

3 COMMUNICATION AND PARTICIPATION

One of the objectives of the EIA procedure is to increase availability of information of the proposed economic activity and improve the opportunities for citizens' participation. In the following the means of communication and interaction in the EIA procedure of the new nuclear power plant are described. Parties involved in the EIA procedure are presented in the following figure (Figure 3-1).

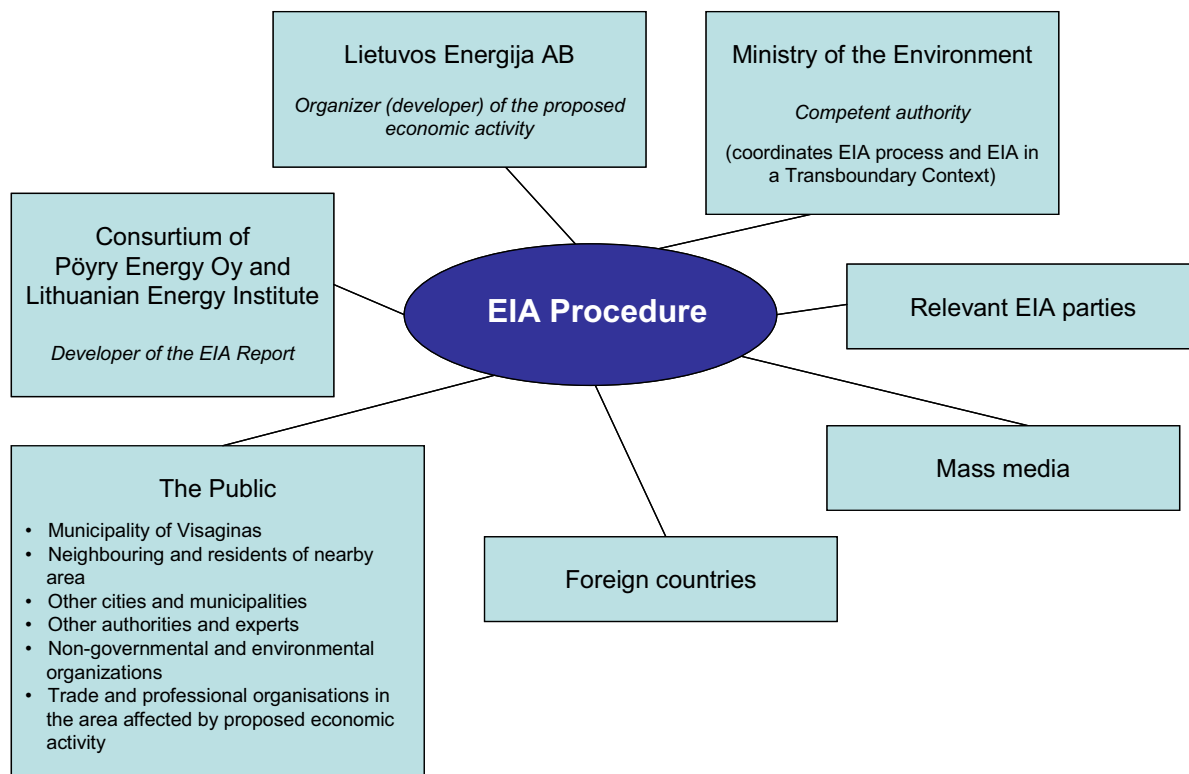


Figure 3-1. Parties involved in the EIA procedure.

3.1 STAKEHOLDER GROUP

In the EIA Program stage, a Stakeholder Group was organized. The purpose of the Stakeholder Group was to promote the exchange of information between the organisation responsible for the project, the authorities and other interest groups. Based on the letter of the Ministry of Environment, the following parties were invited to the Stakeholder Group:

- Competent Authority
 - Ministry of Environment;
- EIA parties
 - State Nuclear Power Safety Inspectorate,
 - Radiation Protection Centre,
 - Fire and Rescue Department ,
 - Utena Public Health Service,
 - Utena Region Environmental Protection Department,
 - Cultural Heritage Protection Department,
 - Utena County Governor's administration,
 - Administration of Visaginas Municipality,
 - Administration of Ignalina district Municipality,
 - Administration of Zarasai district Municipality.

The parties of the Stakeholder Group act as experts in their particular fields. The opinions expressed as part of the Stakeholder Group work do not oblige the parties giving the official statements.

At its meetings the Stakeholder Group discussed the progress of the environmental impact assessment and presented opinions on the preparation of the EIA Program, the EIA Report and the supporting reviews. In the first meeting of the Stakeholder Group in May 2007 the project, the EIA procedure, interaction and the planned main content of the EIA Program were presented to and discussed with the Stakeholder Group.

Comments and clarifications received during and after the meeting were taken into account in the preparation of the EIA Program to the widest possible extent as far as they concerned the EIA Program. Otherwise, any comments have been taken into account in the implementation of the EIA procedure and in the preparation of the EIA Report.

The Stakeholder Group convened for the second time on August 14, 2007 after the EIA Program had been submitted for EIA parties and public review. In the meeting the contents of EIA Program and the impacts to be assessed in the process were presented to and discussed with the Stakeholder Group.

During the EIA Report stage no meeting of the Stakeholder Group was organized. However the different parties of the Group were consulted when needed during the preparation of the EIA Report and the supporting reviews. One of these consultation meetings was organized with State Nuclear Power Safety Inspectorate and Radiation Protection Centre to discuss the methods and contents of the risk analysis and assessment more in detail.

