



MINISTRY OF ENVIRONMENT OF THE REPUBLIC OF LITHUANIA

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SE Ignalina Nuclear Power Plant

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DECISION ON IGNALINA NUCLEAR POWER PLANT UNIT 1 DECOMMISSIONING AND DEFUELING POSSIBILITIES IN TERMS OF ENVIRONMENTAL IMPACT

Customer of the planned economic activity – State Enterprise Ignalina Nuclear Power Plant, Drūkšiniai village, LT-31500 Visaginas, tel. (8-386) 242 66.

Developer of the Environmental impact Assessment documents – Lithuanian Energy institute, Breslaujos 3, LT-44403 Kaunas, tel. (8-37) 401 891.

Name of the planned economic activity – Decommissioning Project for Ignalina Nuclear Power Plant (hereinafter INPP) Unit 1 Final Shutdown and Defueling Phase.

Place of the planned economic activity – Utena county, Visaginas Municipality.

Description of the planned economic activity

Three alternatives of decommissioning of Ignalina NPP: immediate dismantling, deferred dismantling and disposal have been considered at the preparatory stage of the decommissioning of Ignalina NPP. Given the technical, financial arguments and arguments in the field of environmental protection, the Government of the Republic of Lithuania decided by the decision No. 1848, dated 26 November 2002 to implement the decommissioning by the immediate dismantling. Therefore, when assessing the environmental impact the other alternatives have not been discussed in detail.

Ignalina NPP Unit 1 decommissioning project for the phase of defueling covers all the work on decommissioning (except the dismantling and decontamination of dismantled equipment) that will be implemented during the phase of Unit 1 defueling, i.e. after the Unit 1 reactor shutdown (the end of 2004) till complete defueling (the end of 2012).

Ignalina NPP Unit 1 decommissioning project for the phase of defueling consists of the following fields of activity:

General decommissioning activities, which are not important in terms of environmental impact, as they cover only the general administration, project management, preparation of engineering and licensing documents, and conventional radiation safety, etc.

Decommissioning preparatory activities where the most important are the isolation of Unit 1 and 2 as well as decontamination and cleaning works.

Activities providing decommissioning, which are not important in terms of environmental impact, as they cover only the installation of new equipment at the plant.

Activity after the reactor shutdown: isolation and modification of systems, that are necessary for defueling; repair and maintenance of the remaining systems; defueling of the reactor and fuel cooling pools; removal of cooler, gases and other substances from the operational circuits

and their treatment; system (equipment) decontamination by washing; operational waste treatment; radiological investigations (sampling and measurement). In order to ensure the success of the activities it is necessary to build a new interim spent nuclear fuel storage facility, a new solid radioactive waste storage and treatment complex and other equipment for which the environmental impact assessment procedures will be conducted separately.

After the reactor shutdown most of the systems and components will continue to operate as spent nuclear fuel and all radioactive contents remain in the same place.

In order to ensure the continuous security, most of the systems will continue to operate. They will be disabled step by step after the discharge of spent fuel assemblies. Part of the systems necessary for continued operation will be modified if necessary.

Defueling will eliminate a risk associated with the presence of nuclear fuel in a reactor or pools. Works will be conducted in two phases. During the first phase about 1,660 partially spent fuel assemblies will be discharged from the reactor and about 1300 of them will be used in the Unit 2. Thus 670 analogical new assemblies will be saved and this will let to reduce the necessary capacity of a new interim spent nuclear fuel storage facility. These assemblies will be transported to the Unit 2 without an intermediate storage in the nuclear fuel storage pools. The remaining spent fuel assemblies will be moved to the nuclear fuel storage pools, defueling of which will be held during the second phase. After the completion of the Unit 1 reactor defueling, it will be decontaminated by washing of the main circulation circuit, cleaning and cooling system and refueling equipment. After unloading nuclear fuel from the pools, it will be transported to a temporary storage facility for spent nuclear fuel.

Description of measures provided to prevent, minimize or compensate negative environmental impacts, as well as to eliminate the consequences of the exposure

With the implementation of Ignalina NPP Unit 1 decommissioning project the emissions of radionuclides into the environment will be reduced, it will be possible to avoid contamination of groundwater and soil by radionuclides, and the quantity of radionuclides in the effluent.

In case of accidental spillage, the organizational system of quick reaction will be prepared to reduce pollution by chemical reagents used in the decontamination process. Also, written instructions will be prepared; special staff trainings will be conducted as well as regular checking of equipment containing chemicals and contaminants.

The methods of decontamination and reagents were selected in such a way that formed a minimal amount of liquid waste, which need to be treated. In addition, the formation of secondary liquid waste will be reduced due to the equipment of solid waste management complex.

