

## **Research, Development and Establishment Program for a Radioactive Waste Disposal Facility in the Republic of Croatia**

**Mirta Čanak, Andrea Rapić, Josip Lebegner**

Fund for financing the decommissioning of the Krško Nuclear Power Plant and the disposal of  
Krško NPP radioactive waste and spent nuclear fuel  
Ulica Vjekoslava Heinzela 70A, Zagreb, Croatia  
mirta.canak@fond-nek.hr, andrea.rapic@fond-nek.hr, josip.lebegner@fond-nek.hr

**Ozren Larva, Marko Špelić, Marko Budić, Tomislav Kurečić, Josipa Maslač Soldo**

Croatian Geological Survey  
Sachsova 2, 10 000 Zagreb, Croatia  
olarva@hgi-cgs.hr, mspelic@hgi-cgs.hr, mbudic@hgi-cgs.hr, tkurecic@hgi-cgs.hr,  
jmaslac@hgi-cgs.hr

**Dario Perković**

University of Zagreb, Faculty of Mining, Geology, and Petroleum Engineering  
Pierottieva ulica 6, 10 000 Zagreb  
dario.perkovic@rgn.unizg.hr

### **ABSTRACT**

The Research, Development and Establishment Program for a Radioactive Waste Disposal Facility in the Republic of Croatia was commissioned by the Fund for financing the decommissioning of the Krško Nuclear Power Plant and the disposal of radioactive waste and spent nuclear fuel, in accordance with the Bilateral Agreement between Croatia and Slovenia, as well as national strategic and regulatory requirements. The Program was developed by a consortium comprising the Croatian Geological Survey and the University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering.

The Program is based on the disposal of low and intermediate level radioactive waste (LILW) in a near-surface, vault-type disposal facility, combined with the possible disposal of institutional radioactive waste (IRW) in shallow boreholes at the same site. The Program defines disposal concepts, the implementation of research activities in line with the proposed site selection criteria across the Program's implementation phases, and a comprehensive timeline, supported by a simplified stakeholder engagement program and cost estimates.

The implementation of the Program covers all phases of disposal facility development, including research and development, site selection and design, construction, operation, closure, and is planned for the period 2026–2044.

The Program provides a structured and realistic framework for the safe and long-term disposal of radioactive waste in the Republic of Croatia.

**Keywords:** *LILW, IRW, Disposal facility, Implementation phases*

# 1 INTRODUCTION

The Republic of Croatia is obliged to manage radioactive waste and disused radioactive sources that have been generated over many decades from the use of sources of ionising radiation in medicine, industry, science, the military and public applications (institutional radioactive waste, IRW and disused sources, DSRS).

In addition to the aforementioned obligation, the Republic of Croatia is also obliged to dispose of one half of the low and intermediate radioactive waste (LILW) from the Krško Nuclear Power Plant (KNPP), in accordance with the Agreement concluded between the Government of the Republic of Croatia and the Government of the Republic of Slovenia on the settlement of status and other legal relations related to the investment, operation and decommissioning of the Krško Nuclear Power Plant (OG – International Treaties, No. 9/02) (Intergovernmental Agreement). Under the Intergovernmental Agreement, both countries share equal responsibility for the safe disposal of all radioactive waste and spent fuel generated by the KNPP throughout its operational lifetime and during decommissioning. According to the decision of the Intergovernmental Commission from its 13<sup>th</sup> session (held in Bled in 2019), the KNPP LILW must be disposed of separately, with each state disposing of its own half of the waste.

The Krško Nuclear Power Plant, a 696 MWe pressurized water reactor is jointly owned by Hrvatska elektroprivreda and Slovenian GEN Enerģia. KNPP, located in Slovenia, generates and supplies equal shares of electricity to both countries. The KNPP is currently licensed for operation until 2043, with discussions regarding potential life extension underway.

A Research, Development and Establishment Program for a Radioactive Waste Disposal Facility in the Republic of Croatia (Program) [1] was commissioned in response to obligations under EU Council Directive 2011/70/Euratom on the responsible and safe management of spent fuel and radioactive waste, and in alignment with regulatory requirements and strategic documents. The Program was developed by a consortium comprising the Croatian Geological Survey and the University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering.