3.2 INFORMATION AND DISCUSSION EVENTS

Information and discussion events open to the public are arranged during the preparation of the Environmental Impact Assessment Program and Report. At the events the general public has the opportunity to discuss and express their opinions on the EIA work and its sufficiency and to receive information about the new nuclear power plant project and the EIA procedure from Lietuvos Energija AB and the developers of the EIA Program and the EIA Report.

The EIA Program for the new NPP was presented to the public of Lithuania and the neighbouring countries in three public meetings during the autumn of 2007.

On September 3rd, 2007 a public discussion event was organized on the EIA Program in Daugavpils, Latvia. The discussion was attended by Lietuvos Energija AB, the developers of the EIA Program, the representatives from the Ministry of Environment of Lithuania, representative from the Ministry of Environment of Latvia and representatives from the Latvian Radiation Security Centre and the Latvian Hazardous Waste Management Agency in addition to the Latvian residents of the region.

On September 14th, 2007 a presentation of the EIA Program and a discussion with the members of the municipal communities of Visaginas, Ignalina and Zarasai regions took place in Visaginas.

On September 26th, 2007 a meeting with representatives of various scientific organizations was organized in Vilnius.

On September 27th, 2007 a public discussion between the organizers of the EIA and the Estonian public was also organized in Tallinn, Estonia. The event was attended by Lietuvos Energija AB, the developers of the EIA Program, representatives from the

Ministry of Environment of Estonia, members of the Estonian Parliament as well as public organizations and communities.

The next public meetings will be organized during the autumn of 2008 after the preliminary EIA Report will be completed. The preliminary EIA Report will be made public in August 2008. Local and international presentations of the EIA Report will be organized during September and October 2008.

3.3 PUBLIC DISPLAY OF THE EIA PROGRAM AND EIA REPORT

In the both EIA Program and EIA Report stage the organiser (or developer of EIA documents) of the proposed economic activity informs the public about the EIA Program and the EIA Report in accordance with requirements of the Order of Informing the Public and the Public Participation in the Process of Environment Impact Assessment (*State Journal, 2005, No. 93-3472*). The public has the right to examine the EIA Program and the EIA Report and express their opinions about them. The developer of EIA must perform the registration of received motivated (justified) proposals, reasonably evaluate them and attach them as appendixes to the approved EIA Program or the approved EIA Report.

The residents of the nearby area were able to get acquainted with the EIA Program from July 30th to August 20th, 2007 in Lithuanian Energy Museum, in the administration of the municipalities of Visaginas town, Ignalina and Zarasai regions, and in the lobby of Lietuvos Energija AB. The presentation took place for 15 working days. The advertisement for the presentation of the EIA Program to the public was published in all the republican daily newspapers: the Lietuvos Rytas, the Respublika (in the Lithuanian and Russian languages), the Lietuvos Žinios, the Kauno Žinios, the Versio Žinios, the Valstiečių Laikraštis and the regional newspapers of Visaginas, Ignalina and Zarasai.

The proposals by the public concerned for example the usability of the existing infrastructure of the INPP, the impacts of the project on Lake Druksiai and the possibilities to use indirect cooling. Some proposals concerned issues that are not in the scope of the EIA process, like technical and economical aspects that are evaluated in separate feasibility studies. The proposals and responses have been attached as appendix to the approved EIA Program (in the original Program in Lithuanian language).

The EIA Report will also be available for public display. The motivated (justified) proposals, that will be received, will be registered, evaluated and attached as appendixes to the approved EIA Report.

3.4 REVIEW OF EIA PROGRAM AND EIA REPORT BY RELEVANT PARTIES

Relevant parties of the environmental impact assessment assess the EIA Program and Report and have a right to give their conclusions to the organiser (developer), who has to take them into account. The relevant parties include governmental institutions, responsible for health protection, fire-prevention, protection of cultural assets, development of economy and agriculture, and municipal administrations. Their review has an important role in ensuring the quality of the EIA process.

The procedure of the review by the relevant parties is described more in detail in Section 2.3.

3.5 COORDINATION OF EIA PROCESS BY COMPETENT AUTHORITY

The competent authority, the Lithuanian Ministry of Environment, is responsible for the coordination of the EIA process and fulfils its functions set out in the Law on the Assessment of the Impact on the Environment of the Planned Economic Activity (*State Journal 2005 No. 84-3105*).

The EIA Program was first submitted to the Ministry of Environment for comments and approval on October 4, 2007. Lietuvos Energija AB received comments and proposals (47 comments) for the EIA Program from the Ministry of Environment on October 19, 2007. The EIA Program was revised and supplemented accordingly and submitted for approval on October 29, 2007. The EIA Program was approved by the Ministry of Environment on November 15, 2007.

Within 25 working days since the EIA Report is presented, the competent authority can give justified request to revise and/or amend the Report or make a justified decision that this activity, taking into account the requirements of the relevant legislation and regulations, by virtue of its nature and environmental impacts can be carried out in the chosen site. More detailed information is presented in Section 2.6.

3.6 OTHER COMMUNICATION

Lietuvos Energija AB provides information on the project through press releases or press briefings. Also summary brochures have and will be prepared for communication. The first brochure was prepared in early 2008 once the EIA Program was completed. It describes the project, the EIA procedure and summarizes the contents of the EIA Program. The second summary will be prepared once the EIA Report is completed. It will describe the project and the most important results of the environmental impact assessment.

