. Response: We will considerate to become a Contracting Party to this Joint Convention. In fact, Mexico maintains continuous interest in the international experience sharing and cooperation.
2	France	General	Summary, 7	The United Mexican States' report summary explicitly refers to the Vienna declaration to the principle 1. It indicates that "when the projects for the three new nuclear power units described in the Introduction are solidified, the principles will be adopted in the regulatory framework". Could Mexico indicate the general safety goals the new build will have to comply with in terms of limitation of consequences of severe accident?	Posted	Currently, Mexican Government has not taken any decision for these new projects; however, as stated in mexican country report since the beginning of the Laguna Verde projet the regulations of the country of origin of the two reactors has been used as the regulatory framework, (i. e. USNRC regulations). The same regulatory framework will be applied for the new reactors, so the same safety goals defined, by the USNRC, will be used.
3	Switzerland	General	Vienna Declaration on Nuclear Safety	Principle 1 1.1 How do you define 'a new nuclear power plant'? For example: do you consider a power plant to cease being a 'new nuclear power plant' once operation begins?	Posted	New plant, or more specifically a new power reactor or unit, is one that will be licenced for the first time. This new power reactor requires the previous authorization for construction and operation.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
4	Switzerland	General	Vienna Declaration on Nuclear Safety	<p>Prevention 1.2 How does your national requirements and regulations incorporate appropriate technical criteria and standards to address the objective of preventing accidents in the commissioning and operation of new nuclear power plants? For example: can you describe the basic design objectives and the measures you have in place to ensure the robustness and independence of defense in depth measures? Consider for instance inclusion of implementation of Regulatory requirements for:</p> <ul style="list-style-type: none"> • Robustness of DiD and independency of the levels of DiD; • Design Extension Conditions (DEC); • practical elimination of high pressure core melt scenarios; • achieving a very low core melt frequency; • protecting digital safety equipment against Common Cause Failure (CCF). 	Posted	<p>As mentioned in response to question 2, Mexico has adopted regulation established by the USNRC and, consequently the same safety goals. In the case of lessons learnt from Fukushima, for example, Mexican Nuclear Authority, CNSNS required to LVNPP to comply with new requirements established, and orders issued by the USNRC. In General, changes in USNRC regulation applicable to the type of reactors of LVNPP are adopted when they come into force. Besides, CNSNS has also adopted the USNRC procedures for review and assesment, and inspection of nuclear power reactors.</p>

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
5	Switzerland	General	Vienna Declaration on Nuclear Safety	<p>Mitigation</p> <p>1.3 How do your national requirements and regulations incorporate appropriate technical criteria and standards to address the objective of mitigating against possible releases of radionuclides causing long-term offsite contamination and avoiding early radioactive releases or radioactive releases large enough to require long-term protective measures and actions. For example: can you describe the measures you have in place to protect against severe accidents and your accident management arrangements - how do you protect staff during accident management?</p> <p>Consider for instance inclusion of implementation of Regulatory requirements for:</p> <ul style="list-style-type: none"> • Engineered systems to protect the containment; • engineered systems to cool the molten core; • severe accident management, protection of staff during the accident. 	Posted	See response to question 4.
6	Switzerland	General	Vienna Declaration on Nuclear Safety	<p>Principle 2</p> <p>2.1 How do your national requirements and regulations address the application of the principles and safety objectives of the Vienna Declaration to existing NPPs?</p>	Posted	See response to question 4.
7	Switzerland	General	Vienna Declaration on Nuclear Safety	<p>2.2 Do your national requirements and regulatory framework require the performance of periodic comprehensive and systematic safety assessments of existing NPPs – if so, against what criteria/benchmarks are these assessments completed and how do you ensure the findings of such assessments are implemented?</p>	Posted	As mentioned in previous answers, since the beginning of the Laguna Verde project, the Mexican authorities established that the plant must fulfill with the regulatory framework of the country of origin of the reactor; so currently, one of the license conditions for this plant is to comply permanently with USNRC regulations, this is basically 10 CFR. According these regulations, the Mexican regulatory body performs routine and continuous inspections, audits and assessment programs to reach safety goals to provide adequate protection of the public. Mexico considers that these activities achieve similar safety objectives and goals like Periodical Safety Reviews. Despite of that, Mexico incorporated PSR as a license condition because this is a useful and strong source of information.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
8	Switzerland	General	Vienna Declaration on Nuclear Safety	2.3 Do your national requirements and regulations require reasonably practicable/achievable safety improvements to be implemented in a timely manner – if so, against what risk/engineering objective or limit are these judged and can you give practical examples?	Posted	Mexican regulator has required to LVNPP to comply with all the requirements established by the USNRC to US plants, after Fukushima.
9	Switzerland	General	Vienna Declaration on Nuclear Safety	Principle 3 How do your national requirements and regulations take into account the relevant IAEA Safety Standards throughout the life-time of a Nuclear Power Plant.	Posted	The Condition Number 3 of the Laguna Verde NPP states that "In the same manner as during the process of design and construction, start-up tests, commercial operation and uprate testing, the Federal Commission of Electricity (CFE) must follow the normative approved by the International Atomic Energy Agency (IAEA) in the fields of Nuclear, Physical and Radiological Safety of nuclear facilities and also, in the normative generated by the country of origin of the reactor that the Mexican regulatory body has determined applicable for LVNPP, all of that without conflict with the national normative that the Mexican regulatory body establishes". So, 10 CFR from USNRC has been established as the regulatory framework for the Mexican nuclear power plants. Mexico considers that 10 CFR achieves the same safety objectives as IAEA Safety Standards.
10	Switzerland	General	Vienna Declaration on Nuclear Safety	General question What issues have you faced or expect to face in applying the Vienna Declaration principles and objectives to your existing fleet or new build of Nuclear Power Plants	Posted	As it was described at the others answers, since the beginning of the Laguna Verde project, the Mexican authorities established that the plant in operation must fulfill with the regulatory framework of the country of origin of the reactor; so currently, one of the main conditions for these plants currently in operation, is to comply permanently with USNRC regulations (10 CFR) to provide adequate protection of the public. The Mexican regulatory body has requested to take the Post-Fukushima Actions in order to protect the Mexican plants and the public against the effects of events that exceed the design basis.