This paper presents the methodology, and proposed actions of that Program.

## 1.1 Regulatory and Strategic Framework

The legal basis for the Program are defined by the Intergovernmental Agreement, Croatian national legislation including the Radiological and Nuclear Safety Act (OG No. 141/13, 39/15, 130/17, 118/18, 21/22), The Radioactive Waste, Disused Sources and Spent Nuclear Fuel Management Strategy (OG No. 125/14) and the National Program for the Implementation of the Radioactive Waste, Disused Sources and Spent Nuclear Fuel Management Strategy (Program for the period until 2025 with a view until 2060) (OG No. 100/18 and 156/22). In preparing the Program, the guidelines developed for the new Radioactive Waste, Disused Sources, and Spent Nuclear Fuel Management Strategy were also taken into account.

Besides existing national legislation, the development of the Program is based on relevant international conventions regulating nuclear safety and radioactive waste management and guidelines, particularly safety standards and technical guidelines issued by the International Atomic Energy Agency (IAEA) [2, 3, 4, 5, 6, 7, 8].

## 1.2 Waste Inventory and Disposal Concepts

The waste inventory for the Program comprises the KNPP LILW inventory as defined in the Baseline Case Scenario, assuming KNPP shutdown in 2043 as well as IRW and DSRS inventories as defined in the Conceptual Design for the Radioactive Waste Management Centre [9].

The expected quantities of LILW from KNPP are 4,271 tonnes (2,254 m<sup>3</sup>) [10]. In the Ruđer Bošković Institute and Institute for Medical Research and Occupational Medicine internal storages

there are 11.34 m<sup>3</sup> of IRW and DSRS, of which 3.81 m<sup>3</sup> is long-lived waste. The total amount of IRW is not yet fully known, but will not exceed 100 m<sup>3</sup>.

The Program is based on a near-surface, vault-type disposal facility concept for disposal of LILW and short lived IRW, combined with the possible disposal of long-lived IRW and DSRS in shallow boreholes at the same site in accordance with the guidelines developed for the new Strategy and National Program.

Considering the characteristics of the expected inventory and disposal containers, as well as the inputs from strategic documents, the Program analysed possible conceptual solutions for the LILW repository. Generally, the design of most LILW repository concepts relies on waste packaging, solidification and large quantities of concrete to ensure the repository's long-term performance. LILW repository may be located above or below ground. To contain the waste in the repository, in addition to the primary container and the concrete repository unit, the following systems may be applied:

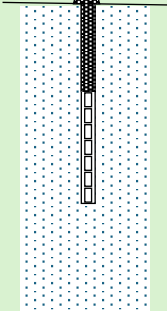
- seal layer (a leak-resistant layer below the repository)
- drainage layer (for rainwater – above the repository and for leachate control – below the repository)
- vegetated soil cover (recultivation layer) above the repository.

Systems of multiple engineered barriers in the bottom system of protective layers (BSPL) and the covering (top) system of protective layers (TSPL), are designed to ensure the long-term retention of radionuclides from LILW [1], [2] [11].

After analysing the available near-surface concepts as shown in Table 1, concepts K3a and K3b were proposed, with preference given to concept K3b due to its greater safety.

Table 1. Disposal concepts for LILW repositories

Indicator	CONCEPT	SHEMATICS
K1	Surface concrete vault above ground (modular) Waste is in closed concrete vault, covered with selected protective layers.	
K2	Near-surface closed concrete vault below ground (modular). Waste is in closed concrete vault, covered with selected protective layers.	
K3a	Surface concrete vault above ground (modular) Waste is in closed concrete vault, with selected dual protective layers.	
K3b	Near-surface closed concrete vault below ground (modular). Waste is in closed concrete vault, with selected dual protective layers.	
K4	Deeper concrete vault below ground (modular). Waste is in closed concrete, covered with selected protective layers.	

Indicator	CONCEPT	SCHEMATICS
K5pb	Shallow borehole	

The IRW and DSRS containing long-lived radionuclides are recommended for disposal at greater depths. Since those IRW and DSRS represent only small part of the inventory for which the type of disposal container has not yet been defined, two generic shallow-borehole concept [3] have been considered for the Program requirement. Both concepts have an outer diameter of 1 m and, after insertion of the protective casing, an inner diameter of approximately 0.8 m. Both concepts are sealed with a cement plug. KPB-01 is 50 m deep and KPB-02 is 28 m deep.