Information about the EIA procedure is also provided at Lietuvos Energija AB's website - <http://www.le.lt> and at the new NPP project website <http://www.vae.lt>. The websites provide up-to-date information on the progress of the EIA procedure. The EIA Program is available in the Lithuanian, English and Russian language on the website. The website also has the EIA Program summaries available in the Lithuanian, English, Russian, Latvian, Estonian and Polish languages. The EIA Report will also be available on the same website.

3.7 ENVIRONMENTAL IMPACT ASSESSMENT IN A TRANSBOUNDARY CONTEXT

Environmental impact assessment in a transboundary context is regulated by the Law on the Assessment of the Impact on the Environment of the Planned Economic Activity (*State Journal 2005 No. 84-3105*) and by the United Nations Convention on Environmental Impact Assessment in a Transboundary Context (*Espoo Convention*).

The parties to the Convention are entitled to participate in an environmental impact assessment procedure carried out in Lithuania if the detrimental environmental impacts of the project could potentially affect the country in question. Correspondingly, Lithuania is entitled to participate in an environmental impact assessment procedure concerning a project located in the area of another country if the impacts of the project could potentially affect Lithuania.

The Ministry of Environment is responsible for the practical organization of the environmental assessment procedures in a transboundary context. The Ministry of Environment has informed the respective authorities of Latvia, Estonia, Poland, Belarus, Finland, Sweden and Russia about the commenced environmental assessment process of

the new nuclear power plant in Lithuania and inquired about their intent to take part in the environmental assessment procedure. The information letter was supplemented with the EIA Program in English or Russian and a comprehensive summary in each country's official language was attached. The above mentioned countries had an opportunity to present their suggestions and comments on the EIA Program, which were taken into account by the developer of the EIA documents.

Austria, Belarus, Estonia, Finland, Latvia and Sweden gave their comments on the environmental impact assessment of the new NPP. The comments have been taken into account in the preparation of the EIA Report and the supporting reviews. In Table 3.7-1 the comments and responses to them are presented. The comments mainly concern transboundary impacts, which are assessed separately in Chapter 8.

Table 3.7-1. International comments given and related responses (the references in the comments are references to the chapters or sections of the EIA Program).

	Comment	Response
AUSTRIA	<p>Apart from providing us with the EIA Report you could assist our assessment by informing us on legal requirements applicable to this project providing clear evidence that no project will be licensed which is capable of causing significant adverse transboundary impacts (considering effects of design basis and beyond design basis accidents), e.g. by effectively excluding:</p> <ul style="list-style-type: none"> ▪ emergency protection action or long term action beyond 800 meter from the reactor, and <ul style="list-style-type: none"> ▪ delayed action at any time beyond 3 km from the reactor. <p>If the Lithuanian authorities could confirm to the Austrian authorities in writing that these objectives will be met, either by an irrevocable decision of the owner/operator, supported by convincing technical evidence pertaining to the type reactor selected, or - preferably - in compliance with a condition encoded in legally binding requirements or set by the Lithuanian Nuclear Regulatory Authority in a legally binding way, Austria in return could consider not to be affected by significant adverse transboundary impacts on Austria's environment. Please let us know in due course, if Lithuania is able to provide such evidence.</p> <p>Potential interferences of simultaneous activities at the site as decommissioning of the old units, construction and later operation of the new NPP should be analysed in the EIA Report (including timetables for both activities). The total inventory of radioactive material at the site should be estimated for the different phases of the activity at the site.</p> <p>Considering the influence of thermal pollution due to the NPP's waste water release into the lake, the alternative to construct smaller co-generation heat and power plants fuelled either by gas or biomass should be analysed in the EIA Report. Such plants could be constructed near villages and provide effectively electricity and heat which both could be used locally.</p> <p>Concerning development and prognoses of demand and generation of electricity more detailed information should be provided by the EIA Report, including data on export and import of electricity. The EIA Report should provide a serious discussion of the prognoses for electricity demand, as well as an assessment of the potential for efficiency enhancement and demand side management.</p>	<p>Emergency protection action or long term action beyond 800 meter from the reactor, and delayed action at any time beyond 3 km from the reactor are safety requirements extracted from "European Utility Requirements for LWR Nuclear Power Plants, 2001". In general EUR provides guidance for the safety justification of NPPs and these issues shall be considered in the Safety Analysis Report.</p> <p>The purpose of EIA is to demonstrate that proposed economic activity by virtue of its nature and environmental impacts may be carried out in the chosen sites. After EIA process, other stages of the project will be implemented: tendering process, technical design, safety justification, licensing, etc. EUR will be considered in these subsequent stages.</p> <p>The simultaneous activities at the site are taken into account in the parts of the assessment where potential interference might be expected, for example the impacts from traffic. The potential radioactive emissions from the new NPP and other existing and planned objects in the same area are evaluated in Section 7.10.</p> <p>Section 4.5 describes the options excluded from the investigation and gives the explanation to the exclusion of these options.</p> <p>The electricity generation and demand forecast for Lithuania is presented in Section 4.4 to the extent included in the scope of the EIA process.</p>

