NUCLEAR
REGULATORY AUTHORITY
OF THE SLOVAK REPUBLIC

ANNUAL REPORT 2024

Foreword

Dear Readers,

Allow me to present you a comprehensive overview of activities in the field of nuclear safety and regulatory oversight of nuclear facilities for the past calendar year. A summary of these activities and the most significant events is contained in the Annual Report of the Nuclear Regulatory Authority of the Slovak Republic for 2024, which I hereby submit to you.

Nuclear energy is an integral part of the Slovak Republic's energy mix, and therefore the main mission of the Nuclear Regulatory Authority of the Slovak Republic is to supervise its safe uses in accordance with the highest international standards.

The past year brought several significant events and challenges that have shaped our activities. These included extensive legislative changes, to which the Authority had to respond, the ongoing military conflict in our neighbourhood, raising concerns about the safety of nuclear facilities and increasing demands for cyber security and nuclear security, and consolidation measures affecting the Authority's budget. Even under these difficult circumstances, the Authority continued to exercise its powers to the full, consistently supervising nuclear facilities at various stages of their life cycle – from the construction of new units, through commissioning, to the inspection of facilities in operation and those being decommissioned. In connection with the Government Resolution approving the plan to build a new nuclear facility, it was also necessary to allocate resources to monitor developments in the licensing of new nuclear facilities and new advanced technologies. At the same time, the Authority actively participated in the activities of international organisations, where, among other things, it was involved in addressing challenges related to ensuring a high level of nuclear safety in challenging geopolitical environments.

In 2024, the Authority issued a total of 554 Decisions. A significant milestone was undoubtedly the entry into force of Decision No. 439/2024, by which it authorized

the operation, management of radioactive waste and spent nuclear fuel, management of nuclear material in a nuclear facility, trial operation and temporary use of the Mochovce Nuclear Power Plant Unit 3 facility.

During this year, nuclear safety inspectors carried out 189 inspections. The aim of these control and inspection activities was to verify compliance with safety requirements and ensure operational reliability. Based on the results of the inspection activities and the evaluation of safety indicators, it can be concluded that all nuclear facilities in Slovakia are operated safely and reliably.

In 2024, the Nuclear Regulatory Authority of the Slovak Republic reaffirmed its position as an independent and highly professional regulatory body. I consider the Alexander Dubček State Award, which I received for my contribution to the development of nuclear energy and the promotion of the good reputation of the Slovak Republic, to be proof of this and recognition of the work of all the Authority's expert staff. On this occasion, I would like to once again express my sincere appreciation to all the employees of the Authority, whose expertise, responsible approach and determination guarantee the safe use of nuclear energy in the Slovak Republic.

Ing. Marta Žiaková, CSc.

Chairperson

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1. Identification of the Organisation

1.1 Basic Information

The Nuclear Regulatory Authority of the Slovak Republic ("ÚJD SR", "the Authority") is the central authority of the State Administration of the Slovak Republic (SR) in the field of nuclear supervision, with its seat in Bratislava. In addition to its offices in Bratislava, it has an office in Trnava and site inspectors in Jaslovské Bohunice and Mochovce.

Originally, with effect from 1 January 1993, the UJD SR was established by Act of the National Council of the Slovak Republic No. 2/1993 Coll., amending and supplementing Act of the Slovak National Council No. 347/1990 Coll. on the organisation of ministries and other central state administration bodies of the Slovak Republic, as amended. Section 21 stipulated that the UJD SR is the central authority of the state administration of the Slovak Republic in the field of nuclear supervision. At present, the UJD SR operates on the basis of Act No 575/2001 Coll. on the Organisation of Government Activities and the Organisation of the Central State Administration, as amended, and Act No 541/2004 Coll. on the Peaceful Uses of Nuclear Energy (the Atomic Act) and on amendments to certain laws, as amended, and other generally binding legal regulations. According to the Atomic Act, the Authority performs state supervision in the field of peaceful uses of nuclear energy and safe management of spent nuclear fuel (SNF) and radioactive waste (RAW), in the physical protection of nuclear materials (NMs), in emergency planning in the Slovak Republic in the event of a radiological emergency and ensures the fulfilment of obligations arising from international treaties and agreements in the field of peaceful uses of nuclear energy.

The Authority also exercises the powers of the building authority pursuant to Act No. 50/1976 Coll. on spatial planning and building regulations (Building Act), as amended, in the case of construction of nuclear installations (NIs), constructions related to NIs and located within the area delimited by the boundaries of the NIs.
The Authority is headed by a Chairperson, a Vice-Chairperson and a Secretary-General of the Service Office, who are appointed by the Government of the Slovak Republic.