Such generic models will require lengthy testing of technologies, materials and their interactions, and therefore the decision on the preliminary selection of the repository concept must be made at the very outset of the Program.

## 2 SITE SELECTION CRITERIA

The history of selecting the site for the LILW repository in Croatia began in the 1980s in the former Yugoslavia. In 1992 adopted was Conclusion on establishing criteria for the selection of locations for thermal power plants and nuclear facilities that included the criteria for siting of a LILW repository. Based on these criteria and in accordance with the methodology recommended at the time, a site selection process was carried out, resulting in the proposal of the Trgovska Gora site in 1998.

For the purposes of this Program, a new set of siting criteria for a radioactive waste repository was proposed in 2025 [12], relying on IAEA recommendations [5], [6] and the experience of countries with advanced radioactive waste disposal programs. It comprises more than 80 individual criteria, organise into three main groups:

- **Geological criteria - Processes, Properties and Hazards;** focusing on long-term stability, geological, hydrogeological and hydrological conditions;
- **Exploitation of Natural Resource and Possible Anthropogenic Factors,** addressing potential human intrusion and competing land uses;
- **Environmental and societal criteria,** considering population, infrastructure, environmental protection, and public acceptance.

The criteria are divided into exclusionary and comparative criteria.

Exclusionary criteria are applied to exclude all unfavourable areas, locations or pathways that could hinder the future repository, pose a risk or reduce safety; or those that the future repository might threaten, preventing their use or development. These criteria are used to reject sites that are unacceptable based on characteristics relating to surface and subsurface issues, events, phenomena or hazards for which no feasible engineering solutions exist.

Comparative criteria are applied to compare and evaluate potential areas or sites, or to identify problems that can be mitigated. Comparative criteria provide the basis for comparing potential areas or sites. In line with the IAEA Safety Guide [5], these criteria are further divided into discretionary criteria, describing site-specific characteristics, and ranking criteria, used for comparative evaluation.

The criteria are applied progressively through multiple siting phases as described in the following chapter.

### 3 PROGRAM PHASES AND TIMEFRAME

The Program timeframe is defined by the following main phases:

- research and development,
- design and site selection,
- repository construction,
- operation,
- closure and
- post-closure monitoring.

The **research and development phase** focuses on technology development, waste characterisation, geological investigations, and safety assessment methodologies. The **design and site selection phase** includes identification and evaluation of suitable locations, development of repository concepts, environmental impact assessment, and preparation of safety cases. Subsequent phases encompass **construction, waste emplacement and operation, closure activities, and long-term monitoring** to ensure continued safety and containment. Figure 1 presents the lifecycle of a generic repository program and the associated design phases (technical solutions of the repository project), aligned with the program’s indicative key milestones.