<p>In order to analyse the differences in impacts from other electricity generating sources and nuclear power plants on air quality, the emissions of greenhouse gases and other pollutants caused by use of different fuels we recommend to include demand side efficiency improvements and energy saving and demand side management, as well as different renewable energy forms. The comparison of the environmental impact has to include the total life cycle of all considered alternatives.</p>	<p>In Section 4.5 it is explained why energy saving is not a relevant option for this EIA Report.</p> <p>Emissions from different burning fuels will be compared in sections related to the impacts of non-implementation and impacts on air quality.</p>
<p>If the EIA is performed in order to prepare a decision about the reactor type a detailed comparison of emissions, waste and fuel requirements. However a more detailed assessment will be required for the safety and risk assessment of the plant.</p>	<p>The EIA is not performed in order to make a decision about the reactor type to be chosen. The purpose of EIA is to evaluate whether the proposed economic activity by virtue of its nature and environmental impacts may be carried out in the chosen sites.</p> <p>Risk analysis and assessment is presented in Chapter 10 to the extent needed to fulfill the objectives of the EIA.</p>
<p>The EIA Report should contain more concrete information about the reactors considered to be constructed for Lithuania.</p>	<p>The considered plant type options are described in Chapter 5.</p>
<p>The following information corresponding to the reactor type should be given by the EIA Report:</p> <ul style="list-style-type: none"> ▪ a description of the plant and its safety an control systems <ul style="list-style-type: none"> ▪ the number of reactor units, ▪ the description of common facilities and structures ▪ allocation of all facilities at the NPP site, ▪ refuelling cycle, and maximum fuel burn-up, <ul style="list-style-type: none"> ▪ radioactive core inventory ▪ Safety targets, safety standards and requirements, (IAEA guidelines, Euratom directives etc.) ▪ PSA results including source terms for DBA and BDBA should be given in the EIA Report. 	<p>Chapter 5 describes the operational principles of a nuclear power plant, the plant type options and the fundamentals of nuclear safety. It includes the description of relevant safety targets, safety standards and requirements to the extent included in the scope of the EIA. The number of reactors will be from one to five.</p> <p>In general, requested information is more relevant to Technical Design and Safety Analysis Report. EIA contains all necessary information to the extent needed to assess the impacts of the new NPP during normal operation and possible accidents.</p>
<p>The EIA Report should include a preliminary estimation of cost for long-term treatment of SNF and radioactive waste, just as it is required in the EIA Program for decommissioning in order to establish and collect appropriate funds for these activities during operation of the plant.</p>	<p>Long-term storage and disposal of SNF will be a subject of an own EIA procedure in the future and this issue is not a subject of this EIA Report. In EIA Program (Section 6.3) it is stated, that during the design stage of the new NPP an initial decommissioning plan should be prepared before the operating licence is issued. The initial decommissioning plan must specify the likely quantity of waste and provide an estimate of decommissioning costs.</p>
<p>Monitoring results should give the detection limits instead of zero-values. Monitoring results should be completed by the description of the sampling (location and frequencies) and the measurement methods.</p>	<p>The proposal for the monitoring program for the new NPP is described in Chapter 9. In the program the sampling and the measurement methods are described.</p>
<p>For the dose assessment the calculation method including the dispersion model used, the considered exposure pathways and a specification of the critical group have to be presented in the EIA Report.</p>	<p>The methods of the dispersion modelling, the dose assessment and the considered exposure pathways are presented in Sections 7.10 and 10 and more in detail in the study that is referred to.</p>

	<p>Since INPP is operating since 30 years a time series of measurement data should be given. We recommend to provide time series of data not only concerning the radiation monitoring but also concerning the public health in order to allow a serious discussion of the impact of radioactive emissions.</p> <p>The EIA Report should present the estimation of the air pollution emissions of the planned new NPP and their impact.</p> <p>Why are no environmental and societal NGOs invited to send their experts to the stakeholder group? Who are the "relevant EIA parties"? The difference between "relevant EIA parties" and "stakeholders" should be clearly defined.</p> <p>The EIA Report should present a serious discussion of the prognoses for electricity demand and analyse options for efficiency enhancement and demand side management is necessary.</p> <p>Taking into consideration an already substantial number of radiation-dangerous installations in the vicinity of the boarder with Belarus and planned installation of new NPP units, we consider it appropriate to carry out a long term complex environment impact assessment of induced load, including in the Republic of Belarus.</p> <p>"Alternative sites" may not be excluded from clause 4.3 "Alternatives excluded from investigation", in the view of the absence in the world practice of similar instances of location of NPP in the immediate vicinity of the state boarder with the contiguous state. Therefore, we suggest analysing other possible sites for installation of the New NPP at the territory of Lithuania.</p> <p>For clause 6.2.2 "Radioactive Waste", we assume that in the EIA for the New NPP it is necessary to provide a concept of the disposal of spent nuclear fuel (SNF) and the program for handling of SNF for the period of 100 years. What concerns the issue of propagation of radioactive substances, it is necessary to take into consideration not only the area of sanitary protection zone but also surveillance area (30 km area), as a part of this area is on the territory of the Republic of Belarus.</p>	<p>The history of the INPP radiation monitoring program is described in Chapter 9. The present state of public health and impacts on it are assessed in Section 7.10.</p> <p>The assessment of impacts on the air quality is presented in Section 7.2.</p> <p>The environmental and societal NGOs have the opportunity to express their opinion about the EIA Report (as well as the EIA program) as part of the public participation (Section 3.3).</p> <p>The relevant parties include governmental institutions, responsible for health protection, fire-prevention, protection of cultural assets, development of economy and agriculture, and municipal administrations (Section 3.4). Stakeholders include all the persons, groups and organizations who effect or can be affected by the economic activity assessed in this EIA.</p> <p>The electricity generation and demand forecast for Lithuania is presented in Section 4.4 to the extent included in the scope of the EIA process.</p> <p>The impacts caused by the NINPP together with other activities in the region are taken into account where necessary (for example traffic, radioactive releases).</p> <p>The reasons why alternative locations of other places in Lithuania are excluded from the investigation are described in Section 4.5.</p> <p>The different SNF management options are described in Chapter 6 based on existing experience. Long-term storage and disposal of SNF will be a subject of an own EIA procedure in the future and this issue is not a subject of this EIA Report.</p> <p>The dispersion of radioactive releases is assessed to the extent where impacts occur. Impacts of radioactive releases during normal operation of new NPP on water are assessed in Section 7.1 and impacts of radioactive emissions on air quality in Section 7.2. The transboundary impacts are assessed in Chapter 8 and dispersion modelling for long distances in case of accident is provided in Chapter 10.</p>
<p style="text-align: right;">BFLARUS</p>		

