Notification of the Proposed Activity

Proposed Activity: Construction of a radioactive waste disposal and temporary storage facility

Customer of the Proposed Activity: Belarusian Organisation for Radioactive Waste Management Republican Unitary Enterprise (BelRAO State Enterprise)
Legal address: 1 Kalvarijskaya St., Minsk, 220004
Tel.: +375-17-304-06-02
Fax: +375-17-304-06-02
E-mail: official@belrao.by
(name, postal and e-mail addresses, telephone and fax numbers)

Objectives of the Proposed Activity: to ensure the safe storage and disposal of radioactive waste (hereinafter — RW) throughout its entire potential hazard period. To achieve this objective, the defence-in-depth principle will be applied at the radioactive waste disposal facility (hereinafter — RWDF). This system of technical and organisational measures involves the use of physical barriers to prevent the dissemination of radioactive substances into the environment.

Justification of the Proposed Activity:
The construction of the RWDF is provided for by the Strategy for Radioactive Waste Management (approved by Resolution of the Council of Ministers of the Republic of Belarus No. 128 dated February 15, 2023; hereinafter — "the Strategy"), and is also reflected in the conclusions of the 8th Review Meeting of the Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

Description of the Proposed Activity: Acceptance, incoming control, sorting, characterisation, processing (including RW packaging for disposal if necessary), storage, and disposal of radioactive waste.

Location of the Proposed Activity: The implementation of the project concepts is being considered for sites located in the northwest, southeast, and east of the Republic of Belarus (Grodno, Gomel, and Mogilev regions). The approximate land area for the RWDF site is 1 km².

Timeframe for the Implementation of the Proposed Activity:
Phase I construction period: 2028–2030. Commissioning of Phase I: 2030. Planned operational lifetime: 100 years, in accordance with possible extension establish by the regulation.
(start and duration of construction and operation)

Expected Date of Decision Concerning the Proposed Activity:
2026.

Nature of the Potential Decision Concerning the Proposed Activity:
The decision on whether to proceed with the Proposed Activity will be made by the competent authorities based on expert reviews of the preliminary project documentation, with public input and transboundary consultations with affected parties also taken into account.
Following these procedures, a decision will be made to either proceed with or reject the Proposed Activity.

Timeframe for the Environmental Impact Assessment (EIA) Procedure: 2025–2026.

EIA Developer(s):
Belnipienergoprom Republican Unitary Enterprise

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Legal address: 5a Romanovskaya Sloboda St., Minsk, 220004
Tel.: +375-17-395-22-77
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E-mail: belnipi@energoprom.by

Expected Timeframe for Public Discussions and Consultations on the Proposed Activity: 2026.

Deadline for Submitting a Response Regarding Intent to Participate in the EIA Procedure Considering Transboundary Impact:
We kindly request that you inform us within thirty (30) days of receiving this notification whether you intend to participate in or decline to take part in the Environmental Impact Assessment procedures as a potentially affected party with respect to the above-mentioned project.

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MINISTRY OF ENERGY OF THE REPUBLIC OF BELARUS
BELENERGO STATE PRODUCTION ASSOCIATION

BELNIPIENERGOPROM
DESIGN AND RESEARCH REPUBLICAN UNITARY ENTERPRISE
(BELNIPIENERGOPROM RUE)

APPROVED BY
Director of Belarusian Organisation
for Radioactive Waste Management
Republican Unitary Enterprise
D.S. Logvin
November 28, 2025

CONSTRUCTION OF A RADIOACTIVE WASTE DISPOSAL AND TEMPORARY STORAGE FACILITY

PRE-DESIGN DOCUMENTATION

Environmental Impact Assessment (EIA) Programme

2184-PDB-EIAP
Volume 6.2

2025

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First Deputy Director – Chief Engineer	S.V. Pertsev
Project Chief Engineer	V.V. Yezubchik

Replaces Inv. No.	Signature and date	Inv. No.

2025

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Designation	Title	Note
2184-PDB-EIAP-TC	Volume Table of Contents	1 sheet
2184-PDB-EIAP-TS	Text Section	28 sheets
	Total number of document	
	sheets (including title page)	31 sheets

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Revision	No. of sheets	Page	Document No.	Signature	Date				
Developed by		Sidorova			11.25	Volume Table of Contents	Phase	Page	Total pages
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Approved by		Yezubchik			11.25		BELNIPIENERGOPROM RUE Minsk, Republic of Belarus		
Final check		Voronitskaya			11.25				

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INTRODUCTION

The Environmental Impact Assessment (EIA) Programme has been developed by Belnipienergoprom Republican Unitary Enterprise in accordance with the Terms of Reference for conducting the Environmental Impact Assessment (EIA) for the project "Construction of a Radioactive Waste Disposal and Temporary Storage Facility." The client for this project is Belarusian Organisation for Radioactive Waste Management Republican Unitary Enterprise.

The development of the EIA Programme for the planned economic activity under the project "Construction of a Radioactive Waste Disposal and Temporary Storage Facility" is carried out in accordance with the requirements of Environmental Rules and Regulations 17.02.06-001-2021 "Environmental Protection and Natural Resource Use. Rules for Conducting Environmental Impact Assessment," approved by Resolution No. 19-T of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus dated December 31, 2021 (as amended on January 18, 2024).

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1 Work Schedule for Conducting the EIA

Table 1.1 – Work Schedule for Conducting the EIA

Preparation of the Environmental Impact Assessment (EIA) Programme	April 2025 – November 2025
Raising awareness among citizens and legal entities about the planned economic and other activities	November 2025 – December 2025
Preparation of the notification regarding the planned economic and other activities <*>	November 2025 – December 2025
Submission of the notification on the planned economic and other activities and the EIA Programme to the affected Parties <*>	November 2025 – December 2025
Preparation of the EIA Report	November 2025 – April 2026
Submission of the EIA Report to the affected Parties <*>	April 2026
Holding public discussions within the territory of: — the Republic of Belarus — affected Parties <*>	April 2026 – September 2026 (not less than 30 calendar days) April 2026 – November 2026
Conducting consultations regarding comments from the affected Parties <*>	April 2026 – November 2026
Conducting the meeting to discuss the EIA Report	April 2026 – September 2026 (not earlier than 25 calendar days from the start of the public discussions and no later than the day of their completion)
Revisions to the EIA Report following comments	November 2026 – December 2026
Submission of the EIA Report as part of the feasibility study (pre-investment) or project documentation for the state environmental review	November 2026 – December 2026
Decision-making regarding the planned activities	December 2026

<*> To be completed if the planned economic and other activities may have transboundary impacts.

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2. Information on the Planned Economic and Other Activities and Alternative Options for Their Location and/or Implementation

In accordance with the provisions of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management of September 05, 1997, Vienna (which came into force for the Republic of Belarus on February 24, 2003), the Contracting Parties affirm that the ultimate responsibility for ensuring the safe management of spent nuclear fuel and radioactive waste lies with the State. Each Contracting Party shall take appropriate measures to ensure adequate protection of society and the environment against radiological and other risks at all stages of radioactive waste management.

The comprehensive programme document outlining the main directions of activity for safe and economically efficient radioactive waste management is the Radioactive Waste Management Strategy, approved by Resolution No. 128 of the Council of Ministers of the Republic of Belarus, dated February 15, 2023.

The primary principles for ensuring radiation safety in the Republic of Belarus regarding radioactive waste (hereinafter – RW) management are as follows:

- ensuring an acceptable level of protection for workers (personnel) and the population from radiation exposure related to RW, in accordance with the principles of justification, limitation, and optimisation;
- ensuring an acceptable level of environmental protection from harmful radiation effects associated with RW;
- considering the interdependence between various stages of RW management;
- protection of future generations, which means that projected exposure levels for future generations resulting from radioactive waste disposal must not exceed the permissible public exposure levels established by legislation;
- avoiding placing an unjustified burden on future generations to resolve safety issues in RW management;
- control over the generation and accumulation of RW (limiting RW generation and accumulation to the minimum feasible level);
- prevention of accidents involving radiological consequences and mitigation of potential outcomes if such accidents occur.