11	United States of America	General	pg. IV-3	Mexico has indicated that it will be exploring the potential of constructing 3 new power reactors at LVNPS in 2026, 2027, and 2028, respectively. What changes to its regulatory structure or program are under consideration or planned to support the licensing and construction of these facilities?	Posted	We recognize that the materialization of the new reactors is a strong challenge for the Mexican regulatory body, from the point of view of human and financial resources (this same challenge also is applicable for the Mexican licensee). The regulatory body will make the appropriate administrative arrangements to the Mexican authorities to increase its resources as it would be needed. Currently, the regulatory body has an agreement with a national engineering school to attract and incorporate the best students in the matter. As mentioned earlier, USNRC regulations will continue being used for the licensing and oversight processes of the possible new reactors. In this case Mexico is considering using a two step licensing process. This proces is being adapted to comply with 10CFR part 52 when operation license is granted, but including the review of the new reactor design by Mexican Nuclear Authority.
12	United States of America	General	pg. IV-3	Mexico has indicated that it will be exploring the potential of constructing 3 new power reactors at LVNPS in 2026, 2027, and 2028, respectively. What changes to its regulatory structure or program are under consideration or planned to support the licensing and construction of these facilities?	Withdrawn	

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
13	United States of America	Article 6	general	Mexico indicated that it is in the process of implementing the FLEX strategies for responding to a Fukushima-like Extended Loss of all AC power (ELAP). The third element of this strategy is the off-site storage, transportation and installation of additional redundant equipment. Can Mexico elaborate on how it is implementing this third element to ensure timely and effective delivery and hook-up of such equipment?	Posted	The options that Laguna Verde Nuclear Plant is evaluating for the use of additional off-site equipment (Third phase of FLEX) are: 1.-Support of the Mexican government agencies like: Secretariat of the Navy-Army (SEMAR), National Water Commission (CONAGUA), Secretariat of Defense (SEDENA) and Mexican Oil Company PEMEX. 2.-Use SAFER (Strategic Alliance for FLEX Emergency Response) centers support located in Memphis, TN and Phoenix, AZ in USA.
14	Austria	Article 7	Article 7 (2) (iv), p7-15	What is the definition of the third factor – impact on regulatory processes – considered in the procedure for classifying the significance of non-compliances or violations and what is its weight as compared to the other three factors?	Posted	The impact to the regulatory process factor assesses the safety or security consequences of non-compliances or violations that may impact CNSNS's ability for oversight of licensed activities or decision making related with safety or security issues. Examples: submit incomplete or inaccurate information, perform an activity that requires authorization without CNSNS approval, reporting failures, etc. Any of the four factors has assigned a fix weight in the process of evaluating the impact on safety. The relative weight of each factor depends of the non-compliance itself and the circumstances surrounding. For example, if someone received a dose beyond regulatory limits, but the licensee submits complete, accurate and timely information, we could have a non-compliance with actual safety consequences but without impact to the regulatory process.
15	Austria	Article 7	Article 7 (2) (iv), p7-16	Could you please provide more details on the cases that mandated fines and sanctions in 2013-2015?	Posted	<p>Fines</p> <ol style="list-style-type: none"> 1. The first fine was imposed because some workers of Laguna Verde Nuclear Power Plant (LVNPP) violated several security and radiation protection requirements in order to introduce an external welder to perform activities in a Diesel Generator. 2. The second fine was imposed due to several containers with radioactive waste were introduced in storage facilities authorized by the CNSNS to storage only contaminated components that were replaced during LVNPP Extended Power Uprate activities. 3. The last fine, currently in courts because it was contested by LVNPP, was as a result of actions performed in two different operating shifts. In the first case there was a failure to follow the operating logbooks procedure (omission to record in the operating logbook a relevant event during a refueling outage and a late note in the operating logbook that was no permitted by the procedure). In the second case several instructions of an operating procedure were willfully omitted during a maneuver and the specific maneuver was not included in the operating procedure followed by the operating crew. <p>Letters of reprimand</p> <ol style="list-style-type: none"> 1. The first letter of reprimand to LVNPP was issued due to a four times recidivist finding related with fire protection requirements. 2. The second letter of reprimand was issued because LVNPP personnel did not answer a CNSNS requirement on time. 3. The last one was issued considering that LVNPP personnel failed to followed regulatory requirements related with the radioactive waste management.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
16	France	Article 7.2.1	11	The inspection process allows verifying the safety of LVNPS through a review that it makes possible to determine if the license holder is staffed with competent and effective management, has a good safety culture. Could Mexico explain how safety culture is effectively evaluated?	Updated	As a regulatory body, CNSNS does not has the responsibility to evaluate the safety culture of Laguna Verde Nuclear Power Plant (LVNPP). But through his inspection process, CNSNS verifies the annual self-assessment on safety culture performed by LVNPP. So, the basis for monitor or follow the good safety culture in LVNPP is performed mainly during the inspection to review the validity of the data used by LVNPP to perform such self-assessment. The self-assessment in safety culture performed by LVNPP contains safety indicators which allows to CNSNS to get an overview the status on safety culture for LVNPP.
17	United States of America	Article 8	Section 8.1	CNSNS has experienced a significant growth in staffing and budget over the last few years despite national austerity measures. While this growth is attributed to the fee paid by the LVNPP license holder, how has CNSNS ensured that it remains an efficient and effective regulator if funding does not continue at these increased levels?	Posted	The CNSNS (Mexican regulatory body) has maintained his quality of regulator in nuclear matters, independently of the annual assignation budget. This annual budget has not suffer any decrease for salary CNSNS staff. According the nature of the fee paid by the Laguna Verde NPP licensee, this fee can not be applied for CNSNS salary staff. This fee is applied only for: external technical support organizations, research studies on radiological and nuclear matter, update and modernization of equipment, technical training, etc. It is important to mention that "CNSNS annual assignation budget" is defined as the necessary resources that the regulatory body requires to fulfill with the international commitments subscribed by Mexico.