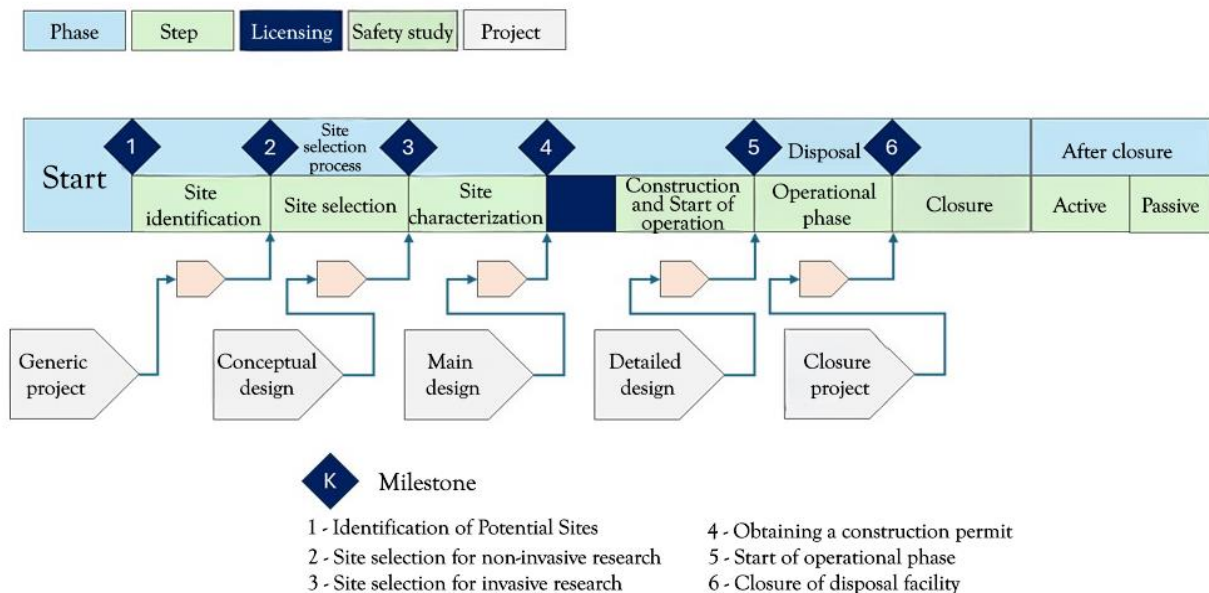


Figure 1. The lifecycle of a generic repository program and the associated design phases aligned with the program’s indicative key milestones [1]

The site selection process follows a stepwise approach, progressing from identification of suitable regions to potential areas, potential sites, preferred sites, and finally the selection and confirmation of the host location. A voluntary approach is proposed, whereby local communities may express interest in hosting the facility. This approach is considered more effective than top-down decision-making in terms of public acceptance and Program success.

The implementation of the Program is closely linked to regulatory requirements, including environmental impact assessment (EIA) and licensing procedures. A Strategic Environmental Assessment (SEA) will be conducted during Program development, followed by EIA procedures for specific site and disposal design. The safety case represents a central element throughout all phases, providing a comprehensive demonstration of repository safety during operation and after closure, and serving as the basis for regulatory approval.



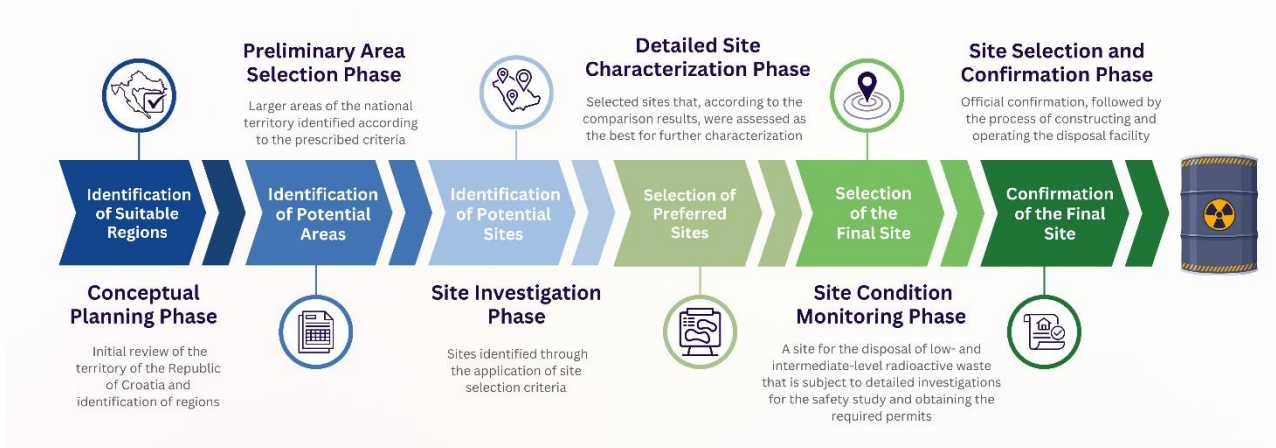


Figure 3. Main phases of the repository site selection process [1]

The site selection methodology combines desk-based (GIS-supported) and field investigations. The initial phases rely exclusively on desk studies, involving spatial analysis, application of exclusion criteria, and development of suitability maps. Field investigations are introduced in later phases and include geological mapping, geophysical surveys, hydrogeological investigation and testing, and laboratory analyses, thereby increasing the level of site characterisation and reliability of the assessment.