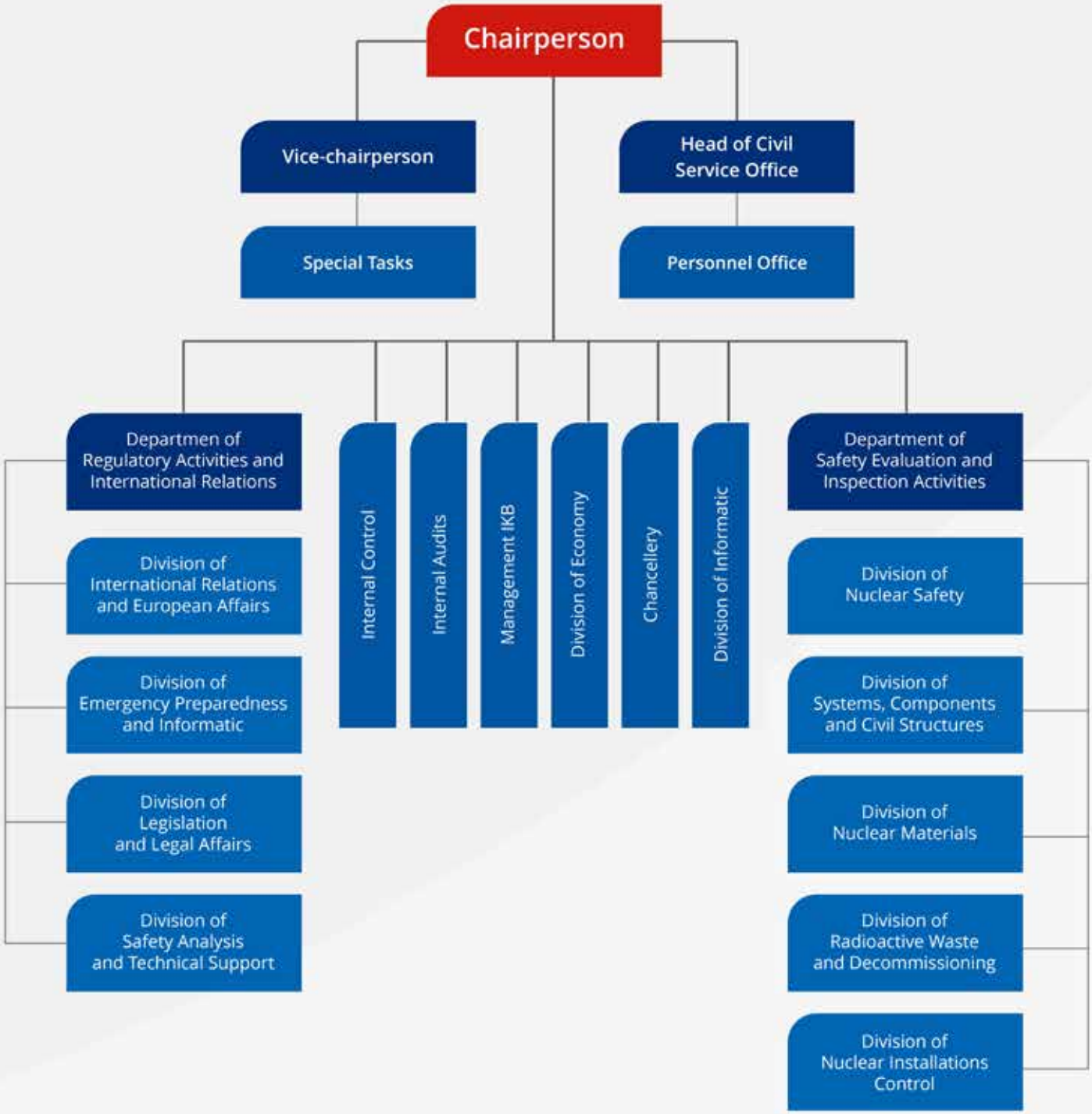
1.2 Management of the ÚJD SR

Ing. Marta Žiaková, CSc.
Chairperson

Ing. Eduard Metke, CSc.
Vice-Chairperson

Mgr. Zuzana Pišteková
Secretary General of the Service Office

1.3 Organisational Structure



Year 2024 in Numbers

Year of Existence 31.	**Headcount** 125	**Number of Inspectors** 75
Number of NPPs 2	**Reactor Units Supervised** 5	**Number of other NIs Supervised** 5
Number of Decisions Issued 554	**Number of Inspections Performed** 189	**Number of Administrative Proceedings Published on CUET*** 305
Number of Requests for Information Processed 17	**Number of Safety Guides Issued** 2	**Number of Datasets Published on www.data.gov.sk** 13

