

Comments and Proposals of Lithuania

	Comments and Proposals	Response of BelRAO State Enterprise
1	<p>The Ministry of Environment of Lithuania noted with concern the information reported in the media last year concerning the preference given to one of the potential sites for the Project and the reported start of related works. The Ministry of Environment of Lithuania Maintains that at the stage of notification of the EIA process all location alternatives shall remain open and the environmental impact assessment documentation shall contain a proper evaluation of locational alternatives, including the no-action alternative and the methodology and data used in determining the siting. Please confirm receipt of this correspondence in writing.</p>	<p>Section 2 of the EIA Programme notes that three alternative sites for the location of the RWDF, as well as the no-action alternative are to be considered.</p>
2	<p>Page 3 of Section 1 of the EIA Programme provides a work schedule for conducting the EIA. Information concerning the current status of the project, as well as description of the preparatory works already carried out at each of the alternative construction sites, should be included in the EIA Programme and the EIA Report</p>	<p>Section 2 of the EIA Programme outlines the stages of the comprehensive research and survey activities. These activities will be described in more detail in the EIA Report.</p>
3	<p>Page 5 of Section 2 of the EIA Programme states that in addition to very low-level, short-lived low and intermediate level radioactive waste disposal facilities, the site will also include radioactive waste treatment and long-term storage facilities for long-lived radioactive waste. However, the EIA Programme does not provide information on the planned radioactive waste treatment technologies, the estimated amount of long-lived waste to be stored, and the amount of waste to be disposed of at the disposal facility, also it has not been demonstrated how the environmental impact of waste treatment and long-term storage facilities will be assessed during their normal operation.</p>	<p>The EIA Programme specifies the types of activities planned at the RWDF site and identifies the potential types of impact. Information on the technologies and methods for radioactive waste processing will be provided in the EIA Report.</p>
4	<p>Page 6 of Section 2 of the EIA Programme states that options for placing radioactive waste in a repository will be assessed, either on the ground surface or below the surface up to one hundred meters. The EIA Programme does not provide details on the concepts</p>	<p>This information will be included in the EIA Report.</p>

	<p>of these repository options or how the environmental impact of these repositories will be assessed depending on their depth. Based on the information provided on page 19 of the EIA Programme regarding protective repository layers, it can be concluded that Belarus plans to construct the repository on the ground surface or only partially below ground. The concept of the planned repository should be clarified, as this determines which aspects should be considered during environmental impact assessment.</p>	
5	<p>Image 7 of Section 2 of the EIA Programme me specifies the factors that must be taken into account when selecting a site for planned radioactive waste management facilities, but does not specify any specific site selection criteria. The EIA Programme should establish specific site selection criteria and the EIA Report should include an assessment of all alternative sites based on those criteria</p>	<p>The site selection criteria are established in the Resolution of the Ministry for Emergency Situations of the Republic of Belarus No. 48 dated August 18, 2022, and in the Guidance of the Department for Nuclear and Radiation Safety of the Ministry for Emergency Situations of the Republic of Belarus No. 49 dated 22 November 22, 2023. This information will be included in the EIA Report.</p>
6	<p>Page 7 of Section 2 of the EIA Programme includes as a factor to be taken into account «the proximity to the external borders of neighboring countries». In addition, population density and distribution in neighboring countries, distance of the site from densely populated areas and big cities in neighboring countries. possible impact to transboundary water resources and rivers should also be considered as important factors (site selection criteria) to be taken into account when selecting a site for the radioactive waste management facilities.</p>	<p>The population density and distribution in neighboring countries, as well as the distance of the site from densely populated areas and major cities in neighboring countries, will be studied and taken into account in the EIA Report.</p>
7	<p>Page 7 of Section 2 of the EIA Programme states that one of the factors taken into account when selecting a site for a disposal facility and storage facility is the possibility of expanding the disposal facility and applying engineering solutions for the management</p>	<p>The information will be included in the EIA Report in accordance with</p>

