



Mr Vitalijus Auglys  
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Lithuania

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Ref.: Environmental impact assessment of the construction  
of the nuclear power plant in Lithuania

Dear Mr Auglys

The Ministry of the Environment of Estonia has received the environmental impact assessment (EIA) report of the construction of the nuclear power plant in the vicinity of the existing Ignalina Nuclear Power Plant submitted to Estonia by the Ministry of the Environment of Lithuania in accordance with the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) for statements and comments and for evaluation of the need for possible consultations.

Estonia has organised a public display and hearing of the EIA documentation. The EIA report of the construction of the new nuclear power plant in Lithuania was available at the Ministry of the Environment and on the Internet. The public hearing was held on 1 October 2008 in Tallinn. The public had an opportunity to make comments and proposals on the materials until 8 October 2008. The comments were received from Mr Valdur Lahtvee, a Member of the Estonian Green Party Faction of *Riigikogu* (the Estonian Parliament), the Ministry of Foreign Affairs of Estonia, the Estonian Green Movement, Health Protection Inspectorate and Mr Anto Raukas, an Academician.

Based on the comments received, and reflecting its own views, the Ministry of the Environment of Estonia would like to state the following:

**Risk analysis and assessment:**

The EIA experts have found that the construction and operational phase of the power plant will not cause a significant negative impact on the environment (during normal operation of the plant). The transboundary impacts are mainly socio-economic or linked to the impacts on Lake Druksiai. The risk of a severe accident is expected to be less than once during 1,000,000 years of reactor operation. The Air Quality and Emergency Modelling Systems SILAM of the Finnish Meteorological Institute using the data from 2001 and 2002 have simulated the dispersion of accidental releases in such situations. Based on the EIA report the environment of Estonia could be affected in case of severe accidents, also iodine prophylaxis may be needed for the population living in a distance of up to 250 to 600 kilometres from the new power plant.

However, the results of the dispersion of accidental releases and the measures to prevent or minimise the negative environmental impact are not convincing. It is unclear why the received results differ much from those in case of the EIA of Finnish power plants, although the initial data are comparable (even if the planned electric power production capacity of the plants is not the same). For example, the EIA report of extension of the Olkiluoto nuclear power plant by a fourth unit estimates that one of the protective measures is the administration of iodine tablets to children within only a few tens of kilometres (not up to hundreds of kilometres from the plant). At the public hearing of the EIA report in Tallinn the experts explained that the results also depended on the modelling systems used. Indeed, the results of the dispersion of accidental releases and the measures to prevent or minimise the negative environmental impact may differ using different modelling systems. However, here we would like a clarification, since the results of the EIA of the proposed activity vary a lot from that of a similar object.

Measures to prevent or mitigate impacts have been assessed in the report. Based on that sheltering is not necessary in Lithuania or abroad in case of a severe accident, neither is evacuation, temporary relocation or permanent resettlement. The main protective actions are iodine prophylaxis and restrictions on the use of foodstuffs, milk and drinking water. The restrictions could be needed for the population living within 250-600 km from the new power plant.

Since the EIA documentation has to provide the public all information on the proposed activity, possible impacts and the possibilities to prevent or minimise negative environmental impact, and taking into account the high public interest in such projects, in Chapter 10 of the report the consultant should specify why sheltering and evacuation are not mandatory in case of accidents. Since the EIA report has to provide exhaustive safety analysis we would also ask you to specify what could happen to the different types of reactors in case of the worst scenario. It is unclear whether the preventive measures listed in Table 10.2-3 are relevant to all specific types of reactors or are they of more general nature.

Also, the EIA report should provide information on the likely efficacy and applicability of the measures. Please note that in Estonia two towns are using surface water as drinking water (Tallinn and Narva with the population of over 470,000), and at the moment Estonia has not foreseen any iodine prophylaxis in case of severe accidents resulting from power plants in the surrounding countries. Thus, the results of the dispersion of accidental releases should be checked by the consultants in order to clarify whether an amendment of our crisis management plan for responding to radiological emergencies is required.