Following these principles, the key areas for improving the national RW management system include:

- development of the necessary infrastructure, including the establishment and operation of a radioactive waste disposal facility;
- keeping RW generation at a minimum level;
- development of new and improvement of existing RW management technologies;
- operation of a unified state system for accounting and control of ionising radiation sources, as well as a national system for accounting and control of nuclear materials;
- scientific, technical, and informational support for activities in the field of RW management;
- improvement of regulatory legal acts establishing requirements for regulating RW management;
- personnel training and retraining;
- expansion of international cooperation in the field of RW management;
- public involvement in making decisions that may have potential consequences for public health or the environment.

Currently, there are two facilities in the Republic of Belarus that offer RW long-term storage:

- the specialised radioactive waste management facility of Ecores Municipal Unitary Waste Management Enterprise (hereinafter referred to as "the Specialised Enterprise of Ecores UE");
- the Belarusian NPP.

The capacity of the Specialised Enterprise of Ecores UE is not designed to receive RW from the Belarusian NPP.

The design capacity of the RW storage facilities at the Belarusian NPP allows for radioactive waste storage for 10 years of its operation.

The existing RW management system in Belarus will be upgraded to ensure the final stage of RW management. This situation necessitates the construction of a radioactive waste disposal facility (hereinafter referred to as "RWDF") in the Republic of Belarus.

The pre-design documentation provides for the construction of a disposal facility for very low-, low-, and short-lived intermediate-level RW, as well as temporary storage for long-lived intermediate-level and high-level RW.

The following activities are planned at the RWDF site:

- incoming inspection and characterisation of RW packages;
- processing, conditioning, and bringing RW to the acceptance criteria for disposal;
- storage of long-lived intermediate- and high-level RW;
- disposal of very low-, low-, and short-lived intermediate-level RW;
- disposal of RW in the form of spent sealed sources of ionising radiation of the third to fifth categories;
- long-term storage of RW generated during the reprocessing of spent nuclear fuel from the operation of the Belarusian NPP;
- long-term storage of long-lived intermediate- and high-level RW, generated during the decommissioning of the Specialised Enterprise of Ecores UE and power units of the Belarusian NPP.

Functional purpose and the intended capacity of the construction project:

- ensuring the acceptance of RW, their inspection, sorting, processing, conditioning, and bringing them to the waste acceptance criteria for disposal;
- disposal of very low-, low- and short-lived intermediate-level RW, including sealed radioactive sources of ionising radiation of the third to fifth categories that have exhausted their service life;
- storage of long-lived intermediate- and high-level RW, including sealed radioactive sources of ionising radiation of the first and second categories.

The volumes of RW subject to storage and disposal are determined based on the research report "Determination of the characteristics of RW intended for disposal/long-term storage, taking into account the proposed processing methods and types of final RW package forms in accordance with the general RW acceptance criteria for disposal: RW generated during the operation and decommissioning of the Belarusian NPP; RW delivered to and stored at the long-term storage facilities of Ecores UE; institutional RW; RW from the reprocessing of spent nuclear fuel of the Belarusian NPP; RW from prospective facilities; RW generated during the decommissioning of armaments, military and special equipment", prepared by the scientific institution "JIPNR–Sosny" of the National Academy of Sciences of Belarus in 2025.

The RWDF and its technological complexes for RW processing shall ensure:

- acceptance, radiological characterisation, processing (including volume reduction), and packaging in containers (if necessary) of very low-, low- and short-lived intermediate-level RW, including sealed radioactive sources of ionising radiation of the third to fifth categories (including radioactive waste from Belarusian NPP State Enterprise for the whole lifecycle, legacy waste from the Specialised Enterprise of Ecores UE, as well as waste generated in various sectors of the economy of the Republic of Belarus, including industry and the national economy);

- acceptance, radiological characterisation, placement in the storage facility, and temporary storage of long-lived intermediate- and high-level RW, including sealed radioactive sources of ionising radiation of the first and second categories.

The RWDF shall include, but not be limited to, the following technological and auxiliary systems:

– a disposal and temporary storage system (disposal and temporary storage structures);
– a transport and technological system that ensures the transfer and placement of packages within the storage–disposal structures;
– a system for receiving, incoming inspection, and accounting of RW packages;
– a system for processing, conditioning, and bringing very low-, low- and short-lived intermediate-level RW to the acceptance criteria for disposal;
– a radiation monitoring system;
– a system for decontaminating equipment and premises;
– a heating and ventilation system;
– a system for monitoring the parameters of technological and auxiliary systems;
– a water supply and wastewater disposal system;
– a system for handling RW generated at the RWDF;
– a power supply and lighting system;
– a communication and alarm system;
– a control and automation system;
– a physical protection system;
– an environmental radioecological monitoring system.

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 availability of engineering infrastructure, and cost optimisation.

As alternative methods for carrying out the proposed activity, near-surface RW disposal options are considered:

– at ground level;
– below ground level, at a depth of up to one hundred metres.

A "zero option" — refusal to implement the proposed activity — is also considered. If the RWDF is not constructed, the potential environmental radiation burden may increase over time.

When selecting a site for the RWDF and assessing its suitability, factors that ensure the safety of the facility, its social acceptability, and economic feasibility are considered in the context of the socio-economic development of the Republic of Belarus.

When considering the siting of the RWDF, it is crucial to apply criteria and requirements that ensure the protection of the public and the environment, taking into account identified natural and man-made processes (phenomena, factors) and their unfavourable combinations. Approaches to environmental safety must be adhered to, including the assessment of the stability (long-term integrity) of geological formations during normal operations, as well as during design-basis and beyond-design-basis accidents. Social, economic, and other non-radiological factors of potential impact must also be analysed and assessed, with the involvement of relevant experts. This includes assessing possible costs and risks (benefits), economic or financial efficiency, and social and political processes that impact the development potential of the selected region.

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Methodologically, the site selection process for locating the RWDF is multi-stage. At each stage, tasks defined in regulatory documents are addressed with varying levels of detail. The level of detail increases from one stage to the next.

At the first stage of the procedure, a large territory was considered, within which areas suitable for further study according to the RWDF siting criteria were identified. These criteria encompass prohibitive factors and adverse conditions.

At subsequent stages, territories were selected step-by-step based on the principles of competitiveness and increasingly detailed criteria. At the final stage, when choosing the RWDF site from several locations that meet the regulatory criteria, additional economic factors (such as the length of radioactive waste transportation routes and transportation safety) and political factors (such as the distance from neighbouring states' borders) are considered.

When choosing the RWDF site, safety for the population and the environment throughout the entire RW potential period is the decisive factor.

Considering the above safety criteria and geological conditions, the following factors must be taken into account when selecting a site for the RWDF:

- predicted radiation doses and risks to both the population and the environment;
- the possibility of reducing distances for inter-facility radioactive waste transportation, optimising logistics routes, and the feasibility of large waste-generating organisations switching to rail transport for transporting such waste;
- the possibility of gradually expanding the RWDF capacity and applying various engineering solutions to manage different types and categories of radioactive waste. In this context, the area allocated for the RWDF industrial site must allow for the placement of additional modules to receive RW generated during the decommissioning of nuclear facilities;
- the proximity of the planned RWDF to the external borders of neighbouring states and the necessity to conduct procedures within a transboundary context;
- the attitude of the local population towards the decision to construct the RWDF;
- the need to reserve areas intended for the disposal of waste that may be generated as a result of a nuclear and/or radiation accident;
- the availability and, where possible, the concentration of scientific and practical expertise in the selected region;
- aspects of ensuring safety during the RW transportation, including high-level radioactive waste, to the disposal facility.

The entire territory of the Republic of Belarus was considered for siting the RWDF to identify favourable geological formations. Priority is given to regions where organisations that generate radioactive waste are located, as well as to territories contaminated by the Chernobyl NPP accident, including the Polesie State Radiation-Ecological Reserve. An optimal RWDF site can contribute to the economic development of both the particular region and the country as a whole.

The site assessment process, which begins at the site selection stage and continues throughout the RWDF lifecycle, includes radiation monitoring, periodic safety analyses, and other measures to confirm site-specific design parameters, as well as repeated safety assessments based on the results of these analyses.

In 2024, a set of research and survey activities was carried out to justify the priority siting location within the designated priority areas. The RWDF site selection activities were conducted in three stages:

- Stage 1 – analysis of archival and database materials on natural and anthropogenic conditions across the entire territory of the Republic of Belarus. Identification of districts (areas) for which, according to archival and database materials, no factors prohibiting

RWDF siting are present (the areas considered had a radius of approximately 30 km). Within the priority districts identified at Stage 1, competitive sites were selected.