18	Argentina	Article 8.1	8	The report says that CNSNS obtained ISO 9001-2008 certification through TÜV Rheinland in 2014 and passed the verified certification in 2015. (pag. 8-6, 8-7). Could you give more details about the scope of certification? Could you provide detailed information about the Management system of the CNSNS?	Posted	The scope of the quality management system of the CNSNS covers the processes to ensure that all activities related to nuclear and radiological safety, security and safeguards, non-nuclear material and equipment, and specified material with two possible uses (civil and nuclear), are carried out or used exclusively for peaceful purposes and to provide maximum safety for people and the environment. The core processes of the Quality Management System (QMS) of the CNSNS are: a) Regulatory Framework, b) Safety and Licensing Evaluations, c) Inspection, Monitoring, Verification and Audits, d) Emergency Support (Nuclear / Radiological), e) Enforcement and f) Regulatory Research. Regarding the support processes the CNSNS included in the QMS seven processes: a) Technology of Information and Communications (TIC), b) Purchases, c) Maintenance of infrastructure, d) Human Resources, Training and Knowledge Management, e) Documentation Centre, f) Legal Advice and Assessment and g) International Business Management. Finally the management processes are: a) Institutional Strategic Planning, b) Resource Management (budgets), c) Administration of the Quality Management System, d) Safekeeping Information and, e) Internal and External Communication. All of this processes are under internal and external audit each year in order to assure the effectiveness of the processes and keep the ISO certification
19	Russian Federation	Article 8.1	Introduction, page III-1	As stated in "Introduction" section in the National Report, the national energy programme adopted in 2015 provides for putting in commercial operation three new nuclear power plants by 2028. Considering this, are there any plans to increase regulator (CNSNS) staff and funding, open new relevant institutions, etc.?	Posted	Up to now, the CNSNS (Mexican regulatory body) has experienced a significant growth in staffing and budget over the last few years despite national austerity measures. However, the increase in staff has mainly been oriented to strengthen Radiological Safety Division an in a less degree to Nuclear Safety. As the Mexican Government has not taken the decision to restart the nuclear program, no plan, at this moment, to increase regulator staff, is in place.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
20	Russian Federation	Article 8.1	Article 8, page 8-3	As follows from the information given in page 8-3 of the National Report, CNSNS organizational structure includes Deputy Directorate General of Nuclear Safety, responsible for nuclear and radiation safety, and Deputy Directorate General of Radiation Safety, responsible for radiation safety only. How radiation safety functions of these deputy directorates general are split?	Posted	At CNSNS, the Deputy Directorate General of Nuclear Safety is responsible for nuclear and radiological safety on nuclear installations. On the other hand, the Deputy Directorate General of Radiation Safety is responsible for radioactive installations (medical and conventional industrial applications).
21	Russian Federation	Article 8.1	Article 8, page 8-7	Page 8-7 of the National Report mentions that CNSNS has contracted external consulting services from various organizations to assess operational safety. Are these safety assessments independent from operator?	Posted	Mexico has only two reactors and a short number of technical support organization (TSO). Examples of Mexican TSO are the public research institutes (ININ for nuclear and radiological matters) and (INEEL for general electrical matters). Also a short number of public professional schools with nuclear education. Regarding independence, the Mexican licensee (CFE) and Mexican regulatory body (CNSNS) never have contracted the same organization for the same issue. For instance, CFE contracted INEEL to work on Probabilistic Safety Analysis, and contracted ININ to work on environmental qualification. On the other hand CNSNS contracted INEEL to work on pressure vessel and piping structural integrity, and contracted ININ to work on extended power uprate.
22	Russian Federation	Article 8.1	p. 8-1	Could you please give structure of Secretariat of Energy departments responsible for licensing of nuclear facilities, including information about staff number, competences, average age, funding etc., because section 8 describes only the CNSNS structure.	Posted	According to the Regulatory Law of Article 27 of the Constitution on Nuclear Matters: <ul style="list-style-type: none"> • The National Commission of Nuclear Safety and Safeguards reviews, evaluates and authorizes the bases for the siting, design, construction, operation, modification, cessation of operations and decommissioning of nuclear facilities (Article 50, section III). • The Secretariat of Energy grants authorization for the siting, design, construction, operation, modification, shut down operations and decommissioning of nuclear facilities after the National Commission on Nuclear Safety and Safeguards (CNSNS) issues an opinion (Article 50, section IV). According to the Internal Regulation of the Secretariat of Energy, <ul style="list-style-type: none"> • The Secretary of Energy establishes the policy to establish new power plants to meet the needs of the country. • The National Electric System Unit and Nuclear Policy proposes to the Undersecretary of Electricity the draft policies, guidelines and programs on nuclear power. • The National Electric System Unit and Nuclear Policy analyses and issues recommendations for the siting, design, construction, operation, modification, shutdown operations and decommissioning of nuclear facilities. • The National Electric System Unit and Nuclear Policy is assisted by the Deputy Director General for Nuclear Policy and the Director of Nuclear Resources.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
23	Russian Federation	Article 8.2	Article 8, page 8-1	As follows from Article 8 of the National Report of United Mexican States, Secretariat of Energy is the authority granting operation licence for nuclear installations. The Regulatory body CNSNS prepares for the Secretariat of Energy technical reports with proposals concerning issue of license. As suggested by the structure given in page 8-12, both regulator (CNSNS) and NPP operator (CFE) report to the Secretariat of Energy, which is in contradiction with para 2 of Article 8 of the Convention. Have any measures been taken to ensure independence of regulator and NPP operator?	Posted	No, although CNSNS technical decisions has never being challenged by SENER. In that sense has technical independence "de facto". CNSNS has made some proposals to have independence but they have not progressed.
24	France	Article 10	§ 10, 7	Mexico indicates encouraging the development and implementation of good Practices for work and operation. Could Mexico explain how good practices are collected and treated?	Posted	At Laguna Verde Nuclear Power Plant (LVNPP) the main effort is focused on the reinforcement of the Operation and Maintenance Fundamentals. Through the Program of Management Observation, the management team has a presence in the field, with coaching actions, reinforcing the behavior of the operational staff and first line supervision. An induction course and pre-outage reinforcement were given to staff, including supplementary personnel, promoting good working practices, radiological and Safety Culture. Regular communication with contractor companies, emphasizing the LVNPP expectations in terms of work practices and Safety Culture.
