

Convention on Nuclear Safety

Answers to Questions Posted To Lithuania in 2014

			Article General	Ref. in National Report General
1.	Question/ Comment	Are you going to make your CNS reports and the questions and answers to them publicly available? If not, why not? Do you publish IAEA Mission Reports?		
	Answer	CNS reports are publicly available on the VATESI website <a href="http://www.vatesi.lt/index.php?id=250&amp;L=1">http://www.vatesi.lt/index.php?id=250&amp;L=1</a> . From this year questions to the 6 <sup>th</sup> National Report and answers to them will be publicly available on the VATESI website as well. A number of peer reviews such as IRRT, ASSET and OSART have been conducted in the past. The mission reports were de-restricted immediately after their final version was issued.		
			Article General	Ref. in National Report Summary, p134
2.	Question/ Comment	It is stated: “The time needed for restoration of the INPP power supply after a possible total blackout of the Lithuanian energy system is approximately 30 minutes”. In the light of the Fukushima accident, do you think that 30 minutes is a realistic time to restore the connection of the plant with the grid? What experiences have you made in grid restoration so far (e.g. how many outages, grid disconnection time etc.)?		
	Answer	<p>The 30 minutes time is indicated in the Accidents and Technological Disfunctions Elimination Manual No. 10210-1 (edition of 23 August 2013) of the Lithuanian electricity transmission system operator (Litgrid AB). In this manual various power supply methods from a power grid are foreseen, including supply from hydroelectric power plants. In addition, the 30 minutes time is specified in INPP-Litgrid AB Agreement on electric power transmission (edition of 21 February 2013). There weren't any blackout accidents of energy system during the operation of INPP. Station blackout trials on INPP auxiliary power supply from external power source (energy system) had been carried out once in 6 years.</p> <p>The last energy system station blackout trial at INPP Unit 1 was performed on 13 August 2012. The time of power supply break was 10 minutes.</p> <p>The last energy system station blackout trial at INPP Unit 2 was performed on 9 June 2009. The time of power supply break was 7 minutes.</p> <p>It should be noted that restoration of the connection of the INPP with the power grid of energy system doesn't consider Fukushima like accidents scenarios. The Manual covers various malfunctions in the power grid and grid's management. However, taking into consideration current state of INPP, large critical time constraints and considerable level of redundancy and diversity of external and internal power supply as well as actions foreseen by the Organization of Emergency Preparedness of INPP implied that probability of loss of safety functions performance due to station blackout is an extremely low. For example:</p>		

### **1. Large critical time constraints**

Because Unit 1 is defueled and Unit 2 is in cold shutdown, the only scenarios endangering the fuel integrity are a long time (6 days, estimated for state of 31 December 2011) loss of core cooling at the partially defueled Unit 2 reactor, a very long (16 days for Unit 1 SFP's, on state of 1 January 2010; 7 days for Unit 2 SFP's, on state of 1 June 2011) loss of cooling of spent fuel storage pools or some events causing a sudden loss of coolant inventory at Unit 2 reactor or the spent fuel pools. Because the Unit 2 reactor cooling circuit is not under pressure a sudden loss of cooling has a low probability.

### **2. Considerable level of redundancy and diversity of external and internal power supply**

External power supply:

INPP is linked with external power supply via 110/330 kV switchyard. The switchyard is connected to 330 kV grid using 6 power lines and with 110 kV grid using 2 power lines. AC power supply may be provided from any power line. Connection between 330 kV switchyard and 110 kV switchyard is carried out via two coupling autotransformers. Power rating of each autotransformer is 200 MVA. Actions and interactions on restoration of INPP external power supply are mentioned above. Power backup/restoration after LOOP is foreseen from 2 nearby Hydro Power Stations as well.

Internal power supply:

Each Unit is equipped with 6 diesel generators of 5600 kW each. The diesel generators at Unit 1 are decommissioned and isolated. All six diesel generators at Unit 2 are available for operation. All systems important to safety of Unit 1 as well as common systems of both Units are now backed up by the diesel generators of Unit 2. The minimum operation time of all 6 diesel generators without refuelling is at least 5 days. Diesel generators are qualified for the design basis earthquake. A contract has been signed between the INPP and an oil company to ensure fuel supply for the diesel generators (01/2012) if needed for long period.

Each Unit of INPP is equipped with 7 accumulating batteries, of which 6 batteries provide power supply for instrumentation, communication and radioactivity monitoring systems and the seventh battery mostly for emergency lighting. Six batteries at Unit 1 are decommissioned. Capacities of instrumentation batteries are sufficient for at least 12 hours and lighting battery for at least 19 hours without recharging. Valves and other executive mechanisms important to safety (e.g. control rod drives) are powered from batteries directly (DC power supply) or via converters (AC power supply).

Batteries are qualified for the design basis earthquake.

Communication facilities and computers of the Accident Management Centre can be powered by the independent stationary diesel generator with power rating (capacity) of 75 kW, which is installed in the Organization of Emergency Preparedness auxiliary room.

### **3. Organisation of Emergency Preparedness of INPP**

		<p>There are included in the Emergency Preparedness Plan of INPP corresponding technical and organisational measures for removal of demolished constructions' debris and repair works at INPP site for beyond design-basis emergency scenarios.</p> <p>For example, the actions for recovery works in case of the infrastructure damage are foreseen in the instructions of the Brigade of Emergency Recovery Works of INNP, which have necessary equipment, tools and transport (tractors, automobile cranes, trucks) necessary for cleaning the ways at INPP site.</p>		
			Article General	Ref. in National Report General
3.	Question/ Comment	<p>Is the safety significance of deviations from applicable current safety standards and internationally recognised good practice compiled for each nuclear installation? If so, in which intervals and are these compilations accessible to the general public?</p>		
	Answer	<p>Lithuania participates in WENRA (Western European Nuclear Regulators Association) activities. The self assessment performed by VATESI to evaluate the compliance with WENRA RHWG reference levels did not discover any significant deviations. The summary results of the assessment and further implementation of the reference levels are available in public WENRA reports and in annual reports of VATESI.</p> <p>According to VATESI's inspection procedure there are two types of findings – violation and incompliance. The incompliance is defined as deviation from IAEA recommendations or other good practice. If incompliance is determined the utility should prepare a plan of implementation of corresponding corrective measures or should provide corresponding justification. The summarized results of the inspection findings are publically provided in the VATESI annual report.</p>		
			Article General	Ref. in National Report General
4.	Question/ Comment	<p>Is there any obligation for the licence holders to inform/consult the general public or stakeholders in the vicinity of a nuclear installations on issues related to nuclear safety?</p>		
	Answer	<p>Yes. An obligation to inform the general public is imposed by Article 3 of The Law on Nuclear Energy and Article 39 of The Law on Nuclear Safety.</p> <p>The Law on Nuclear Energy states (Article 3, Paragraph 3): An applicant having filed an application for a licence or a permit, and a licence or a permit holder shall notify state and/or municipal authorities, international organisations and the general public of the intended or pursued activities in the manner prescribed by the Government or its authorised institution.</p> <p>The Law on Nuclear Safety states: "CHAPTER EIGHT. SUBMISSION OF INFORMATION Article 39. Obligation to Inform the Public 1. The State Nuclear Power Safety Inspectorate and the holders of licences referred to in paragraph 1 of Article 22 hereof must inform both the state and municipal institutions and the general public as well as other persons whose business activities are directly related to the licensed activities of a relevant licence holder about the conditions of nuclear safety in the manner required under the Law on</p>		

		<p>Provision of Information to the Public of the Republic of Lithuania and other legal acts. The State Nuclear Power Safety Inspectorate shall deliver public announcements on the results of monitoring the implementation of nuclear safety requirements.</p> <p>2. The organisations operating nuclear installations must inform general public about the measures that are foreseen in the emergency preparedness plans which may have an impact on regular living conditions."</p> <p>INPP Communication Department provides information to general public and stakeholders according to the Procedure of information provision to public on activities being performed by the State Enterprise Ignalina Nuclear Power Plant (SE Ignalina NPP), Procedure of information preparation and information release to media, local Municipalities, Ministries and departments about SE Ignalina NPP work and unconventional events. In the event of extraordinary situations the information is provided under requirements on notification on unusual events in nuclear power plants, BSR-1.8.1-2010, instruction of the annunciation of extraordinary events in SE Ignalina NPP and other requirements.</p> <p>Following the established procedure, INPP Communication Department informs the society periodically on the issues related to the Enterprise: relevant decisions taken, implementation or completion of the decommissioning projects, structure of the Enterprise, environmental safety, important meetings, visits and other events where SE Ignalina is represented. At least once a year the information on nuclear safety is published on the external website. Press release and publication of information in the Enterprise webpage <a href="http://www.iae.lt">www.iae.lt</a> is a priority matter considering the information provision about SE Ignalina NPP. Leaflets on the activities of the Enterprise and other publications are distributed.</p>	
		Article General	Ref. in National Report General
5.	Question/ Comment	<p>To which extent does the Regulatory Body currently publish safety relevant licenses, decisions, assessments, etc.? Are there intentions to modify current practice?</p> <p>Is the general public currently involved in the decision making of the Regulatory Body relevant to nuclear safety? Are there intentions to modify current practice?</p>	
	Answer	<p>VATESI publishes information about the licences and permits in force in the VATESI web site <a href="http://www.vatesi.lt/index.php?id=479">http://www.vatesi.lt/index.php?id=479</a> (Lithuanian only).</p> <p>Pursuant to Rules of Procedure on the Issuing of Licenses and Permits in the Area of Nuclear Energy, approved by Resolution No. 722 of 20 June 2012 of the Government of the Republic of Lithuania, having issued, suspended a license or permit, revoked the suspension thereof, cancelled a license or permit, amended a license or permit or the conditions thereof, VATESI shall publish information thereof on its website. According to the defined procedures, State Nuclear Power Safety Inspectorate (VATESI) publish the following data: data about licensee, registration number of the licence or permit, date of issue, suspension, revocation of the suspension, amendment or cancellation, type of the licence or permit, exact definition of the licensed activity.</p> <p>VATESI prepares and approves a safety evaluation report after the safety assessment of any licensing related activity. The safety evaluation report is a precondition of a formal decision to issue licence or permit (as well as for amendment, suspension or</p>	

		<p>revocation of the suspension of the licence or permit). Summaries of safety evaluation reports are published.</p> <p>Pursuant to the Law on Nuclear Safety, Article 39, Paragraph 1, VATESI and licence holders must inform both the state and municipal institutions and the general public as well as other persons whose business activities are directly related to the licensed activities of a relevant licence holder about the conditions of nuclear safety in the manner required under the Law on Provision of Information to the Public of the Republic of Lithuania and other legal acts. VATESI shall also deliver public announcements on the results of monitoring the implementation of nuclear safety requirements. Law on Provision of Information to the Public of the Republic of Lithuania obligates VATESI, as well as other state institutions, to provide the information which is not restricted (e.g. classified) under request of any legal or natural person.</p> <p>Additionally, the public can be involved in the process of drafting legal acts in the area of nuclear safety – all the drafts are available to anyone to comment online (in the Database of draft legal documents of Parliament of Republic of Lithuania). Publishing the drafts is a mandatory.</p> <p>Involvement in Environmental Impact Assessment Process was described in section 9.4 of the National Report.</p>			
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6.	Question/ Comment	<p>Excerpt from the National Report: "The VAE shall take into account lessons learned from Fukushima Daiichi accident during design stage of the VNPP."</p> <p>Question: What concrete design provisions to enhance safety of the Visaginas NPP (ABWR GE Hitachi standard design) in the light of lessons learned from the Fukushima Dai-ichi accident are planned?</p>			
	Answer	<p>There are five major groups of design provisions for ABWR in response to the lessons learned from Fukushima Daiichi nuclear accident:</p> <ul style="list-style-type: none"> <li>• Alternative AC power source in Backup Building (new building).</li> <li>• Alternative RPV coolant injection system in Backup Building.</li> <li>• Additional power supply to SRV for depressurization.</li> <li>• Alternative PCV Spray/ SFP &amp; Reactor Well coolant injection system</li> <li>• Enhanced PCV venting system.</li> </ul>			
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7.	Question/ Comment	<p>The Report states that it is planned to build a new NPP with an ABWR reactor.</p> <p>What is a background for selection of specifically this type of reactor?</p>			
	Answer	<p>Lithuania conducted a competitive process to identify Strategic Investor of the Visaginas NPP project. It was also foreseen that Strategic Investor could propose the technology to be used in new nuclear power plant. After competitive process Hitachi Ltd. was selected as the Strategic Investor for Visaginas NPP project with proposed ABWR nuclear technology which is mature, has been</p>			

		implemented in practice and has operational experience, therefore minimizes risks for the Project and doesn't have fundamental obstacles, preventing its construction in Lithuania.
		Article General
		Ref. in National Report Conclusion
8.	Question/ Comment	Section S1 states that it will take not more than 30 minutes to restore power supply of Ignalina NPP in case of a station blackout. Does this assessment consider potential damages to the plant infrastructure in case the damage is due to extreme external impacts?
	Answer	<p>The 30 minutes time is indicated in the Accidents and Technological Disfunctions Elimination Manual No. 10210-1 (edition of 23 August 2013) of the Lithuanian electricity transmission system operator (Litgrid AB). In this manual various power supply methods from a power grid are foreseen, including supply from hydroelectric power plants. In addition, the 30 minutes time is specified in INPP-Litgrid AB Agreement on electric power transmission (edition of 21 February 2013). There weren't any blackout accidents of energy system during the operation of INPP. Station blackout trials on INPP auxiliary power supply from external power source (energy system) had been carried out once in 6 years.</p> <p>The last energy system station blackout trial at INPP Unit 1 was performed on 13 August 2012. The time of power supply break was 10 minutes.</p> <p>The last energy system station blackout trial at INPP Unit 2 was performed on 9 June 2009. The time of power supply break was 7 minutes.</p> <p>It should be noted that restoration of the connection of the INPP with the power grid of energy system doesn't consider Fukushima like accidents scenarios. The Manual covers various malfunctions in the power grid and grid's management. However, taking into consideration current state of INPP, large critical time constraints and considerable level of redundancy and diversity of external and internal power supply as well as actions foreseen by the Organization of Emergency Preparedness of INPP implied that probability of loss of safety functions performance due to station blackout is an extremely low. For example:</p> <p><b>1. Large critical time constraints</b></p> <p>Because Unit 1 is defueled and Unit 2 is in cold shutdown, the only scenarios endangering the fuel integrity are a long time (6 days, estimated for state of 31 December 2011) loss of core cooling at the partially defueled Unit 2 reactor, a very long (16 days for Unit 1 SFP's, on state of 1 January 2010; 7 days for Unit 2 SFP's, on state of 1 June 2011) loss of cooling of spent fuel storage pools or some events causing a sudden loss of coolant inventory at Unit 2 reactor or the spent fuel pools. Because the Unit 2 reactor cooling circuit is not under pressure a sudden loss of cooling has a low probability.</p> <p><b>2. Considerable level of redundancy and diversity of external and internal power supply</b></p> <p>External power supply:</p>