- Stage 2 – reconnaissance studies of the competitive sites to verify the presence or absence of prohibitive or adverse factors. Exclusion of sites from further consideration where prohibitive factors were identified during field surveys, or their classification as reserve sites.
- Stage 3 – conducting a series of research and survey activities on the competitive sites, their characterisation and comparison, and the identification of alternative sites.

Areas selected for further study:
Khoiniki District;
Ostrovets District;
Mstislavl District.

3 Sketch Map of Alternative Siting Options for the Planned Economic and Other Activities

The sketch map of the site in the Khoiniki District is provided in Appendix A.
The sketch map of the site in the Ostrovets District is provided in Appendix B.
The sketch map of the site in the Mstislavl District is provided in Appendix C.
The sketch maps are derived from topographic maps at a scale of 1:50,000.

4 Information on the Proposed Forecasting and Assessment Methods to Be Used for the EIA

A mathematical model is used to assess the impacts of radiation and to explain the process of radionuclide migration from the RWDF vertically through the underlying protective barrier and horizontally in the event of an RWDF flooding accident, as well as through the host rock of the disposal structures. The model is based on solving the non-stationary one-dimensional mass-transfer equation for heterogeneous media (equation 1). The coefficients of the equation are piecewise constant functions, i.e., they remain constant within each medium of the calculation domain:

$$R\frac{\partial C}{\partial t} = -U\frac{\partial C}{\partial x} + \frac{\partial}{\partial x}\left(D\frac{\partial C}{\partial x}\right) - \lambda \cdot R \cdot C \quad , \qquad (1)$$

where C = C(x, t) – radionuclide concentration in pore water, Bq/m^3;
t – time, years;
x – vertical coordinate, m;
λ – radionuclide decay constant, 1/year;
D = D(x) – radionuclide diffusion coefficient, m^2/year;
R = R(x) – radionuclide retardation factor,
$R(x) = n + Kd \cdot \rho$, dimensionless,
where n = n(x) – effective porosity of the rock, dimensionless;
Kd = Kd(x) – distribution coefficient, m^3/kg;
$\rho = \rho(x)$ – rock density, kg/m^3;
U – filtration velocity, m/year.

As the safety criterion for the RWDF during the post-operational period, a single-factor requirement is adopted: radionuclide concentrations in groundwater must not exceed the reference values for radionuclide content in drinking water established in Table 8 of the hygienic standard "Criteria for Assessing Radiation Impact", approved by Resolution No. 37 of the Council of Ministers of the Republic of Belarus dated January 25, 2021. This criterion corresponds to an effective dose to the population from drinking-water consumption of 0.1 mSv/year.

For calculating population radiation doses in beyond-design-basis accidents at the RWDF, the programme "DOZA-3.O" was utilised.

Furthermore, it is planned to utilise the GeRa computational code, which is primarily intended to solve a set of tasks related to the disposal of radioactive waste produced within a closed nuclear fuel cycle:

- selection of RW isolation sites;
- assessment of disposal safety in terms of radionuclide geomigration;
- justification of the principle of radiation and migration equivalence.

To forecast the consequences of accident scenarios, the following software codes will be used:

- JRODOS (Java-based Realtime Online Decision Support System) – for predicting accident consequences and the atmospheric dispersion of radioactive substances;
- INTERRAS (The International Radiological Assessment System) – used for estimating releases into the environment in the event of a beyond-design-basis accident at the Belarusian NPP.

The methodology for assessing non-radiation impacts includes:

- reconnaissance surveys;
- structural and spatial analysis of accumulated data on environmental conditions and socio-economic situations in the area of the planned facility;
- analysis of technological processes involved in all stages of the RWDF lifecycle as sources of environmental and population impacts;
- computational methods for estimating predicted emissions of air pollutants, wastewater discharges, and waste generation volumes during the implementation of the proposed economic activity.

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5 Brief description (sections):

5.1 Existing environmental, socio-economic, and other conditions

Atmospheric air, including weather and climate conditions

When preparing the EIA, it is important to conduct a thorough assessment of the current atmospheric conditions at the proposed sites. It is also necessary to evaluate the anticipated impact on atmospheric air, considering background levels of air pollutants, air temperature and wind parameters, types and intensities of atmospheric precipitation, vegetation period, relative humidity, and other relevant conditions as needed.

The Khoiniki District is situated in the southern part of the Gomel Region. The weather conditions in the district are characterised by the following indicators: the coldest month is January (average temperature – -5.8 °C), and the warmest is July (18.5 °C). The highest air temperature recorded is 37 °C, while the lowest is -35 °C.

The average yearly air temperature is 6.8 °C.

The average annual wind rose for the district is shown in Table 5.1.

Table 5.1 – Average Annual Wind Rose

	N	NE	E	SE	S	SW	W	NW	Lull
January	7	4	12	13	18	15	24	7	6
July	16	9	10	6	9	9	25	16	16
Year	11	7	15	12	14	11	20	10	10

The weather conditions in the area are characterised by the following factors: January is the coldest month with an average temperature of -5.7 °C, while July is the warmest (16.9 °C). The highest air temperature recorded is 34 °C, whereas the lowest is -32 °C.

The average early air temperature is 5.9 °C.

The Ostrovets District is situated in the northern part of the Grodno Region.

The average annual wind rose for the district is shown in Table 5.2.

Table 5.2 – Average Annual Wind Rose

	N	NE	E	SE	S	SW	W	NW	Lull
January	5	8	8	10	18	26	18	7	2
July	12	13	7	5	9	18	22	14	5
Year	8	11	9	10	15	20	18	9	3

The Mstislavl District is situated in the northeastern part of the Mogilev Region, within the Orsha-Mogilev elevated plain. The climate is moderately continental. The average yearly temperature is 5.2°C. The coldest month of the year is January, with an average temperature of -7.5°C, while July is the warmest, with an average temperature of +17.4 °C.

The average annual wind rose for the Mstislavl District is shown in Table 5.3.

Table 5.3 – Average Annual Wind Rose

	N	NE	E	SE	S	SW	W	NW	Lull
January	7	5	9	11	20	19	17	12	2
July	12	10	11	8	11	11	18	19	5
Year	9	8	11	13	16	14	16	13	3

The current level of atmospheric air pollution in the areas under consideration meets the sanitary and hygienic requirements of the legislation of the Republic of Belarus.

Land Resources

During the EIA process, the assessment will be conducted based on data regarding the structure and condition of land resources, as well as the types and categories of land.

The analysis shows that implementing the proposed activity will affect the potential of natural resources due to land alienation.

The Khoiniki District is situated near the Polesie Radiation Reserve, which was contaminated with radionuclides and subsequently depopulated following the Chernobyl NPP accident. The district itself is also contaminated with radionuclides. The total land area of the district is 204,368 ha. Of these, agricultural land covers 42,863 ha, including 34,790 ha of arable land, 7,808 ha of meadows (of which 6,116 ha are improved), and 265 ha of land under permanent crops.

The total land area of the Ostrovets District is 157,136 ha. of these, agricultural land covers 57,780 ha, including 39,850 ha of arable land, 17,480 ha of meadows (of which 15,256 ha are improved), and 450 ha of land under permanent crops.

The total land area of the Mstislavl District is 133,011 ha. of these, agricultural land covers 83,896 ha, including 61,610 ha of arable land, 22,000 ha of meadows (of which 10,840 ha are improved), and 286 ha of land under permanent crops.

Water Resources

As part of the EIA, the assessment is planned to be conducted based on water quality indicators and characteristics of surface water bodies and groundwater, depending on their use.

The main rivers in the Khoiniki District are the Pripyat River, the Vit River, and the Turya River. The district includes four reservoirs, lakes, and numerous artificial ponds, such as the Autobazovskoye, ZhBI, "Belaya Baba," and others.

The rivers flowing through the Ostrovets District are transboundary and belong to the Baltic Sea basin. They are part of the Neman River basin. All rivers flow into the main watercourse of the district — the Viliya River, which is the largest tributary of the Neman River.

The main rivers of the Mstislavl District are the Sozh River and its tributaries — the Vikhra, Molotovka, Volches, and others.

