Annex 1: Recommendations by the Advisory Board

WORKING TRANSLATION

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Collection of Recommendations

The Austrian Board for Radioactive Waste Management submits the following recommendations to the Austrian Federal Government for implementation:

Overarching Recommendations

Recommendation I - Continuity of the Advisory Board

Observation: The National Waste Management Programme stipulates the establishment of the Advisory Board for the implementation of the programme. In order to ensure the necessary adaptations and updates to the processes that deal with the issues and open questions relating to the disposal of radioactive waste, it is advisable to continue this work after the recommendations have been handed over.

Recommendation: The continuity of the Advisory Board is to be ensured so that the work can be carried out seamlessly and without loss of knowledge.

Recommendation II - Define Competences / Distribution of Roles for the Concept Phase

Observation: At the beginning of Phase 1 (concepts for disposal), the timetable and roadmap foresee a clarification of the organisational structure for the process of finding a final repository by the end of 2027 at the latest.

Recommendation: The competences, tasks and responsibilities for the process of finding a final repository, especially for the concept phase, should be regulated quickly:

- Project organisers for planning and construction
- Public bodies required by law: adaptations to the scope of their duties may be necessary
- “Coordinating Project Team” for public participation in the concept phase (see Recommendation 3.5)
- Accompanying committees (see Recommendation 3.7)
- Responsible parties for the development of the site selection procedure

The competence and independence of the above-mentioned actors in the process of finding a final repository should be guaranteed in order to ensure trust in the process.

Recommendation III - Urgent First Steps to Draft a Generic Site Selection Procedure

Observation: The site selection procedure is the centrepiece of the search for a final repository site. Therefore, a generic structure for the site selection procedure is to be developed at an early stage (generic means that the type of disposal facility has not yet been determined). This generic structure shall serve as the basis for a participation process. At the end of this participation process, a draft of a generic site selection procedure will be available.

Recommendation: In order to comply with the timetable and roadmap and to ensure effective participation, the generic site selection procedure is to be developed, considering participation of the public, by the end of 2027.

Recommendation IV - Development of a Research Programme

Observation: In Austria there is no research programme that comprehensively deals with all aspects of disposal. To date, no resources and funds have been earmarked for this in the existing research areas and budgets. The content of such a research programme can be determined on the basis of the results of a gap analysis. In this context, statements should also be made on the scope, duration, costs and implementation of the research programme. Public participation is also an important aspect here.

Recommendation: A research programme to support the safe disposal of Austrian radioactive waste should be developed on the basis of the results of the gap analysis.

Task 1: Radioactive Waste in Austria: Examination of the Status Quo

Recommendation 1.1 – Waste Prevention Strategy

Observation: The volume of waste in Austria is low, especially in comparison with countries that operate nuclear power plants or other nuclear fuel cycle facilities. Moreover, all waste is classified as low and intermediate level radioactive waste. In Austria, no spent fuel or high level radioactive waste needs to be disposed. Since the Austrian citizens voted against the peaceful use of nuclear energy in Austria in a referendum and a constitutional law prohibits the use of nuclear power for energy generation, this is unlikely to change in the foreseeable future. One research reactor is currently in operation, the fuel elements of which are to be returned to the USA without exception.

Recommendation: It must be ensured also for the future that neither high level radioactive waste nor spent fuel elements require disposal in Austria.

Recommendation 1.2 – Clearance of Radioactive Materials

Observation: The clearance of decayed radioactive waste temporarily stored at Nuclear Engineering Seibersdorf GmbH (NES) shows great potential for waste minimisation (up to 5,000 drums or approximately 30 % of the maximum inventory forecast for 2045). As a result, the amount of radioactive waste can be further reduced, financial savings can be realised and burdens on future generations can be minimised.

Recommendation: In the further planning of radioactive waste management, the possibility of waste minimisation through clearance of decayed radioactive material is to be considered to the greatest extent possible. The future project promoter or Nuclear Engineering Seibersdorf GmbH should be commissioned to investigate the implementation of the clearance process.