	of different types and categories of waste. The EIA Programme should specify the types, classes, and quantities of radioactive waste for which the facilities are planned, as well as their periods of operation and institutional control after the closure of the disposal facility	the requirements of the legislation of the Republic of Belarus.
8	Page 9 of Section 4 of the EIA Programme states that only the effective dose value of drinking water for the population is applicable. It has not been demonstrated that exposure of the population due to other food consumption scenarios is not possible. In addition, the disposal facility is proposed to be analysed only after its closure, but the operational phase is not mentioned. It is also not explained why a one-dimensional model was chosen to analyse the dispersion of radionuclides.	The information on the impact on the population and on facility monitoring during operation will be included in the EIA Report.
9	Section 5.2 of the EIA Programme presents preliminary results of the impact assessment, which are not justified until the EIA report is submitted. For example, page 17 states that «The technological and structural measures used in the RWDF project prevent release of radionuclides into the environment;» and «The qualitative and quantitative features of the forecasted environmental and living conditions enable RWDF to be evaluated as an environmentally safe facility».	The results of the environmental impact assessment will be presented in the EIA Report.
10	Page 17 of Section 5.2 of the EIA Programme states that when assessing the impact of very low-level radioactive waste disposed of in a disposal facility, only the maximum activities limits of ^{60}Co and ^{137}Cs will be assessed. It is unclear why this assumption is made and why all possible radionuclides in radioactive waste are not analysed.	The EIA Report will contain information on radiologically significant radionuclides.
11	Page 20 of Section 5.4 of the EIA Programme states that accident scenarios will include aircraft crashes, but does not specify the type of aircraft and it is not clear whether the impact of an aircraft crash on the temporary storage facility will be assessed. We expect that the radiological consequences of a large commercial aircraft crash impact will be assessed for all planned radioactive waste facilities - the radioactive waste disposal facility and the temporary storage facility	The assessment of the aircraft crash consequences will be carried out in accordance with IAEA recommendations and the requirements of the national legislation of the Republic of Belarus on nuclear and radiation safety. The selection of scenarios and types of

		<p>aircraft for modeling will be based on an analysis of initiating events commonly used in international practice for similar facilities, and will take into account the criteria established by the applicable regulatory legal acts. The results of the assessment will be presented in the EIA Report.</p>
12	<p>Page 20 of Section 5.4 of the EIA Programme states that the activity limit values for ^{235}U, ^{239}Pu, ^{137}Cs, ^{139}Sr and radionuclides with a half-life of less than 30 years have been established for waste. The EIA Programme should specify that a list of radionuclides important to a safety will be provided in the EIA Report, justifying how it was obtained and specifying the activity limits for these radionuclides.</p>	<p>The EIA Report will contain information on radiologically significant radionuclides.</p>
13	<p>In Section 5.6 of the EIA Programme, instead of describing how the potential transboundary impact of the radioactive waste disposal facility, the long-lived and high level radioactive waste storage facility and the radioactive waste treatment facilities will be assessed, a preliminary conclusion is presented that the potential impact on the environment is limited to the boundaries of the radioactive waste disposal facility. This section should describe how the assessment of transboundary radioactive impact to the accessible biosphere in operational state and in accident conditions will be carried out. The EIA Report should include calculations to estimate doses in which account is taken of a range of possible environmental transfer pathways and provide data to verify the assumptions. In addition, it should be noted that the cited paragraph 2.1.1 of IAEA SSR-5, is only about the disposal facilities and only their operational period. The presented conclusion needs to be adjusted, because when analysing the scenarios related to a disposal facility after its closure and the impact of radionuclides on the environment, the</p>	<p>The results of the environmental impact assessment will be presented in the EIA Report.</p>

	assessed potential dispersion pathways of radionuclides are usually not limited to the boundaries of the disposal facility site.	
14	Page 5 of the EIA Programme states: «The volumes of RW subject to the storage and disposal are determined based on research report ‘Determination of the characteristics of RW intended for disposal / long term storage <.. > 2025’». The EIA programme does not provide data on the quantities and characteristics of radioactive waste planned for storage, processing, and disposal. Information on the quantities and characteristics of each waste type (or at least preliminary information on current plans and anticipated future uncertainties) must be provided at the site selection and environmental impact assessment stage.	The information will be included in the EIA Report in accordance with the requirements of the legislation of the Republic of Belarus.
15	Page 5 of the EIA Programme states: «...— acceptance, radiological characterization. processing (including volume reduction), and packaging...». The technologies to be used for reducing the volume of radioactive waste are not specified in the EIA programme. These technologies should be described in the EIA report, and their environmental impacts should be assessed.	The information will be included in the EIA Report.
16	Page 6 of the EIA Programme states: «The full scope of buildings, structures, technological systems, and related equipment shall be specified (if necessary) during the development of the pre-design documentation, taking into account specific site conditions...» The EIA programme does not provide information on the planned storage, processing, and disposal facilities. The scope of buildings, structures, technological systems, and related equipment must be described at the site selection and environmental impact assessment stage.	The information will be reviewed in the EIA Report.
17	Page 9 of the EIA programme states: «As a safety criterion for RWDF during post-operational period, a single-factor requirement is adopted: radionuclide concentration in groundwater must not exceed the reference values for radionuclide concentrations in drinking water...». The proposed criterion could be used as a safety indicator, for example, when comparing the natural radionuclide retention properties of potential sites. However, ensuring public safety must be based on dose calculations that take into	The information will be included in the EIA Report.