		<p>INPP is linked with external power supply via 110/330 kV switchyard. The switchyard is connected to 330 kV grid using 6 power lines and with 110 kV grid using 2 power lines. AC power supply may be provided from any power line. Connection between 330 kV switchyard and 110 kV switchyard is carried out via two coupling autotransformers. Power rating of each autotransformer is 200 MVA. Actions and interactions on restoration of INPP external power supply are mentioned above. Power backup/restoration after LOOP is foreseen from 2 nearby Hydro Power Stations as well.</p> <p>Internal power supply:  Each Unit is equipped with 6 diesel generators of 5600 kW each. The diesel generators at Unit 1 are decommissioned and isolated. All six diesel generators at Unit 2 are available for operation. All systems important to safety of Unit 1 as well as common systems of both Units are now backed up by the diesel generators of Unit 2. The minimum operation time of all 6 diesel generators without refuelling is at least 5 days. Diesel generators are qualified for the design basis earthquake. A contract has been signed between the INPP and an oil company to ensure fuel supply for the diesel generators (01/2012) if needed for long period.</p> <p>Each Unit of INPP is equipped with 7 accumulating batteries, of which 6 batteries provide power supply for instrumentation, communication and radioactivity monitoring systems and the seventh battery mostly for emergency lighting. Six batteries at Unit 1 are decommissioned. Capacities of instrumentation batteries are sufficient for at least 12 hours and lighting battery for at least 19 hours without recharging. Valves and other executive mechanisms important to safety (e.g. control rod drives) are powered from batteries directly (DC power supply) or via converters (AC power supply).  Batteries are qualified for the design basis earthquake.  Communication facilities and computers of the Accident Management Centre can be powered by the independent stationary diesel generator with power rating (capacity) of 75 kW, which is installed in the Organization of Emergency Preparedness auxiliary room.</p> <p><b>3. Organisation of Emergency Preparedness of INPP</b></p> <p>There are included in the Emergency Preparedness Plan of INPP corresponding technical and organisational measures for removal of demolished constructions' debris and repair works at INPP site for beyond design-basis emergency scenarios.  For example, the actions for recovery works in case of the infrastructure damage are foreseen in the instructions of the Brigade of Emergency Recovery Works of INNPP, which have necessary equipment, tools and transport (tractors, automobile cranes, trucks) necessary for cleaning the ways at INPP site.</p>			
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	Article General	Ref. in National Report Conclusion			
9.	Question/ Comment	<p>The Lithuanian party stated for several times (including in this Report) the necessity of introducing binding international standards for the countries that operate NPPs.  Does it mean that the measures, which are being taken by the international community, are insufficient?</p>			



	Answer	<p>Measures, already existing and being taken by the international community to improve current nuclear safety regime (conventions and standards) are important to ensure nuclear safety worldwide. Lithuania fully supports and appreciates efforts of the International Atomic Energy Agency and Director General Mr. Yukiya Amano. The IAEA Action Plan on Nuclear Safety, endorsed by the 55th IAEA General Conference, plays an important role as it already stressed the need to review and strengthen IAEA Safety Standards and improve their implementation.</p> <p>In this regard Lithuania shares the view that international community could achieve a higher level of nuclear safety by agreement on improvement of implementation of existing nuclear safety standards and conventions as well as revising and strengthening nuclear safety standards from lessons learnt from the Fukushima Daiichi accident. According to the Report on the Progress in the Implementation of the IAEA Action Plan on Nuclear Safety, the process has been started successfully. However, in our view, continued efforts are needed to ensure more effective process on strengthening and improving International Nuclear Safety Standards.</p>		
			Article General	Ref. in National Report Page 1
10.	Question/ Comment	<p>The safety reassessments was performed using the ENREG stress test methodology. Did the safety reassessment consider the functionality of the accident management and EP facilities following a beyond design base external events? And have any improvement measures being identified? What are the design requirements for these facilities?</p>		
	Answer	<p>During the performing the “stress tests” of INPP, it was analyzed the robustness and availability of accident management places at INPP Units as well as emergency preparedness facilities following a beyond design base events related to external events (earthquake, external flooding, extreme weather conditions). According to the analysis results and recommendations given by the international experts of the Country per review, it was identified safety improvement measure, which is included in the National Action Plan of Lithuania (Table S.1. (Summary of activities of the National Action Plan) of the CNS Report, action No. 6). This safety improvement measure stated: To assess the robustness and availability of accident management centre of organization of emergency preparedness against an earthquake. If needed, to develop measures to improve the robustness of accident management centre.</p> <p>INPP performed the assessment of the robustness and availability of accident management centre of organization of emergency preparedness in case of earthquake and has prepared the report of the assessment and submitted to VATESI for review. VATESI performed review and assessment of this report and has presented the comments to INPP.</p> <p>It should be noted that the accident management centre is located in the shelter, which is designed resistant for shock from nuclear explosion but was not qualified for seismic events.</p>		
			Article General	Ref. in National Report Summary, S.1.1
11.	Question/ Comment	<p>The reports states that mobile diesel generators provide additional diversity of backup power supply. Please clarify:</p>		



		(1) How is the location of the mobile diesel generators evaluated?		
		(2) How much time will it take to get the diesels on-site?		
	Answer	<p>The mobile diesel generators used at INPP are as follows:</p> <ul style="list-style-type: none"> <li>• BC-184E with power rating (capacity) of 20 kW, mounted on the technical service vehicle,</li> <li>• ДЭС-60P with power rating (capacity) of 60 kW, mounted on the trailer.</li> </ul> <p>If station blackout occurs at INPP (i.e. all external power lines, all diesel generators and all batteries are lost), mobile diesel generators will be connected and started manually. ДЭС-60P is dedicated to provide power supply for instrumentation and radioactivity monitoring systems, including power supply for water temperature and level instruments in the spent fuel pools of both units, portable accumulators charging boards for portable lighting fixtures, etc. BC-184E is dedicated to provide power supply for communication system. Connecting points for those diesel generators are installed on walls of the Unit 2 building and the administrative building. Operations with mobile diesel generators are described in instructions, estimated time of connection and start-up is one hour. This time is based on minimal design time of batteries discharge after station blackout. Both mobile diesel generators are included in maintenance and testing program. The involved personnel are trained.</p> <p>Storage of both mobile diesel generators is organized at INPP site in separate from Units and emergency diesel generators buildings. Layout of mobile diesel generators at INPP site, however, provides possibility of their delivery to the connection points in less than 15 minutes that is confirmed during the last complex testing of these diesel generators, which was carried out on 14 April 2011.</p>		
			Article Article 6	Ref. in National Report 6.2, p4
12.	Question/ Comment	<p>In Table S.1 several planned measures related to the evaluation of the spent fuel cask tip over during transportation are indicated. Could you share with us what is the progress in the evaluations?</p>		
	Answer	<p>The performance of the safety improvement measure No. 4 of the National Action Plan (Table S.1) is in progress. The INPP is planning to evaluate the spent fuel cask tip over in case of postulated beyond design basis earthquake during transportation and to assess radiological impact on the environment, personnel and population before hot performance tests.</p>		
			Article Article 6	Ref. in National Report 6.3, p4
13.	Question/ Comment	<p>The 6th Lithuanian National Report states that “Defueling of Unit 2 reactor started in 2010 and is continued up to now”. Could you please share with us what the percentage of channels defueled up to now is? What is the final date to finish the defueling of Unit 2?</p>		
	Answer	<p>At present the nuclear fuel is defueled from approximately 30% of reactor channels of Unit 2. According to the plans, the nuclear fuel defueling from the reactor of Unit 2 will be continued, after the start of fuel removal from power unit’s pools to the interim storage</p>		

		facility, in the middle of 2017 and will be completed in the end of 2018.		
			Article Article 6	Ref. in National Report 6.3, p4-5
14.	Question/ Comment	The 6th Lithuanian National Report notes that “Following safety improvement measures including ones linked to the Fukushima Daiichi accident lessons were implemented during 2010 – 2012 years period”. One of those is “Organization of the diesel fuel supply for assuring long-term operation of diesel generators”. Could you please share with us how long the diesel generators can run without refueling them? What is the procedure for refueling and what amount of diesel fuel is stored on the site?		
	Answer	At present 6 emergency stationary diesel generators are in operational condition at INPP. Design time of operation of one emergency diesel generator is 72 hours without refuelling what was foreseen for reactor operation on power. Each diesel generator has 100 m <sup>3</sup> of diesel fuel (about 72 tons) reserve, located on the INNP site. According to the results of the assessment for current shut down state of INNP, demand for extra fuel will occurs after more than 5 days if to make assumption that all emergency diesel generators are in nonstop operation. INPP has signed a contract with a fuel supply company for supply of additional fuel in the case of instant demand.		
			Article Article 6	Ref. in National Report info for Article 6
15.	Question/ Comment	What activities on unloading of spent nuclear fuel are currently being implemented at Ignalina NPP?		
	Answer	At present, the works are carried out on B1 Project completion of interim storage facility construction ISF (ISFSF). First 4 casks with the nuclear fuel will be removed to ISFSF in the scope of “hot testing” (February-July of 2016). Commissioning of B1 ISF facility is planned for March 2017, after that the removal of spent nuclear fuel to the ISFSF will continue and the removal of remained fuel from reactor of Power Unit 2 as well as from units pools. At present the nuclear fuel is defueled from approximately 30% of reactor channels of Unit 2. According to the plans, the nuclear fuel defueling from the reactor of Unit 2 will be continued, after the start of fuel removal from power unit’s pools to the interim storage facility, in the middle of 2017 and will be completed in the end of 2018.		
			Article Article 6	Ref. in National Report p.7 and 125-126
16.	Question/ Comment	Please describe the final disposal strategy for the INPP spent fuel, reactor graphite blocks and other high-level radioactive waste.		
	Answer	According to the Strategy on Radioactive Waste Management, which was approved by the Government of Lithuania on September 3, 2008, the following measures are foreseen for the management of spent fuel: to construct a new spent fuel interim storage facility and transfer spent fuel from the INPP units to the dry storage facility. Also there is measure to construct storage facilities for long lived		

		<p>waste. Those facilities are under construction. Existing dry type spent fuel storage facility (for about ¼ of all the fuel) commissioned in 1999. Operational lifetime of those storage facilities is 50 years.</p> <p>Graphite samples from the Unit 1 and operation history data of the both Units reactors revealed good opportunities for storage graphite in solid radioactive waste storage facility (B3/4 project). Preliminary INPP is planning to place untreated graphite into 3.24 m<sup>3</sup> storage containers and store within the storage facility. This facility is under construction. Operational lifetime of this storage facility would be 50 years.</p> <p>Hence, regarding the spent nuclear fuel and long lived radioactive waste the chosen strategy is interim storage.</p> <p>Strategy on Radioactive Waste Management foresees a measure to analyze the possibilities to dispose spent fuel and long-lived radioactive waste in Lithuania or to reprocess or dispose it in other countries. Hence, disposal strategy is not finalized.</p> <p>Considering 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste Strategy on Radioactive Waste Management should be revised in 2014 and principle decisions shall be taken.</p>		
			Article Article 6	Ref. in National Report page 5
17.	Question/ Comment	<p>The main objectives of the Programme directly related to the INPP decommissioning are as follows:</p> <ul style="list-style-type: none"> <li>• To ensure safe and efficient maintenance and supervision of the finally shutdown INPP;</li> <li>• To handle existing radioactive waste and radioactive waste to be generated during decommissioning and to ensure their adequate storage and disposal.</li> </ul> <p>Please clarify the chosen adequate method of storage and disposal of RBMK graphite stack.</p>		
	Answer	<p>According to the Strategy on Radioactive Waste Management, which was approved by the Government of Lithuania on September 3, 2008, construction of storage facility for long lived waste is foreseen. Graphite samples from the Unit 1 and operation history data of the both Units reactors revealed good opportunities for storage graphite in solid radioactive waste storage facility (B3/4 project). Preliminary INPP is planning to place untreated graphite into 3.24 m<sup>3</sup> storage containers and store within the storage facility. This facility is under construction. Operational lifetime of this storage facility would be 50 years.</p> <p>Strategy on Radioactive Waste Management foresees a measure to analyse the possibilities to dispose spent fuel and long-lived radioactive waste in Lithuania or to reprocess or dispose it in other countries. Hence, disposal strategy is not finalized.</p> <p>Considering 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste Strategy on Radioactive Waste Management should be revised in 2014 and principle decisions regarding disposal shall be taken.</p>		
			Article Article 7.1	Ref. in National Report 7.3.2, p16
18.	Question/	It is stated: “The Figure A.1 (see Annex II) describes the involvement of the public and interested parties within Lithuania as		