A dedicated WebGIS platform is developed to support data integration, analysis, and visualisation. The platform enables spatial analysis, layer overlay, filtering by criteria, and transparent presentation of results. It is accessible to project stakeholders and institutions, while a public version ensures transparency of the process.

In early phases of the site selection process, exclusion criteria are applied to eliminate unsuitable areas, while later stages involve comparative evaluation using ranking criteria. The overall duration of the process is estimated at approximately ten years, including data collection, analysis, field investigations, reporting, and review processes.

#### 4.1. Initial Screening of the Territory of the Republic of Croatia

The initial phase consists of a desk-based analysis of available geological, hydrogeological, spatial, environmental, and socio-economic data. The objective is to identify regions suitable for further consideration and to eliminate unsuitable areas by applying exclusion criteria from geological, and environmental and societal criteria groups.

All relevant datasets are integrated into a unified, user-friendly database, enabling efficient data retrieval and analysis. In parallel, a WebGIS platform is developed to support spatial analysis and visualisation. Automated or semi-automated processing methods are recommended to ensure objectivity and reproducibility.

The output of this phase is the delineation of regions that meet minimum suitability requirements and form the basis for further analysis. Results are documented through GIS-based maps and a comprehensive report.

#### 4.2. Screening of Suitable Regions down to the Level of Potential Areas

The second phase involves a more detailed desk-based evaluation of regions identified in the initial screening. The objective is to define smaller potential areas (typically 200–1,000 km<sup>2</sup>) suitable for further investigation.

The analysis is conducted in a GIS environment using updated datasets and consistent application of exclusion criteria. Spatial indicators of suitability are developed for each region, and

areas not meeting the criteria are systematically excluded. The process is preferably automated to ensure consistency and reduce subjectivity.

Key criteria remain focused on geological stability (fault zones, seismicity), hydrogeological protection, and environmental constraints, but are analysed at a higher spatial resolution. The results include maps of potential areas, supported by detailed spatial datasets and documentation, and are made available through the WebGIS platform.

### 4.3. Identification of Potential Sites within Potential Areas

This phase focuses on the identification of potential sites suitable for further investigation and potential repository development. The analysis is performed at a smaller scale, with higher data resolution and the inclusion of targeted field investigations.

Potential sites are defined as sub-areas within potential areas that demonstrate higher suitability based on the applied selection criteria. The expected size of individual sites ranges from approximately 2 to 20 km<sup>2</sup>, depending on geological homogeneity and spatial configuration.

This phase marks the transition from predominantly desk-based and GIS analyses to an integrated approach that includes fieldwork. Investigations comprise geological, seismic, neotectonic, geomorphological, geotechnical, geomechanical, and hydrogeological studies. Particular emphasis is placed on defining the geometry and quality of the host rock through the integration of geological mapping, geophysical surveys, and borehole data. Sites that do not meet the required criteria in terms of extent, thickness, or quality of the host rock are excluded from further consideration.

Additional factors include the assessment of natural resource potential, existing and planned infrastructure, environmental constraints, and land availability. Locations lacking sufficient available land or presenting significant environmental limitations are also excluded.

The analysis relies on the integration of existing spatial datasets and newly acquired field data within a GIS environment, ensuring a high level of reliability. The main output of this phase is a spatially and numerically defined inventory of potential sites, including their boundaries, surface area, and associated attributes for all relevant criteria. This inventory forms the basis for subsequent detailed investigations and engineering design.

The evaluation is based on a multi-criteria approach, including:

- **geological stability and hazards** (e.g., erosion, neotectonics, seismicity),
- **hydrogeological conditions** (e.g., groundwater flow, hydraulic conductivity, residence time),
- **hydro-meteorological hazards** (e.g., extreme precipitation),
- **host rock geometry and properties,**
- **geomechanical stability,**
- **potential for resource exploitation, and**
- **environmental and land-use constraints.**

### 4.4. Selection of Candidate Sites

This phase represents a critical step in the site selection process, focusing on the comprehensive evaluation and ranking of all previously identified potential sites. It integrates all available data from earlier stages with newly acquired geological, hydrogeological, geotechnical, seismic, environmental, and socio-economic information into a unified GIS-based assessment framework.