Soils

During the EIA process, the assessment is to be conducted using data on the structure of the soil cover, characteristic soil-forming processes, patterns of soil succession, and land degradation processes caused by chemicals and other substances.

Sod-podzolic soils, some of which are waterlogged, are predominant in the Khoiniki District. These soils develop on fluvioglacial sandy and silty loess-like loams. The parent rocks in this district are organogenic and ancient alluvial sands.

The parent rocks of the Ostrovets District are moraine loams and glaciofluvial loams.

The parent rocks of the Mstislavl District are loess-like loams and loess. The entire area of the district is characterised by sod-podzolic soils.

Physical and Geological Conditions

The Ostrovets District is located within the Vileika Lowland, bounded on the west and southwest by the slopes of the Oshmyany Ridge.

Geomorphologically, the territory of the Khoiniki District belongs to the Polesie Lowland. The combination of soil-forming factors and conditions contributes to the development mainly of podzolic, soddy, bog, and solonchak processes, either separately or in combination.

The Mstislavl District is located within the Orsha Depression.

Flora

During the EIA process, the assessment shall include the analysis of species diversity of phytocenoses, the presence of habitats of wild plant species included in the Red Book of the Republic of Belarus, and information on plant objects planned for removal or transplantation, etc.

The Khoiniki District is part of the South Polesie area of the Polesie–Dnieper Region within the subzone of coniferous and broadleaf forests. The main and most diverse tree species include Scots pine, European spruce, pedunculate oak, Norway maple, horse chestnut, European ash, small-leaved lime, black poplar, white poplar, trembling aspen, rowan, and willows, which form the main forest types.

The Ostrovets District is part of the Minsk–Borisov area in the Oshmyany–Minsk Region, located within the subzone of oak and dark-coniferous forests. Vegetation includes forests, meadows, wetlands, and aquatic plants.

The Mstislavl District belongs to the Sozh area of the Orsha–Mogilev Region within the subzone of oak and dark-coniferous forests. Forested areas with diverse vegetation cover more than 15% of the area. More than 20 tree species grow there, including birch, pine, and oak, as well as more than 50 species of shrubs.

Fauna

As part of the EIA, it is planned to evaluate changes in population dynamics and the distribution of wildlife species, as well as their habitats, including species listed in the Red Book of the Republic of Belarus.

A large part of the territories under consideration comprises transformed habitats of different animal and insect species. Insect communities dominate, represented by many widespread species typical of secondary and ruderal ecosystems. The fauna and birdlife in these areas mainly consist of widespread species.

At subsequent stages of research, if updated data reveal the presence of animal or plant species listed in the Red Book of the Republic of Belarus, measures must be put in place to ensure proper handling of such species in accordance with the regulatory and legal requirements of the Republic of Belarus.

Specially protected natural reservations (SPNR)

During the EIA process, an assessment must be conducted that takes into account the protection regime and land use of nearby specially protected natural reservations, areas designated for the identification of such reservations, and territories subject to special protection.

The Khoiniki district hosts the main part of the Polesie State Radiation and Ecological Reserve, established after the Chernobyl Nuclear Power Plant accident. This is a unique area with rich biodiversity, featuring rare and endangered plant and animal species.

The Ostrovets district includes the following protected areas: "Bely Mokh" Republican wetland reserve, "Sorochanskyye Lakes" Republican landscape reserve, "Lake Byk" District landscape reserve, eight hydrological natural monuments of republican significance, three botanical natural monuments of local significance, ten geological natural monuments of local significance, and five geological natural monuments of republican significance.

There are five specially protected natural reservations registered within the Mstislavl district, including "Shyryna and Podrechye" and "Zakruzhye" local hydrological reserves, "Dubrava "Lyutnya" natural monument of republican significance, and "Krynitsa Belkovo" and "Kagalny Well" hydrological natural monuments of local significance.

Socio-Economic and Other Conditions

Demographic indicators most clearly reflect the influence of a combination of socio-economic, natural-climatic, and hereditary-biological factors and serve as a measure of society's overall well-being. Public health and demographic trends represent two sides of the crucial societal processes: economic development, national security, and social stability.

According to the National Statistical Committee of the Republic of Belarus, as of January 1, 2023, the population of the Khoiniki District totalled 18,695 people, comprising 13,248 rural residents and 5,447 urban residents.

As of January 1, 2023, the population of the Ostrovets District totalled 28,706 people, comprising 14,805 rural residents and 13,901 urban residents.

As of January 1, 2023, the population of the Mstislavl District totalled 17,910 people, comprising 7,959 rural residents and 9,951 urban residents.

Depopulation processes, characteristic mainly of rural areas, are clearly evident in the districts under consideration (Khoiniki and Mstislavl).

During EIA preparation, it is planned to update and clarify information on the socio-economic conditions of the districts where the alternative sites are located.

5.2 Preliminary assessment of potential impacts of alternative options for the location and/or implementation of planned economic and other activities on environmental components, socio-economic and other factors

The potential impact of the RWDF on the population and the environment can be divided into two types: radiation and non-radiation impacts.

Non-radiation impact

Atmospheric air

The non-radiation impact of the planned facility on atmospheric air during the implementation of pre-design concepts will be determined by:

– emissions from motor vehicles used for RW transportation;

– emissions of pollutants from auxiliary facilities (such as garages, boiler houses, etc.).

According to the preliminary analysis, the primary noise sources at the RWDF are:

– motor vehicles used for loading and unloading operations, delivering RW, raw materials, and supplies to the RWDF, as well as removing industrial and household waste from the RWDF territory;

– ventilation systems of the RWDF buildings and structures;

– pumps of the wastewater treatment facilities.

Impact on water bodies

Water supply

The following water supply networks are planned:

– utility and drinking water supply;

– industrial water supply;

– fire-fighting water supply.

Wastewater disposal

The planned wastewater disposal networks within the RWDF industrial site are as follows:

– domestic sewage;

– industrial sewage;

– stormwater drainage.

In accordance with the adopted technical solutions, domestic, industrial, and storm wastewater will be treated at wastewater treatment plants. The release of contaminated wastewater into the district's hydrographic network is prohibited at all stages of the facility's lifecycle.

Reusing treated domestic, industrial, and stormwater for technological and firefighting purposes at the RWDF site will reduce the planned facility's water consumption indicators.

Soil cover

The main impact on the soil cover is expected during the construction of the facility and is linked to the allocation of the land plot for implementing pre-design concepts.

During the operation of the RWDF, the following impacts on the soil cover may occur:

– mechanical impact (compaction, drying, formation of dense crusts, littering of soil), which leads to the deterioration of physical (water-thermal and air) and chemical properties;

– chemical impact caused by the release of pollutants into the atmosphere;

– leaks from wastewater collection systems;

– contamination during the handling of industrial waste.

Preliminary analysis suggests that this impact is negligible in both terms of area and severity. At the same time, special measures must be implemented to mitigate potential adverse effects on the soil cover during the operational phase of the RWDF.

Flora

The primary effect on vegetation cover will take place during the construction phase.

The effect might consist of:

removal of trees and shrub vegetation within the designated site.

The impact on vegetation will be significant but limited to the RWDF site area. The effects on rare and endangered plant species, including those listed in the Red Book of the Republic of Belarus, will be determined based on field study results. Overall, the predicted impact on vegetation cover should be considered acceptable, provided that restoration and other environmental protection and compensatory measures are implemented.

Fauna

During the RWDF construction phase, the site will undergo a significant transformation. During the operational phase, the RWDF site will possess very low resource value. Among the species inhabiting the site, only small mammals are likely to persist throughout the operational period; other species will only appear temporarily or occasionally.

During the operational phase of the RWDF, the primary impact factors on fauna outside the site will be:

– habitat reduction in certain areas due to the placement of the RWDF and its structures;
– disturbance factors (noise, vibration, light).

During the operation of the RWDF, no direct impact on fauna within the RWDF site is anticipated. Special measures to minimise potential adverse effects on fauna during the operational period are not necessary. The impact on fauna, both within the RWDF site and outside the industrial area, during the operational phase is considered minimal.

Waste management

During RWDF operations, technological and solid municipal waste will be generated.

The main sources of waste generation during the operational phase include:

– operation of technological equipment;
– lighting of the industrial site and premises;
– daily activities of personnel.