<p>For clause 7.1.2 “Water impact assessment”, we suggest analysing scenarios of the radioactive waste transfer by water in different accident situations, and during normal NPP operational mode, as due to the existing hydrographical and hydrological conditions surface water discharge in the region of the proposed construction of the NPP from the territory of Lithuania goes to the territory of Belarus. In case of radionuclide releases to the environment in particular by water the major contamination of waterways of the Republic of Belarus may occur.</p>	<p>The radioactive releases in water during normal operation are described and assessed in Section 7.1.</p> <p>The transboundary impacts are assessed in Chapter 8. The cross border transfer of radioactive effluents from the new NPP via hydrological pathway to Belarus is estimated in this chapter.</p>
<p>For clause 7.1.3 “Impact mitigation measures”, we consider appropriate analysing issues of rehabilitation of objects of the environment more profoundly in the surveillance area, for example due to prevalence of west winds (c.7.2.1.1).</p>	<p>EIA considers possible impacts and describes measures that are available to mitigate these impacts. Rehabilitation issues are not a subject of EIA.</p>
<p>To broaden clause 7.3.2 “Impact assessment on the groundwater”, by considering scenarios of radioactive waste penetration into groundwater and its transfer to the territory of the contiguous states.</p>	<p>The impacts on groundwater are assessed in Section 7.3.</p>
<p>To supplement clauses 7.8 “Cultural heritage” and 7.9.1.1 “Population and demography” with the information about numbers of population and objects of cultural and environmental importance, located in the surveillance area at the territory of the Republic of Belarus.</p>	<p>Objects of environmental importance, located in the surveillance area at the territory of the Republic of Belarus, are discussed in Section 7.6 and population in Section 7.9.</p>
<p>In clause 7.9.1.3 “Transport and noise”, to perform an additional analysis of the air route Minsk–Riga.</p>	<p>Information about air route Minsk-Riga is included.</p>
<p>In clause 7.10 “Abnormal and accident situations”, we consider it necessary to present a list of abnormal and accident situations and then to assess such potential emergency situations as: aircraft crash onto the NPP, fire, terrorist attack, and earthquake. As they may cause significant radiological consequences not only for the Republic of Lithuania but for the neighbouring states as well.</p>	<p>In Chapter 10 plant internal faults as well as external natural and human events are taken into account.</p>
<p>Chapter 8 “Potential Impact on the Neighbouring States”. We recommend broadening this chapter by analysing it following the same clauses of the Program as for the territory of Lithuania.</p>	<p>The transboundary impacts are assessed in Chapter 8. The assessment of these impacts is done similarly as the assessment of the impacts that concern the territory of Lithuania.</p>
<p>During preparation of the EIA Report, when analysing potential impact from specific technological processes, we recommend taking as a base maximal safety standards, also based on the recommendations of IAEA.</p>	<p>The safety standards, including the recommendations of IAEA, are taken as a base when assessing the potential impacts of the nuclear power plant where applicable.</p>
<p>For more complete information and forming of the opinion of the people in the Republic of Belarus on the planned construction of the New NPP in Lithuania we suggest preparation and distribution of pamphlets, brochures at the territory of the Republic of Belarus as well as management of the Internet web page in Russian.</p>	<p>The summary of the environmental assessment program is available in Russian on the Website of Lietuvos Energija (http://www.le.lt).</p>

