Unofficial translation

Ministry of Environment of the Republic of Lithuania

On issues related to the project
for dismantling and decontamination
of the Ignalina NPP equipment

The Ministry of Natural Resources and Environmental Protection of the Republic of Belarus has considered the information received from the Ministry of the Environment of the Republic of Lithuania on the project for dismantling and decontamination of the Ignalina NPP equipment and provides a list of counter questions and comments, formed on the basis of the analysis of this information.

The Ministry of Natural Resources and Environmental Protection of the Republic of Belarus looks forward for further fruitful cooperation with the Republic of Lithuania within the framework of the implementation of the Convention on Environmental Impact Assessment in a Transboundary Context.

Annex in 3 pages in 1 copy.

First Deputy Minister Baliaslau Pirshtuk

Questions and comments of the Republic of Belarus[1] regarding the information provided on the project for dismantling and decontamination of the Ignalina NPP equipment

1. According to the information provided in Section 1 "Information on the Planned Activities" of the Non-Technical Summary of Project 2102 (hereinafter – the Non-Technical Summary), the decommissioning of the Ignalina NPP (hereinafter – INPP) is carried out on the basis of the INPP Decommissioning Megaproject, which comprises a set of projects, including the management of spent fuel, radioactive waste, dismantling and decontamination of equipment, modification of existing and construction of new infrastructure facilities, demolition of buildings and structures.

Thus, we believe it is advisable to comprehensively consider the materials for the decommissioning of the INPP within the framework of the above Megaproject in order to conduct a full analysis of information regarding the potential impact of the planned activity at the INPP on the Republic of Belarus.

The submitted materials do not contain information regarding the number of spent fuel assemblies (SFAs) formed during the operation of Unit 1 and reused at Unit 2 of the INPP, spent nuclear fuel (SNF) activity inventories and the timing of operations with this fuel, which doesn't allow to adequately assess the level of radiation impact on the environment during the implementation of the B8 Project, affecting Projects 2102 and B1.

In addition, the Non-Technical Summary does not contain information on the amount of leaking and damaged fuel discharged from the storage pools, as well as information on the availability of a certificate for equipment confirming the safety of handling such fuel. Environmental impact assessments for operations with damaged fuel in the framework of the B1 Project were not provided.

Taking into account the above, we believe that the source of exposure and the results of dose assessment during operations with damaged fuel at INPP Units 1 and 2 under Projects B1 and 2102 are significantly underestimated in the submitted materials.

Among other things, please provide additional information about incident that occurred on 09.06.2020 at INPP (a part of fuel assemblies fell to the bottom of the pool), in particular: the number of damaged fuel assemblies, ways of further handling them. Present the results of investigation of the incident.

2. There is no justification in the Non-Technical Summary for the selection of the event associated with the fall and damage of a shipping container filled with short-lived waste of classes B and C as the most severe incident. Please provide this justification.

3. The wording *"maximum annual effective dose for a member of the critical group of the population"* (constituting 7.47 nSv) requires clarification

[1] Ministry of Emergency Situations of the Republic of Belarus (Gosatomnadzor), Ministry of Energy of the Republic of Belarus, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, National Academy of Sciences of Belarus (State Scientific Institution "Joint Institute for Power and Nuclear Research - Sosny").

(page 11) due to the fact that, according to Figure 10 (page 14), the total dose due to water discharges and gas aerosol emissions is 19-83 nSv (for the period 2010-2017).

4. The Non-Technical Summary provides information on the effective dose of radiation to the recipient at the border with the Republic of Belarus (~1 μSv), expected as a result of an incident related to the fall and damage of a transport container filled with short-lived low and intermediate level waste. There is no information (including on the initial parameters, methods used in assessing the radiation dose) explaining the specified value of the radiation dose, which is up to 3 mathematical orders of magnitude higher than the maximum annual effective dose for a member of the critical group of the population living at the border sanitary protection zone (~7.5 nSv).

5. The values of the exposure dose to a member of the critical group of the population for 2004-2017, caused by gas and aerosol releases and liquid discharges, are given in the presented Non-Technical Summary. However, the specified information for 2018-2020 is absent.

6. Please clarify whether the operating organization has developed the INPP Decommissioning Plan in accordance with cl. 7.4 and 7.5 of the IAEA General Safety Requirements No. GSR Part 6 (Safety Guide SSG-47. Decommissioning of Nuclear Power Plants, Research Reactors and Other Nuclear Fuel Cycle Facilities).

7. Have the IAEA recommendations containing the requirements for a differential approach to all aspects of decommissioning been taken into account when determining the scope and level of detail for any specific facility in accordance with the magnitude of possible radiation risks arising from decommissioning when developing the INPP Decommissioning Plan.

8. Does the INPP operating organization conduct self-assessments and independent assessments of safety culture in accordance with the requirements of the IAEA Safety Guide GS-G-3.5.

9. Please provide information on the inspection programme of the Lithuanian regulatory authorities for the period of work, as well as on the approaches to assessing the safety culture at the INPP site, the operator's management system and the potential impact of the human and organizational factor on the quality of work.

10. Please provide more detailed information on the safety of spent nuclear fuel management, including damaged spent nuclear fuel, including the results of the safety assessment and periodic safety assessment. How was the safety of handling the damaged spent nuclear fuel assessed based on the results of stress tests carried out at INPP?

11. Please provide additional information on the strategy for handling graphite from the core, including on the methods of its processing, storage and disposal adopted in the project, including the results of the safety substantiation of this activity.

12. Project 2102 will partially dismantle the graphite ducts (5.8%, Fig. 2 of the Non-Technical Summary) and this high-level waste (class D) will be stored indefinitely in an above-ground repository (building 158/2). However, the IAEA standards (Specific Safety Requirements No. SSR-5) recommend the use of deep geological formations for this type of waste. Please explain how the IAEA recommendations were taken into account in this situation.

13. On page 10 of the presentation, information on the presence of streams with high-level radioactive waste is indicated. At the same time, there is no information in the Non-Technical Summary on the volumes of generation and the procedure for handling high-level radioactive waste. Please provide the indicated missing information.

14. In the presentation (page 25), the estimate of the annual effective dose at the border of the sanitary protection zone in the period 2023-2028 for members of the critical group of the population from all projects being implemented at the INPP site is 1.62E-02 mSv (16.2 μSv), which is inconsistent with the results of the assessment of radiation exposure in terms of the annual maximum dose (2024) for a member of the critical group of the population presented in the Non-Technical Summary.