	<p>Comment</p> <p>established by the legislation”. However  Figure A.1 indicates that there is no feedback envisaged from the public to the system of licensing. There is only the need to inform the public.  Could you please give us some information on the model of public involvement in your country?</p>			
	<p>Answer</p> <p>Pursuant to the Law on Nuclear Safety, Article 39, Paragraph 1, State Nuclear Power Safety Inspectorate (VATESI) and licence holders must inform both the state and municipal institutions and the general public as well as other persons whose business activities are directly related to the licensed activities of a relevant licence holder about the conditions of nuclear safety in the manner required under the Law on Provision of Information to the Public of the Republic of Lithuania and other legal acts. VATESI shall also deliver public announcements on the results of monitoring the implementation of nuclear safety requirements. Law on Provision of Information to the Public of the Republic of Lithuania obligates VATESI, as well as other state institutions, to provide the information which is not restricted (e.g. classified) under request of any legal or natural person.  Pursuant to Rules of Procedure on the Issuing of Licenses and Permits in the Area of Nuclear Energy, approved by Resolution No. 722 of 20 June 2012 of the Government of the Republic of Lithuania, having issued, suspended a license or permit, revoked the suspension thereof, cancelled a license or permit, amended a license or permit or the conditions thereof, VATESI shall publish information thereof on its website.  Additionally, the public can be involved in the process of drafting legal acts in the area of nuclear safety – all the drafts are available to anyone to comment online (in the Database of draft legal documents of Parliament of Republic of Lithuania). Publishing the drafts is a mandatory.  Involvement in Environmental Impact Assessment Process was described in section 9.4 of the National Report.</p>			
	<table border="1"> <tr> <td data-bbox="338 954 779 1038"></td> <td data-bbox="779 954 1048 1038">Article Article 7.2.2</td> <td data-bbox="1048 954 2069 1038">Ref. in National Report p. 12-13</td> </tr> </table>		Article Article 7.2.2	Ref. in National Report p. 12-13
	Article Article 7.2.2	Ref. in National Report p. 12-13		
19.	<p>Question/ Comment</p> <p>Do overall safety requirements for siting, design, operation and decommissioning of nuclear facilities (covering all issues and aspects in line with the respective IAEA Safety Standards: NS-R-3 + Addendum DS462, SSR-2/1 + Addendum DS462, SSR-2/2 + Addendum DS462, WS-R-5 + DS450) exist in Lithuania? If so, please provide their characterization in article 7.  In art. 17.1.2 (page 98) it was stated that in 2011 VATESI revised the legal act Nuclear Safety Requirements BSR-2.1.3-2010 "Nuclear Power Plant Site Evaluation Requirements". In addition, from art. 18.1.1 (page 104) it follows that the draft regulation "Nuclear Safety Requirements BSR-2.1. - .Nuclear Power Plant Design" already exists. When it will be enacted, and what about state-of-the-art regulations on operation and decommissioning?</p>			
	<p>Answer</p> <p>1. Legal act Nuclear Safety Requirements BSR-2.1.3-2010 “Nuclear Power Plant Site Evaluation Requirements”, approved by the Order No 22.3-58 of the Head of VATESI of July 20<sup>th</sup>, 2010 (as amended by the Order No 22.3-91, September 27<sup>th</sup>, 2011), is based on IAEA Safety Standard NS-R-3. It sets principal provisions and general requirements on site evaluation and sets recommendation to use appropriate IAEA safety standards for implementation of these provisions. Addendum DS462 is not considered yet.  2. Draft of Nuclear Safety Requirements BSR-2.1. – “Nuclear Power Plant Design” is based on IAEA Safety Standards SSR-2/1. We</p>			

		are keeping a close watch on Addendum DS462. It is planned to approve the document in 2014. 3. Safety requirements for operation of new nuclear power plant (under preparation) would be based on IAEA safety standard SSR-2/2. The operational safety issues of Ignalina NPP are covered by already existing safety regulations. 4. The regulation “Requirements for Decommissioning of nuclear installations, P-2009-02” is under revision (the new version is planned to be approved in 2014).
		Article Article 7.2.2
		Ref. in National Report p. 15
20.	Question/ Comment	The excerpt from the National Report: "According to the Law on Nuclear Safety, the following types of licences and permits are established in order to be issued by VATESI: - licence for construction of a nuclear facility (or facilities); - licence for operation of a nuclear facility (or facilities); - licence for construction and operation of a nuclear facility (or facilities);". Question: it is not clear when, on what conditions and for which nuclear facilities a combined for construction and operation could be granted?
	Answer	The law foresees licence for construction and operation of a nuclear facility (or facilities) as a typical new procedure for the facilities which are planned to construct after issue of the Law on Nuclear Safety. The old practice for issue of two separate construction and operation licenses are also foreseen as an existing legal possibility because several facilities in Lithuania has already separate licence for construction.
		Article Article 7.2.4
		Ref. in National Report 7.5.3, p21
21.	Question/ Comment	The 6th Lithuanian National Report states that “In the period of 2011–2013 VATESI issued two kinds of mandatory requirements”. Could you please share with us if there were violations of the nuclear safety requirements and/or license conditions revealed? If so, in which nuclear facilities? Were there any sanctions issued?
	Answer	As it was stated in Part 7.5.2 of the 6 <sup>th</sup> Lithuanian National Report, VATESI is empowered to impose administrative enforcement measures and it follows that VATESI has a power to provide mandatory requirements to licence or permit holder, committing him to eliminate the detected violations on nuclear safety or to suspend the works within the time-limits set by the Head of VATESI. To sum it up, all mandatory requirements in the period of 2011–2013 were issued after violations of the nuclear safety requirements, rules and/or licence conditions were revealed during inspections. There was one mandatory requirement to suspend the work at a nuclear facility as the activity of licence holder contradicted to the licence conditions and requirements of Law on Nuclear Safety. All other mandatory requirements were to eliminate detected violations of the nuclear safety requirements, rules and/or licence conditions and take remedial actions. Mandatory requirements connected with physical security are classified as “restricted”. It should be noted that no violations which might cause exceeded personnel internal exposure dose, external ionizing irradiation, breach of system of barriers to

		prevent the spread of ionizing radiation and radioactive materials to the environment, safety-related systems malfunction or any other malfunction related to the safe operation of non-compliance conditions were detected. Therefore, majority of revealed violations are already eliminated, some of the remedial actions are still ongoing. It is important to mention that the mandatory requirements may be issued for a major violations of nuclear safety requirements as well as for minor violations of nuclear safety requirements. The mandatory requirements differ from each other according to character of violation and legal principal of graded approach. We would like to emphasize that above mentioned mandatory requirements (mandatory requirement to suspend the work and mandatory requirements to eliminate detected violations) are considered to be an administrative sanction themselves. Majority of the mandatory requirements issued during the period of 2011–2013 were set to Ignalina NPP and a couple of mandatory requirements to eliminate detected violations were set to other legal entities.		
			Article Article 8.1	Ref. in National Report 8.1.6, p25
22.	Question/ Comment	The report indicates that the qualification of the personnel of VATESI is well maintained. Could you please share with us what the procedure to check the qualification of the staff is?		
	Answer	The qualification (as well as their performance) of State Nuclear Power Safety Inspectorate’s employees is evaluated annually using the procedure of evaluation of performance of public servants (almost all of the technical experts are public servants), established in the Law on Civil Service. The procedure consists of: <ul style="list-style-type: none"> <li>- self-evaluation;</li> <li>- interview, conducted by direct superior;</li> <li>- final conclusions by direct superior on the performance and qualification of the subordinate, which can include proposals for improvement of qualification and proposals for further administrative actions, e.g. to promotion, demotion, etc.;</li> <li>- if the conclusion is to evaluate the qualification and performance as “Very good” and the proposal is to promote the civil servant or the conclusion is to evaluate the qualification and performance as “satisfactory” or “unsatisfactory” and demote the person, the civil servant in question must attend a hearing of Evaluation Commission, which, after the interview, prepares suggestions for the Head of VATESI, who makes final decisions on implementation of proposals for further actions (e.g. promotion and other incentives, demotion, etc.). If the conclusion is to evaluate the qualification and performance as “Good”, no further action is needed. In any case Legal Affairs and Personnel Division summarizes the proposals for improvement on qualification and these proposals are incorporated in Annual Qualification Improvement Plans. The effectiveness of the qualification improvement (training courses) is evaluated during next year’s evaluation procedure.</li> </ul>		
			Article Article 8.1	Ref. in National Report 8.1.5, p25
23.	Question/ Comment	It is stated that VATESI hires public servants, employees under employment contracts and state officials. Please identify the concept about responsibility allocation among these different hiring statuses.		

	Answer	<p>There is no major difference between the responsibility of state officials, civil servants and employees working under employment contracts.</p> <p>Only the positions of the Head of VATESI and his Deputy Heads have the status of state officials. State officials are hired and discharged according to the Law On Nuclear Energy, which also describes their responsibilities.</p> <p>Most of other employees are civil servants. The terms of civil service are established by the Law on Civil Service of the Republic of Lithuania.</p> <p>There are only 4 positions of employees working under employment contracts specializing in nuclear safety area, other employees working under employment contracts are assigned with different office administration functions. The positions of employees working under employment contracts specializing in nuclear safety area are usually positions of experts, who are not assigned with responsibilities connected with public administration (e.g., they do not use some of the enforcement measures, do not conduct inspections, although can be a participant). The expert positions might also be established on temporary basis.</p>		
			Article Article 9	Ref. in National Report para 7.3.1, p.16
24.	Question/ Comment	<p>"Every licence may have licence conditions attached." In which licensing cases may license conditions be absent?</p>		
	Answer	<p>In general licensees granted with any type of licence or permit listed in the Law on Nuclear Safety are obliged to obey all Lithuanian Republic Laws and regulatory requirements. Pursuant to Law on Nuclear Safety, licence conditions are set in accordance with laws and legal acts, implementing laws. According to Lithuanian law, all basic requirements should be in normative documents (laws, regulations, rules, etc.), so licence conditions should be set only in case if a particular aspect is not set/is impossible to set in normative documents, e.g. technical aspects of a particular facility or activity. Usually all licences referred to in Paragraph 1 Article 22 of the Law on Nuclear Safety have conditions.</p>		
			Article Article 9	Ref. in National Report 7.3. Article 7(2)(ii)
25.	Question/ Comment	<p>"7.3. Article 7(2)(ii) - System of licensing The Law on Nuclear Energy and the Law on Nuclear Safety together with the regulations made under other laws establish the licensing system for activities related to nuclear materials or nuclear cycle materials (their transportation, acquisition, etc.), as well as for nuclear facilities of the following life-stages: site evaluation, design, construction, commissioning, operation, and decommissioning. According to the Law on Nuclear Safety, the following types of licences and permits are established in order to be issued by VATESI:</p> <ul style="list-style-type: none"> <li>• licence for construction of a nuclear facility (or facilities);</li> <li>• licence for operation of a nuclear facility (or facilities);</li> <li>• licence for construction and operation of a nuclear facility (or facilities);</li> <li>• licence for decommissioning of a nuclear facility (or facilities);"</li> </ul>		



		Which institution issues a license for a nuclear power plant siting, design, commissioning? For which period is a license for the conduct of activities in the field of atomic energy use issued?	
	Answer	<p>A different type of authorization is required for siting, design and commissioning.</p> <p><b>Siting:</b> The separate license for siting is not foreseen in legal acts– the Law on Nuclear Safety sets that prior to starting design of a nuclear power plant site evaluation concerning safety shall be performed and site evaluation report shall be agreed on by VATESI, after the siting report is reviewed and conclusions on it are provided by Hydro-meteorological Service, the Ministry of Health, the Civil Aviation Administration, the Lithuanian Geological Survey and the Fire and Rescue Department. The siting issues concerning safety shall also be reviewed during periodical safety reviews.</p> <p><b>Design:</b> The separate license for design of nuclear installations is not foreseen in legal acts. Design issues are to be reviewed and assessed by regulatory authorities in order set by legal acts prior to issuing license for construction or license for construction and operation of nuclear installation. The responsibility for choice of design vendors lies on applicant or licensee; it shall be in line with regulatory requirements for management systems. The above mentioned licenses are to be issued by VATESI.</p> <p><b>Commissioning:</b> The separate license for commissioning of nuclear installations is not foreseen in legal acts. The aspects of safety review and assessment of the commissioning issues are set in other licenses (construction and operation) and (or) permissions. In the case of construction of nuclear power plant, nuclear power plant unit or non-energetic reactor the commissioning process is accompanied by three permissions to be issued by VATESI after review and assessment of corresponding safety documentation and inspections: for first delivery of nuclear fuel to the site of a nuclear power plant; for the first start-up of a nuclear power plant unit; for starting the industrial (commercial) operation of a nuclear installation.</p> <p>The licenses issued by VATESI are without term of validity. Nevertheless the licenses may be changed, terminated or suspended.</p>	
		Article Article 9	Ref. in National Report Page 32
26.	Question/ Comment	<p>It is stated that a licence holder is liable for the nuclear damage resulting from the activity subject to the licence or related to that activity to the natural and legal persons, their property or to the natural environment. The organization shall insure a nuclear installation or procure in some other way the funds necessary to compensate for the damage after a nuclear accident as assumed by the Republic of Lithuania according to the Vienna Convention on Civil Liability for Nuclear Damage.</p> <p>What is the amount of fund kept for compensation for damage caused by nuclear accidents?</p>	

	Answer	<p>Firstly, it is important to mention that Ignalina Nuclear Power Plant is a state-owned enterprise. Both units of Ignalina NPP are under decommissioning. All activities at Ignalina NPP are funded by the European Union assistance programme or national funds.</p> <p>Pursuant to the Law on Nuclear Energy, Article 44, Paragraph 1, organization shall insure a nuclear installation or procure in some other way the funds necessary to compensate for the damage. Pursuant to the Law on The Fund for Decommissioning of State Enterprise Ignalina Nuclear Power Plant, Article 5, Paragraph 1, Subparagraph 5, the funds of Fund for Decommissioning of State Enterprise Ignalina Nuclear Power Plant can be used for compensation of nuclear damage. In accordance with the provisions of the Law on Nuclear Energy, the Government of the Republic of Lithuania guarantees that in case of nuclear accident the damage will be compensated by the operator of Ignalina NPP or by the State itself in case operator lacks necessary financial resources.</p> <p>Pursuant to the Law on the Vienna Convention “On Civil Liability for Nuclear Damage of May 21<sup>st</sup>, 1963 and Joint Protocol on Implementation of Vienna and Paris Conventions Coming in Force”, the liability of the operator is limited to the amount equivalent to the one established in Article V of Vienna Convention.</p>			
		<table border="1"> <tr> <td data-bbox="338 644 779 730"></td> <td data-bbox="779 644 1048 730">Article Article 10</td> <td data-bbox="1048 644 2063 730">Ref. in National Report page 41</td> </tr> </table>		Article Article 10	Ref. in National Report page 41
	Article Article 10	Ref. in National Report page 41			
27.	Question/ Comment	<p>In para 10.2 (section “Independent reviews, inspections and audits”) it was mentioned about “safety indicators” established by Ignalina NPP: “A separate procedure for determining and evaluating of safety indicators was developed in 2004, when both units of the INPP were in operation. The assessment of safety indicators by this procedure was applied until the end of 2010, when the INPP entered into a decommissioning stage. The work of the INPP specialists on developing procedure for determining and evaluating of safety indicators of the INPP, which is on decommissioning stage, was ended on December 2012. The INPP calculation of safety indicators perform every quarter and represent them in the report. The reports are submitted to the VATESI and managers of the INPP departments”.</p> <p>Could you provide more detailed information about “safety indicators” for decommissioning stage and give some examples of them. What kind of regulatory decision can VATESI make after review of quarter report with such “safety indicators”?</p>			
	Answer	<p>In accordance with VATESI Requirements „Usage of Operational Experience at Nuclear Facilities” the System of safety indicators of INPP is a part of the Operational Experience Feedback system. Licensee shall establish System of safety indicators comprising all aspects impacting safety of the nuclear installation (e.g. technical, human factor, activities of an organization) and determine the acceptability margins of indicators values.</p> <p>Safety Indicators System (SIS) is focused on the timely identification of negative trends in:</p> <ol style="list-style-type: none"> <li>1. Assessment of the real radioactive impact of the Megaprocess (decommissioning) and its components (processes, sub-processes and works) on the environment, public and the plant personnel;</li> <li>2. Assessment of availability of the equipment, ensuring the realization of the Safety Functions during normal mode of the Megaprocess and during possible deviations;</li> <li>3. Organizing the plant activities for ensuring the set limits, conditions and the ALARA principle for normal mode of the Megaprocess and minimizing radiation exposure in case of possible deviations.</li> </ol>			