<p>ESTONIA</p>	<p>The EIA Report should also assess impact of construction of the new power plant just for Lithuanian domestic electricity needs.</p> <p>2. In case of the "zero-alternative" the EIA Report should include the different alternatives:</p> <p>How is it possible to produce energy from other sources (in planned amount and only for domestic needs): the production of electricity using co-general ion plants based on combination of coal, fuel oil and natural gas; the production of electricity as decentralized production in many small co-generation plants on combination of bio mass, natural gas and wind powers. Non-implementation should foresee common conventional power production options used in the region as well implementation of the energy efficiency measures.</p> <p>The EIA experts should also analyse whether it is possible to export electricity from other states.</p> <p>The EIA Report should give information about why the two locational alternatives have been chosen.</p> <p>The EIA documentation has to set up how the proposed project may impact the energy production in surrounding states (for example it may decrease the production of electricity from green sources)</p> <p>The EIA Report has to give information about the possibility of the accidents with transboundary implications ("worst-case scenario") and describe the potential consequences associated with these situations (spatial extent; impacts, thereof, e.g. air and water pollution, radiation level, external hazards - taking into account prevailing wind directions and wind speeds etc). While radioactive material (in case of emergency) may cross Estonian border, it is necessary to set out all circumstances what Estonia has to take into account to guarantee radiation safety. It is also essential to describe how it is planned to inform other states and the public about increasing of radiation level in Lithuania</p> <p>The international regulations specific requirements for transport, storage, loading and handling of nuclear fuel have to be described in the report.</p> <p>The EIA Report has to give description how storage of spent nuclear fuel is regulated and done in practice so far. An overview about how and where the final disposing of spent nuclear fuel shall take place should be given. It is necessary to give information about the principles to finance the final disposal. The different phases of spent nuclear fuel generation and potential impacts of spent fuel storage and disposal should be described in detail.</p>	<p>EIA is done for the proposed economic activity. This activity is a new NPP with total electrical power of no more than 3 400 MW. Analysis of economical issues and domestic needs are not within the scope of EIA.</p> <p>The zero-option and its impacts are described in Section 4.4.</p> <p>The choice of the location alternatives is explained in Section 4.1.</p> <p>Analysis of economical issues and energy production in surrounding states are not within the scope of EIA.</p> <p>Different types of accident situations are described and assessed in Chapter 10. Also the potential consequences associated with these situations are described in this chapter. The assessment is done for Lithuania as well as other countries that might be affected by the impacts of accidental situations.</p> <p>Fundamental safety principles of NPPs are described in Chapter 5. The international regulations, specific requirements for transport and storage of nuclear fuel and compliance to them are subjects of Safety Analysis Report. The different SNF management options are described in Chapter 6 based on existing experience. Long-term storage and disposal of SNF will be a subject of an own EIA procedure in the future and this issue is not a subject of this EIA Report.</p>
----------------	--	---

<p>It is necessary to set up how the waste management during normal operation should be carried out.</p>	<p>The waste management during operation is described in Chapter 6.</p>
<p>A description of the current and planned monitoring system of the radioactive emissions should be given.</p>	<p>The monitoring plan for the new NPP is described in Chapter 9.</p>
<p>The EIA Report has to assess how the proposed project may impact emissions of CO₂ in other states taking into account that according to the program the purpose of the project is to satisfy the energy consumption in all Baltic countries.</p>	<p>CO₂ emissions in case of zero-option are provided in Section 7.2. Predictions for what power plants will be built in foreign countries and estimation their CO₂ emissions are not within the scope of this EIA.</p>
<p>The EIA Report should assess how taking the cooling water from Lake Druksiai will affect the water and living nature of the lake.</p>	<p>The possible impacts on water and biodiversity of Lake Druksiai are assessed in Sections 7.1 and 7.6, respectively.</p>
<p>The EIA experts should analyse whether Lithuania has enough workers for the new power plant in the future and which skills they have to have.</p>	<p>The impacts on the employment are assessed in Section 7.9, which also includes description of the existing INPP staff prequalification and reuse possibilities.</p>
<p>The EIA documentation has to provide the description of cumulative impacts (taking also into account impacts of decommissioning of the present plant).</p>	<p>Cumulative impacts are taken into account where necessary (for example traffic, radioactive releases).</p>
<p>The long range transport and potential impacts of radioactive emissions should be assessed in the EIA to an adequate extent covering an area of 1000 kilometres from the nuclear power plant.</p>	<p>The dispersion of radioactive releases in an accident situation has been modelled and the results are presented in Chapter 10. The assessment covers the whole area where significant impacts might occur.</p>
<p>The EIA should point out the structural problems and safety solutions connected with different technical alternatives, e.g. what are the differences between the reactor types in the case of exceptional situations.</p>	<p>The plant type options and technological differences are described in Section 5.2. The exceptional situations are discussed in Chapter 10 and are based on "worst-case" scenario.</p>
<p>It should be indicated whether the solutions for the transportation of spent nuclear fuel and for final disposal of the spent fuel may include the need to transport spent fuel on the Baltic Sea or transport it in the vicinity of Finland.</p>	<p>The different SNF management options are described in Chapter 6. According to present Lithuanian legislation, transportation of SNF from Lithuanian territory is forbidden.</p>
<p>The treatment, interim storage and final disposal of spent nuclear fuel, and accidents should be assessed and discussed in a precise manner.</p>	<p>The more detailed description of the long-term storage and disposal of SNF and the activities related to these will be a subject of an own EIA procedure in the future and this issue is not a subject of this EIA Report.</p>
<p>The risk assessment of and preparation to prevent negative impacts are central issues.</p>	<p>The different SNF management options are described in Chapter 6 based on existing experience. Long-term storage and disposal of SNF will be a subject of an own EIA procedure in the future and this issue is not a subject of this EIA Report.</p>
<p>It is important to include life-cycle analysis (e.g. source of raw materials, the use of the power plant, decommissioning, waste management and final disposal of spent nuclear fuel) and monitoring of safety in the EIA.</p>	<p>Possible accidents and bounding consequences are presented in Chapter 10. Chapter 10 deals with risk analysis and assessment to the extent needed to fulfil the purpose of the EIA.</p>
<p>The impact on Finland in the case of an accident should be assessed with the help of wind models.</p>	<p>The life-cycle of the nuclear power plant, from procurement of fuel to decommissioning and management of spent nuclear fuel, is described in this EIA Report. The fundamentals of nuclear safety are described in Section 5.3.</p>
<p>The impact on Finland in the case of an accident should be assessed with the help of wind models.</p>	<p>The impacts of an accident have been modelled based on existing weather data. The results are presented in Chapter 10.</p>