** Central Official Electronic Board*

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2. Main Activities

2.1 Legislative Activity

The Authority has focused its legislative activities in 2024 on a number of key areas. Work has started on the amendment of Decree No. 431/2011 Coll. on the Quality Management System, as amended, regarding the use of commercial equipment in nuclear installations. The draft decree was discussed with the Ministry of Economy of the Slovak Republic (MH SR) and the business community and subsequently an inter-ministerial comment procedure was launched in December 2024.

The ÚJD SR also cooperated in the preparation of an amendment to the Act amending Act No. 143/1998 Coll. on Civil Aviation (Aviation Act) with regard to the overflight of an aircraft or unmanned aerial system (drone) in the airspace established for the protection of a nuclear installation (NI).

The ÚJD SR further cooperated in the preparation of the amendment to the Atomic Act, which was incorporated as a separate article in the Act. This article amends Act No. 171/1993 Coll. on the Police Force, as amended, in the matter of reliability and entry of persons into nuclear installations. The legislation takes into account the increased risk of threats to nuclear installations caused by the current geopolitical situation and

ensures the necessary increase in the level of nuclear safety.

The continuation of preparatory work on the new Atomic Act was also an important legislative activity of the Authority. In 2024, the preparation of the accompanying documentation and the elaboration of impact analyses according to the new Unified Methodology for the Assessment of Selected Impacts continued. Comments made by the relevant departments were incorporated, and amendments to the Aviation Act, the Police Act and the Cyber Security Act were also incorporated into the text of the Act.

The ÚJD SR also actively participated in the inter-ministerial coordination group for the representation of the Slovak Republic in front of the European Union (EU) courts at the Ministry of Justice of the Slovak Republic (MS SR) and in the inter-ministerial coordination group in the proceedings in front of the European Commission (EC) in the pre-trial phase at the Ministry of Foreign and European Affairs of the Slovak Republic (MZVEZ SR).

During 2024, the Authority continued to coordinate the cooperation of the entities concerned in the framework of the Inter-Ministerial Working Group on Civil

Liability for Nuclear Damage (MRPS OBPZJŠ). Two meetings were held in 2024, one in the spring, on 22 April 2024, and one in the autumn, on 7 October 2024. The purpose of the meetings was to inform the members of the MRPS OBPZJŠ on developments in the membership of the international conventions in the field of civil liability for nuclear damage and to assess the implementation of the tasks. The ÚJD SR prepared an analysis on the liability of the NI operator for nuclear damage resulting from war and terrorist actions and subsequently this analysis was circulated to the members of the working group for their position.

Both legislative and non-legislative documents (almost 800) were reviewed in connection with the inter-ministerial comment procedures, where the ÚJD SR made common or fundamental comments. Many of these comments were subsequently discussed in disagreement procedures with the relevant ministries. The most important legislative documents reviewed in 2024 included the legislative process on the Act on Environmental Impact Assessment, the Act on Cyber Security, the Act on Critical Infrastructure, the Draft Concept of Strategic Communication of the Slovak Republic, the Draft Decree of the Office for Spatial Planning and Construction of the Slovak Republic on spatial technical requirements for construction, the Act on the Construction and the Legislative Intent of the Act on e-Government.

In the development of new legislation, the ÚJD SR must also take into account the new construction regulations adopted in 2022, i.e. Act No. 200/2022 Coll. on Spatial Planning and Act No. 201/2022 Coll. on Construction, both in the case of the new Atomic Act and the Atomic Construction Act. The ÚJD SR actively participated in the commenting of Act No. 46/2024 Coll., amending Act No. 50/1976 Coll. on spatial planning and building regulations (Building Act), as amended, and amending certain acts - effective from 31 March 2024 (except for selected articles), which postponed the entry into force of the new Building Act by one year, changes in relation to the new nuclear source in relation to the siting under the Building Act. Selected employees of the ÚJD SR became members of the working group for the preparation of the new Building Act at the Ministry of Transport of the Slovak Republic (MD SR). The proposal for a new Building Act is to repeal Act No. 50/1976 Coll. on spatial planning and building regulations (Building Act) and Act No. 201/2022 Coll. on construction, with effect from 1 April 2025.