	account all relevant radionuclide migration and exposure pathways, as ingestion of drinking water is only one of the possible exposure routes.	
18	Page 15 of the EIA Programme: The non-radiological impact assessment on air does not mention that the impact of equipment used for earthworks and construction at the selected site will be assessed. The potential impact of construction activities should also be assessed for other environmental components.	The information will be included in the EIA Report.
19	Page 20 of the EIA Programme states: «A preliminary list of initiating events that could disrupt normal operation at the RWDF has been identified: - Dropping an RW package during transport and handling operations in any building.» Could a radioactive waste package be dropped or damaged during transport/handling outside the buildings? If so, this event and its possible consequences must also be considered.	The information will be included in the EIA Report.
20	Page 20 of the EIA Programme states: «As a part of research activities, the following accident scenarios will also be considered and assessed: - Aircraft crash...». It is unclear what types of aircraft will be considered when assessing accidents and their consequences. The consequences of a crash involving a large aircraft, such as a Boeing 767-400 or similar, must be evaluated.	The assessment of the aircraft crash consequences will be carried out in accordance with IAEA recommendations and the requirements of the national legislation of the Republic of Belarus on nuclear and radiation safety. The selection of scenarios and types of aircraft for modeling will be based on an analysis of initiating events commonly applied in international practice for similar facilities and will take into account the criteria established by the applicable regulatory legal acts. The results of the assessment will be presented in the EIA Report.

21	Page 22 of the EIA Programme states: 'Analysis of the information on the facility indicates that the environmental impact caused by the RWDF is localised and limited to the RWDF site.' This statement must be substantiated in the EIA report by providing detailed information on the initial assessment assumptions and the results obtained.	The information will be included in the EIA Report.
22	Annex B of the EIA Programme indicates a site location in Astravyets District, which is near the operating Belarusian NPP. It should be noted that when assessing the safety of the planned radioactive waste disposal and storage facilities at the Astravyets District site, the radiological impact of other nearby operating nuclear facilities must also be taken into account	The potential impact of the Belarusian NPP on the radioactive waste disposal and temporary storage facility will be analyzed. The results will be presented in the EIA Report.
23	Please clarify if the removal of radioactive waste from the «Ecores Municipal Unitary Waste Management Enterprise» storage facility, its transportation, and the dismantling of the storage facility is a part of the Project.	The decommissioning of the specialized enterprise Ecores UE is not part of this project. However, the volumes of radioactive waste stored at Ecores UE have been taken into account for the radioactive waste disposal and temporary storage facility.
24	Precise coordinates and distances of alternative sites to Lithuania's border and Vilija/Neman basin (Astravyets), per Appendices A—C, plus groundwater flow modelling (Eqn. 1 Section 4) including migration scenarios reaching Lithuania (Espoo Art. 5(a),(c)) should be provided in the EIA Programme (Section 5.6 «transboundary impact») and EIA Report.	The information will be reviewed in the EIA Report.
25	Based on EIA Section 5. 1 wind roses (SE/SW 10-20% annual, Astravyets: S 15%. SE 10%), transboundary atmospheric dispersion modeling (JRODOS/INTERRAS, Section 4) projecting radionuclide transport to Lithriania (Espoo Art. 5(c), EIA Section 5.6) should be done.	The potential transboundary transfer will be included in the EIA Report.

26	EIA Section 5.4 «beyond-design-basis accidents» should include flooding scenarios (cited in Section 4 migration modelling) with transboundary consequences for neighbouring countries (Espoo Art. 5(b)).	The information will be provided in the EIA Report. In accordance with the requirements of the legislation of the Republic of Belarus, the selection of alternative sites also considered the following factor: placement “in areas subject to catastrophic floods or inundations” is not permitted”.
27	EIA Section 2 should be supplemented with planned waste inventory (categories, origin from Belorussian NPP/Ecores, volumes) and Waste Acceptance Criteria (WAC) including incoming control procedures (EIA Section 5.2).	The information will be included in the EIA Report in accordance with the requirements of the legislation of the Republic of Belarus.
28	EIA Section 5.5 should include transboundary post-project programme (border-area points, data sharing with LT) (Espoo Art. 7).	Cooperation will be carried out within the framework of the Espoo Convention (Article 7).

I hereby certify the authenticity of the translation with the original document. Translator S.Kuntsevich.