All datasets are systematically organized in a database, and for each candidate site a criteria matrix is developed to enable qualitative and quantitative comparison. Based on this multi-criteria analysis, sites are ranked according to their overall suitability.

The main objective is to identify two to three preferred sites that demonstrate the highest performance across all criteria. These sites are then subjected to additional, detailed investigations, including numerical modelling of geological and hydrogeological conditions, radionuclide transport simulations, and probabilistic assessment of potential adverse events.

The evaluation framework encompasses several key groups of criteria:

- **Geological and geodynamic conditions**, including erosion, neotectonics, and seismicity;
- **Hydrogeological characteristics**, such as groundwater flow, hydraulic properties, and aquifer protection;
- **Hydrological and meteorological hazards**, including flooding and extreme weather events;
- **Engineering and geomechanical properties** of the host rock and surface materials;
- **Mineralogical and geochemical properties**, particularly radionuclide retention capacity;
- **Natural resource potential and anthropogenic impacts**;
- **Environmental and socio-economic factors**, including population, infrastructure, and land use;
- **Transport, logistics, and safety considerations**, including risk assessments and emergency response capacity.

The output of this phase is a ranked shortlist of candidate sites supported by a robust, multidisciplinary analysis, forming the basis for further detailed investigations and final site selection.

#### **4.5. Final site selection for repository construction**

In the final phase of the site selection process, an integrated assessment of all previously analysed criteria is performed to identify the optimal location for the LILW repository. Based on comprehensive field, geological, hydrogeological, geotechnical, seismic, environmental, spatial planning, and socio-economic investigations, a comparative evaluation of the two leading candidate sites is carried out.

The selection relies on a multi-criteria analysis that prioritizes long-term safety, stability, and sustainability, while minimizing risks to the population and the environment. The output a justified proposal of the preferred location, supported by recommendations for additional investigations required for safety assessment, environmental impact studies, and permitting procedures.

In parallel with technical analyses, stakeholder engagement and communication with local communities play a key role in ensuring transparency and public acceptance. The final site is formally proposed to the competent authorities, marking the completion of the selection process and the transition to detailed design and licensing stages.

## **5 STAKEHOLDER ENGAGEMENT PROGRAM**

The Program provides the framework for developing a comprehensive Stakeholder Engagement Program, where it is crucial that planned activities are linked to the planned stakeholder involvement in the RD&D Program for the joint SNF and HLW Disposal in Deep Geological Repository in the Republic of Croatia or Slovenia [13], as well as with Radioactive Waste Management Centre stakeholder communication program.

As a first step, the main stakeholders (internal who participate in direct decision-making and external who are directly or emotionally "affected" by the potential outcomes) have been identified and analysed. Levels of awareness, knowledge, education and competence are important characteristics of stakeholders. Stakeholder management follows a differentiated engagement approach based on levels of interest and influence. Stakeholders with low interest and low influence require only monitoring. Those with high interest but limited influence should be kept well informed, while stakeholders with high influence but low interest should be actively managed and kept satisfied through targeted communication. Stakeholders with both high interest and high influence require continuous, structured engagement, with close attention to expectations and concerns. Stakeholder education is of paramount importance, but communication with stakeholders should involve dialogue rather than merely conveying information and/or knowledge.

The intensity of stakeholder engagement varies across the different phases of the Program's implementation, being most intense during the selection of the LILW repository site (Figure 4).