	<p>The possibility that contaminated water may be discharged into and have an impact on the Baltic Sea should be assessed (current models).</p> <p>There also may be indirect impacts on nature in Finland, e.g. through migratory birds and aquatic species.</p> <ul style="list-style-type: none"> ▪ The impacts of operation should also be investigated: <ul style="list-style-type: none"> ▪ If cooling water is discharged into Riga Bay, the temperature of the Baltic Sea may rise. ▪ Adjustments in response to changes in demand of electricity, and on reserve power, and their impacts on the environment should be assessed. <p>The likely transboundary environmental impacts in exceptional situations and in the case of an accident should be assessed and reported adequately.</p> <p>A clear picture of all kinds of possible impacts and especially about safety issues and risks in the Latvian territory should be given.</p> <p>The project has to be evaluated taking into account existing baseline conditions as well as foreseen changes during next years related to the closure of Ignalina NPP and activities related to that.</p> <p>The number of reactors will have to be defined.</p> <p>It has to be defined that assessment will be done only for generation III and III+, more over only reactors which are somewhere already built and used.</p> <p>If there will be no changes regarding alternatives (pressurized water reactor, boiling water reactor and pressurized water reactor), then EIA should be done also for production of heavy water because experiences from other countries, which use heavy water reactors, confirms, that earlier or later state starts production of heavy water, but relevant facilities also have impact to the environment.</p> <p>In the assessment of impacts from different types of reactors it is necessary to analyse also generation of radioactive waste (amount and radioactivity) for the same electrical power of different reactors.</p> <p>Necessity of additional electrical lines and other infrastructural objects has to be evaluated and characterized to ensure possibility to utilize produced electricity as well as heat.</p>	<p>The transboundary impacts are assessed in Chapter 8.</p> <p>The impacts on vegetation, animals and protected areas are assessed in Section 7.6.2.</p> <p>The impacts of cooling water on the temperature of the Lake Druksiai are assessed in Section 7.1. The outflows of the lake Druksiai enters the Baltic Sea via hydrographic net which makes about 550 km, therefore increase of temperature of the Baltic Sea due to the cooling water is not expected.</p> <p>Analysis of electricity demand, reserve power is not within the scope of EIA.</p> <p>The impacts of accidental situations are assessed also for other countries that may be affected. The results are presented in Chapter 10. All the transboundary impacts are summarized in Chapter 8.</p> <p>Safety issues and risks are assessed regardless of the territory being affected.</p> <p>The assessment of the impacts is based on the present state of the environment. The foreseen changes related to the closure of the INPP are taken into account where needed to assess the impacts of the new NPP.</p> <p>Possible technological alternatives (reactor types) are described in Chapter 5. Exact reactor type and number of reactors will be identified during tendering process where different aspects will be considered. EIA considers different type of reactors and number of units varies from 1 to 5 based on planned total capacity of electricity production (maximum 3400 MW) of the new NPP.</p> <p>The assessment has been done for generation III and III+ reactors. The plant type options are described in Section 5.2.</p> <p>Supply of heavy water on the worldwide market is sufficient and if HWR is chosen as a new NPP, heavy water will be imported. In case if it is decided to produce heavy water locally in Lithuanian, this will be another economical activity and separate EIA will be performed.</p> <p>The generation of radioactive waste is described for different reactor types in Chapter 6.</p> <p>The possibilities to use the existing infrastructure are described in Section 1.8.</p>
--	--	--

<p>As the new power plant is planned as base load power plant, maintenance period and other periods, when plant will not be operated, have to be assessed with a view of possibility to ensure alternative sources of electricity as well as issues and circumstances necessary to be taken into consideration during these periods.</p>	<p>Assessment of alternative sources of electricity is not within the scope of this EIA Report.</p>
<p>Issues concerning possible solutions dealing with safe handling of spent fuel and all kinds of radioactive waste have to be evaluated, including possible alternatives and liability options during operation, decommissioning and aftercare period. Geological, hydrogeological, hydrological and seismic issues as well as proximity of borders and security issues have to be taken into consideration.</p>	<p>Management of radioactive waste is described in Chapter 6. The different SNF management options are described in this chapter based on existing experience. Long-term storage and disposal of SNF will be a subject of an own EIA procedure in the future and this issue is not a subject of this EIA Report. Detailed assessment and safety justification of radioactive waste and SNF management will be performed later in Technical Design and Safety Analysis Report.</p>
<p>Possible impacts to Latvian water objects, air quality, nature values and land use during normal operation as well as during emergency situations have to be evaluated.</p>	<p>The transboundary impacts are assessed in Chapter 8.</p>
<p>Particular importance has to be devoted for the risk assessment for nearest municipalities and Daugavpils city, including monitoring and early warning system, as well as cooperation with Lithuanian institutions.</p>	<p>The risk analysis and assessment (Chapter 10) includes all the areas that might be affected. Nuclear safety and emergency response arrangements are discussed in Section 10.4. Cooperation agreements between Latvian and Lithuanian institutions in the field of environmental protection are described in Chapter 8.</p>
<p>Possible emergency situations, including characteristics of worst case scenario have to be assessed and necessary safety measures and possibilities to ensure them have to be explained in detail.</p>	<p>Possible emergency and accident situations are described and their impacts assessed in Chapter 10. The fundamental of nuclear safety are described in Section 5.2.</p>
<p>Necessary additional measures in the territories around the NPP for monitoring and control issues (e.g. in Latvia) as well as other necessary activities, equipment, elaboration of safety plans, or other issues relevant for planned activity have to be assessed.</p>	<p>The proposal for the monitoring program for the new NPP is described in Chapter 9. Nuclear safety and emergency response arrangements are discussed in Section 10.4. Control issues, other equipment, safety plans are not within the scope of EIA. These issues will be considered in Technical Design and Safety Analysis Report.</p>
<p>“Early warning system” based on advanced technologies has to be elaborated.</p>	<p>Existing emergency response arrangements are discussed in general in Section 10.4. More detailed discussion is out of the scope of the EIA.</p>
<p>Scope of investigations have to include collection of representatives base line data about existing situation in Latvian side, as well as argued prognosis based on proposed technologies and safety issues including health issues, social issues and possible long term effects on the land use.</p>	<p>In Sections 7.9 and 7.10 general information about the present state of health and social issues is presented. The situation of Latvia is included also. Information is based on the responses provided by Latvian institutions. The transboundary impacts are assessed in Chapter 8.</p>