Task 2: Analysis of the Options for Final Disposal

Recommendation 2.1 - Safety Criteria for a Final Repository - Radiological Aspects

Observation: Establishing the safety criteria for the final repository is an important step that will have an impact on the safety level of the repository and the protection of people and the environment for centuries and beyond. Both the choice of repository type and the costs of construction and operation can be significantly influenced by the safety criteria.

Recommendation: The principle of precaution should be the guiding principle of the safety criteria. The radiological safety criteria for the final repository are to follow the highest international standards. For final disposal abroad, only options that definitely meet the Austrian standards are to be considered.

Recommendation 2.2 – Safety Objectives for a Final Repository

Observation: The Radiation Protection Act 2020 aims to protect individuals, including their offspring, as well as the environment, with a focus on the long-term protection of human health against the dangers of ionising radiation. However, the Austrian radioactive waste may pose a risk not only due to its ionising radiation, but also due to its chemotoxic properties.

Recommendations: A future law on final disposal must be given a comprehensive protection objective beyond the radiological protection objective, so that negative effects of the deposition of waste on

a) humans and biodiversity, including animals, plants and their habitats
b) land and soil, water, air and climate
c) the landscape and
d) property and cultural assets and all associated risks

are avoided or minimised as much as possible.

Recommendation 2.3 – Options for Disposal Facilities

Observation: Based on the discussions of the Advisory Board, the following options for the disposal of the Austrian radioactive waste are feasible, each with specific advantages and disadvantages:

Table 1: Advantages and disadvantages of the disposal options.

Option	Advantages	Disadvantages
a.) **LILW-SL: Cat. A repository** **and** **LILW-LL: bilateral/international solution abroad**	Lower costs Lower geological requirements Faster procedure and construction	Export politically sensitive Higher risk of export failure Greater uncertainty for the entire solution
b.) **LILW-SL: Cat. A repository** **and** **LILW-LL: Borehole solution**	Lower costs Lower geological requirements Faster procedure and construction	Technical feasibility of borehole disposal not well tested Greater uncertainty for the entire solution
c.) **LILW-SL and LILW-LL together in Cat. B or Cat. A+ repository**	Immediate start of implementation possible Higher safety level for LILW-SL and LL and chemically not fully characterisable wastes with potentially chemically hazardous properties	Higher costs More difficult site selection Longer construction and storage time for all radioactive waste

Recommendation: One of the following options is to be implemented after evaluation:

Option a.) Disposal of LILW-SL in Austria in a Cat. A repository, striving for a bilateral or international solution for disposal of LILW-LL abroad.

Option b.) Disposal of LILW-SL in Austria in a Cat. A repository, disposal of LILW-LL by means of a borehole solution.

Option c.) Joint disposal of LILW-SL and LILW-LL in Austria in a Cat. B or Cat. A+ repository.

Recommendation 2.4 - International Cooperation

Observation: International cooperation on disposal issues, such as the ERDO Association, provide a platform for knowledge exchange and acquisition. Through Austria's participation in the ERDO Association or other organisations and research programmes Austria's interests can be represented and issues and priorities promoted accordingly.

Recommendation: Irrespective of the final repository solution chosen, international cooperation and exchange of knowledge are essential. Participation in international collaborations should be sought.

Recommendation 2.5 - Disposal Act

Observation The legal provisions relating to disposal are currently not sufficiently covered by the Radiation Protection Act 2020. New content to be created concerns the safety of the repository, the site selection procedure and the participation processes as well as the definition of responsibilities (Disposal Act).

Recommendation: A Disposal Act is to be created as a legal basis for specific concerns and a clear, binding and predictable process (including safety standards, participation and decision-making processes) for the disposal of Austrian radioactive waste. Social and scientific site criteria, which act as exclusion and consideration criteria, should be anchored with equal importance in the new Disposal Act.