Under normal operating conditions of the RWDF (during air filtration in ventilation systems, dry decontamination of container surfaces, and during maintenance and repair), the facility may also generate its own industrial waste containing artificial radionuclides in quantities that require special handling, regulated by nuclear energy use standards and rules, and mandatory radiation monitoring.

All waste types must be managed strictly in accordance with the requirements of the legislation of the Republic of Belarus and international regulations.

The conditions for generating, collecting, and managing both non-radioactive and radioactive waste during the operation of the RWDF will not cause deterioration of the environmental situation within the industrial site or surrounding areas.

Radiation impact

The potential sources of radiation impact from the RWDF on the population and environment under normal operating conditions include:

– direct gamma radiation emitted by radioactive waste packages;

– releases and discharges of radionuclides into the environment (buffer storage, storage for intermediate-level long-lived and high-level radioactive waste, etc.).

Direct gamma radiation. The current acceptance criteria for radioactive waste intended for disposal allow reducing the radiation exposure risk to the public during normal operation of the RWDF to the generally accepted global level of 1×10^{-6}.

Atmospheric emissions of radionuclides are controlled through an organised discharge system and by applying acceptance criteria for removable (non-fixed) radioactive contamination on the internal and external surfaces of vehicles, transport containers, and workplace surfaces.

The technological and structural measures used in the RWDF project prevent the release of radionuclides into the environment; therefore, radioactive contamination of surface and groundwater is ruled out.

Potential impacts of the RWDF on groundwater may occur in the long term (hundreds to thousands of years) as the disposal system evolves. To mitigate potentially adverse effects, a multifunctional cover system is installed during closure of the RWDF. The construction of this multifunctional cover and the monitoring of its condition (settlement, tilting, displacements, deformations, etc. during the post-closure period) minimise potential negative impacts on the structural elements of the RWDF.

As part of the EIA, the radiation dose rate to living organisms should be conservatively assessed in the immediate vicinity of the RWDF. For environmental impact calculations, the key parameters of very low-level, low-level, and short-lived intermediate-level radioactive waste, as well as the RWDF, are specified. It is assumed that the waste is solidified through cementation and stored in non-retrievable shielding containers. Since the non-retrievable shielding containers is also used as a transport container, it must meet the requirements of GOST R 51824-2001 "Non-retrievable shielding containers for radioactive waste made of concrete-based structural materials," specifically: "the equivalent dose rate at any point on its surface must not exceed 2.0 mSv/h, and at a distance of 1 metre from the surface must not surpass 0.1 mSv/h." To assess the environmental impact during the disposal of very low-level radioactive waste, it was assumed that the waste is placed in barrels and that the shielding layer is 15 cm thick, made of compacted soil. The waste packages contain waste with ^{60}Co and ^{137}Cs, with specific activities within the maximum limits for the respective waste classes, in accordance with the radioactive waste classification criteria.

Adverse environmental impacts at all stages of the RWDF life cycle will be minimised through the implementation of specific environmental protection measures.

The qualitative and quantitative features of the forecasted environmental and living conditions enable the RWDF to be evaluated as an environmentally safe facility.

The new facility will be of great importance for the socio-economic development of the region due to:

– increasing the investment and social appeal of the region, due to a high level of safety and decreased environmental impact on ecosystems and the population (through the use of modern technologies and the adoption of the defence-in-depth concept, based on a system of multiple barriers to prevent the spread of ionising radiation and radioactive substances into the environment);

– creation of additional jobs;

– attraction of investments to the region.

5.3 Proposed measures to prevent, minimise, or compensate for adverse environmental impacts and to enhance socio-economic conditions

To prevent adverse environmental impacts, the following measures must be implemented across all areas of the facility under consideration:

- Timely repair of technological and engineering equipment;
- Restricting the speed of motor vehicles on the site;
- Performing analytical (laboratory) monitoring as per the production monitoring schedule;
- Performing regular radiation monitoring.

The project will provide for low-noise, high-efficiency equipment that is resistant to external influences, ensuring ease of maintenance and a long service life.

As part of measures to protect water bodies during the operational phase of the RWDF, the following activities are planned:

- Use of a recirculating water supply system;
- Monitoring industrial wastewater for radioactive contamination;
- Monitoring leaks, spills, and scatterings;
- Organising regular site clean-ups;
- Using treated wastewater for production purposes;
- Timely repair of road surfaces;
- Storing waste at a designated site equipped in accordance with sanitary regulations;
- Establishing a monitoring system for surface and groundwater;
- Cleaning emissions using efficient dust- and gas-removal equipment, which practically eliminates the presence of specific pollutants in surface runoff;
- Organising the collection and treatment of wastewater contaminated with radioactive substances;
- Managing the collection and treatment of domestic and stormwater at treatment facilities.

To protect groundwater, considering the potential presence of perched water, the following protective measures are provided:

- Waterproofing of underground structures;
- Measures to prevent leaks from water-bearing utilities, such as the installation of specialised utility channels, etc.
- Establishment of a permanent network of monitoring wells for groundwater level monitoring.

A system of engineered barriers is intended to prevent radionuclide migration into the environment in the RWDF area.

To minimise potential negative impacts on soil during the operation of the RWDF, the following measures are provided:

- Ensuring the operation of drainage and water-collection facilities at the RWDF site;
- Using technically sound equipment and employing specialised trays, containers, pallets, and similar tools when handling technological materials;
- Complying with the legislation of the Republic of Belarus on waste management. Waste storage containers must not be overfilled. Their timely removal must be ensured in accordance with the contract concluded with a specialised waste disposal organisation. Discharging oils onto vegetative soil cover is prohibited;
- Observing rules for the safe management of radioactive waste.

During the operational phase, impacts on vegetation are minimised through:

- Movement of vehicles and special machinery strictly along designated roads;
- Maintaining all culverts and drainage facilities in proper working order to prevent flooding and waterlogging of nearby areas.

Measures designed to prevent and reduce the adverse environmental effects of industrial and household waste include:

- Compliance with the requirements, rules, and regulations established by the legislation of the Republic of Belarus in the field of waste management;
- Arrangement for proper waste accounting;
- Arranging waste storage sites in accordance with normative technical and sanitary standards;
- Timely removal of waste to designated locations;
- Ensuring safe conditions for waste transportation;
- Adherence to environmental and sanitary standards during waste storage.

Temporary waste accumulation sites must be designed to prevent contamination of soil, surface water, groundwater, and air.

Measures to minimise adverse effects on surface water and groundwater during the post-operational phase.

Measures to protect engineered barriers from damage during and after RWDF closure:

- Construction of a multifunctional protective cover, consisting of the following layers (from bottom to top):
    - Clay waterproofing layer;
    - Drainage layer (above the clay) composed of a gravel–sand mixture;
    - Protective layer;
    - Local soil;
    - Topsoil.
- Equipping the closed RWDF with warning and marking signs aimed at alerting individuals to radiation in case of accidental intrusion;
- Applying the multifunctional cover technology, which will be specified in the RWDF closure project, ensuring minimal adverse effects on the facility's engineered safety barriers;
- Detecting breaches in the integrity of engineered barriers after closure through indirect indicators without disturbing the barrier system itself involves monitoring groundwater contamination near the RWDF modular structures, as well as observing settling, tilting, displacement, and deformation of the multifunctional cover.

The reliability of the cover is ensured by using natural waterproofing and drainage materials that are highly durable and resistant to long-term degradation. The lifespan of the multifunctional protective cover is maintained through its inherent safety features and does not need intervention by operating personnel.

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5.4 Probable emergency and beyond-design accidental situations. Proposed measures for their prevention, response, and elimination of consequences

A preliminary list of initiating events that could disrupt normal operations at the RWDF has been identified:

- Dropping an RW package during transport and handling operations in any building;
- Equipment failures during the operation of installations;
- Sudden loss of electrical power;
- Human error;
- Fire in any building.

A Radiological Emergency Response Plan will be developed for the facility. This plan will include recovery measures to eliminate the consequences of an accident.

Initiating events for a radiation accident during the operation of the storage facility may include natural disasters such as earthquakes, floods, fires, tornadoes, or unlikely events such as an aircraft crash. Most of the aforementioned events are not associated with radionuclide release into the environment, and the radiation consequences of these accidents remain localised within the storage facility.

As part of research activities, the following accident scenarios will also be considered and assessed:

- Earthquakes exceeding magnitude 7;
- Increase in groundwater levels;
- Unintentional human interference in the disposal system;
- Aircraft crash onto the process building or the disposal structure.