25	Poland	Article 10	Pages 10-15	In Figure 10.4 there are clearly visible lower values for feature 6 and 8 and in departments of Production and General Operations. Has it been analyzed why and if so what actions were proposed?	Posted	The results were analyzed by the Safety Culture Ambassadors of the Laguna Verde Nuclear Power Plant (LVNPP) and they issued a series of actions, among which are the following: To implement a standardized beginning of day meeting with the minimum of subjects to treat. Communicate where we are going, how we are going and what we have to do to get it. Explain on the decisions making basis and what will be achieved with that decision. The recognition of the personal has been promoted for its good performance. To give time during meetings and daily tasks so that people express their concerns. To involve staff in decision making, problem solving or fault finding. Model with good practices, coaching and comment about the work observed. To continue with team integration activities; show the benefits of our work and the pride of belonging to this company.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
26	France	Article 12	§ 12, 7	The man-machine interface was continually evaluated in order to identify human error precursors caused by the new controls and operator aids, and to make changes in the Main Control Room if necessary. Could Mexico provide details on how the HOF aspects are taken into account in the development of design modifications in the Main Control Room?	Posted	The Laguna Verde Nuclear Power Plant (LVNPP) has not been a pioneer in the technology used in the Human Man Interface (HMI), because other plants have previous experience on this topic. However, due to the relevance of this change, the Mexican licensee decided to implement it initially at the LVNPP Simulator in order to verify its operation, to validate operating procedures and to train the personnel before these procedures are used in the LVNPP Main Control Room. At LVNPP no events related to the HMI attributable to Human Factors has occurred.
27	Canada	Article 13	p.13-9, Section: "Regulatory review and	The report states that "Also, as stated in Article 14, National Commission for Nuclear Safety and Safeguards (CNSNS), through its Baseline Inspection Programme, reviews the programmes and activities of quality-related areas, such as quality assurance and quality control" Per the information found in the compliance table in Annexe 14.1 Inspection Area: Quality Assurance Operation - reviewed every two years Quality Assurance Engineering - reviewed every two years Quality Control - reviewed every two years Quality Assurance RTMIII - no scheduled inspections Please explain why there are no scheduled inspections for "Quality	Posted	Due to an involuntary omission, the corresponding information of the periodicity of the inspections to the Research Reactor was not indicated in table 14.1. RTMIII. The frequency is as follows: Quality Assurance RTMIII - Annually. Maintenance & PCI RTMIII- Every Two years. Operation RTMIII - Annually. Radiological Protection RTMIII- Every Two years. Fuel Fabrication Pilot Plan - Annually.
28	France	Article 13	§ 13, 6	The root cause analysis of operational events has improved the identification of causal factors of human error, such as: environmental conditions; interface with equipment design or condition; verbal and written communication; training methods and qualification of personnel; planning and work practices; supervision methods; and administrative methods. Once the causal factors identified, how are there taken into account by the HOF	Posted	The HOF (Human and Organizational Factors) evaluation is performed by the Root Cause Evaluation Team along with the Human Performance Coordinator. Once the human performance and programmatic & organizational factors are identified (according to a specific procedure) at the Root Cause Analysis, the Human Performance Department develops trends and identifies which causal factors require improvement. Finally, condition reports are issued as a part of the Corrective Action Process of the nuclear plant.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
29	Argentina	Article 14.1	pag. 14-13	As mentioned in the report, the application for License renewal will be done "in conformance with the regulatory framework established by CNSNS through application of USNRC's 10 CFR 54" but is not mentioned the information about 10 CFR 54.21(c) on the evaluation of the Time-limited Ageing Analysis. Is that information going to be requested for the License renewal or maybe is already considered in other mandatory documents? Please provide additional information.	Posted	CNSNS requested the licensee to submit an Integrated Plant Assessment (IPA) which covers AMR Aging Management Reviews (AMR), Aging Management Programs (AMP) and Time-Limited Aging Analysis (TLAA), and Environmental Report, except Technical Specifications Changes. CFE submitted 47 AMP's and 24 TLAA's. Regarding TLAA, these analysis must fulfill the part 10 CRFR 54.2(c). These analyses will remain valid for the period of extended operation. The analyses have been projected to the end of the period of extended operation. The effects of aging on the intended functions will be adequately managed for the period of extended operation. Examples of the TLAA submitted to the Mexican regulatory body are: Reactor Pressure Vessel Neutron Embrittlement Analysis, Environmental Fatigue Analyses for RPV and Class 1 Piping, Environmental Qualification.
30	Argentina	Article 14.1	-	Please explain in more detail the computer programs used for deterministic safety assessment, PSA and severe accidents.	Posted	For deterministic analysis, as the list of computer programs is too long, some examples are given: <u>CNSNS</u> (Mexican regulatory body) Deterministic analysis: PARC/TRACE 4, CASMO 5, RELAP 5, ANSYS 16, etc. Probabilistic analysis: SAPHIRE 8. Severe accidents: RELAP 5/ SCADAP 3.4, MELCOR 2.1, RASCAL. <u>CFE</u> and his contractors (Mexican licensee) Deterministic analysis: NISA, ANACAP, ORIGIN 2.1, Pipetress. Probabilistic analysis: HRA- Human Reliability Calculator, FTrex, CAFTA, ACUBE and ETA for Windows. Severe accidents: MAAP 3.0B, MAAP 4.