		<p>Safety Indicators System has a 4-level hierarchical structure:</p> <ul style="list-style-type: none"> <li>• 1st level (Safety Level) - assesses the current Safety level of the Megprocess (1) in general;</li> <li>• 2nd level (Main Indicators) - assess the real radioactive impact of the Megprocess components (1), equipment availability (2) and the organizational activities (3);</li> <li>• 3rd level (Specific Indicators) - assess the real impact of the sub-processes constituting the process (1), equipment availability (2) and the organizational activities (3);</li> <li>• 4th (Simple Indicators) - assess the real impact of the works constituting the sub-process (1), specified equipment availability (2) and the specified organizational activities (3).</li> </ul> <p>All 4th level Indicators are directly measured or fixed values parameters characterizing the availability of the equipment, systems, functions or volume of performed works.  All indicators of the 1-3 levels are calculated.  All indicators of the 2-4 levels have their own weight factor, which depends on influence to the Safety, which is selected on the basis of setting priorities.  The alteration tendencies of these indicators shall be analyzed and the results of the analysis shall be periodically submitted to the VATESI. On the basis of the safety indicators' trends evaluation the corrective actions with a final target to improve the safety of the nuclear installation shall be established. Taking into account the results of the safety indicators VATESI plans and performs inspections at the INPP.</p>			
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%; text-align: center;">Article Article 10</td> <td style="width: 40%; text-align: center;">Ref. in National Report para 10.2, page 42</td> </tr> </table>		Article Article 10	Ref. in National Report para 10.2, page 42
	Article Article 10	Ref. in National Report para 10.2, page 42			
28.	Question/ Comment	<p>In para 10.2 (section “Assessment of safety culture”) it was mentioned about “indicators for safety culture”: “At the beginning of 2010 additional information has been added to the procedure based on the gained experience and situation at the INPP. Results of calculation of safety culture indicators are registered quarterly. These results are presented in reports, which are submitted to the INPP departments and to the VATESI. Numerical values of safety culture indicators are presented on the INPP internal web-site for notification of all employees”.</p> <p>Could you provide more detailed information about “indicators for safety culture” for decommissioning stage and give some examples of them. What kind of regulatory decision can VATESI make after review of quarter report with “indicators for safety culture”?</p>			
	Answer	<p>Ignalina NPP uses two principles to assess a Safety Culture. One of them is Safety Culture indicators and second - questionnaire. The Safety Culture level is evaluated by assessing the following indicators:</p> <ol style="list-style-type: none"> <li>1. INPP personnel qualification;</li> <li>2. Status of procedures related to safety systems and components maintenance;</li> <li>3. Results of independent assessments and implementation of corrective actions;</li> <li>4. Estimation of personnel performance and behavior;</li> <li>5. Results of operational experience utilization;</li> </ol>			

		<p>6. Human factor related events.</p> <p>Each of the above mentioned indicators are evaluated in percentage rate. The level of Safety Culture is the average value of those six indicators. Assessment of Safety culture by using questionnaire is performed once per 3 years. The questionnaire consists of 33 questions.</p> <p>The alteration tendencies of Safety Culture indicators shall be analyzed and the results of the analysis shall be periodically submitted to the VATESI. On the basis of the Safety Culture indicators' trends evaluation the corrective actions with a final target to improve the safety of the nuclear installation shall be established. Planning and performing inspections at the INPP VATESI takes into account the results of the safety culture indicators.</p>		
			Article Article 11.1	Ref. in National Report Subsection 11.1.1, p. 45
29.	Question/ Comment	Table 11.1 cites planned and factual amounts of financing of the Ignalina NPP's power units decommissioning from different sources. Please, explain what is the reason of nearly two-fold difference between the factual and planned amounts?		
	Answer	<p>The differences between planned and factual amounts are due to:</p> <p>1) the savings in some projects, for example, cost savings in utility consumption.</p> <p>2) Delays Ignalina Programme projects EQS.11/12/13 (Procurement of Equipment &amp; Supplies in Support of Activities of the INPP Workforce Related to Plant Decommissioning) and XWS.11/12/13 (External Works &amp; Services in Support of Activities of the INPP Workforce Related to Plant Decommissioning) due to delayed procurement and permit procedures or long process of agreeing of documents with the regulatory institutions.</p> <p>3) Delays in IIDSF financed projects B1 (Interim Spent Fuel Storage Facility) and B234 (New Solid Waste management and Storage Facility) due to delayed negotiations with contractor.</p> <p>4) Changes of deadlines of Ignalina Programme projects INF.02 (INPP Site Infrastructure for Decommissioning), B-25 (Near Surface Repository for Low-and Intermediate-Level Short-Lived Radioactive Waste), B-20 (Transformation of existing bituminised waste storage into repository), and cancellation of project TSS.01 (INPP Transformer Substation).</p> <p>5) Payments under projects related to workforce funding were delayed due to implementation of conditionalities set out under Ignalina Programme; the payments for 2013 will be made in 2014.</p>		
			Article Article 11.2	Ref. in National Report Human resources (11.2.10)
30.	Question/ Comment	<p>«Plans to build a VNPP create an opportunity for a certain number of younger INPP specialists to join this project and use their knowledge and experiences for the VNPP.</p> <p>Staff Management Procedure has been developed at VAE in order to ensure the quality of activities performed and on-going projects. The procedure requires selecting a new employee for particular positions at VAE with the relevant background and experience in a particular field.»</p> <p>Besides this,</p>		

		<p>«Two study programs were started:</p> <ul style="list-style-type: none"> <li>• The Study of Nuclear Energy Physics at Vilnius University;</li> <li>• Graduate and Postgraduate Studies of Nuclear Energy at Kaunas Technological University.</li> </ul> <p>It is expected that after implementation of the Programme about 30-50 new highly skilled nuclear energy specialist and nuclear physicists will be prepared each year as well as about 100 specialist will be retrained and improve their professional skills, acquire specialized training and will be certified annually.»</p> <p>But, the type of VNPP is different to INPP.</p> <p>How is the problem of retention and motivation of younger INPP specialists solved?</p> <p>How is the problem of retention and motivation of college graduates who can not yet be recruited for VNPP solved?</p> <p>How is experience in a particular field accumulated:</p> <ul style="list-style-type: none"> <li>- of younger INPP specialists with experience only in the decommissioning of a nuclear facility, different from the VNPP nuclear facility;</li> <li>- graduates who have received basic education?</li> </ul>
	Answer	<p>Vilnius University and Kaunas University of Technology educational programmes in Physics of Energy and Nuclear Engineering have introduced in 2008 and in 2012 the first university graduates have obtained bachelor diplomas. It shall be noted that although the project implementation company for VNPP is not established yet, however, particular number of graduates either continue their education in developing their master thesis or already are employed in universities or scientific institutions dealing with problems in nuclear and radiation safety as well as in different types of energy companies, for example, transmission system operator, energy generating companies etc. Some of the graduates continue their education in developing their PhD thesis at the aforementioned universities. Once established, the main absorber of the graduates is expected to be the VNPP operator and the personnel for it will be selected based on the qualification requirements and will be retrained in particular fields shortly after their recruitment.</p> <p>Currently there is no special program of retention and motivation of young specialists in the INPP. Since 2007 tripartite or bilateral contracts with future young specialists aren't signed.</p> <p>The number of needed personnel is closely connected with the implementation of decommissioning projects. Need of personnel with different competences is determined depending on tasks set for different stages of projects implementation.</p> <p>The manpower needs and the competence are determined by the following activities: the post-shutdown operation of INPP (including fuel removal), the decontamination and dismantling activities, operation of the existing waste treatment facilities, new facilities under the INPP Decommissioning Projects and future radioactive waste repositories.</p> <p>During the decommissioning stage the INPP personnel that used to perform INPP operational and maintenance works is involved to perform new tasks associated with the D&amp;D operations, radiation protection provision, radioactive waste management, etc. In</p>

		<p>particular, the new facilities under the INPP Decommissioning Projects will require skilled personnel for their operation and maintenance. Furthermore, workers who performed one type of activity during the operational phase could be assigned with different new tasks in the frame of the Decommissioning Programme. The management of the Decommissioning Programme requires skills and experience that differ markedly from those required for operations. Therefore, a global training programme, consisting of several specific programmes, is needed.</p> <p>Global decommissioning planning system includes distribution of available INPP personnel to the scheduled tasks, identification of required labour resources and analysis of difference between them. All decommissioning works are presented in schedule form for the whole period of decommissioning. The evaluation of required labour resources is being done on a basis of scope of works identified for specific period of time and is being calculated using specialized methodology adopted for INPP need. After general comparison is done the specific personnel categories can be identified where expected shortage and overstaffing. Training scope and area is identified based on decisions to reallocate own decommissioning staff from one project/area to another.</p>			
		<table border="1"> <tr> <td></td> <td>Article Article 11.2</td> <td>Ref. in National Report Page 49 Para 11.2.2</td> </tr> </table>		Article Article 11.2	Ref. in National Report Page 49 Para 11.2.2
	Article Article 11.2	Ref. in National Report Page 49 Para 11.2.2			
31.	Question/ Comment	<p>It is stated that the training is conducted in accordance with written and approved procedures. The procedures are systematically revised with consideration of operational experience, implemented equipment modifications, decommissioning projects and experience of other NPPs. The training process is planned and monitored and the results are recorded.</p> <p>INPP, the first station of Lithuania is undergoing decommissioning. Could it be explained as to how the expert faculty with considerable experience on decommissioning is developed for training of plant personnel on decommissioning and whether the training department has developed new procedures of training on decommissioning?</p>			
	Answer	The expert's competence was built by attending the trainings in-service in other NPPs, which are experienced in decommissioning. Procedures of training were revised and requirements of personnel training in decommissioning field were defined. The training on decommissioning, organization of dismantling and on new ways of dismantling and decontamination is prepared and conducted.			
		<table border="1"> <tr> <td></td> <td>Article Article 11.2</td> <td>Ref. in National Report p. 54-55</td> </tr> </table>		Article Article 11.2	Ref. in National Report p. 54-55
	Article Article 11.2	Ref. in National Report p. 54-55			
32.	Question/ Comment	<p>1. Please provide an outline of initial training, re-training and authorization processes for the key Visaginas NPP operational staff (control room operators, shift supervisors, safety engineers, operation managers) with descriptions of particular steps and training modules (including their content and duration).</p> <p>2. Is a full-scope simulator planned for the Visaginas NPP? If yes - at what stage of the project commissioning of simulator is planned (i.e. how many months prior to fuel loading).</p>			
	Answer	1. Visaginas NPP project is in pre-designing preparatory work stage and organization, which will be responsible for plant operation			

		<p>and, inter alia, staff training, is not yet established, so no detailed plans and/or Visaginas NPP operational staff training programs could be provided currently. Nevertheless for Visaginas NPP operational staff initial training, re-training and certification best international practice will be applied.</p> <p>It is expected that Visaginas NPP operational staff training programs will be based on similar principles as it was for Ignalina NPP during power plant operation and will be prepared in accordance with General Requirements for Nuclear energy facilities operating organizations and their service providers in Personnel Management (VD-E-11-2001). The procedures, manuals and guidelines in the field of VNPP personnel management will be developed in accordance with the IAEA safety standards. State Nuclear Power Safety Inspectorate (VATESI) shall agree on the training programs and will take part in the exams to evaluate the competencies of the Visaginas NPP specialists responsible safe operation of the plant.</p> <p>It is expected that EPC contractor (with involvement and support of experienced Nuclear Utility, operating BWR type plant(s)) will provide on-the-job training for key staff members and training for prospective Visaginas NPP training centre instructors and later these well trained instructors will train Visaginas NPP O&amp;M staff. Initial VNPP operational staff training shall begin with the beginning of construction nuclear power plant few years before initial nuclear fuel load into reactor core. Beside this, EPC contractor will be responsible for supervision of initial nuclear fuel load and first reactor criticality as well as for knowledge transfer for future Visaginas NPP operational staff.</p> <p>2. The full-scope simulator is included in Visaginas NPP project scope and shall be provided by EPC contractor. As per preliminary project implementation schedule full scope simulator shall be commissioned 3 years prior to initial fuel load.</p>			
		<table border="1"> <tr> <td data-bbox="338 916 779 1002"></td> <td data-bbox="779 916 1048 1002">Article Article 12</td> <td data-bbox="1048 916 2072 1002">Ref. in National Report p. 56-58</td> </tr> </table>		Article Article 12	Ref. in National Report p. 56-58
	Article Article 12	Ref. in National Report p. 56-58			
33.	Question/ Comment	How in practice human factors will be considered in the Visaginas NPP design process, in particular the man-machine interfaces design? Are there any specific requirements and approaches in this area developed in Lithuania?			
	Answer	<p>It is planned that Visaginas NPP design will be based on reference plant (Kashiwazaki Kariwa 6&amp;7) design. Human factors and man-machine interface for particular design are established already and there is no intention to revise it significantly for Visaginas NPP.</p> <p>Changes (if any) will be implemented to consider applicable national requirements relevant to workers health and safety and working environment (lightness, noise, ambient temperature, etc.), working language (tagging), but design of key equipment (like Main Control Room panels) shall remain without significant changes.</p> <p>There are requirements (dedicated to Ignalina NPP) for design of NPP which establish that design of NPP's main control room must be optimized to solve the human-machine interface issues. Also there are draft requirements (would be dedicated to Visaginas NPP), which will explain in detail the requirements considered for NPP project, including detail requirements on how to take into account human factors, including human-machine interface features.</p>			