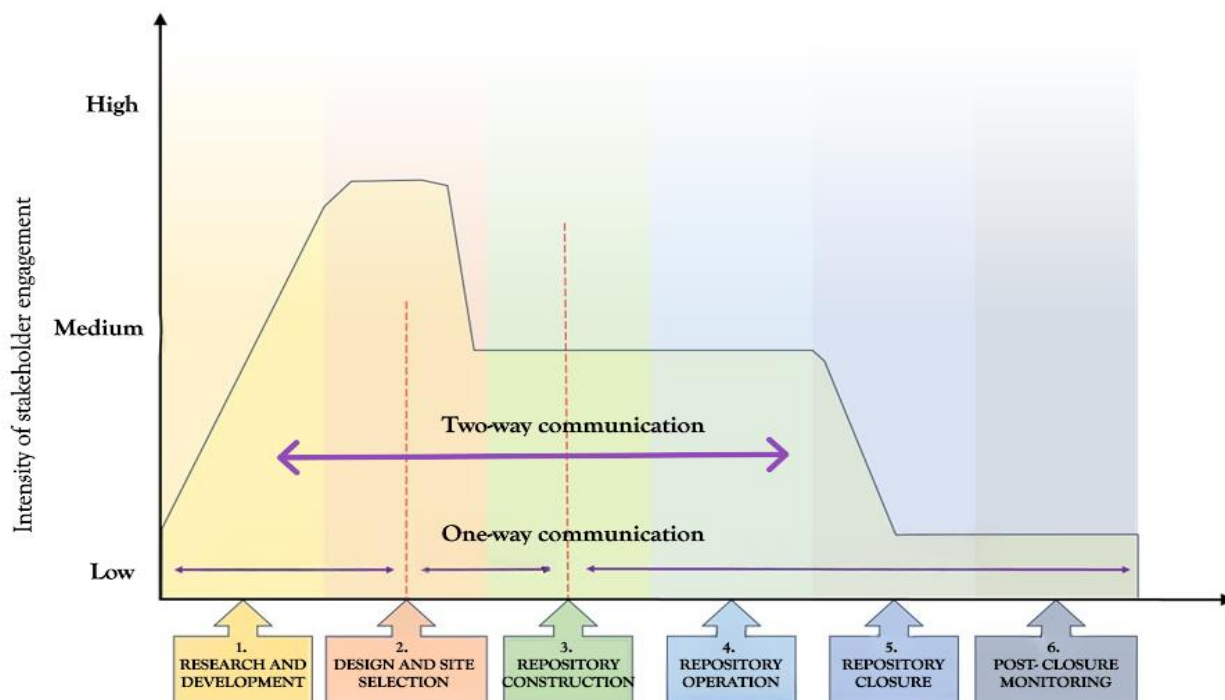


Figure 4. Intensity of stakeholder engagement by phase of Program implementation [1]

In the research and development phase, basic activities are carried out, related to initiating communication and preparing materials, as well as the launch of educational programs (Train the trainer).

The most active phase in terms of communication is the Design and Site Selection Phase (planned from 2033 to 2047). Communication with stakeholders in this phase is, unlike in the previous one, distinctly two-way, which is particularly important given that sending invitations to volunteer municipalities is proposed. Educational programs also continue with implementation in schools and universities.

For the Repository Construction Phase, as well as Operation Phase, a gradual reduction in communication activities is envisaged. In the Repository Closure Phase, emphasis is placed on repository safety and the quality of the protective systems.

In general, it should be emphasised that presenting the environmental impact assessment and the safety assessment to interested stakeholders is extremely important for communication [7].

## 6 PROGRAM COST ESTIMATES

The cost estimate is presented by phases of Program implementation, from the preparatory phase to the final confirmation of the repository site. The estimated costs include the costs of implementing the site selection process; acquiring existing data, maps and other background materials necessary for the implementation of the Program; research and preparation of studies, maps and other documents and materials related to the site selection; developing a GIS system for data visualisation and a WEB GIS; preparing the Stakeholder Engagement Program and similar documents, including their revisions and improvements; implementing planned stakeholder activities, as well as the costs related to legal matters, banking costs, etc. The gross salary costs of the Fund's staff are excluded from the assessment. The costs include adjustments in line with the EU inflation rate, calculated every

three years [8]. The risks, uncertainties and contingency have been assessed in line with the IAEA recommendations and Fourth revision of the Krško NPP Disposal Program [10].

For the financial calculation, the individual cost items were further defined as time dependent and time independent services; stakeholder engagements, investments, value added tax (VAT), contingencies and risks.

The total costs without contingency are estimated at EUR 23.4 million (without VAT). Contingency has been estimated at lower, middle and upper levels, and adds a further EUR 0.7 to EUR 3 million to the total cost.