31	Argentina	Article 14.1	pag. 14-4	In page 14 – 4 it is mentioned that Federal Electricity Commission (CFE) is working in a new uprate to 120% Rated Thermal Power (RTP). This modification was announced in 2005, and it is not finished yet. Why was the project delayed? Did the project schedule change because of Fukushima Accident? Were there design changes made after Fukushima accident? Please provide additional information.	Posted	The Fukushima Daichi accident was not involved in the delay in the Extended Power Uprate project. The reason of the delay was the Structural integrity of the reactor Steam Dryer under fatigue calcution under acoustic loads. The submitted calculations had to fulfill the USNRC acceptance criteria. Finally, as result of these calculations, the Steam Dryers of both LVNPP units were subjected to modifications and reinforcements. Furthermore, acoustic side branches were installed at the standpipe Safety Relief piping. Also, it is importante to mention that the scope of the power uprate application exceeded the content of a normal uprate application; giving some examples, introduction of a new fuel, the introduction of a system to Detect and Suppress Solution-Confirmation Density for detection of un-stabilities, Annulus Pressurization re-evaluation, etc.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
32	Austria	Article 14.1	Article 14 (1), p14-5	<p>1) What are the regulatory requirements for updating the PRA?</p> <p>2) What are the scope (full power, low power and shutdown, external events), latest status (date of plant configuration modelled) and main results of the PRAs (CDF, major contributors, LERF) for the LVNPS Units 1 and 2?</p> <p>3) The National Report states that CNSNS will require CFE to update the PRA to incorporate the post Fukushima modifications. What is the timeline for the regulatory requirement to update the PRA and for the actual implementation of this next update?</p> <p>4) What are the PRA applications currently in use at LVNPS?</p>	Posted	<p>1) <u>Regulatory requirements for updating PRA</u>: Periodic APS update: Six months after the conclusion of each Refueling Outage, Laguna Verde NPP (LVNPP) must carry out an update of PRA models based on the modifications that impact this PRA study. Update of PRA with plant data: Updating the PRA with specific Reliability/ Availability data will be performed every two cycles. 2) <u>Scope and main results of PRA</u>: The regulatory requirement only includes Levels 1 and 2 at full power for both units. The results are very similar in both units. • Level 1 results. The Core Damage Frequency (CDF) is: 3.41E-5 /year. The contribution per group of initiators are: Short-term Station Black Out 49%, Medium-term Station Black Out 32%, Short-term Transients 8%, Long-term Transients 5%, etc. • Level 2 results. The Large Early Release Frequency (LERF) is: 5.93E-7 /year. Containment failure modes: Containment fails structurally by overpressure in the suppression pool 37.24%, Containment remains intact 19.29%, Containment is bypassed by the opening of the Main Steam Isolation Valves (MSIV) or Loss of Coolant Accident (LOCA) out of the containment 14.57%, etc. 3) <u>Update PRA to incorporate Fukushima modifications</u>: Same response as 1. 4) PRA applications at LVNPP: Risk Monitor and Rule Maintenance, Risk-Informed In-service Inspection, Piping safety class 1 and 2.</p>
33	Austria	Article 14.1	14 (1), p14-6	<p>Regarding Periodic Safety Review:</p> <p>1) When was the last PSR of LVNPS Unit 1 performed?</p> <p>2) Did CNSNS review and/or approve the methodology, the report(s) and the corresponding action plan(s)?</p> <p>3) What improvement measures resulted, and</p> <p>4) What is the schedule for their implementation?</p> <p>5) What is currently the progress in implementation, i.e. if implementation of some improvements is not yet completed, is the progress made up to present considered satisfactory?</p>	Posted	<p>As mentioned in the response to earlier questions Laguna Verde Nuclear Power Plant (LVNPP) has to comply with the regulatory framework from the country of origin of the reactor (10 CFR from USNRC). In this regulation we can find 10 CFR 50.59 for changes, modifications and test. This regulation requires that those safety related changes to the installation has to be authorized by the regulatory body. This process includes the follow up of the implementation of these changes. Other relevant license condition is the adoption of the external operational experience; so the BWRVIP documents are applied for aging, water chemistry, in service inspection, etc. Mexico considers that these mentioned activities achieve similar safety objectives and goals like Periodical Safety Reviews. However license condition for operation requires a Safety Review (PSR) because the Mexican regulatory body considers that this is an important source of information. And any action that may be required from PSR will follow the process described earlier.</p>

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
34	India	Article 14.1	Page 14-6	<p>It is mentioned "Licence for Commercial Operation of LVNPS Units 1 and 2 establishes as a requirement a Periodic Safety Review (PSR). This review is not intended to renew the licence every ten years or object to the operation of the plant for the period licenced".</p> <p>Could Mexico share information on the mechanism for enforcing safety upgrades identified through PSR.</p>	Posted	<p>Since the beginning of the Laguna Verde project, the Mexican authorities established that the plant must fulfill with the regulatory framework of the country of origin of the reactor; so currently, one of the main conditions for these plants is to comply permanently with USNRC regulations, this is basically 10 CFR. According these regulations, the Mexican regulatory body performs routine and continuous inspections, audits and assessment programs to reach safety goals to provide adequate protection of the public. Mexico considers that these activities achieve similar safety objectives and goals like Periodical Safety Reviews (PSR), so is enough to enforce safety upgrades. Despite of that, Mexico incorporated PSR as a license conditions because this is an useful document and strong source of information. Also see response to question 33.</p>
35	Argentina	Article 14.2	-	<p>Is it implemented or is going to be implemented an Obsolescence Programme? Or maybe, is it already considered into other plant programmes? Please provide additional information.</p>	Updated	<p>The Obsolescence Program is going to be implemented. Currently the procedure for this program is in revision within all the organizations of the Laguna Verde Nuclear Power Plant (LVNPP). The plant has programmed put this program in operation in August 2017. The Obsolescence Program includes the participation of all the LVNPP areas: Production, Maintenance, Administration, Planning and Engineering. This program will use the Software POMS (Proactive Obsolescence Management System), which allows to share data with others nuclear power stations, to know the cases of obsolescence and its solution proposals. Currently, if an obsolescence problem appears, it is directly treated, looking for the best options for change with the available suppliers.</p>
36	France	Article 14.2	§ 14(2), 13	<p>Concerning ageing management, can Mexico give more details on the ageing management plan chosen? What are the types of controls? What are the first results? Have modifications been implemented deriving from the controls?</p>	Posted	<p>According 10 CFR 50.55a, the LVNPP regulatory framework involves the fulfillment with ASME XI Code and as a complement Generic Letter 94-03 which involves the use of BWRVIP documents for reactor internals. Currently LVNPP has submitted license renewal and the aging activities will be converted to Aging Management Programs under GALL NUREG-1801 guidelines. Up to now, after almost 26 years of operation or LVNPP, relevant aging events have appear in Jet Pumps Assemblies which have been evaluated under fracture mechanics and limit load analysis, and as a result some hardware has been installed to restore the structural integrity of these assemblies.</p>