To reduce radiation risks in the event of accidents or failures at the RWDF, criteria for acceptable RW for disposal are established.

Alpha-emitting radionuclides, including transuranic nuclides, have specific activity limits: for ^{235}U – 10^3 Bq/kg, ^{239}Pu – 10^2 Bq/kg, and for ^{137}Cs and ^{90}Sr – limits up to 10^7 Bq/kg.

Limits on the specific activity of RW (total activity of the RW package) containing beta-emitting radionuclides with half-lives under 30 years are related to the potential radiological consequences of RWDF in both design-basis and beyond-design-basis accident scenarios.

5.5 Proposals for a local environment monitoring programme and/or the need for post-project analysis

The purpose of industrial environmental monitoring (control) at the RWDF is to assess the state of the environment, analyse ongoing processes within it, and promptly identify trends in its changes.

During the operation of the facility, strict industrial environmental control (industrial environmental observations) is required, focusing on the following objects:

- Sources of pollutant emissions into the atmosphere;
- Sources of wastewater generation;
- Sources of industrial waste generation;
- Operation of temporary industrial waste storage sites until their removal in accordance with legislative requirements;
- Maintenance of all documentation required by the environmental legislation of the Republic of Belarus.

Systematic industrial radiation monitoring must also be carried out at the RWDF by the radiation safety service. A dosimetric control laboratory is scheduled to monitor environmental factors, or external organisations may be engaged to provide these services.

To ensure environmental parameter monitoring, the laboratory will be equipped with all essential measuring instruments and devices, sampling equipment, consumables, and reagents.

5.6 Assessment of potential transboundary impact

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 is noted in IAEA Publication No. 1449: "No releases of radionuclides, or only very minor releases (such as small amounts of gaseous radionuclides), may be expected during the normal operation of a radioactive waste disposal facility and hence there will not be any significant doses to members of the public. Even in the event of an accident involving the breach of a waste package on the site of a disposal facility, releases are unlikely to have any radiological consequences outside the facility."

In accordance with the siting methodology for RWDF facilities and the design concepts adopted for the proposed activity, only areas are considered where the combination of prohibitive or unfavourable environmental factors in the immediate vicinity of the facility is minimal and strictly controlled. This guarantees the highest ecological safety for the main environmental components in adjacent territories and for the population within the facility's influence area. Therefore, no transboundary impact on the main environmental components of neighbouring states is anticipated. In other words, ecosystem components will not be affected beyond national borders, as substantiated in the RWDF environmental impact assessment, which also considers its transboundary aspects.

However, according to Annex I, Paragraph 3 of the Espoo Convention: "Installations solely designed for the production or enrichment of nuclear fuels, for the reprocessing of irradiated nuclear fuels or for the storage, disposal and processing of radioactive waste," the RWDF is subject to consideration under the Convention.

5.7 Requirements for designing the facility to ensure the environmental safety of planned economic and other activities, considering possible consequences in environmental protection and the rational use of natural resources, as well as related socio-economic impacts and other environmental effects, including those on human health and safety, wildlife, flora, land (including soil), subsoil, atmospheric air, water resources, climate, landscape, specially protected natural reservations, and objects of historical and cultural value, and (if applicable) the interrelationships among these consequences

The conditions for designing the facility are developed to ensure the environmental safety of the proposed activity and include the full scope of all environmental requirements established by regulatory legal acts, including those related to:

- compliance with environmental quality standards and permissible environmental impacts;
- conformity with technical regulatory legal acts in the field of environmental protection;
- decisions concerning the preservation, restoration, and/or enhancement of the environment and the reduction (prevention) of harmful environmental impacts;
- decisions on the application of best available techniques, low-waste, energy- and resource-saving technologies; rational (sustainable) use of natural resources; prevention of accidents and other emergencies;
- justification for developing (or not developing) a set of scientifically based measures to preserve the hydrological regime of the territory;
- measures to prevent or compensate for harmful impacts on wildlife species and their habitats; prevention of harmful effects on plant species and their growing environments, along with their conservation and the implementation of compensatory measures.

The EIA materials must include:

- characteristics of design concepts and possible alternatives for the siting and/or implementation of the proposed activity, including the "zero option" (abandonment of the activity);
- a description of the current condition of environmental components in the areas being considered for the facility's location;
- justification for the preliminary RWDF site;
- justification of the RWDF type and its design;
- a preliminary assessment of the categories, classes, volumes, and total activity of radioactive waste planned for disposal in the selected RWDF option, as well as the expected isotopic composition;
- justification of the types of RW packages planned for disposal, considering the existing RW nomenclature, conditioning methods, and regulatory technical documentation governing RW management;
- data on the maximum capacity of the RWDF under consideration;
- a preliminary assessment of the RWDF's effect on environmental components;
- proposals for organising industrial, environmental, and radiation monitoring at the planned RWDF site;
- a description of potential emergencies and preventative measures;
- preliminary justification for the selected RWDF option;
- assessment of potential transboundary impacts.

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List of References

1. Environmental Rules and Regulations 17.02.06-001-2021 "Environmental Protection and Natural Resource Use. Rules for Conducting Environmental Impact Assessment," approved by Resolution No. 19-T of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus dated December 31, 2021.
2. Radioactive Waste Management Strategy, approved by Resolution No. 128 of the Council of Ministers of the Republic of Belarus dated 15.02.2023;
3. Seventh National Report of the Republic of Belarus on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Minsk, 2020;
4. Plan of Key Organisational Measures for the Construction of a Radioactive Waste Disposal Facility No. 33/213-194/392, approved by P. A. Parkhomchik, Deputy Prime Minister of the Republic of Belarus, dated 29.09.2023;
5. IAEA safety standards series, No. GSG-1: Classification of Radioactive Waste — Safety Guide, Vienna, 2014;
6. IAEA Safety Standards RG-G-1.9: Categorisation of Radioactive Sources, Vienna, 2006;
7. Sanitary Rules and Regulations "Requirements for Ensuring Radiation Safety of Personnel and the Public during Radioactive Waste Management", approved by Resolution No. 142 of the Ministry of Health of the Republic of Belarus dated 31.12.2015;
8. Hygienic Standard "Criteria for Assessing Radiation Impact", approved by Resolution No. 213 of the Ministry of Health of the Republic of Belarus dated 28.12.2012;
9. Nuclear and Radiation Safety Standards and Rules "Safety in Radioactive Waste Management. General Provisions", approved by Resolution No. 47 of the Ministry for Emergency Situations of the Republic of Belarus dated 28.09.2010;
10. Conceptual Design Options Proposed for the Near-Surface Radioactive Waste Disposal Facility at the Belarusian NPP, M.L. Zhemzhurov, D.I. Pavlov, A.M. Zhemzhurov, Radioactive Waste, No. 4 (29), 2024;
11. Hygienic Standard "Criteria for Assessing Radiation Impact", approved by Resolution No. 37 of the Council of Ministers of the Republic of Belarus dated 25.01.2021;
12. Analytical Report on Research Work. Development of proposals for the conceptual design of a radioactive waste disposal (storage) facility (excluding high-level waste) generated during the operation and decommissioning of the Belarusian NPP, based on reference technologies and existing projects. Stage 1. Analysis of whether RW packages received from the NPP meet general acceptance criteria for disposal and specific acceptance criteria for a RWDF, using data on the characteristics and volumes of RW from the Belarusian NPP intended for disposal (storage) at the RWDF, considering NPP decommissioning; justification of RW conditioning methods (selection of container types); justification of RW disposal (storage) methods based on RW characteristics and regulatory requirements for environmental conditions at the RWDF site, using alternative reference technologies and existing projects; justification of technological solutions for RW management at the disposal facility and selection of suitable equipment. Saint Petersburg Branch of Eleron Special Scientific and Production Association Federal Centre of Science and High Technologies JSC, Central Control and Dosimetry Institute 2921, Contract No. 05/16-1 dated 23.05.2016, inventory No. Э16-02614.
13. Construction of a disposal facility for Class 3 and 4 radioactive waste and long-term storage of Class 2 radioactive waste. Feasibility study documentation. Implementation of a series of research and survey work to select priority sites for the location of the radioactive waste disposal facility. Report on the preparation of the consolidated reporting volume for