During 2024, the Authority has issued the following Safety Guides (BN):

- BN 1/2024 - Requirements for the content and scope of the decommissioning documentation to be submitted as part of the application in the consent procedure pursuant to Section 5(2) of the Atomic Act and in the authorisation procedure pursuant to Section 5(3)(a) to (d) of the Atomic Act (2nd edition – revised and supplemented),

- BN 2/2024 Limits and Conditions for the safe operation and operating regulations of nuclear installations (2nd edition – revised and supplemented).

In connection with the ongoing implementation of Act No. 305/2013 Coll. on the electronic form of exercising the powers of public authorities and on amending and supplementing certain acts (the e-Government Act), a project team headed by the Vice-Chairman of the ÚJD SR continued to work, whose task is to identify the tasks, propose their solution in the conditions of the Authority and ensure the practical application of the e-Government Act in the daily processes affected by this Act.

2.2 Strategic Activities and Vision

By Resolution of the Government of the Slovak Republic No. 221/2024, the Government of the SR authorized the Chairperson of the ÚJD SR to submit the "Policy, Principles and Strategy for the Safe Use of Nuclear Energy in the Slovak Republic". This is a revision of the original document from 2014. At the same time, by this Resolution, the Government of the SR authorised the Chairperson of the ÚJD SR to establish a coordination mechanism between the ministries, central government authorities and public administration bodies involved in the safe use of nuclear energy.

2.2.1 Policy, Principles and Strategy for the Safe Use of Nuclear Energy and Ionising Radiation in the Slovak Republic

The strategy document is based on the International Atomic Energy Agency (IAEA) document "Safety Fundamentals - SF 1". The basic safety objective is to protect the public - individually and collectively - and the environment from the adverse effects of ionising radiation, without unduly restricting the operation of facilities or the performance of activities that may present radiation hazards. Installations are to be operated and activities carried out in such a way as to achieve the highest standards of safety which can reasonably be achieved.

The strategic document is published on the website of the ÚJD SR with the possibility for the public to comment on it. After

comments by state authorities, licence holders and the academic community, the document with the new title "Policy, Principles and Strategy for the Safe Use of Nuclear Energy and Ionising Radiation in the Slovak Republic" is in the process of environmental impact assessment pursuant to Act No. 24/2006 Coll., as amended. The submission of the strategic document to the Cabinet meeting is scheduled for November 2025.

2.2.2 Coordination Committee of Public Authorities in the Safe Use of Nuclear Energy

The role of the Coordination Committee (KV) is to improve and strengthen mutual cooperation, coordination of action and regular exchange of information between the ministries, central government authorities and state administration bodies concerned in the field of safe use of nuclear energy.

The KV coordinates the implementation of the objectives and tasks resulting from the "Policy, Principles and Strategy for the Safe Use of Nuclear Energy and Ionising Radiation in the Slovak Republic". The Chairman of the KV is the Chairperson of the ÚJD SR and the Vice-Chairmen are: a representative of the Ministry of Health of the SR (MZ SR), a representative of the Public Health Office of the SR (ÚVZ SR), a representative of the Ministry of the Interior of the SR (MV SR), a representative of the Ministry of Labour, Social Affairs and Family of the SR (MPSVR SR), a representative of the Ministry of the Transport of the SR (MD SR), a representative of the Ministry of the Environment of the SR (MŽP SR), and a representative of the Ministry of the Economy of the SR (MH SR).

In 2024, two meetings of the KV were held, at which information on the status of work and preparation of the "Policy, Principles and Strategy for the Safe Use of Nuclear Energy in the Slovak Republic" was presented. The meetings were intended also as a forum for the exchange of information on supervisory activities and coordination between the participating ministries and supervisory bodies.

2.3 Methods of Regulatory Activities

Nuclear safety oversight is carried out in the following areas:

- licensing,
- review and assessment of safety documentation,
- inspection activities in NIs,
- law enforcement.

2.3.1 Licensing

In order to obtain a licence for activities in the field of peaceful uses of nuclear energy, whether it is a new activity or a change to an existing one, the applicant must demonstrate its ability to comply with and fulfil all the requirements laid down by the laws and decrees in force in the Slovak Republic, in particular the requirements of the Atomic Act and the Authority's implementing Decrees to this Act. Furthermore, the applicant must demonstrate that the NI will be or is operated safely.