37	France	Article 14.2	§ 14(2), 18	<p>What is the approach used to define the Design Basis Earthquake (DBE)? Has the risk of damages from other industries around the nuclear plant following a Fukushima like event been assessed?</p>	Posted	<p>The approach used to define the Design Basis Earthquake is described in Article 17.1, Pag. 17-7, Section "Geology, Seismology and Geotechnic Engineering" of the National Report. There are none industries around Laguna Verde Nuclear Power Plant (LVNPP), see Pag. 17-4, Section "Impact of industrial transportation and military facilities nearby the site" of the National Report.</p>

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
38	Argentina	Article 15	pag. 15-4	It was mentioned that “events non-related to Laguna Verde Nuclear Power Station (LVNPS) have been detected, which contributed to raising the environmental background level”. Could you provide information about these events?	Posted	<p>There have been important events in the preoperational stage to the Laguna Verde NPP which have been detected by the of Environmental Engineering organization of the plant. These mentioned events are the following:</p> <ul style="list-style-type: none"> • Fallout by detonation of nuclear weapons (1981). • Chichonal Volcano (1982). • Chernobyl Accident (1986). <p>During LVNPP operational stage Fukushima Accident (2011) was detected.</p> <p>In the event of fallout by detonation of nuclear weapons in 1981, the plant has data of the total beta activity in air and it is presented at the Figure 15.4 of the Mexican National Report. In this figure, it is observed that from December of 1980 until May of 1981 the increase in the total beta activity was registered.</p> <p>With respect to the Chichonal Volcano, which is located in the mountainous region bordering the municipalities of Francisco León and Chapultenango, in the northwest of the Mexican State of Chiapas, in March and April of 1982 it erupted three times. The Chichonal is estimated to have thrown ten times more ash and gasses than two years earlier had thrown Mount St. Helena in Washington, USA. The cloud rose to the stratosphere (almost 35 km of altitude).</p> <p>The activity that was recorded by the Environmental Engineering organization during the month of April 1982. Regarding the nuclear accident at the Chernobyl Nuclear Plant on 26 April 1986, the same organization has information and measurements. About the nuclear accident of the nuclear power station Fukushima Daiichi Genshiryoku Hatsudensho jiko occurred on March 11, 2011, the plant prepared a special report.</p>
39	Argentina	Article 15	pag. 15-4	The report says that “radiological impact to the general public is calculated from LVNPS emissions, using the models established in the Technical Specifications”. Could you provide additional information about	Posted	<p>The radiological impact to the general public is calculated using the methodology described in the plant’s document Offsite Dose Calculation Manual. The methodology of this manual is based on USNRC regulatory guides 1.109 Rev. 1 “Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I” and 1.111 Rev. 1 “Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors”.</p>
40	Argentina	Article 15	pag. 15-4	It was mentioned that “there is a reduction tendency in the public dose due to gaseous releases”. What is the origin of this trend? Could you provide additional information?	Posted	<p>The reduction tendency in the public dose due to gaseous releases was driven mainly because of:</p> <ul style="list-style-type: none"> • Equipment reliability was increased reducing maintenance frequency. • Non stellite components replacement program. • Airborne contamination was reduced improving work practices during maintenance evolutions by keeping components wet. • Use of HEPA (High Efficiency Particle Arresting) filtration devices and tents to keep airborne contamination confined during some maintenance evolutions. • Steam leaks control by periodically search and fix and capsuling unrepaired components. • Outage contaminated systems breach controls. • FME (Foreign Material Exclusion) controls resulting in zero fuel fails during the last 2 cycles.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
41	France	Article 16.1	§ 16(1), 3	How the External Radiological Emergency Plan is integrated in an all-hazard state plan if this exists?	Posted	<p>The regulatory framework adopted and established by the National Commission on Nuclear Safety and Safeguards (CNSNS) on which the safety of the Laguna Verde Nuclear Power Plant (LVNPP) is guaranteed comes from Title 10 of the United States Code of Federal Regulations (10 CFR). Therefore, its construction and operation must comply with strict safety criteria for the following issues:</p> <ul style="list-style-type: none"> • Protection against natural phenomena. • Measures against fire. • Core stability. • Multiple barriers against the release of radiation. • Redundant and emergency power supply. • Habitability of the control room. • Residual heat removal. • Emergency cooling systems. • Cleaning of the containment atmosphere. • Containment leakage test. • Storage or containment of radioactive material with safety measures. <p>The Federal Electricity Commission-CFE (Mexican licensee) maintains a continue fulfillment with the requirements established by the CNSNS which were revised and adjusted following the accident at the Three Mile Island plant in the United States of America. The result is the design, operation and improvement of facilities for emergency condition.</p> <p>As a result of the probabilistic studies carried out in the LVNPP, the probability of failure of the primary and safety systems is minimal. However, as an additional criterion to provide greater confidence and to comply with national and international regulatory requirements to obtain the corresponding license of operation, it was necessary to submit to the CNSNS, as part of the LVNPP Final Safety Analysis Report and prior to loading of fuels, a plan and its procedures to deal with emergency situations.</p>
42	Russian Federation	Article 16.1	Article 16	Could you please present more detailed information about equipping the operating NPPs with mobile equipment (diesel-generators, pumps, compressors, etc.) performed in the light of the Fukushima Daiichi lessons?	Posted	<p>The Laguna Verde Nuclear Plant (LVNPP) is in the process of purchasing portable equipment for the Second Phase of FLEX. Currently, the portable diesel pumps that LVNPP has are brand Hytranfer, Model HFS Hydrosud 150, of 2000 lpm @ 14.4 bars; these pums will be used for the water injection and makeup for the reactor core and the spent fuel pool. Likewise, LVNPP has portable generators model 005791-3 GENERAC iX 800 of 800 Watts of Vca, for the opening of the Safety Relief Valves (SRV) of the reactor with Automatic Depressurization System (ADS) function.</p>
43	Argentina	Article 17.1	pag. 17-7	It is mentioned that the original "return period for the Safe Shutdown Earthquake (SSE) is 2.000 years" (page 17-7) and later "As a result of the 2011 Fukushima Daiichi event, ... that the seismic design bases are validated by obtaining a peak ground acceleration (PGA) of 0.24g, which is less than the design value for a safe-shutdown earthquake (SSE) of 0.26g" (page 17-13). Which return period have you considered in the re-assessment of the seismic risk?	Posted	<p>It was used the same return period of 2,000 years in the re-assessment of the seismic risk to obtain the peak ground acceleration (PGA) value of 0.24g.</p>

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
44	Austria	Article 18.1	Article 18 (1), p18-12	Could you please provide details on the Priority 1 recommendations that are to be completed by December 2018? What are the recommendations, where are these recommendations coming from? Are there also lower priority recommendations? What are those (examples) and what are their deadlines?	Posted	Priority 1 recommendations are equivalent to Order EA-12-049 (Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events), Order EA-13-109 (Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions) and Order EA-12-051 (Reliable Spent Fuel Pool Instrumentation). These orders were requested for the Mexican National Commission on Nuclear Safety and Safeguards (CNSNS), additionally Laguna Verde Nuclear Power Plant (LVNPP) has developed seismic and flooding assessments of the site like Priority 1 actions. LVNPP has not lower priority recommendations.