			Article Article 14.1	Ref. in National Report p.67
34.	Question/ Comment	Whether, and if so, how VATESI is going to utilize in the VNPP licensing process the results of safety analyses and assessments of the ABWR plant design (GE Hitachi version) that were executed by foreign regulators, in particular the US NRC and Japanese NISA/NRA?		
	Answer	<p>The results of safety analyses and assessments of the Advanced Boiling Water Reactor (ABWR) plant design (Hitachi-GE Nuclear Energy, Ltd.) that were executed by the U.S. NRC and Japanese NRA (NISA) is expected to be used in the Visaginas NPP licensing process.</p> <p>It should be mentioned, that the bilateral cooperation Agreement between U.S. NRC and VATESI was renewed in 2010. It is also planned to sign the similar bilateral cooperation Agreement between Japanese NRA and VATESI in 2014. These Agreements establish the cooperation in the field of nuclear safety regulation that includes assimilating of the knowledge and experience gained by the Japanese NRA and U.S. NRC experts. Those knowledge and experience would be helpful for VATESI specialists in getting better understanding of the features and differences of the ABWR designs, design modifications made with regard to the operational experience including lessons learned after the Fukushima Daiichi accident as well as adjusted nuclear safety requirements.</p>		
			Article Article 14.1	Ref. in National Report Section 14.1.4
35.	Question/ Comment	Section 14.1.4 of the Report points out that in 2010 SSRM reviewed the justification report on the site selection for Visaginas NPP. Given the revision of requirements, including those for the assessment of external impacts (Table S1, para 2), planned by 2015, does this mean that the prepared justification will be revised again with consideration of the new requirements?		
	Answer	<p>The Visaginas NPP site is investigated in accordance with the newest IAEA safety recommendations and justification report on the site selection for Visaginas NPP will not be revised.</p> <p>The review of the regulations applied to Visaginas NPP robustness against natural hazards (earthquake, flooding and extreme weather conditions), including revaluation of margins beyond the design basis and cliff-edge effects (Table S1, Actions 2) will be carry out after publishing of the planed WENRA guidance. After review of those regulations it will be decided on necessity of review of requirements relevant to site evaluation. These requirements would be used during licensing of new NPP design.</p>		
			Article Article 15	Ref. in National Report Tables 15.2-15.4
36.	Question/ Comment	Was an analysis of what caused increased exposure of workers in 2011 (average individual and collective doses) compared with the previous and subsequent years (Tables 15.2 and 15.3), and also increased internal exposure of workers in 2012 (Table 15.4) conducted?		
	Answer	According to the Nuclear Safety Requirements BSR-1.9.3-2011 “Radiation Protection at Nuclear Facilities”, approved by the Head of		

		<p>the VATESI, annual report on the implementation of the occupational exposure and workplace monitoring programme shall be submitted to VATESI. Licensee is analyzing the occupational exposure data and including this analysis in the report. Analysis of the data shows that the increase of individual and collective doses in 2011 and increase of internal exposure of workers in 2012 is due to increased amount of radiation hazardous works related to decommissioning activities of Ignalina Nuclear Power Plant.</p> <p>The external and internal exposure dose was stipulated by the character of performed work by the personnel of Nuclear Fuel Treatment Workshop (NFTW). In 2011 and 2012 the duties of NFTW workers included performance of the following radiation hazardous works: maintenance, repair of the "hot cell", long components size reduction facility and repair of the equipment of the nuclear fuel storage pool hall, treatment of radioactive waste; preparation of metal samples from technological channels for carrying out radiological characterization, etc. Relative increase in the maximal value of an internal exposure dose in 2012 in comparison with 2010 and 2011 is connected with the change of the character and volume of carried out radiation hazardous works.</p> <p>For cases of internal exposure of workers additional attention is paid to radiation protection. When effective internal exposure dose is exceeding 0.1 mSv, the procedure for more frequent measurements of radionuclide content in a human body is performed (every three months). Each worker is additionally instructed how to prevent internal contamination by using respiratory protective equipment and following rules of personal hygiene.</p>	
		Article Article 15	Ref. in National Report info for Article 15
37.	Question/ Comment	Were the standards for allowable discharges and emissions of radioactive substances, including a list of monitored parameters, due to changes in the mode of operation of the Ignalina nuclear power plant revised?	
	Answer	<p>In order to protect the general public and the environment from the negative impact of ionising radiation, the activity of radionuclides released into the environment from the nuclear facility shall be limited in such a way that the annual effective dose to the critical group member resulting from the nuclear facility shall not exceed the dose constrain 0.2 mSv. This annual effective dose constrain for the general public is applied for design, operation (during the normal operation and potential operational occurrences) and decommissioning of the nuclear facility.</p> <p>Limits of radioactive discharges into environment shall be updated in case there are found new discharged radionuclides, or their pathways or points of discharge.</p> <p>Change of the Ignalina NPP mode of operation did not cause review of radioactive substances discharge standards, but due to decommissioning activities and appearance of new points of discharges plan of limits of releases is revised periodically. Also the parameters of monitoring have been reconsidered. In accordance with requirements for radiological monitoring that are laid down in the Order of the Minister of Environment "On approval of regulation of environmental monitoring of economic entities", the operator of nuclear facility has to prepare the monitoring programme and implement it. One of the circumstances when economic entity should review the monitoring programme is the change of activity of nuclear facility (expansion of activity, decommissioning etc.). Review and changes of Monitoring programme (both discharges and impact on environment) are required if there are changes of radionuclide composition in discharges, ways or points of discharges, and changes should be done in the plan of radioactive discharges in</p>	

		<p>accordance with requirements of the Law on nuclear safety.</p> <p>In line with these requirements changes of Monitoring programme of Ignalina Nuclear Power Plant were done few times due to decommissioning of nuclear plant, dismantling of equipment, appearance of new facilities for management of radioactive waste on site. In particular, monitoring of inert radioactive gases and radioactive Iodine-131 in air-gas discharges from ventilation pipes of power units has been cancelled. Periodicity of sampling (the control over filtering stations operation) has been reduced, or sampling was completely cancelled (DGCU, CPS, HCh systems). DGCU - Detonating gas combustion unit, CPS - Reactor Control and Protection System, HCh - Holding Chamber.</p>		
			Article Article 15	Ref. in National Report info for Article 15
38.	Question/ Comment	Do you plan to bring the basic rules and safety requirements (HN 73:2001; BSR-1.9.3- 2011) to the conformance with the requirements and recommendations of the IAEA GSR Part3, ICRP Publication 103?		
	Answer	<p>Since Lithuania is a member state of the European Union requirements of EU Regulations are applicable and requirements of Directives shall be transposed to Lithuanian legislation. The new Directive 2011/70/EURATOM establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste was adopted on 5 December 2013. According to the article 106 and 108 of the Directive Lithuania like other Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by the end of 2017, therefore it is foreseen to review Lithuanian Hygiene Standard HN 73:2001 “Basic Standards of Radiation Protection”, BSR-1.9.3-2011 “Radiation Protection at Nuclear Facilities” and other legislation related to radiation protection. During the review and drafting of the radiation protection related legislation additional attention to implementation of the recommendations of IAEA GSR Part 3 (Interim) and ICRP Publication 103 will be paid.</p>		
			Article Article 15	Ref. in National Report p. 73-77
39.	Question/ Comment	<p>1. In 2011 new IAEA radiation protection standards have been issued - GSR Part 3 (interim), in which dose limits were modified (see: Schedule III. Dose Limits for Planned Exposure Situations). In this connection, whether, and if so when, the dose limits laid down in the HN 73:2001 document will be modified? For instance, after revision of the Euratom 96/26 Directive?</p> <p>2. What are dose constraints to the members of the public at the boundary of the exclusion zone (restricted land use / controlled area) around a NPP for accident conditions?</p>		
	Answer	<p>1. It is foreseen to review Lithuanian Hygiene Standard HN 73:2001 “Basic Standards of Radiation Protection” and other radiation protection related legislation until the end of 2017 as it is obliged by new Directive 2011/70/EURATOM establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste.</p> <p>2. Annual dose constraint (0.2 mSv) for members of the public is established in nuclear safety requirements BSR-1.9.1-2011 „Limits of Radioactive Discharges into Environment from Nuclear Facilities and Requirements for a Plan for Radioactive Discharges</p>		

		<p>into Environment” and in Lithuanian Hygiene Standard HN 73:2001 “Basic Standards of Radiation Protection”. The dose constraint is applied for members of the public who live outside the boundary of the sanitary protection zone but sometimes can access the sanitary protection zone due to their lifestyle and feeding habits and it is applied for the design, normal operation and decommissioning of nuclear facilities.</p> <p>There are no dose constraints for members of the public for accident conditions established in Lithuania. In emergency exposure situations intervention levels are applied which are established in radiation protection standards HN 99:2011.</p> <p>These levels are consistent with generic criteria for protective actions and other response actions in emergency exposure situations to reduce the risk of stochastic effects determined in IAEA document GSG-2.</p>		
			Article Article 15	Ref. in National Report Table 15.5 and 15.6 (p. 77)
40.	Question/ Comment	Is the "Particulate Pollutant" the same as "Radioactive areosols"?		
	Answer	Yes. The term “Particulate Pollutant” was used as synonym to the term “Radioactive aerosols”.		
			Article Article 15	Ref. in National Report p. 78
41.	Question/ Comment	Please explain statement that: "Sr-90 and H-3 radionuclides are widely spread in ecosystem of the lake Druksiai"		
	Answer	<p>Sr-90 radionuclide is widely (globally) spread in ecosystem as well as in the lake Drūkšiai because of the the nuclear weapon tests, as well as technogenic nuclear accidents. Radionuclide H-3 in nature is formed in the top layers of the atmosphere at collision of space radiation particles with atomic nuclei.</p> <p>As it is shown in the report the measured concentration of these radionuclides in water of INPP discharge and intake channels are at the level of detection limit of the measuring devices (0,007 Bq/l for Sr-90 and 3 Bq/l for H-3) and do not exceed background values of Sr-90 and H-3 concentration during the precommissioning period.</p>		
			Article Article 15	Ref. in National Report p. 80 - table 15.8
42.	Question/ Comment	<p>Given dose rates in the areas (mSv/h) are dangerously high, espicially given the fact that in the green zone ( &lt; 12 mSv/h) presence of personnel is permanent.</p> <p>Is the statement „ workes shall by followed by person responsible for dose monitoring” in accordance with the ALARA principle</p>		
	Answer	<p>The dose rate unit should be in <math>\mu\text{Sv/h}</math> (mikro) instead of mSv/h in the table 15.8. This is solely a typing error.</p> <p>Statement “the workers shall be followed by a person responsible for dose monitoring” applies only to the cases when works are performed in varying radiation conditions. Person responsible for workplace monitoring has a duty to immediately provide workers,</p>		

		involved in such works, with appropriate information on the changed radiological conditions and implementation of necessary radiation protection measures to ensure ALARA principle.
		Article Article 15
		Ref. in National Report 15.3.2, 77
43.	Question/ Comment	Does Lithuania have any ALARA targets (for the releases), if so what are they?
	Answer	ALARA target for the radioactive releases is to ensure that doses of members of the public due to radioactive discharges from nuclear facilities are as low as reasonably achievable by implementing different radionuclide localization measures for reduction of discharges. Annual dose constraint – 0.2 mSv (BSR-1.9.1-2011 „Limits of Radioactive Discharges into Environment from Nuclear Facilities and Requirements for a Plan for Radioactive Discharges into Environment”) is used for establishment of the limit of discharges from nuclear facilities that are set up and authorized by regulatory authority in the Plan for Radioactive Discharges into Environment. Operator of nuclear facility also may define activities of radionuclides to be planned to discharge, usually it is one level of magnitude lower. Actual discharge from Ignalina NPP site is up to 1 % of limited discharges.
		Article Article 15
		Ref. in National Report 15.3.1, 75, 76
44.	Question/ Comment	Clarity on the use of the term organism is requested?
	Answer	In the context of the 15.3.1 chapter of the report “Organism” means “Human body”
		Article Article 15
		Ref. in National Report 15.3, 75
45.	Question/ Comment	Please label the limits provided on table 15.1 to indicate whether it is for public or for workers?
	Answer	Dose limits provided in the second and third columns of the table 15.1 are applied for workers and the public respectively.
		Article Article 15
		Ref. in National Report 15.1, 73
46.	Question/ Comment	BSS safety series No. 115, is referenced in the document. Is Lithuania (INPP) not using the Interim Basic Safety Standard (new revision). Why?
	Answer	Since Lithuania is a member state of the European Union requirements of EU Regulations are applicable and requirements of and Directives shall be transposed to Lithuanian legislation. The new Directive 2011/70/EURATOM establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste was adopted on 5 December 2013. According to the article 106 and 108 of the Directive Lithuania like other Member States shall bring into force the laws, regulations and

		administrative provisions necessary to comply with this Directive by the end of 2017, therefore it is foreseen to review Lithuanian Hygiene Standard HN 73:2001 “Basic Standards of Radiation Protection”, BSR-1.9.3-2011 “Radiation Protection at Nuclear Facilities” and other legislation related to radiation protection. During the review and drafting of the radiation protection related legislation additional attention to implementation of the recommendations of IAEA GSR Part 3 (Interim) and ICRP Publication 103 will be paid.		
			Article Article 15	Ref. in National Report 80
47.	Question/ Comment	Category III premises as stated in the Lithuanian report are those of personnel permanent residence, such as operator rooms, control panels, corridors, etc. What are the basis for establishing a dose rate limit of 12 mSv/h for the category III premises?		
	Answer	This is solely a typing error in the table 15.8. The dose rate unit should be in $\mu\text{Sv/h}$ (mikro) instead of mSv/h.		
			Article Article 15	Ref. in National Report para 15.3.3 page 79
48.	Question/ Comment	Is it required by VATESI that License Holder (Ignalina NPP) should establish own levels (in Ukraine we use so called “control levels”) for individual doses based on the results of optimization of radiation protection? If yes, could you provide the examples of such levels?		
	Answer	<p>According to the requirements of BSR-1.9.3-2011 “Radiation Protection at Nuclear Facilities” licensee shall establish dose constraints and occupational exposure investigation levels for ALARA purposes.</p> <p>Annually till December, 20th the Radiation Safety Department of INPP develops the document “Planned parameters of INPP personnel and contract organizations exposure for a year”, in which the dose constraints and investigation levels for occupation exposure are established. The given exposure values are determined taking into account possible exposure to workers, which is evaluated by analyzing past exposure data and radiological conditions at the workplaces.</p> <p>An example: For workers of the divisions performing radiation hazardous works the annual dose constraint is in range from 10 to 18 mSv, a monthly investigation level is 0,3 - 0,45 mSv. For workers of the divisions performing works in premises of permanent personnel stay the annual dose constraint is in range from 2 to 5 mSv, a monthly investigation level is 0,1 - 0,2 mSv. At periodic work in premises of category II the annual dose constraint dose is from 5 up to 10 mSv.</p>		
			Article Article 16.1	Ref. in National Report 16.1.3.3, p93
49.	Question/ Comment	<p>The 6th Lithuanian National Report states that “On 14th of March, 2013 Lithuania has participated in the Joint Nordic-Baltic nuclear emergency exercise NB8”</p> <p>Could you please share with us what the identified deficiencies were?</p> <p>What are the lessons learned from this exercise?</p>		

