



## MINISTRY OF ENVIRONMENT OF THE REPUBLIC OF LITHUANIA

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To: SE Ignalina Nuclear Power Plant

2009-08-

No (1-15)-D8-

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No 10S-3418(15.5)

### DECISION RE POSSIBILITY OF IGNALINA NUCLEAR POWER PLANT LANDFILL FACILITY FOR SHORT-LIVED VERY LOW LEVEL WASTE CONSTRUCTION

- 1. The planned economic activity Client** – SE Ignalina Nuclear Power Plant, Ignalina NPP, Drūkšinių village, LT-31500 Visaginas, tel. (8 386) 24266.
- 2. Developer of Environmental Impact Assessment documents** – Nuclear Engineering Problems Laboratory of Lithuanian Institute of Energy, Breslaujos st. 3, LT-44403 Kaunas, tel. (8 37) 401891.
- 3. Name of the planned economic activity** – Landfill Facility for Short-Lived Very Low Level Waste Construction.
- 4. Location of the planned economic activity** – Utena district, Visaginas municipality, Ignalina Nuclear Power Plant (hereafter INPP) territory.
- 5. Description of the planned economic activity.**

Landfill Facility for Short-Lived Very Low Level Waste will consist of buffer storage in which INPP Short-Lived Very Low Level Waste will be accumulated up to their disposal, and disposal modules.

In the Environmental Impact Assessment Report two places for construction of buffer storage have been considered: the first (priority) - on the site of the former INPP third power unit, the second - near the disposal modules of landfill. It is foreseen to begin the operation of buffer storage which will last for 30 years in the end of 2010. By completion of the storage operation it will be dismantled. The activity of the arriving packed radioactive waste will be measured in the buffer storage, here they will be accumulated, further transported to disposal modules. In the buffer storage it will be possible to put up to 4000 m<sup>3</sup> packages with radioactive waste.

At performance of an Environmental Impact Assessment two alternatives of suitable places for construction of disposal modules of landfill have been considered: the first is near Interim Spent Fuel Storage Facility and Solid Waste Management and Storage Facilities, the second - on the south-west margin of INPP site near INPP industrial site. The Client of the planned economic activity says that the first site is a priority, as the analysis of alternatives has shown that here are the most favourable hydro-geological, seismological and tectonic conditions.

It is planned to construct three disposal modules of a ground design, about 20000 m<sup>3</sup> of the packed waste can be placed in each of them. Packages with radioactive waste will be placed in several floors on the artificial foundation made from reinforced concrete and geotextiles, and will be isolated from the environment by the layers of soil and artificial materials. Operation of the first disposal module will begin not earlier than in 2011. The disposal will last until INPP decommissioning completion. It is planned, that the last time when radioactive waste will be disposed is approximately in 2040, after that the landfill will be closed, and responsible establishments will start to supervise it, it will last for 100 years (30 years – active supervision, and 70 years - passive).

## **6. Description of measures foreseen for negative environmental impact prevention, reduction, compensation or elimination of its consequences.**

The circular drainage channel for reduction of subsoil waters level and for its removal into storm sewerage system is stipulated around the disposal modules.

The liquid radioactive waste which was generated during operation of buffer storage will be collected and transported to INPP liquid radioactive waste treatment facility.

For convenience and safety of workers sanitary premises will be constructed with toilets, showers and washstands and administrative premises for the workers rest, maintenance of the administrative equipment and storage of the tools.

At normal operation conditions any uncontrollable leakages from disposal modules into the environment are not expected. The foundation plate, process systems and elements of disposal modules used for collecting of potentially radioactive liquids, will be designed so that possible leakages were completely isolated from any probable interaction with waters of the environment. Liquids generating during operation of the disposal modules, rain water that gets into these liquids during the disposal operation as well as sewage from the showers and washbasins will be collected in accumulating tanks. Radiation monitoring of this water will be carried out. Depending on the monitoring results, water will be pumped to a special transport container for liquid radioactive waste and will be transferred for processing to INPP liquid radioactive waste processing facility or it will be drained to the rainwater collecting system. The sewage will be drained to the rainwater collecting system in accordance with the procedure established by the legal acts of the Republic of Lithuania upon obtaining of the Permit for release of radionuclides into the environment under condition that activity limit values indicated in the Permit are not exceeded.

## **7. Provided conclusions of the subjects, who assessed the environmental impact:**

The Administration of the Head of Utena district approved the Environmental Impact Assessment Report and planned economic activity with the comment in letter No (1.50.)-6-1863 dated 2008-11-11.

The Administration of Visaginas municipality approved the Environmental Impact Assessment Report in letter No (4.17)-1-4242 dated 2008-11-17.

State Nuclear Power Safety Inspectorate approved the Environmental Impact Assessment Report and planned economic activity in letter No (12.6.41)-22.1-110 dated 2009-02-09 and in letter No (12.6.41)-22.1-480 dated 2009-06-26.

Utena territorial subdivision of the Department of Cultural Heritage under the Ministry of Culture approved the Environmental Impact Assessment Report and planned economic activity in letter No 2U-635 dated 2008-11-17 and in letter No 2U-(13.3)-363 dated 2009-07-15.