45	Austria	Article 18.1	Article 18 (1), p18-12	What are the arrangements for obtaining and using additional and redundant off-site equipment until power, water inventory, and the coolant injection systems have been restored? What equipment and/or supplies are envisaged, where are they located and how long does their transport to the site take? What scenarios were considered in determining the necessary off-site equipment and/or supplies and what safety margins do they provide?	Posted	The options that Laguna Verde Nuclear Plant is evaluating for the use of additional off-site equipment (Third phase of FLEX) are: 1.-Support of the Mexican government agencies like: Secretariat of the Navy-Army (SEMAR), National Water Commission (CONAGUA), Secretariat of Defense (SEDENA) and Mexican Oil Company PEMEX. 2.-Use SAFER (Strategic Alliance for FLEX Emergency Response) centers support located in Memphis, TN and Phoenix, AZ in USA. Nowadays, it has not been established places where the off-site equipment will be stored. The scenario that has been established is the combination of a hurricane event and a seismic event; this scenario results in an ELAP (Extended Loss of AC Power) and LUHS (Loss of Ultimate Heat Sink makeup). Equipments and supplies must meet the requirements for maintaining the core cooling, primary containment integrity and spent fuel pool cooling capabilities at least for 7 days.
46	Austria	Article 19	Article 19 (8), p19-36	The National Report states on page 19-36 that "In July 2015, CNSNS, anticipating CFE's application, issued the construction authorization for the facility to be located on the LVNPS grounds. This authorization was supported by evaluation of the respective safety analysis report and a focussed inspection of the construction process." Could you please explain this licensing process? From the above formulations it can be interpreted that the authorisation was issued before the application was submitted?	Posted	In Mexico, for any nuclear installation, the regulatory process is the following. 1. The licensee communicate the regulatory body his intention to develop a nuclear installation. 2. The Regulatory Body issues a communication containing the regulatory framework and a descriptions of the requirements and documents (Safety Analysis Report) that the licensee must consider to prepare his application. 3. The Regulatory Body performs activities of review and assessment and verifications; these activities implies multiple interactions with the Mexican licensee (CFE). 4. The Mexican Regulatory Body (CNSNS) prepares a Safety Evaluation Report, which is submitted to the Ministry of Energy to grant the authorization. For the On Site Independent Spent Fuel Storage Installation (ISFSI), first CFE presented his application and after a regulatory review (assessments and inspections) the construction permit was granted; currently the operation application is under review by CNSNS.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
47	Argentina	Article 19.3	pag. 19-8	In article 19, in relation to the Technical Specifications (TS) documents, during the power steps of the uprating process of the units: Was it necessary to by-pass safety limits, set points or operating conditions required in the TS documents? How were new safety limits or set points established for the uprating power steps? Was a temporary TS document developed for each power step or for the whole uprating process? Please provide additional information.	Updated	<p>During the power steps of the uprating process of the units of Laguna Verde Nuclear Power Plant (LVNPP) safety limits, set points or operating conditions or operating conditions required in the TS documents were not bypassed .</p> <p>During the power steps of the uprating process of the units, updated TS were used. Changes to the TS were submitted by CFE to CNSNS approval before the power uprate tests. TS modifications were required for the power up-rate condition for updating the following: the oscillation power range monitor (OPRM) operation region changing from 25% of Nominal Thermal Power (NTP) to 23% NTP; the SCRAM setpoint of the simulated thermal power of the average power range monitor (APRM); the setpoint of the control rod withdrawal block as a function of the simulated thermal power of the APRM; the main steam lines isolation setpoint due to high steam flow; the limit of the permissive to bypass the SCRAM due to high pressure in the first stage of the turbine; and the thermal power changing from 25% to 23% of NTP and the thermal power of turbine bypass changing from 28.4% to 24.8% NTP to monitor the reactor thermal limits.</p> <p>The TS modifications submitted to CNSNS were temporary approved for the tests period, including the power steps. Once the tests results were accepted by the CNSNS, the TS modifications were finally approved.</p>
48	Argentina	Article 19.3	pag. 19-12	In reference to article 19 (2), (page 19-12): Is a non-compliance of the TS considered a breach of the licensing requirements? If such, how is the license holder required to proceed, in relation to reporting of the operating circumstances that led to the non-compliance, assessment of corrective actions, operative experience, etc.?	Updated	<p>A non-compliance of the TS is not considered a breach of the licensing requirements. The licensing requirements of Laguna Verde Nuclear Power Plant (LVNPP) Unit 1 and Unit 2 describes that a TS non-compliance shall be reported to CNSNS (regulatory body). The reports are done in accordance with the rules 50.72 "Immediate notification requirements for operating nuclear power reactors" and 50.73 "License event report system" of the 10CFR50. The reports done in accordance with the rule 10CFR50.53 include an evaluation of the non-compliance and corrective actions to prevent recurrence. The CNSNS technical personnel analyze the reports and, in accordance with the significance of the TS non-compliance, CNSNS could perform an inspection to the plant or sanction it.</p>

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
49	France	Article 19.3	§ 19(3), 15	Mexico listed checking actions based on inspection's guidelines. Could Mexico specify if inspections are unexpected or periodically planned? What about the conclusions of these reviews?	Posted	As indicated in Article 14.2 "Verification of safety", sub-section "Verification of safety"; CNSNS performs Planned and Unplanned inspections. The Baseline Inspection Programme is aimed to collect enough information about the performance of the nuclear installations and the licence holder's activities. It should also be noted that sometimes, there might be the need to conduct special inspections. Quarterly the performance of the facility is verified based on Performance Indicators, the Qualification of Inspection Findings and Reportable Events. Depending on the importance for the safety of these items, the measures or regulatory actions to be applied to the Licensee are determined, as well as the follow-up of the corrective actions defined in previous meetings. If there are no safety implications, quarterly follow-up meetings are held on the causal factors of Reportable Events and the compliance with the corrective actions defined to avoid recurrence.