In addition to the licence holders SE, a. s., and JAVYS, a. s., the Authority also supervises and issues licences to other legal entities and organisations that do not operate a power NI, but carry out other activities related to the peaceful use of nuclear energy in accordance with the Atomic Act. The holders of such authorisations are, for example, VUJE, a.s., which is engaged in the training of NI personnel, and DMS, s.r.o., which carries out activities related to the transport of radioactive material (RAM).

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2.3.2 Reviews and Assessments

Nuclear safety of the NIs is demonstrated by documentation that proves that the systems, components and technological equipment, including the capability of their operators, are capable of operating safely and reliably, both during normal, abnormal and emergency operation, and that the impact of the NIs on employees, the population, the environment and on property is at an acceptable level within the meaning of Slovak legislation and recognised international standards.

In connection with the completion of Units 3 and 4 of NPP MO 34, the Authority carried out a number of post-installation conformity checks to verify the compliance of the installed technological equipment with the design and approved quality requirements. It also checked the progress of selected tests and works related to the commissioning of Unit 3. Furthermore, the assessment of the Quality Management System documentation and the quality requirements of the classified equipment in accordance with the relevant Decrees of the ÚJD SR was continued. The number of Decisions issued by the Authority in 2024 is shown in Table 1.

In 2024, the ÚJD SR reviewed, assessed and approved documentation for:

- Building proceedings relating to NIs,
- Implementation of works to complete NPP MO 34 including Basic Design modifications,
- Design modifications on classified equipment of NIs in operation,
- Pre-operational and in-service inspections of classified equipment,
- Changes to documentation reviewed or approved by the ÚJD SR,
- Quality Assurance of classified equipment and NIs,
- Quality Management Systems of license holders and their contractors,
- Organisational changes of license holders,
- Training of selected staff and professionally competent staff of license holders,
- Physical protection plans of NIs in operation,
- Shipments of NM and RAM,
- SNF and RAW management,
- Decommissioning of NPP Bohunice A-1 and NPP Bohunice V-1,
- Emergency planning.

Type of Decision	Number of Decisions issued
Atomic Act	433
Building Authority	5
Suspension of admin. proceedings	107
Discontinuance of admin. proceedings	6
Imposition of a fine	2
Appeal proceeding	1
Total	**554**

Table 1: The ÚJD SR Decisions issued in 2024

2.3.3 Inspections

Inspection activity means the process of checking compliance with the requirements and fulfilment of the obligations laid down in the Atomic Act and its implementing legislation, in the Building Act and its implementing legislation, fulfilment of the obligations resulting from the decisions of the ÚJD SR, as well as fulfilment of the measures to eliminate the deficiencies from the Inspection Reports. Inspections are carried out by nuclear safety inspectors of the ÚJD SR. The schedule of planned inspections is set out in the Inspection Plan, which is drawn up in such a way as to enable a continuous and systematic assessment of compliance with legislative requirements to be carried out. The Authority prepares a Preliminary Inspection Plan for three years and an Inspection Plan for the relevant year. In addition to planned inspections, inspectors also carry out unscheduled inspections triggered by the status of the NPP (e.g. construction and installation, commissioning phases) or operational events (OEs). Unscheduled inspections also include IAEA inspections in the field of NM accounting for and control, the date of which is not announced to the ÚJD SR and the relevant licence holder until immediately before the inspection itself.

180 inspections were planned for 2024, of which 7 were cancelled for objective reasons. A total of 189 inspections were carried out in 2024, with 56 inspections still in progress on 21 March 2025 and 133 inspections completed. Of the completed inspections, 7 inspections have been concluded in the form of an Inspection Report and the rest are concluded by a record.

An overview of inspections in 2024 is shown in Table 2.

NI/other	Team	Special	Routine	Unscheduled	Total
NPP Bohunice V-2	11	22	5	0	**38**
NPP Mochovce 1, 2	12	18	4	2	**36**
NPP Mochovce 34	3	13	1	3	**20**
JAVYS, a. s.	4	20	8	2	**34**
VUJE, a. s.	1	2	0	0	**3**
Shipments of NM and RAW	0	14	0	0	**14**
NM accounting for and control	0	30	0	9	**39**
Other inspections	1	4	0	0	**5**
Total	**32**	**123**	**18**	**16**	**189**

Table 2: Overview of inspections conducted in 2024

2.3.4 Law Enforcement

In the event that the inspection activity reveals deficiencies in any of the supervised areas, the inspection report shall order the licence holder to remedy the deficiencies with binding deadlines for their fulfilment. The licence holder shall then be obliged to notify the ÚJD SR of the manner and date of rectification of the deficiency. If the supervised entity fails to comply with the measures, as well as in the event of a serious violation of the provisions of the Atomic Act or the requirements of its implementing decrees, the ÚJD SR may initiate administrative proceedings, which may result in:

- Imposition of a fine,
- Limitation of the scope or validity of the licence,
- Ordering the implementation of necessary measures,
- Shutdown of operation of NI,
- Permanent withdrawal of a special competence certificate or a professional competence certificate.