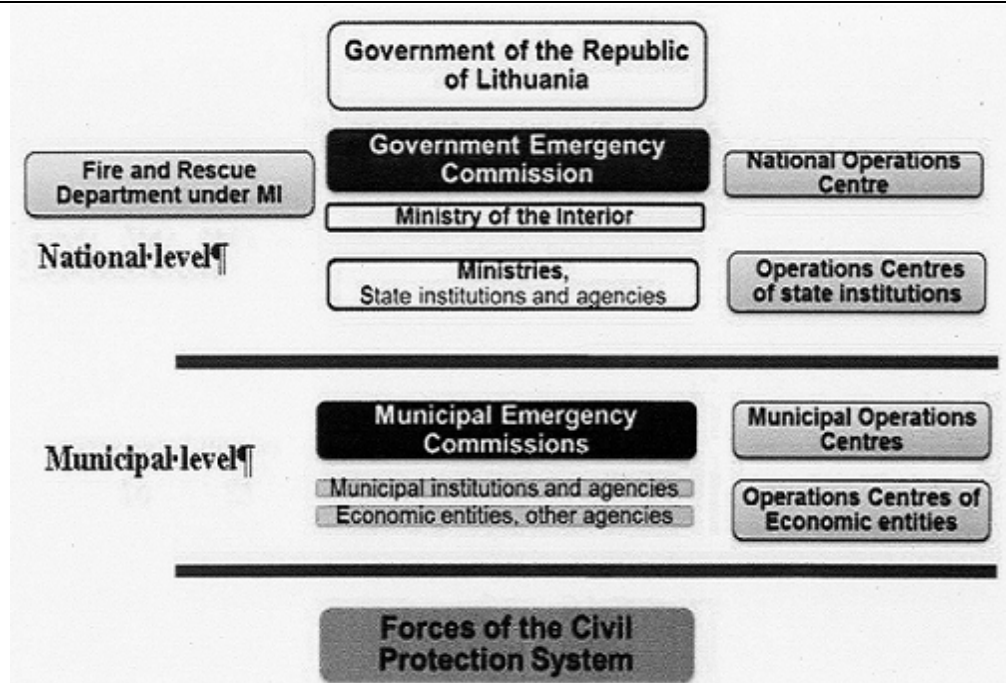
	Answer	<p>Joint Nordic-Baltic nuclear emergency NB8 exercise provided a good opportunity to test the internal arrangements of response organizations and to detect possible weaknesses which could limit the effectiveness of information exchange at national and international level.</p> <p>Exercise highlighted some technical difficulties on the effectiveness of information exchange between national authorities in Lithuania. Some issues in organizing the work of emergency centres, which decreased the effectiveness of overall response to scenario inputs, were detected.</p> <p>The main recommendations formulated after exercise emphasizes the need of faster and more reliable information exchange system between national authorities taking into consideration development of electronic database dedicated for exchange of information related to emergency. The need of additional exercise with involvement of Government Emergency Commission and mass media representatives for more comprehensive test of National off-site nuclear emergency plan was pointed out as one of recommendations.</p> <p>The conclusions of Lithuania's report of Joint Nordic-Baltic nuclear emergency exercise states the importance of cooperation in Baltic region on harmonizing the response to nuclear emergencies at existing nuclear facilities and those which going to be built in the near future.</p>		
			Article Article 16.1	Ref. in National Report info for Article 16
50.	Question/ Comment	Was the re-evaluation of the threats of Ignalina NPP due to the change of its status been performed?		
	Answer	<p>INPP was allowed to prepare and implement activities, related to decommissioning in both Units after approval of Decommissioning Projects for final shutdown and defueling phase of Unit 1 (Project U1DP0) and Unit 2 (Project U2DP0). Projects U1DP0 and U2DP0 were approved by VATESI accordingly on January 15, 2007 and in September 3, 2010. Decommissioning Projects for final shutdown and defueling phase of INPP Units includes Safety Analysis Report (SAR) for those phases, which aims are to demonstrate that during final shutdown and defueling phases, all decommissioning activities may be safely performed within the limits of the operational license and its validity conditions. This SAR includes evaluation of the initiating events (threats), which are relevant for the INPP at final shutdown and defueling phases. Periodic safety assessments will be carried out for Unit 1 and Unit 2 of INPP accordingly in 2017 and in 2020 taking into account all the changes performed in the frame of decommissioning of INPP.</p> <p>Decommissioning Projects for separate decommissioning activities within Projects U1DP0 and U2DP0 and their SARs were prepared and agreed on with regulatory bodies. In accordance with these documents, operational procedures, emergency procedures, including accidents managements guidelines for beyond design basis accidents, emergency preparedness procedures and other emergency preparedness and civil protection documents were revised.</p>		
			Article Article 16.1	Ref. in National Report info for Article 16
51.	Question/	Do you plan to revise the functions of governmental bodies, responsible for emergency preparedness and response, taking into account		



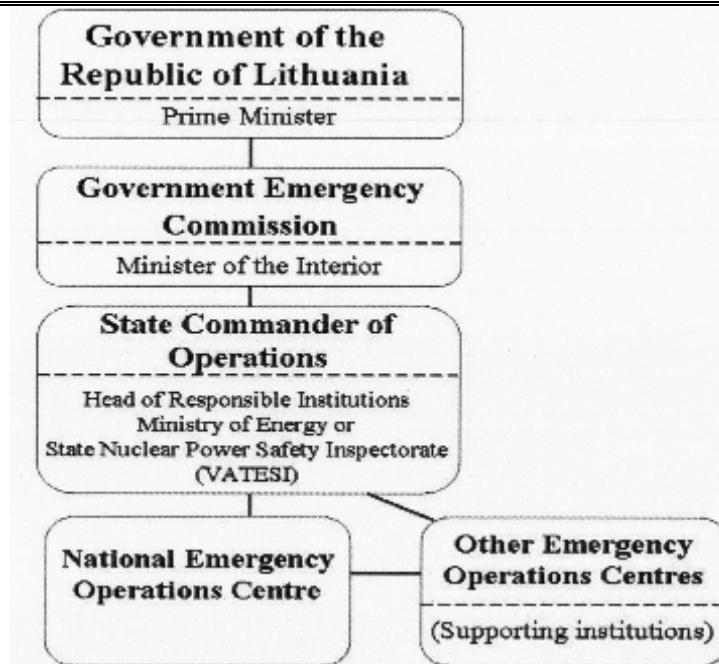
	Comment	the change in the status of INPP?		
	Answer	<p>The functions of governmental bodies responsible for nuclear and radiation safety or civil protection are laid down in laws and other legal acts of Republic of Lithuania and are not related to the status of INPP.</p> <p>The responsibilities of governmental bodies in case of nuclear or radiological emergency are laid down in The National Plan for Protection of Population in Case of Nuclear Accident, which was approved by Resolution No 99 of Government of the Republic of Lithuania on 18<sup>th</sup> January 2012. This plan is coordinated with the Ignalina NPP emergency plan. Both documents are being periodically revised taking into consideration current status of INPP.</p>		
			Article Article 16.1	Ref. in National Report info for Article 16
52.	Question/ Comment	What corrective measures are implemented according to the results of the analysis of the accident during the decontamination of purge and cooling system in the forced circulation circuit associated with depressurization and leak of chemicals, used in the decontamination, out of the circuit, which took place in October 2010?		
	Answer	<p>During implementation of the scheduled works at Unit 1 of Ignalina NPP which were foreseen in Project B12 “Decontamination of Internal Surfaces of SE Ignalina NPP Main Circulation Circuit, Blowing, Cooling and Water Purification Systems” – Unit 1 circuit decontamination – the loss of integrity of components of above systems and subsequent flowing out of the chemical agents have occurred on 5 October 2010.</p> <p>This technological event was rated at INES level 0. It did not pose a danger to the environment and people since the fuel is unloaded from Unit 1 reactor and all the radioactive materials were confined in the leak-tight compartments.</p> <p>The following corrective actions were taken as a result of event: relevant NPP personnel was familiarized with the event report, containing the results of event analysis, causes and lessons learned as well as a special task force was created to analyze the experience and to evaluate the possibility to complete decontamination of Main Circulation Circuit at Unit 1 and to use the same decontamination technology at Unit 2. Analysis of expediency of carrying out chemical deactivation of Main Circulation Circuit at Unit 1 and Unit 2 was resulted in a decision of Operating Organization to carry out non-chemical Main Circulation Circuit deactivation, the technology which was used during operation of Units.</p>		
			Article Article 16.1	Ref. in National Report p.89
53.	Question/ Comment	This subsection was doubled on page 89, please delete this doubled text.		
	Answer	Doubled subsection is solely a text compilation error.		
			Article	Ref. in National Report

			Article 16.1	p. 91
54.	Question/ Comment	Please describe on-site emergency facilities (such as Technical Support Centre, Emergency Operations Centre) planned for the Visaginas NPP.		
	Answer	<p>On-site and off-site emergency facilities for Visaginas NPP will be planned and their specifications (yet to be prepared) shall be based on Visaginas NPP Emergency Preparedness Plan. In essence, according to Emergency Preparedness Requirements of the Operator of Nuclear Facility (P-2008-01) based on IAEA GS-R-2 requirements on-site emergency facilities shall provide:</p> <ul style="list-style-type: none"> <li>• Tools to access information on NPP, site and environmental conditions, on-site and off-site radiological monitoring and measures for its evaluation.</li> <li>• Communication with main and backup control rooms, other facilities important for nuclear safety, off-site communication with emergency management organizations and public media.</li> </ul> <p>Emergency facilities shall be provided with:</p> <ul style="list-style-type: none"> <li>• Personal protection equipment for emergency personnel.</li> <li>• Public announcement equipment for announcement on-site and in the sanitary protection zone.</li> <li>• Tools, instruments, equipment and communication systems required for efficient emergency management.</li> <li>• Reliable power supply.</li> <li>• Adequate first-aid facilities.</li> <li>• Personnel dosimetry.</li> <li>• Personnel decontamination.</li> </ul>		
			Article Article 16.1	Ref. in National Report 16.1, 86, 87
55.	Question/ Comment	Which body is overseeing the distribution and the validity of stable iodine in the regions?		
	Answer	According the National Plan for Protection of Population in Case of Nuclear Accident, which was approved by Resolution No 99 of Government of the Republic of Lithuania on 18 <sup>th</sup> January 2012, Radiation Protection Centre coordinates at state level implementation of iodine prophylaxis. Municipality Emergency Operations Centre organizes the implementation of it. Director of municipality administration in agreement with the Government Emergency Commission takes decisions on application of iodine prophylaxis to residents, upon receiving recommendations from Ministry of Health.		
			Article Article 16.1	Ref. in National Report 16.1.4, 92
56.	Question/ Comment	What informed the frequency of full scale exercises (3 years)?		

	Answer	According to Emergency Preparedness Requirements of the Operator of Nuclear Facility (P-2008-01) based on IAEA GS-R-2 requirements, training, emergency response drills and various functional and comprehensive exercises are carried out in nuclear facilities every year according to yearly training and exercise schedule prepared by operating organization. In order to fulfill the IAEA recommendations, article 38 of Law of the Republic of Lithuania on nuclear safety binds to check the emergency preparedness plan at least once a year through exercises and training sessions. The comprehensive (full scale) exercises shall be organized after revision of nuclear facilities emergency plan which is updated once in a 3 years period or after essential changes in operational activities of the nuclear facility; the changes in nuclear facilities personnel; the lessons learned from exercises, incidents and emergencies; the changes in the regulating system of nuclear safety.		
			Article Article 16.1	Ref. in National Report 16.1.4, 92, 93
57.	Question/ Comment	Does the regulator (VATESI) take part in operator (full scale) exercises?		
	Answer	VATESI as a regulatory body takes part in the full scale exercises of nuclear facility by sending experts to the scene to act as observers. Additionally VATESI is taking part in a full scale exercises as an active player by activating VATESI emergency centre and executing its functions stated in National Plan for Protection of Population in Case of Nuclear Accident.		
			Article Article 16.1	Ref. in National Report 16.1.2, 85
58.	Question/ Comment	Please provide a diagram that clarifies and demonstrate the link between the roles of the response institutions incase of nuclear emergency (including VATESI and RPC)		
	Answer			



1 Fig. Scheme of emergency management (<http://www.vatesi.lt/fileadmin/documents/BSK/Fig1.JPG>)



2 Fig. Scheme of emergency management in case of nuclear accident (<http://www.vatesi.lt/fileadmin/documents/BSK/Fig2.JPG>)

The State emergency management plan, approved by Resolution No 1503 of the Government of the Republic of Lithuania on 20<sup>th</sup> of October, 2010, divides ministries and other state and municipal institutions and agencies into responsible and supporting institutions depending on their assigned area of activity and character of impending or actual emergency.