Task 3: Framework for Public Participation

Recommendation 3.1 - Implementation of the Participation Concept

Observation: Participation is a key factor in ensuring the acceptance of decisions. It provides the opportunity to contribute various experiences and requirements. The participation concept shows how the public is informed and involved in discussions and decisions. The participation concept provides the basis for further recommendations on transparency and stakeholder involvement throughout all stages of radioactive waste management.

Recommendation: The participation concept is to be implemented in order to ensure effective participation.

Recommendation 3.2 - Integration of Transparency and Participation as Guiding Principles in Political and Administrative Processes

Observation: Participation is a socially significant and effective communicative and political process. It includes providing information and involving people in discussions and decisions, as well as taking the results into account. As a structuring element and for increasing process quality, the concept of the policy cycle and the principles of good governance are suitable as a basis. It is important to develop competences in politics and administration in the area of “participatory design”.

Recommendation: Participation in the management of radioactive waste is to be systematically built up and integrated into policy management. It is to be ensured that this task is clearly anchored institutionally and organisationally and that its quality and effectiveness are reviewed in accordance with the objectives. The interconnection of the existing means of representative democracy with the participation processes proposed in the participation concept is essential.

Recommendation 3.3 – Legal Establishment of Transparency and Participation in All Procedural Steps

Observation: The search for a final repository will require several procedural steps in order to obtain the necessary authorisations (environmental, siting, construction, operation, ...). Each step needs to be accompanied by transparency and participation measures. Currently, only the environmental procedures (Strategic Environmental Assessment, Environmental Impact Assessment) and the parliamentary consultation process provide for this.

Recommendation: Each step of the process is to be carried out transparently and with participation. The Disposal Act and the applicable existing legal bases should be guided by the highest standards for transparency and participation (see the Federal Government's Green Paper "Participation in the Digital Age" and best practice examples in the implementation of the Aarhus Convention, etc.). In the period leading up to the entry into force of the Disposal Act, drafts of the site criteria and the site selection procedure, among other things, are to be prepared with the participation of the public. These are to be adopted and made binding by inclusion in the National Waste Management Programme.

Recommendation 3.4 - Participation in the Selection of Siting Criteria and the Site Selection Procedure within a Binding Process

Observation: Experience in other countries shows how important it is for the success of the process to determine at an early stage how active participation is implemented. A well-structured participation process for the binding definition of site selection criteria and the site selection procedure makes it possible to conduct the procedure without a veto option.

The role of local authorities (federal states, cities and municipalities) in the site selection procedure has not yet been defined. In Austria, these authorities play a significant role and must therefore be involved at various levels in the development of the site selection procedure.

Recommendation: The public and relevant stakeholders, particularly local and regional authorities, are to be invited to participate at an early stage in order to help shape the site selection criteria and procedure through a binding and transparent process.

Recommendation 3.5 – Early Establishment of a "Coordinating Project Team" for Structured Public Participation

Observation: The site selection procedure along with other topics (particularly safety objectives, safety criteria and the type of final repository) are to be developed through a participatory process. To ensure the high-quality implementation of this participation, a "Coordinating Project Team" is needed to synchronise the various tasks and the stakeholders. Support from civil society and Parliament should enhance transparency and strengthen democratic legitimacy.

Recommendation: To ensure the effective and sustainable organisation of participation activities for the development of the site selection procedure, the Advisory Board recommends the early institutionalisation of a "Coordinating Project Team". This team is to be directly involved at least until the Disposal Act enters into force. It is to be situated within the responsible ministry, with the

involvement of competent expert bodies. The participation process is to be accompanied by representatives of civil society and Parliament.

Recommendation 3.6 - Establishment of an Information Centre

Observation: An information centre serves to provide essential information so that various segments of the public may actively form an opinion. Such a centre is to be equipped with resources secured for the long-term.