Thanks to the reactor shutdown the emissions of heat by Ignalina NPP to the lake Druksiai will be significantly reduced. However, in the event of adverse conditions (extremely hot summers, mild wind), heat emissions may exceed the established limits. In such cases, the power of Unit 2 would be decreased. Reduce of heat emissions will have a beneficial impact on the stenothermic (cold loving) fish and will slow down the process of eutrophication of the lake.

In order to reduce the negative impact of the generated waste treatment on the environment, a special attention will be given to preventive measures designed to prevent extreme situations.

Submitted conclusions of the entities of the environmental impact assessment.

Cultural Property Protection Department under the Ministry of Culture submitted the conclusion that it had no comment on the EIA report by the letter No. (1.29)-2-840 dated 2004-08-23.

Fire Safety and Rescue Department under the Ministry of Internal Affairs submitted

the conclusion that it had no comment on the EIA report by the letter No. 9/4-9.4.-1328 dated 2004-08-24.

Ministry of Health approved the EIA report by the letter No. 10-237 dated 2005-01-12.

Utena county Governor Administration approved the EIA report by the letter No. (1.15)-6-1038 dated 2004-08-31.

State Nuclear Power Safety Inspectorate (VATESI) approved the EIA report by the letter No. (14.4.17)-988 dated 2004-11-26-11-2004.

Mayor of Visaginas Municipality submitted the conclusion, that the Visaginas Municipality has no any substantive comments on the EIA report, by the letter No. (4.21)-1-2231 dated 2004-09-23.

Reasoned assessment of motivated proposals of a public.

The planned decommissioning of the Ignalina NPP was announced in the following newspapers: "Lietuvos Rytas" dated 2002-06-13, "V kazhdyj dom" dated 2002-06-14, "Nauja vaga" dated 2002-06-29, "Zarasu krashtas" dated 2002-06-14, indicating the person, whom the motivated proposals for the planned economic activity should be submitted to.

In the daily newspaper "Lietuvos Rytas" dated 2004-08-13, newspapers "Zarasu krashtas" and "Nauja vaga" dated 2004-08-13, a weekly newspaper "V kazhdyj dom" 2004-08-13, it was announced that a public presentation will be held on 2004-09-07 at 17:00 in Ignalina NPP Information Center hall to familiarize the public with an Environmental Impact Assessment Report.

The protocol stipulated that an hour after the start of a public presentation no one representative of a public has arrived, and stated that the procedure for public presentation is performed, and the public is not interested in the planned economic activity. Proposals from the public regarding the environmental impact assessment of planned economic activity has not been received either before or after the public presentation.

Specialists of responsible institutions reviewed the environmental impact assessment documents.

D. Anuškevičius, main specialist of the Division of Protected Areas Strategy of the Department of Environmental Protection of Ministry of Environment, tel. (8 5) 266 3549.

M. Auglys, Head of the Division of Environmental Impact Assessment of Ministry of Environment, tel. (8 5) 266 3651.

K. Gagienė, main specialist of the Division of Atmospheric Resources of the Environmental Quality Department of Ministry of Environment, tel. (8 5) 266 3507.

L. Jovaišienė, Head of the Division of Standards and Assessment of Environmental Impact of the Department of Environmental Protection of Utena county, tel. (8 389) 68784.

E. Lukina, main specialist of the Division of Atmospheric Resources of the Environmental Quality Department of Ministry of Environment, tel. (8 5) 266 3493.

R. Kanopienė, Head of the Subdivision of eco-geological investigations of the Lithuanian Geological Survey, tel. (8 5) 233 2286.

V. Margelytė, senior specialist of the Division of Standards and Assessment of Environmental Impact of the Department of Environmental Protection of Utena county, tel. (8 389) 69369.

S. Markevičienė, main specialist of the Division of Environmental Impact Assessment of the Environmental Protection Agency tel. (8 5) 266 2821.

M. Masaitytė, senior specialist of the Division of Environmental Impact Assessment of Ministry of Environment, tel. (8 5) 266 3654.

R. Zabulis, main specialist of the Division of Water Resources of the Environmental Quality Department of Ministry of Environment, tel. (8 5) 266 3520.

D. Židonytė, main specialist of the Division of Atmospheric Resources of the Environmental Quality Department of Ministry of Environment, tel. (8 5) 266 3514.

Comments, suggestions.

Following the "Model Regulations on the Use and Surveillance of Water Bodies", approved by the Order of the Minister of Environment No. D1-309 dated 2004-06-03, due to the changes in exploitation of the Druksiai lake by INPP, it is necessary to change the regulations for the exploitation and surveillance of the Druksiai lake.

Taken decision

To approve the Ignalina NPP Unit 1 reactor decommissioning and defueling in accordance with the submitted environmental impact assessment report.

Secretary of the Ministry

Aleksandras Spruogis

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T.S.,1,2010-09-21