<p>Other direct and non-direct impacts caused by new nuclear power plant together with associated or other known activities in this region (e.g. decommissioning of existing Ignalina NPP and activities associated with that, necessity of building of new electrical lines, necessity for alternative sources of energy and contingency arrangements) have to be assessed.</p>	<p>The impacts caused by the NNPP together with other activities in the region are taken into account where necessary (for example traffic, radioactive releases).</p>
<p>Full EIA documentation in this particular case should be prepared also in Latvian language to ensure Latvian society with complete and fully understandable information about this project.</p>	<p>The full EIA documentation will be available in English, Lithuanian and Russian. The summary of the EIA Program is, and the summary of the EIA Report will be available in Latvian language.</p>
<p>The EIA documents need to be supplemented in respect of the requirements to be placed on the new operation as regards reactor safety and waste management</p>	<p>The regulations concerning nuclear safety and risk assessment are taken into account in Section 5.3 and Chapter 10. The requirements for waste management are described in Chapter 6 to the extent needed to fulfil the purpose of the EIA.</p>
<p>Further description in the EIA of how waste from the nuclear power plant will be managed is needed. This relates to the management of operational waste, to the management of demolition waste from decommissioning and to the final disposal of spent fuel.</p>	<p>The management of SNF, operational and decommissioning waste from the new NPP is described in Chapter 6 to the extent needed to fulfil the purpose of this EIA.</p> <p>More detailed information on decommissioning waste and final disposal of SNF will be provided in separate EIAs in the future.</p>
<p>It would be desirable to have descriptions of the environmental impact of the three different technical alternatives for the production of nuclear power presented in the program as well as the zero alternative.</p>	<p>The environmental impacts of the different technical alternatives are assessed separately in those parts where the impacts might differ. The impacts of the zero alternative in the climate and air quality are assessed in Section 7.2.</p> <p>The zero-option is assessed in Section 4.4.</p>
<p>In order to facilitate comparison of environmental impacts, a more transparent description of the alternative ways to produce the equivalent amount of electrical energy (including the zero alternative) would be desirable.</p>	
<p>More light should be shed on how the project may affect fish species, fish stocks and fisheries as far as Sweden is concerned.</p>	<p>The transboundary impacts are assessed in Chapter 8.</p>
<p>The zero alternative should be more explicitly based on a comprehensive picture of a tentative energy system.</p>	<p>The zero-option is described in Section 4.4.</p>
<p>The potential for enhanced energy efficiency should be taken into account in the energy system of the zero alternative</p>	<p>The potential for enhanced energy efficiency is considered in Sections 4.4 and 4.5 about the zero-option and the options excluded from the investigation.</p>
<p>The environmental impacts which might arise in the overall system of electricity supply if unplanned emergency shutdowns of the reactor in question were to occur should be discussed.</p>	<p>No such environmental impacts that would be included in the scope of this EIA are expected.</p>
<p>The description in the EIA Program is somewhat unclear as regards the names of the faults, the age of the neotectonics and the location of the faults in relation to the planned nuclear power plant.</p>	<p>More detailed information about the geology of the sites is provided in Section 7.5.</p>
<p>Both the zero alternative, alternative locations and alternative designs must be included in the environmental impact assessment, and they must be analysed and evaluated on the basis of safety aspects and the assessment of risks.</p>	<p>The alternatives being assessed are described in Chapter 4. These alternatives are considered separately in the parts of the assessment where it is needed based on difference in the impacts.</p>

<p>Safety aspects and risk assessments should take into account expected future climate change, and they should analyse what may happen in the case of accidents.</p>	<p>The nuclear power plant safety issues are described in Section 5.3. The plant will be designed to withstand external threats like natural phenomena. The risk assessment in Chapter 10 also takes into account the expected climate change.</p>
<p>The uncertainties in the development of the Swedish nuclear waste program need to be taken into account in an environmental impact assessment.</p>	<p>The description of the SNF management options is based on existing experience.</p>
<p>The EIA should contain a description of the location and method that will be used for the final disposal of spent nuclear fuel as well as the capacity of the facilities for final disposal.</p>	<p>The different SNF management options are described in Chapter 6 based on existing experience. Long-term storage and disposal of SNF will be a subject of an own EIA procedure in the future and this issue is not a subject of this EIA Report.</p>
<p>The EIA should contain information about any environmental impacts that may arise in Sweden.</p>	<p>All the transboundary impacts are assessed in Chapter 8.</p>