In case of nuclear accident Ministry of Energy and State Nuclear Power Safety Inspectorate (VATESI) are responsible institutions. Radiation Protection Centre and other institutions (Ministry of Environment, Ministry of National Defence, Ministry of Social Security and Labour, Ministry of Transport and Communications, Ministry of Health, Ministry of Education and Science, Ministry of Foreign Affairs, Ministry of Economy, Ministry of Interior, State Food and Veterinary Service, director of administration of municipality) support the responsible institutions to organize liquidation of nuclear emergency and elimination of its consequences.

Article  
Article 16.1

Ref. in National Report  
16.1.4

59.	Question/ Comment	<p>The report states that on March 14, 2013, Lithuania participated in the Joint Nordic-Baltic nuclear emergency exercise NB8 hosted by Finland and that some areas for improvement of arrangements were identified and corrective measures are under consideration.</p> <p>Please share what were the areas of improvements identified and lessons learned from the exercise.</p>		
	Answer	<p>Joint Nordic-Baltic nuclear emergency NB8 exercise provided a good opportunity to test the internal arrangements of response organizations and to detect possible weaknesses which could limit the effectiveness of information exchange at national and international level.</p> <p>Exercise highlighted some technical difficulties on the effectiveness of information exchange between national authorities in Lithuania. Some issues in organizing the work of emergency centres were detected, which decreased the effectiveness of overall response to scenario inputs.</p> <p>The main recommendations formulated after exercise emphasizes the need of faster and more reliable information exchange system between national authorities taking in consideration development of electronic database dedicated for exchange of information related to emergency. The need of additional exercise with involvement of Government Emergency Commission and mass media representatives for more comprehensive test of National off-site nuclear emergency plan was pointed out as one of recommendations. The conclusions of Lithuania's report of Joint Nordic-Baltic nuclear emergency exercise states the importance of cooperation in Baltic region on harmonizing the response to nuclear emergencies at existing nuclear facilities and those which going to be built in the near future.</p>		
60.		Question is withdrawn.		
			Article Article 16.2	Ref. in National Report para.16.2.2, p.95
61.	Question/ Comment	<p>"The Agreement between Lithuania and Belarus On Early Notification of Nuclear Accidents, Exchange of Information and Co-operation in the Field of Nuclear Safety and Radiation Protection is under negotiation process."</p> <p>The draft of Agreement was sent to Lithuania in 2010 via official channels. In 2011 internal procedures in the Republic of Belarus for signing of the said intergovernmental agreement were completed, via official channels the information was sent regarding willingness to sign the Agreement. Up to the present moment, the Ministry for Emergency Situations of the Republic of Belarus has no</p>		

		<p>information from the competent state authorities of Lithuania on the status of this project review. The preparation of this draft was initiated by Lithuania in period of 2005-2006. In addition, there were two initiations during 90-s of last century.</p> <p>What is the status of examination for this draft? What is the mechanism of Lithuanian and EU consideration of this draft? What is the planed term of finalization of this consideration?</p>	
	Answer	<p>Lithuania is in position to forthwith notify through the International Atomic Energy Agency those States which are or may be physically affected upon specified criteria in accordance with provisions of Convention on Early Notification of a Nuclear Accident. Again in accordance with provisions of this convention bilateral agreements might be signed if States Parties may consider where deemed appropriate.</p> <p>Currently Lithuania is in a process of reviewing the draft Agreement taking into account the recent developments of nuclear energy in both Lithuania and Belarus and current level of mutual cooperation. Lithuania as a contracting party of the Convention is of the position that the Agreement, if signed, should create added value and contribute to emergency preparedness in both parties.</p>	
			<p>Article Article 16.2</p> <p>Ref. in National Report info for Article 16</p>
62.	Question/ Comment	<p>What are the mechanisms, provided by the Lithuanian side to update the information in the light of changes in the state of facilities safety issues in order to ensure adequate emergency planning of neighbouring states?</p>	
	Answer	<p>According to the law of Environmental Impact Assessment of Proposed Economic Activities for activities that is likely to cause a significant adverse transboundary impact environmental impact assessment is done and information is provided under convention On Environmental Impact Assessment In a Transboundary Context (Espoo). Also this information shall be provided on the request of State which likely could be affected under international agreement signed between Republic of Lithuania and appropriate state.</p> <p>The mechanisms for safety-related information on nuclear facilities in operation as well as those planned or under construction, their commissioning and decommissioning and appropriate information on the nuclear activities which are relevant to the risk of release of radioactive materials are stipulated in bilateral agreements with neighbouring states such as Latvia and Poland on early notification of nuclear or radiological accidents and exchange of information and co-operation in the field of nuclear safety and radiation protection.</p>	
			<p>Article Article 17.1</p> <p>Ref. in National Report 17.1, p97</p>



63.	Question/ Comment	<p>Concerning the possible construction of a new nuclear plant and its site it is stated: “All the planed evaluations have been completed, Site Evaluation Report has been prepared and submitted for the review in 2012”.</p> <p>When will the Site Evaluation Report be reviewed?</p> <p>What is the current design basis earthquake for the planned NPP?</p>		
	Answer	<p>As it was stated in 14.1. Article 14(1) – Assessment of safety, Site Evaluation Report was reviewed by Lithuanian authorities involved in coordination, including Lithuanian Hydro-meteorological Service, Lithuanian Geological Survey, Ministry of Health, Fire and Rescue Department under Ministry of Interior, Civil Aviation Administration. Currently the results of the evaluation are being coordinated with State Nuclear Power Safety Inspectorate that finally will provide its final decision on the Site Evaluation Report. The regulatory review and assessment of Site Evaluation Report is in finishing state and the final decision on its acceptability will be taken in 2014.</p> <p>The current design basis earthquake (DBE) for the planned NPP is provided in the Site Evaluation report in terms of seismic levels (SL-2). The DBE was assessed based on IAEA requirements (NS-R-3) and safety guides (NS-G-3.3 and SSG-9) as well as on the Lithuanian State Nuclear Power Safety Inspectorate requirements on site evaluation. The seismic hazard was identified using both probabilistic seismic hazard analysis (PSHA) and deterministic seismic hazard analysis (DSHA). It was concluded that SL-2 ranges from 0.12 to 0.13 g. However, the final SL-2 value can be confirmed after the State Nuclear Power Safety Inspectorate provides its final decision on the Site Evaluation Report and consequently design basis parameters for the planned NPP as provided in the Report.</p>		
			Article Article 17.1	Ref. in National Report 17.1.1.1
64.	Question/ Comment	<p>The report states that VAE has undertaken a number of preparatory works that are necessary in order to be properly prepared for construction of the new NPP in Lithuania. Please share the schedule/milestones for construction and commissioning of the new NPP.</p>		
	Answer	<p>The preliminary phases of new NPP:</p> <ul style="list-style-type: none"> <li>• Preparatory works – 2007-2013;</li> <li>• Pre-construction development – 2014-2016;</li> <li>• Construction, testing and commissioning – 2017-2022;</li> </ul>		
			Article Article 17.2	Ref. in National Report 17.1, p96
65.	Question/ Comment	<p>The 6th Lithuanian National Report notes that: “In making a decision on the construction of a specific nuclear facility, the Government of the Republic of Lithuania takes into consideration: economic and public needs; the opinion of the local authority on</p>		

		whose territory the intended facility will be sited.” Could you please share with us in which way the result of the 2012 referendum will be reflected, when it comes to the decision if building a new NPP or not?		
	Answer	The newly elected Parliament and formed Government decided not to take premature decisions with regard to new nuclear power plant project and advisory referendum’s results. After comprehensive evaluation of the project and national energy strategy it was decided that safe nuclear energy development should remain an integral part of the Lithuanian energy supply mix. Following this decision Government decided that Visaginas NPP project might be continued, however certain conditions were set. One of the conditions for the Visaginas NPP project continuity was the necessity to ensure and maintain effective public awareness of the project. Thus the information with regard to the considerations on the continuity of the project was always publicly reported and explained and it will be continued to do so.		
			Article Article 18.1	Ref. in National Report p. 104
66.	Question/ Comment	When the regulation "Nuclear Safety Requirements BSR-2.1. - .Nuclear Power Plant Design"? will be enacted (at present its draft exists)?		
	Answer	It is planned to be approved in 2014.		
			Article Article 18.2	Ref. in National Report para 18.2.1 page 106
67.	Question/ Comment	It is obvious that activity related to siting and designing of new NPP is underway. In para 18.2.1. it was mentioned than new regulation with requirements for NPP’s design is needed and under development. What is the status of this regulation now? Has VATESI approved it already?		
	Answer	The regulation "Nuclear Safety Requirements BSR-2.1. - .Nuclear Power Plant Design" is planned to be approved in 2014 after implementation of the recommendations of IAEA experts mission, that is planned in May, 2014.		
			Article Article 19.8	Ref. in National Report para.19.8.2
68.	Question/ Comment	"19.8.2. On-site storage of spent fuel "The new spent new fuel storage facility, according to the project, is designed to accommodate 200 CONSTOR RBMK126 1500/M2 casks with spent nuclear fuel assemblies and store it up to 50 years." Do Lithuania have plans how it will manage the spent fuel after 50 years of spent fuel storage?		
	Answer	In Radioactive Waste Management Strategy, which was approved in 2008, there are indicated several options – analysis of possibilities of disposal of spent fuel in Lithuania or in other country and analysis of possibilities of reprocessing of fuel in other country.		

		<p>Option of disposal in Lithuania is most realistic.</p> <p>Initial studies on geological disposal possibilities were performed. The main objective was to demonstrate that in principle it is possible to implement a direct disposal of SF in Lithuania in a safe way. Which option will be used for the potential disposal of Lithuanian SF is to a large extent a political decision, and this investigation will be an important input to such decision. The main conclusion has made during the studies that employing present technologies it would in principle be possible to dispose SF and other long-lived high level radioactive wastes into the repository built in Lithuania. The crystalline basement and clays having very good confining properties are the main geological formations to be investigated further.</p> <p>Lithuania also participates in a multinational working group established to study the feasibility of setting up European Repository Development Organisation (ERDO) that would implement shared geological repositories in Europe.</p> <p>According council Directive 2011/70/EURATOM establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste Lithuania shall prepare Radioactive waste management program in which the date, price and financial sources for implementation of geological disposal facility shall be determined. This program is planned to define stages of radioactive waste (including spent fuel) management and its implementation periods, conceptual plans and technical solutions for all stages of radioactive waste (including spent fuel) management, starting from generation to disposal and should be prepared in 2014.</p>			
		<table border="1"> <tr> <td></td> <td>Article Article 19.8</td> <td>Ref. in National Report para.19.8.3</td> </tr> </table>		Article Article 19.8	Ref. in National Report para.19.8.3
	Article Article 19.8	Ref. in National Report para.19.8.3			
69.	Question/ Comment	<p>"19.8.3. Implementation of on-site treatment, conditioning and storage of radioactive waste</p> <p>"A new storage facility for cemented waste is designed for 60 years storage."</p> <p>"After storage the waste will be disposed of in disposal facilities. It is envisaged to construct two disposal facilities – one for very low level and other for low and intermediate level radioactive waste."</p> <p>What is the estimated operation life of these disposal facilities?</p> <p>Did Lithuania authorities and independent experts estimate a level of risk and consequences of nature contamination with this radioactive waste at different stages of storage disposal? What are the results and where we can see them?</p>			
	Answer	<p>Cemented waste after storage will be placed in a low and intermediate level radioactive waste disposal facility. No cemented waste will be placed in very low level waste disposal facility.</p> <p>Information on low and intermediate level radioactive waste disposal facility (near surface disposal facility).</p> <p>In 2002 a Joint Venture Partnership consisting of Svensk Kärnbränslehantering AB (SKB), SWECO International AB and Westinghouse Atom AB, with SKB as lead issued Report "Reference Design for a Near Surface Repository (NSR) for Low and Intermediate Level Short Lived Radioactive Waste in Lithuania" summarizing the results of a study regarding its hydro-geological, climatic and other environmental conditions.</p> <p>Besides, the site selections process, disposal concepts and acceptability of waste packages for disposal were estimated by independent international experts.</p> <p>IAEA experts performed a peer review, carried out in December 2005, of the safety of the proposed disposal solutions for radioactive</p>			

		<p>waste arising mainly from the operation and decommissioning of the Ignalina NPP. The objective of the peer review was to provide an independent assessment of the safety related aspects of the design and sites under consideration on the basis of international safety standards and applicable national standards. The report “<b>An International Peer Review of the Programme for Evaluating Sites for Near Surface Disposal of Radioactive Waste in Lithuania</b>” prepared by IAEA experts was issued in 2006.</p> <p>In 2006 Radioactive Waste Management Agency (RATA) and Lithuanian scientific institutions experts prepared and issued an Environmental Impact Assessment Report of NSR. RATA, having taken into consideration the comments it received, produced the final edition of “<b>The supplemented assessment report of the environmental impact of a NSR</b>” and submitted it to the Ministry of Environment. The Ministry generalized the opinion of Lithuanian State Nuclear Safety Inspectorate, institutions and the neighbouring countries and on June 4, 2007, took the decision regarding feasibility of construction of a NSR for low and intermediate level radioactive waste from the viewpoint of environmental impact. In accordance with requirements of legal documents RATA informed the public about the decision made.</p> <p>In 2014 the Designer (Joint Venture Partnership, with AREVA-TA as lead) will issue Preliminary Safety Analysis Report (PSAR) demonstrating the safety at different stages of the NSR lifetime. The PSAR should demonstrate that the proposed NSR design is sufficient to ensure the long-term isolation of waste and the limitation of releases of radionuclides needed to ensure that the potential effects of waste disposal on the population and the environment are within acceptable limits for operational and post-closure periods.</p> <p>NSR operational period is estimated to be 20-25 years and institutional control of the disposal site is to be maintained for 300 years after closure.</p> <p>Information on very low level disposal facility (landfill facility). The technology of the Landfill Disposal closure is elaborated in the Technical design of the facility. In Preliminary safety analysis report of the Landfill disposal the duration of post-operational (institutional) control is defined as 30 years for active and 70 years for passive control. Preliminary safety analysis report for very low level waste disposal facility was reviewed by VATESI with the cooperation of technical support organizations from Lithuania and experts from Belgium, Finland and United Kingdom. Preliminary safety analysis report was agreed with VATESI in December 2010.</p>			
		<table border="1"> <tr> <td data-bbox="338 1230 779 1321"></td> <td data-bbox="779 1230 1048 1321">Article Article 19.8</td> <td data-bbox="1048 1230 2074 1321">Ref. in National Report para.19.8.3</td> </tr> </table>		Article Article 19.8	Ref. in National Report para.19.8.3
	Article Article 19.8	Ref. in National Report para.19.8.3			
70.	Question/ Comment	<p>What are the results of the conducted assessment of bituminous compound storage (room 158)? What measures, improving safety, have been taken on the basis of the results of the assessment? How was the solution to the issue of final disposal of bituminous compound envisaged by design decisions?</p>			
	Answer	<p>In 2012 periodic safety assessment of bituminous compound storage facility was performed and periodic safety assessment report was</p>			