50	Argentina	Article 19.7	-	Regulatory review and control activities: Has México indicators of the reduction of human related events caused by the use of International / Internal Operating Experience Feedback? Please provide additional information.	Updated	Mexico does not have indicators on the reduction of human related events due to the use of International / Internal Operating Experience Feedback. In this regard, the use of Operating Experience Feedback at Laguna Verde Nuclear Power Plant is a License Condition that the utility has to comply with, in order to develop preventive or corrective measures to avoid events occurrences, but no direct indicators are related to its use.
51	Argentina	Article 19.7	Pag. 19-25 to 19-28.	Could you please provide some practical examples of the application of the procedure used to improve the plant operational safety through the operating experience feedback?	Updated	Some examples for Laguna Verde Nuclear Power Plant (LVNPP) are: Experience from WANO, SOER 2011-2, "Fukushima Daiichi Nuclear Station Fuel Damage Caused by Earthquake and Tsunami", as result of the evaluation of this document, LVNPP determined to take the following action in order to close the gap between the SOER and the LVNPP; to review and identify the potential failure modes as a consequence of an extended lost of AC electrical supply and the lost of air for instruments. Experience from INPO, IER L1-11-2 related with the lost of cooling capability and level recovery of the spent fuel pool, as result of the evaluation of this document, LVNPP determined to install level and temperature instrumentation at the spent fuel pool, regardless of the CA supply and the System for Cleaning and Cooling of the Spent Pool. Experience from USNRC: IN 2009-26 "Degradation of neutron-absorbing materials in the spent fuel pool", as result of the evaluation of this document, based on the intention to renew the license for commercial operation, LVNPP determined to continue monitoring the ageing of boron coupons in order to detect any degradation in order to establish preventive actions in a timely manner.

Convention on Nuclear Safety

Questions Posted To Mexico in 2017

No.	Country	Article	Ref. in National Report	Question	Status	Response
52	Argentina	Article 19.7	19 (7) (page 19-25)	In article 19 (7) (page 19-25) it is stated that the results of operating experience analysis often deem necessary the execution of changes to the facilities. Please could you elaborate if, in general, those changes are developed by the utility's engineering offices, or it is often necessary to seek support from external consultants and contractors (General Electric, ALSTOM, etc. ref. page 19-19)?	Updated	It is clarified that derived from the evaluations of operational experiences by the Laguna Verde Nuclear Power Plant (LVNPP), not all operational experiences generate changes to the facilities. However, when a change is required to the LVNPP, it is confirmed that this is evaluated and developed by the design engineer's office of the Laguna Verde Nuclear Power Plant, according to the established processes and their procedures. Also, the design and modification packages are installed at the LVNPP, according to the established processes and their procedures. During the LVNPP design phase, in some cases was needed the specialized support of consultants and external contractors such as General Electric, Alstom, Westinghouse, among others, as it was required. In this case a contract is made for "specialized engineering services" with the supplier and all design and Quality Assurance requirements are established. All consultant's engineering is reviewed and approved by LVNPP Design Engineering and Quality Assurance organizations prior to the installation activities. In the case of modifications to be applied to reactor internals or to specialized equipment such as turbine, among others, the services of technicians such as General Electric, Alstom, Westinghouse, are also contracted for the installation activities, with all the LVNPP Engineering and Quality Assurance requirements. All activities during the installation phase are supervised by the LVNPP qualified personnel responsible of the change; with the intention of verifying that the changes are developed according to the requirements established at the design basis.
53	France	Article 19.7	§ 19(7), 28	Mexico mentioned that it takes part in international reporting system (IRS) meetings. Does Mexico also send several events reports with international requirements to IRS database to share its own operational experience? How many events do Mexico send to IRS on average per year?	Posted	Mexico contributes with at least one event report per year to the International Reporting System. These events are taken from the operating experience of two reactors at Laguna Verde Nuclear Power Plant. The events reported are usually the most important in relation to nuclear safety, and are expected to be of interest for other nuclear regulators as well for the utilities at the international level.
54	Canada	Article 19.8	Section 19(8), page 19-30	“Therefore, in 2015-2016 an Independent Spent Fuel Storage Installation (ISFSI) is being built at the LVNPS site.” After how many years in the spent fuel pool will the spent fuel be transferred to dry storage? [LVNPS - Laguna Verde Nuclear Power Station]	Posted	The estimated date for carrying out the first fuel transfer campaign at Laguna Verde Nuclear Power Plant (LVNPP) is in the year 2018. The loading plan for this campaign includes assemblies stored from 1991 to 2010, that is, from 8 to 27 years of being stored in the spent fuel pool.