**Alternatives for nuclear power reactors, impact assessment of the proposed activity:**

According to point 4.3 of the EIA report there are three main technical alternatives for the new plant: a boiling water reactor, pressurised water reactor or pressurized heavy water reactor. These different alternatives would install different amounts of power and cause partially different impacts on the environment. The number of reactors will vary from 1 to 5 depending on the technology chosen. Point 5.3.4 of the EIA report also states that the decision regarding the type of a new reactor plant will be made based on this EIA.

We would like to note (draw your attention) that one of the main purposes of the EIA is to make, on the basis of the results of the EIA of the proposed project, a proposal regarding to the choice of the most suitable solution for the proposed activity, which makes it possible to prevent or reduce damage to the state of the environment. The results of the EIA are taken

into account in decision-making process. Unfortunately, the EIA report of the construction of the new nuclear power plant in Lithuania does not meet to this objective. The different alternatives have been analysed in the report, however, on the basis of environmental impacts and benefits of the proposed project no conclusion has been made on which reactor type or the number of reactors are the best. The ranking list of the different options with predications should be added to the report, which is the basis for the final decision procedure (also if all alternatives meet the established requirements). In case the difference between the analysed alternatives is insignificant this should also be clearly stated in the report.

Chapter 5 of the EIA report describes all the abovementioned reactor types. To some extent the data on the proposed activity and its consequences is too general and not precise. For example, the Table 6.2-5 indicates that the annual generation of spent nuclear fuel at the new power plant would range from 47 to 370 tons depending on the type of the reactor, etc. We would like to see a more precise description of the proposed activity, alternatives and the potential consequences. The following information on all technical alternatives in the report would be necessary: safety, plant and fuel efficiency (incl. annual waste amounts generated at the plant, etc). These background criteria are relevant in comparing the proposed activity with different alternatives. For clarity reasons the data could be given in one table.

The EIA report notes that stopping the thermal load to Lake Druksiai and using only cooling towers might have a negative impact on the bird fauna of the lake, especially as a formation of an ice cover would be allowed during winters, which at times makes it impossible for migrating or wintering birds to forage or rest on the lake. We are of the position that such ecological conditions are natural for the lake and cannot be considered as a negative impact.

#### **Spent nuclear fuel and its disposal:**

The Ministry of the Environment of Estonia is aware of the difficulties Lithuania is facing in trying to find a solution to the spent fuel and its disposal problem. Furthermore, we are concerned that Lithuania does not have any final disposal for nuclear waste although such waste has already originated from the units of the present Ignalina nuclear power plant. The European Commission in its documentation "Report from the Commission to the European Parliament and the Council. The sixth situation report on radioactive waste and spent fuel management in the European Union" has stated the following: "Following 30 years of research, it is sufficiently demonstrated that geological disposal now represents the safest and most sustainable option for the long term management of high level waste and spent fuel subject to direct disposal. /.../ It is the Commission's view that many scientific and technical areas important to geological disposal have reached maturity level, and moving towards implementation should be encouraged and facilitated. /.../ Postponements of the definitive solution decision taking, referred to as "wait-and-see" policy, are not acceptable because of the potential consequences of radioactive waste and spent fuel management on health and safety, as well as of the European citizens' opinion. All initiatives leading to encouraging and facilitating progress towards identification and operation of safe waste repositories are highly welcome. /.../ The management of radioactive waste and spent fuel is a part of sustained development of the national nuclear programs, including planning, construction and decommissioning of nuclear facilities. In the context of the future use of nuclear power, the policy on waste management is a subject of major importance."

We would strongly recommended to take a decision on the construction of a final disposal for nuclear waste before the final decision on the construction of the new nuclear power plant in Lithuania.

**Decommissioning of the power plant:**

It is expected that the new power plant operate for about 60 years, after which it will be decommissioned. The decommissioning funds will be accumulated over the operating life of the reactor and held in a decommissioning fund. However, in the report it should be specified, which are the possibilities to decommission the plant safely in case the power plant has to be closed earlier than expected and the fund has not enough resources for the planned works yet.

The Ministry of the Environment of Estonia would appreciate your feedback on our concerns. In case the EIA report will be amended after the publication of the documentation, we would kindly ask you to send us the final version.

Yours sincerely



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Deputy Secretary General  
Point of Contact of the Espoo Convention in Estonia

Enclosures: Received statements (5)

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