		<p>issued and reviewed by VATESI.</p> <p>The design of bituminous compound storage in vaults of building 158 without packages does not satisfy the requirements on waste treatment at nuclear energy objects BSR-3.1.2-2010 Regulation on the Pre-disposal Management of Radioactive Waste at the Nuclear Facilities.</p> <p>So bitumen compound should be retrieved from the vaults and transferred to 200-liter drums that should then be disposed off in the near surface disposal facility or the existing storage facility could be turned into disposal facility. Final decision on way of disposal of bituminous compound is not made yet.</p> <p>In order to eliminate revealed discrepancies, to improve storage safety and to make a decision on bituminous compound final disposal way it is necessary:</p> <ol style="list-style-type: none"> <li>1. Based on the performed Periodic Safety Assessment to elaborate and agree with VATESI new Safety Analysis Report of building 158 until December 2015;</li> <li>2. To perform analysis of fire risk of building 158;</li> <li>3. To choose and substantiate more safe alternative method of distillation residue solidification and/or bituminous compound storage;</li> <li>4. To confirm long term stability of structures of building 158;</li> <li>5. To perform additional geologic and hydro geologic investigations of ground around building 158;</li> <li>6. To elaborate preliminary waste acceptance criteria for transfer of building 158 into final disposal;</li> <li>7. To elaborate and agree with VATESI Safety Analysis Report of bituminous compound disposal way chosen;</li> <li>8. To elaborate and realize design of transfer of building 158 into final disposal (in case of such decision will be made by INPP);</li> <li>9. To organize supervision for disposal operation (in case of transfer building 158 into disposal).</li> </ol>		
			Article Article 19.8	Ref. in National Report info for Article 19
71.	Question/ Comment	<p>In October 2010, during decontamination the depressurization of the primary circuit occurred at the Unit 1 of Ignalina NPP, whereby about 600 cubic meters of radioactive substances (radioactive waste) was formed.</p> <p>Did the formation of additional radioactive waste influence the decommissioning program for Ignalina nuclear power plant, is the construction of additional storage facilities for radioactive waste required?</p>		
	Answer	<p>Formation of additional radioactive waste, mentioned in the question, did not influence decommissioning program and no new waste storage facilities were needed. All the waste was processed in existing liquid waste treatment facilities.</p>		
			Article Article 19.8	Ref. in National Report 125
72.	Question/ Comment	<p>Dry type spent nuclear fuel storage facility (project B1) has been delayed several years due the disagreements between INPP and supplier Nukem technologies. What is the current status?</p>		

	Answer	<p>In October 2013 INPP and the Contractor prepared and agreed B1 Project Works Completion Schedule (WCS). All mentioned below (see 74 answer) modifications related to changes, caused in progress of the project B1, are currently performing in accordance with WCS.</p> <p>Approximately 95% of project B1 construction works and 35% of technological systems and equipment installation are performed. About 15% of the works scope is performed at Unit 1 and 2 of INPP.</p> <p>According to WCS project B1 cold tests will be planned from the 4<sup>th</sup> quarter of 2014 up to 2<sup>th</sup> quarter of 2016. Project B1 commissioning is planned for March of 2017.</p>		
			Article Article 19.8	Ref. in National Report 127
73.	Question/ Comment	<p>Free release of solid operational waste started in 2006. What are the limits for releasing the items so that they can be treated as non-radioactive waste.</p>		
	Answer	<p>These limits are defined in Nuclear Safety Requirements BSR-1.9.2-2011, “Derivation and Use of Clearance Levels of Radionuclides for Materials and Waste Generated during Activities in the Area of Nuclear Energy” (2011) approved by VATESI. Free release level for main radionuclides is:</p> <p>0,1 Bq/g, Bq/cm<sup>2</sup> for Th-228, Th-230, Th-232, U-234, U-235, Np-237, Pu-239, Pu-240, Am-241, Cm-244.</p> <p>0,4 Bq/g, Bq/cm<sup>2</sup> for Na-22, Na-24, Mn-54, Co-60, Zn-65, Nb-94, Ag-110m, Sb-124, Cs-134, Cs-137, Eu-152, Pb-210, Ra-226, Ra-228, U-238.</p> <p>4 Bq/g, Bq/cm<sup>2</sup> for Co-58, Fe-59, Sr-90, Ru-106, In-111, I-131, Ir-192, Au-198, Po-210.</p> <p>40 Bq/g, Bq/cm<sup>2</sup> for Cr-51, Co-57, Tc-99m, I-123, I-125, I-129, Ce-144, Tl-201, Pu-241.</p> <p>400 Bq/g, Bq/cm<sup>2</sup> for C-14, P-32, Cl-36, Fe-55, Sr-89, Y-90, Tc-99, Cd-109.</p> <p>4000 Bq/g, Bq/cm<sup>2</sup> for H-3, S-35, Ca-45, Ni-63, Pm-147.</p>		
			Article Article 19.8	Ref. in National Report para 19.8.2, page 125-126
74.	Question/ Comment	<p>In para 19.8.2 it was mentioned that “The required spent nuclear fuel handling equipment is designed too. It is foreseen to construct new intermediate nuclear fuel storage facility, due to delays of project B1 implementation, up to 2014. Project B1 is delayed for several years. Delays were caused by disagreements between INPP and Nukem Technologies. As for now those disagreements are about to be resolved and implementation of the project should be speeded up.”</p>		

		<p>What is the situation now with construction of new ISF for spent fuel of Ignalina NPP? Has Lithuanian Part reached agreements with NUKEM regarding the “unresolved questions”? Have you had progress in solving of problem related to management of “damaged fuel” already?</p>	
Answer		<p>In 2012 INPP raised a set of questions related to safety:</p> <ul style="list-style-type: none"> <li>• <b>Nonconformity of CONSTOR ® RBMK 1500/M2 casks to Technical Design and PSAR</b></li> </ul> <p>In October 2013 the Contractor provided amended documents on justification of nonconformity of manufactured CONSTOR ® RBMK/M2 casks to Technical Design and Preliminary Safety Analysis Report. An independent safety survey, justifying casks modification, has been received. In December INPP sent the Technical Solution on CONSTOR ® RBMK/M2 casks and justification documents to VATESI for agreement.</p> <p>Payment for casks (since 2011 the INPP stopped paying for the manufactured casks) – by the end of 2013 the INPP has fully paid for 156 of 157 manufactured casks.</p> <ul style="list-style-type: none"> <li>• <b>SPH crane modification</b></li> </ul> <p>Technical Specification on modification of Unit 1 and 2 SPH cranes was prepared and agreed with VATESI in November 2013. SPH crane modification tender was held in November 2013. Signing of the contract on performance of works on SPH cranes is expected at the beginning of 2014.</p> <ul style="list-style-type: none"> <li>• <b>Shock absorbers type 1, 2, 3</b></li> </ul> <p>In April 2013 the Contractor submitted amended documentation on Shock absorbers type 1, 2, 3. Technical issues were solved. At the beginning of 2014 the Contractor will submit final version of documents on shock absorbers project on the basis of the results of tests on the procured materials for shock absorbers.</p> <ul style="list-style-type: none"> <li>• <b>Untight fuel</b></li> </ul> <p>A meeting with the Contractor on issues of untight fuel determination was held at INPP in April 2013. Positive results have been achieved. In November 2013 INPP prepared and sent to VATESI for agreement a Report on justification of operational limit for untight fuel bundles to be loaded into CONSTOR®RBMK/M2 cask.</p> <p>In April/November 2013 at the Donors’ Assembly INPP approved that 4 principal issues related to safety were technically solved. Other issues.</p> <p>INPP and the Contractor prepared and agreed B1 Project Works Completion Schedule in October 2013. ISFSF cold tests are planned from the 4<sup>th</sup> quarter of 2014. ISFSF B1 facility commissioning is planned for March of 2017.</p> <p>In October 2013 the Contractor provided changed documentation on CONSTOR®RBMK/M2 cask lid system. Factory tests of welding platform for the new lid welding technology were carried out in November 2013. Positive results have been achieved. Technical Design and PSAR on damaged fuel handling were sent to VATESI in November 2013.</p> <p>Approximately 95% of ISFSF construction works and 35% of technological systems and equipment installation are performed. About 15% of the works scope is performed at Unit 1 and 2 of INPP.</p>	
		Article	Ref. in National Report



		Article 19.8	para 19.8.2 page 126
75.	Question/ Comment	<p>1. In para 19.8.2 it was mentioned that “ Modernization of waste management includes retrieval from old storage facilities, characterization, treatment and conditioning of waste taking into account disposal routes. Before disposal waste will stored in new storage facilities. In new treatment facilities operational and decommissioning waste will be managed. It is assumed that retrieval of the waste and operation of new treatment facilities could start in 2014-2015. The implementation of this project is delayed for several years. Delays were caused by disagreements between INPP and Nukem Technologies. As for now those disagreements are about to be resolved and implementation of the project should be speeded up.”</p> <p>What is the situation now with this project? Has Lithuanian Part reached agreements with NUKEM regarding the “unresolved questions”?</p> <p>2. In para 19.8.2 it was mentioned also that “Liquid radioactive waste at the INPP is collected in special tanks, from where it is directed to evaporating facilities. The concentrate is processed and conditioned in the bitumen solidification facility, i.e. mixed with bitumen. The bitumen compound then is pumped into a special storage facility (build. 158). The building is also located on the INPP site. The INPP performed preliminary study for bituminised radioactive waste storage facility in order to know if it could be converted into a repository or not. It was decided that more investigations are needed. If an outcome of final assessment is negative, build. 158 will remain as a storage facility and the INPP would develop actions plan of facility decommissioning including waste retrieval. If positive then this storage facility will be transferred to disposal facility. In 2012 periodic assessment for this storage facility was performed”.</p> <p>Taking into account that “periodic assessment” of this storage has been performed yet did Lithuania make the final decision about the status of this facility? If yes, could you tell us about this decision?</p>	
	Answer	<p>Answer to the first part of question:</p> <p>Lithuania is about to reach final agreements with Nukem, but still implementation of the project is delayed. New date for operation is now 2018.</p> <p>On 18th December 2013, INPP and NUKEM Technologies GmbH signed the Agreement to Record Settlement of Claims and Amendment of Construction Agreement for Project B2/3/4. This Agreement settles all historical Contractor’s claims and all disputes between the Employer and the Contractor which occurred before the 18th December 2013. This Agreement also covers:</p> <ul style="list-style-type: none"> <li>- increase in Contract Price;</li> <li>- monthly progress payments instead of payments for achievement of milestones;</li> <li>- new Programme of Performance with the revised Completion Date of 26th June 2018;</li> <li>- etc.</li> </ul> <p>Answer to the second part of question:</p>	

		<p>Periodic safety assessment was performed after 10 years of operation of bituminized waste storage facility after operational licence was issued. The goal of this assessment was to show that it is safe to operate this facility as storage facility in the future. No discussion or decisions about transferring this facility to disposal one was taken in this assessment. The decision shall be taken after performance of additional investigations.</p>		
			<p>Article Article 19.8</p>	<p>Ref. in National Report para 19.8.4 page 107</p>
76.	Question/ Comment	<p>In para 19.8.4, the facilities for characterization of radioactive materials were described taking into account needs for minimization of RW and clearance. Moreover it was sad that “For minimization purpose was constructed installation for free release of solid operational RW. It started operation in 2006. After measurements in this installation part of the waste can be treated as non-radioactive and can be stored in ordinary refuse tip for non-hazardous waste. In 2013 - 2014 this facility is supposed to be modernized for characterization of waste of decommissioning. Another free release facility is constructed for decommissioning waste, which started operation in 2010. For the period from 2010 to 2012 more than 5800 t of waste were removed, utilized on the dumps outside the INPP.</p> <p>In para 19.8.5 it was also mentioned that “Requirements BSR-1.9.2-2011 “Derivation and Use of Clearance Levels of Radionuclides for Materials and Waste Generated during Activities in the Area of Nuclear Energy” are established. According these requirements the INPP performs measurements of the material which could be cleared”.</p> <p>Taking into account this information could you clarify some moments related to purposes of this “free release facility” and “clearance process”:</p> <ul style="list-style-type: none"> <li>- did you implement the “clearance procedures” for release of “metal materials” from regulatory control for unrestricted/restricted uses?</li> <li>- based on the information you provided in this paragraphs only one conclusion can be made: using of “free release facility” allow you to make a decision about removal and utilization of some materials to the dumps outside the INPP. Do you have some other options for release of radioactive materials from regulatory control?</li> </ul>		
	Answer	<p>In Lithuania only unconditional free release levels are used. This means that if you meet these strict limits you can put your material anywhere. If you will not use this material it will be treated as usual trash. If this is valuable material, (metal) of course it can be used. INPP has clearance procedures and using “free release” facilities of buildings B10 and 159V; on the basis of these measurements results the waste, including metal materials, is released from the regulatory control. Also a Methodology for measuring large-sized equipment and waste for release from radiological control using gamma-ray spectrum measuring mobile system, operating on the basis of semiconductor HPGe detector “Canberra”, was additionally implemented. The release is performed on the special site prepared in building 119, located near the Unit 1. The waste is released from regulatory control for unrestricted uses only. Metal materials are recycled and the rest materials are sent to the dumps outside INPP.</p> <p>There is also possibility to use conditional free release limits, if operator wants to use more material for example for production of containers for radioactive etc. Then operator shall prove the safety of using such limits. Until now no conditional limits were proposed</p>		

		by Ignalina NPP. Hence, there are no conditional clearance levels approved by VATESI. And there are no procedures at INPP on waste release from regulatory control for restricted uses.
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