The Fire and Rescue Department under the Ministry of the Interior approved the Environmental Impact Assessment Report and planned economic activity in letter No 9.4-13(9.4.) dated 2009-01-06 and in letter No 9.4-1759(9.4.) dated 2009-06-26.

The Ministry of Health approved the Environmental Impact Assessment Report and planned economic activity in letter No 10-981 dated 2009-02-18.

## **8. Provision of information to and participation of the public.**

Information on the developed Environmental Impact Assessment Programme at construction of the Landfill Facility for Short-lived Very Low Level Waste was published in the following newspapers: "Lietuvos rytas" 2008-04-17, "Sugardas" 2008-04-17, "Nauja vaga" 2008-04-19, "Zarasų kraštas" 2008-04-25.

The public was informed about the possibility to familiarize with the Environmental Impact Assessment Report and about its planned public presentation in the following newspapers: "Lietuvos rytas" 2008-09-18, "Sugardas" 2008-09-18, "Zarasų kraštas" 2008-09-19, "Nauja vaga" 2008-09-20. The public could familiarize with the Environmental Impact Assessment Report in Visaginas municipality, in Ignalina Nuclear Power Plant Information Center and at Ignalina Nuclear Power Plant website. Familiarization of the public with the Environmental Impact Assessment Report took place 2008-10-03 in Visaginas municipality. No proposals regarding the Environmental Impact Assessment at construction of Landfill Facility for Short-lived Very Low Level Waste were received from the public either before or after the familiarization of the public.

## **9. International consultation.**

Following the regulations of UNO Convention on Environmental Impact Assessment in a Transboundary Context (Espoo), the assessment of transboundary environmental impact at construction of the Landfill Facility for Short-lived Very Low Level Waste was conducted.

On the 30<sup>th</sup> July 2008 the Ministry of Environment informed the Republic of Latvia and the Republic of Belarus (Espo convention countries) about the assessment of environmental impact of construction of the Landfill Facility for Short-lived Very Low Level Waste having provided the written information about the planned economic activity and having attached the Environmental Impact Assessment Programme in English and Russian languages for the Ministry of Environment of the Republic of Latvia and for the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus.

On the 15<sup>th</sup> September 2008 the Ministry of Environment of the Republic of Latvia announced that Latvia would participate in the process of environmental impact assessment and submitted the proposals regarding the Environmental Impact Assessment Programme where it was emphasized that during the environmental impact assessment for this project it is necessary to undertake a full-scale assessment of the impact of other INPP decommissioning and the new nuclear power plant construction projects and that it is necessary to develop the system for control and monitoring of the activity implementation.

On the 17<sup>th</sup> September 2008 the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus submitted the comments on the Environmental Impact Assessment Programme. The biggest part of comments and proposals is related to the assessment of the radiological impact on the population of the Republic of Belarus, possibility of the radionuclides transfer to the waters of the Republic of Belarus, engineering aspects of the activity.

On the 20<sup>th</sup> March 2009 the Ministry of Environment submitted to the specified countries the Environmental Impact Assessment Report which had been developed with due regard for the comments received from the countries. On request of Latvia the public of the Republic of Lithuania was familiarized with the Environmental Impact Assessment Report on the 22<sup>nd</sup> April 2009 in Daugavpils. Both countries did not submit any comments on the Environmental Impact Assessment Report.

## **10. Conditions set out in the decision.**

When designing the Landfill Facility for Short-lived Very Low Level Waste it is necessary to ensure that irradiation of the population is as low as it is achievable and that having considered the impact of the nearby and prospective nuclear facilities it does not exceed the value of the limited year effective dose for the population – 0,2 mSv.

When developing the Basic Design it is necessary to specify the technical details of the disposal modules structure: materials to be used, parameters of the engineering barriers and etc.

When developing the Basic Design of the Landfill Facility for Short-lived Very Low Level Waste it is necessary to provide for environmental monitoring measures.

## **11. Main motives used as a basis when making a decision.**

During INPP operation and decommissioning approximately 60000 m<sup>3</sup> of short-lived very low level waste will be generated, due to this reason, if it is not properly managed, contamination of the environment with radioactive materials and negative impact on the health of the population due to the ionizing irradiation become possible.

Total radiological impact of the planned Landfill Facility for Short-lived Very Low Level Waste and other existing INPP and planned nuclear facilities on the environment and population will comply with the requirements established in the legal acts.

The buffer storage construction will facilitate the low level radioactive waste management and ensure the lower impact on the environment, since it will be possible to choose the most favorable season for disposal of radioactive waste in the modules. One disposal operation will take only 1-2 months. After its completion it will be possible to introduce immediately the surface engineering barriers and ensure the long-term safety.

**12. Nature of decision.**

According to the submitted Environmental Impact Assessment Report (version No 5 dated 2009-07-15) it is permitted to construct the Landfill Facility for Short-lived Very Low Level Waste at the priority sites.

Vice-Minister of the Environment

Dr. Aleksandras Spruogis