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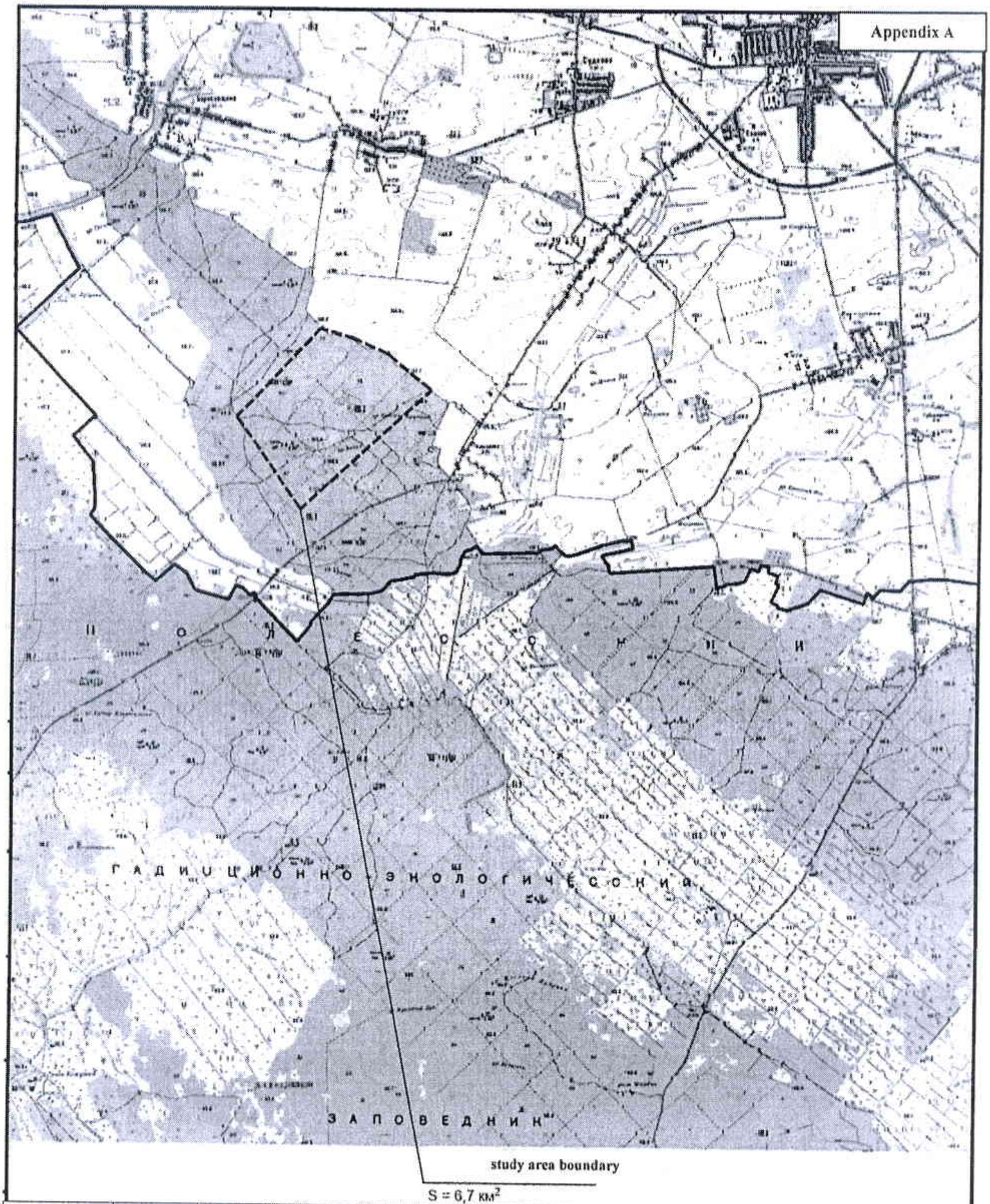
selecting priority sites for the location of a disposal facility for Class 3 and 4 radioactive waste, as well as long-term storage of Class 2 radioactive waste, based on research and survey work conducted by subcontractors and Belnipienergoprom RUE. Comparison of competing sites. Preparation of materials for the meeting of the interdepartmental working group (Final stage)." 2184-ПЗ-ПП2, Volume 4.11.2. Belnipienergoprom RUE, Minsk, 2024;

14. Analytical Report on Research Work. Development of proposals for the conceptual design of a radioactive waste disposal (storage) facility (excluding high-level waste) generated during the operation and decommissioning of the Belarusian NPP, based on reference technologies and existing projects. Stage 4. Identification of the list of possible accidents at the RWDF and emergency response measures. Preliminary assessment of radiation safety for the proposed RWDF design. Justification of safe operating limits for emissions and discharges, as well as their operational limits. Development of proposals for organising the radiation monitoring system and environmental monitoring of the radioactive waste disposal system during operation and after decommissioning. Preparation of a preliminary set of decommissioning measures for the disposal facility. Assessment of overall technical and economic indicators for the entire disposal facility project and its initial phase. Saint Petersburg Branch of Eleron Special Scientific and Production Association Federal Centre of Science and High Technologies JSC, Central Control and Dosimetry Institute 2921, Contract No. 05/16-1 dated 23.05.2016, inventory No. Э16-02614;
15. LEI S/14-I.05.02.02.01.0001/EIAR-DRr/R:5 Laboratory for Nuclear Engineering Issues, Version 5, Issue 1, July 15, 2009. Repository for short-lived very low-level waste. Environmental Impact Assessment Report;
16. Low- and intermediate-level radioactive waste disposal facility in the area of the Leningrad branch of the North-Western Territorial District of RosRAO FSUE. Preliminary environmental impact assessment materials. National Operator for Radioactive Waste Management Federal State Unitary Enterprise (NO RAO FSUE), Moscow, 2013;
17. National Operator for Radioactive Waste Management FSUE. Supporting materials for licences for the operation of the first phase of the stationary facility intended for the disposal of radioactive waste – the near-surface disposal facility for solid radioactive waste, Novouralsk division of Seversk branch (including environmental impact assessment materials). Moscow, 2017;
18. National Operator for Radioactive Waste Management FSUE. Supporting materials for licences for the siting and construction of a near-surface disposal facility for Class 3 and 4 solid radioactive waste, Tomsk Region, Seversk Closed Administrative-Territorial Formation (including environmental impact assessment materials). Moscow, 2018;
19. Construction Standards 2.04.01-2020 "Noise Protection";
20. Sanitary norms and regulations "Requirements for atmospheric air in populated areas and public recreational areas", approved by Resolution No. 141 of the Ministry of Health of the Republic of Belarus dated 30.12.2016;
21. Sanitary norms, rules and hygienic standards "Hygienic requirements for the design and operation of nuclear power plants", approved by Resolution No. 39 of the Ministry of Health of the Republic of Belarus dated 31.03.2010;
22. GOST R 51824-2001 Non-retrievable shielding casks for radioactive waste made of concrete-based structural materials. Adopted and enforced by Resolution No. 457-st of the Russian State Standard dated November 12, 2001;
23. IAEA Publication 1449. Disposal of Radioactive Waste. Specific Safety Requirements. IAEA Safety Standards Series No. SSR-5. Vienna, 2011.