## 7 CONCLUSIONS

The Program was developed to support continuation of LILW management activities in the Republic of Croatia, in accordance with the implementation of the provisions prescribed by Council Directive 2011/70/Euratom. Six phases of the development of the LILW repository, i.e. the implementation of the Program, have been proposed (research and development, design and site selection, repository construction, operation, closure and post-closure monitoring), some of which overlap in time. The most intensive phase is design and site selection, which includes the selection of the LILW repository site through six implementation steps from initial screening through to final site confirmation. The Program defines the research works, detailed activities, costs and the level of stakeholder engagement for each implementation step. The Program provides opportunities for local municipalities to volunteer to host a repository on their territory (after the screening of potential areas and after the identification of potential sites). The output of the call to municipalities may determine the further course and possible adjustments of the Program.

Cooperation between the regulatory body and the implementer will need to be continuous and intensive from the very beginning. To implement the Program, it is necessary to amend/update existing and develop new regulations and guidelines.

## REFERENCES

- [1] O. Larva, Ž. Veinović, M. Špelić, M. Budić, T. Kurečić, D. Perković, Program istraživanja, razvoja i uspostave odlagališta radioaktivnog otpada u Republici Hrvatskoj (R&D Program), Hrvatski geološki institut; Sveučilište u Zagrebu Rudarsko-geološko-naftni fakultet, 2026
- [2] Long Term Behaviour of Low and Intermediate Level Waste Packages under Repository Conditions, IAEA-TECDOC-1397, IAEA, Vienna, 2024
- [3] Borehole Disposal Facilities for Radioactive Waste, IAEA Safety Standards Series No. SSG-1, IAEA, Vienna, 2009
- [4] Design Principles and Approaches for Radioactive Waste Repositories, IAEA Nuclear Energy Series No. NW-T-1.27, IAEA, Vienna, 2020
- [5] Site Survey and Site Selection for Nuclear Installations, IAEA Specific Safety Guide No. SSG-35, IAEA, Vienna, 2015
- [6] The Management of Site Investigations for Radioactive Waste Disposal Facilities, IAEA Nuclear Energy Series No. NW-T-1.40, IAEA, Vienna, 2022.
- [7] Communication and Stakeholder Involvement in Radioactive Waste Disposal, IAEA Nuclear Energy Series No. NW-T-1.16, IAEA, Vienna, 2022.

- [8] Costing Methods and Funding Schemes for Radioactive Waste Disposal Programs, IAEA Nuclear Energy Series No. NW-T-1.25, IAEA, Vienna, 2020
- [9] Idejni projekt, Izgradnja Centra za zbrinjavanje radioaktivnog otpada, EKONERG d.o.o., ožujak 2026.
- [10] ARAO & FUND, Fourth revision of the Krško NPP Radioactive Waste and Spent Nuclear Fuel Disposal Program (Document unpublished at the time of the article submission), 2025
- [11] Veinović, Ž., Vučenović, H., Rožman, I. and Uroić, G., Improved conceptual design of LILW repository, RGN zbornik, RGN fakultet, 2023
- [12] O. Larva, Ž. Veinović, M. Špelić, M. Budić, J. Maslač Soldo, D. Perković, Definiranje smjernica za razvoj kriterija za odabir lokacije odlagališta radioaktivnog otpada, Hrvatski geološki institut; Sveučilište u Zagrebu Rudarsko-geološko-naftni fakultet, 2025
- [13] O. Larva, Ž. Veinović, M. Špelić, M. Budić, I. Mišur, T. Kurečić, M. Horvat, J. Maslač, D. Perković, J. Parlov, D. Pek Drapal, M. Drevenšek, K. Fifer Bizjak, S. Lenart, P. Žvanut, A. Geršak, J. Atanackov, E. Mencin Gale, A. Novak, K. Hrdličková, P. Hanžl, V. Cígler, J. Urík, RD&D Program for joint SF and HLW Disposal in Deep Geological Repository in RC or in RS, Croatian Geological Survey; Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb; Consensus d.o.o.; Slovenian National Building and Civil Engineering Institute; Geological Survey of Slovenia; Czech Geological Survey, 2024