Recommendation: An information centre should be set up as soon as possible and made available on a stationary and/or mobile basis. It should facilitate information and exchange of opinions during all phases of the final repository (design, licensing, construction, operation and post-operation) and offer state of the art knowledge in a target group-specific, digital and analogue format. The responsibility should lie with the administrative unit tasked with supervision (currently the Federal Ministry of Agriculture and Forestry, Climate and Environmental Protection, Regions and Water Management).

Recommendation 3.7 - Establishment of Various Advisory Bodies

Observation: Advisory bodies are a building block in participation processes. They ensure continuity, professional support and documentation of the process. The involvement of citizens and young people in particular is essential.

Recommendation: The following bodies should be established:

- **Advisory Committee for Politics and Administration** (currently: Advisory Board): This advisory body is to be set up for as long as there is a need for advice on the management of radioactive waste.
- A **National Oversight Committee** as a monitoring and documentation body in matters of participation and process support is to be set up before the start of the implementation of the site selection procedure.
- **Local Oversight Committees** with local participants and links to the other bodies are to be set up temporarily in all regions with candidate sites and permanently at sites with disposal facilities.

Task 4: Development of a Timetable for the Disposal of Radioactive Waste

Recommendation 4.1 - Timetable and Roadmap

Observation: The current timetable and roadmap provide for a viable but tight timeframe for the construction and operation of an Austrian disposal facility. Particularly in Phase 1 (concepts for disposal), several fundamental and far-reaching decisions are to be taken at close intervals.

Recommendation: The timetable and roadmap and key performance indicators are to be adopted and implemented in the National Waste Management Programme.

Recommendation 4.2 - Extension of the Joint Agreement

Observation: Realistic planning shows that the construction and filling of the final repository cannot be completed by the time the contract between the Federal Government, the Municipality of Seibersdorf and Nuclear Engineering Seibersdorf GmbH (NES) expires in 2045. Moreover, there is currently no decision on how radioactive waste will be conditioned after the repository has been filled. Therefore, during the extension of the contract, it should be considered that the treatment and interim storage of newly generated waste can continue to be carried out in Seibersdorf.

Recommendation: The existing contract between the Municipality of Seibersdorf, Nuclear Engineering Seibersdorf GmbH and the Republic of Austria, as shown in the timetable and roadmap attached to this report, is to be extended.

Approval of Recommendations and Final Report

The final report of the Advisory Board, covering the 2021–2025 mandate and including all annexes, was unanimously adopted with 20 votes. The Federal Ministry of Finance (BMF) approved the report on the condition that the measures outlined in the timetable and roadmap remain subject to general budgetary constraints.

Throughout the Advisory Board meetings, the recommendations were thoroughly discussed and agreed upon. The final report, along with its annexes, was subsequently drafted and jointly adopted.

Voting results for each individual recommendation are summarized in Table 2. According to the Advisory Board's rules of procedure, the board has quorum when at least half of its members are present at meetings. For circular resolutions, at least half of the members must respond. Decisions are adopted with a two-thirds majority, and a unanimous decision requires that all present members vote in favor.

Table 2: Voting results of the recommendations.

Recommendation	Voting
I	11 unanimously in favour
II	10 in favour (circular resolution)
III	16 unanimously in favour
IV	11 unanimously in favour
1.1	17 unanimously in favour
1.2	17 unanimously in favour
2.1	17 unanimously in favour
2.2	17 unanimously in favour
2.3	17 unanimously in favour
2.4	11 unanimously in favour
2.5	11 unanimously in favour
3.1	11 unanimously in favour

3.2	9 in favour, 1 abstention
3.3	10 unanimously in favour
3.4	10 in favour (circular resolution)
3.5	10 in favour (circular resolution)
3.6	16 unanimously in favour
3.7	16 unanimously in favour
4.1	16 unanimously in favour
4.2	15 in favour, 1 abstention (DI Roman Beyerknecht)

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