I hereby certify the authenticity of the translation with the original document. Translator V. Podolskaya

Appendix A



						Construction of a Radioactive Waste Disposal and Temporary Storage Facility
Revision	No. of sheets	Page	Document No.	Signature	Date	
Chief Specialist of the Production and Technical Department		Kozhushko		/Signed/	11.25	Appendix to the Environmental Impact Assessment (EIA) Programme — Stage: PPD; Page: ; Total pages: 1
Chief Project Engineer		Yezubchik		/Signed/	11.25	Sketch map of the site location in the Khoiniki District — BELNIPIENERGOPROM RUE, Minsk, Republic of Belarus

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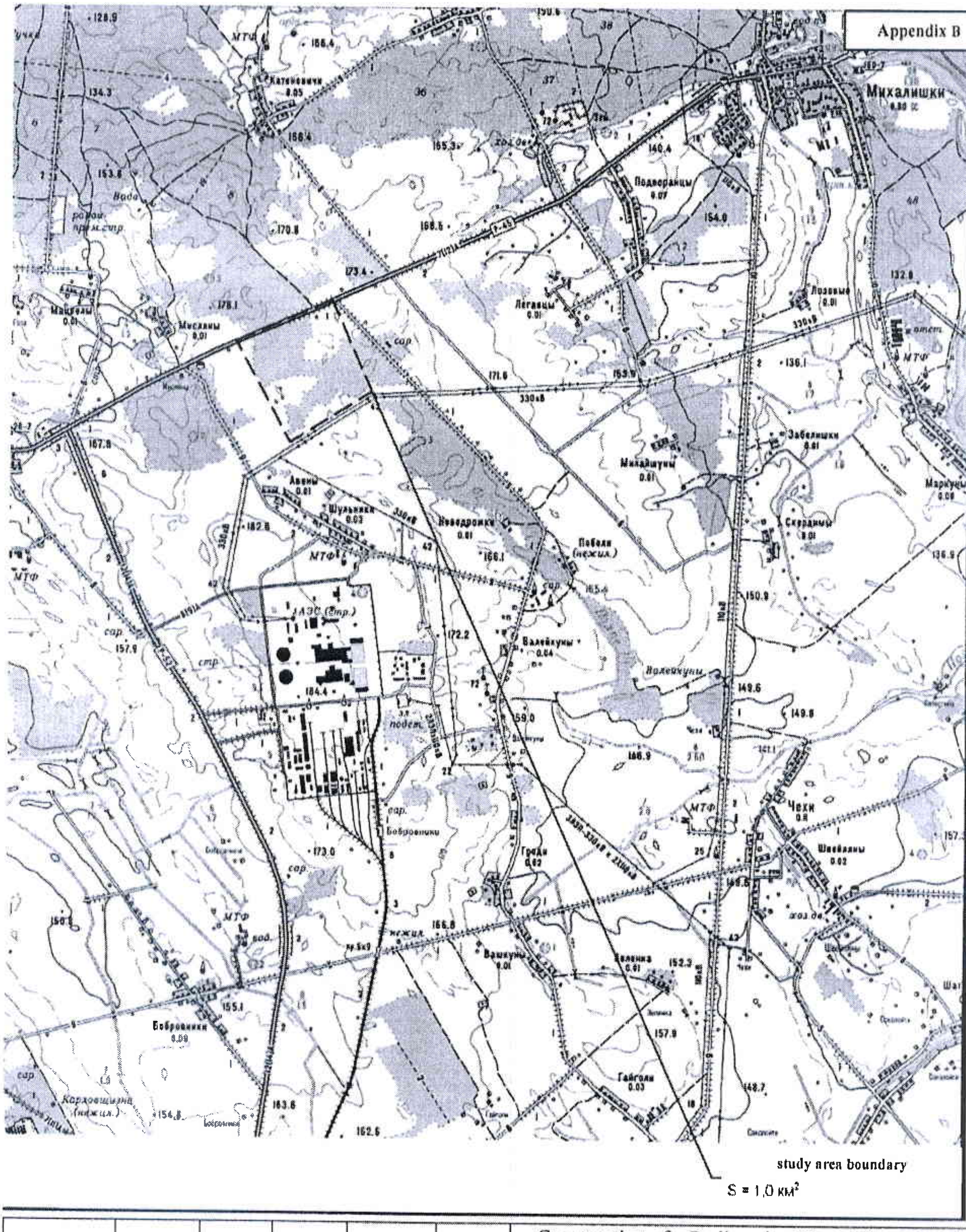
Appendix B



						Construction of a Radioactive Waste Disposal and Temporary Storage Facility			
Revision	No. of sheets	Page	Document No.	Signature	Date				
Chief Specialist of the Production and Technical Department		Kozhushko		/Signed/	11.25	Appendix to the Environmental Impact Assessment (EIA) Programme	Stage	Page	Total pages
							PPD		1
Chief Project Engineer		Yezubchik		/Signed/	11.25	Sketch map of the site location in the Ostrovets District	BELNIPIENERGOPROM RUE Minsk, Republic of Belarus		

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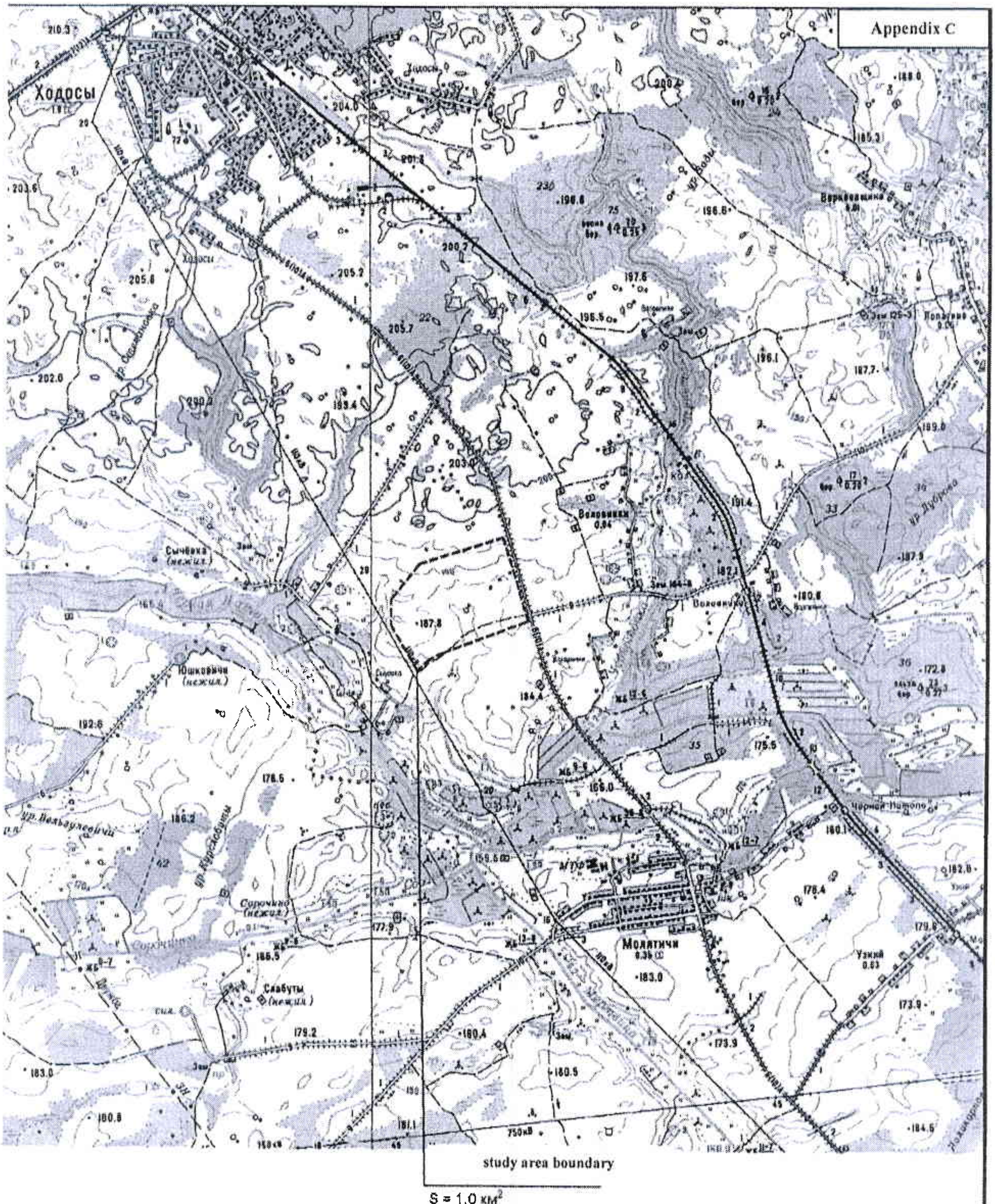
Appendix C



						Construction of a Radioactive Waste Disposal and Temporary Storage Facility			
Revision	No. of sheets	Page	Document No.	Signature	Date				
Chief Specialist of the Production and Technical Department		Kozhushko		/Signed/	11.25	Appendix to the Environmental Impact Assessment (EIA) Programme	Stage	Page	Total pages
							PPD		1
Chief Project Engineer		Yezubchik		/Signed/	11.25	Sketch map of the site location in the Mstislavl District	BELNIPIENERGOPROM RUE Minsk, Republic of Belarus		

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