In 2024, the ÚJD SR imposed two fines for violation of the Atomic Act. Following the failure to comply with the inspection action No. 215/2019, a fine of EUR 200,000 was imposed on the licence holder SE, a. s., for failure to implement the remedial action pursuant to Section 31(11)(h) of the Atomic Act within the time limit set by the ÚJD SR. Based on the findings of inspection No. 847/2023 to the license holder SAM INDUSTRIES, a. s., was fined EUR 2,500 for violation of Section 13(1)(a) of the Atomic Act.

For personnel misconduct in the response to the OE at EMO1, the special competence authorisations were withdrawn and extraordinary training and examinations were ordered.

There were no other breaches of the provisions of the Atomic Act or of the requirements of its implementing decrees requiring the application of law enforcement tools.

2.3.5 Development of Supervisory Activities

Maintaining a high level of expertise and professionalism of the regulatory staff is also facilitated by the application of the results of science and research at the ÚJD SR and the exchange of experience and knowledge in the framework of the active participation of the ÚJD SR in various international expert teams.

The ÚJD SR is involved in the US Nuclear Regulatory Commission's research project on severe accidents. Thanks to the participation in the project, the ÚJD SR has at its disposal the American MELCOR (MELting CORe) computational programme and its complementary tool MACCS (MELCOR Accident Consequence Code System). It uses them for verification calculations of severe accident analyses submitted by licence holders to the ÚJD SR in the framework of administrative proceedings. During the working meetings of the project, its members exchange experience and knowledge in the field of severe accident modelling and evaluation of reactions of NIs to accidents.

The ÚJD SR also gains experience and technical information by participating in international projects and working groups of the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development (OECD/NEA). Within the framework of joint projects of the WGAMA (WG on the Analysis and Management of Accidents), the ÚJD SR has been involved in the THEMIS experimental project (i.e. THAI Experiments on Mitigation measures, and source term issues to support analysis and further Improvement of Severe accident management measures) since November 2020. Its objective was to experimentally and analytically investigate processes and phenomena of the late phase of severe accidents, focusing on the behaviour of typical flammable/explosive gases and fission products in reactor containment areas. The project was originally planned to last until 30 April 2024, but has been extended until the end of 2024. The potential continuation of the THEMIS project in the form of Phase II is currently under discussion. The ÚJD SR is also actively involved in the activities of the WGLSC (WG on Leadership and Safety Culture). A mini-workshop on a responsibility-based approach and a regulation-based approach to regulation

was also held during the autumn meeting. The ÚJD SR experts are actively involved in the activities of several OECD/NEA Standing Technical Committees and Working Groups, where current issues of NPP safety are addressed, knowledge and experience are exchanged, solutions to problems are sought, and information on best practice is shared. This contributes to the further professional development of staff and helps the process of continuous improvement of nuclear safety.

Within the framework of international cooperation in the field of nuclear safety, the ÚJD SR also assists in the development of nuclear regulatory authorities of other countries. Examples of such assistance are EC projects in support of the Iran Nuclear Regulatory Authority (INRA), the Nuclear Regulatory Authority of Ghana and the Nuclear Regulatory Authority of Turkey (NDK) and its Technical Support Organisations (TSOs). Their aim is to enhance the nuclear and radiation safety capabilities of third-country regulators by exchanging experience and promoting the use of international best practice. In the EC projects, the ÚJD SR is involved in a consortium with ENCO and a number of EU partner regulators. Within the framework of the NDK project, a number of activities were carried out in 2024 with the participation of the ÚJD SR experts. This included, for example, a workshop on the Regulatory Framework for NPP Commissioning, or two training courses on regulatory review of safety justifications in commissioning. There were also two on-job training sessions for Turkish specialists at workplaces in Slovakia. In September, on-the-job training at the ÚJD SR at Bratislava site and at the Mochovce NPP focused on the performance of inspections and evaluations by regulators during commissioning. In December, training on supervisory activities related to the first loading of nuclear fuel into the reactor and the following loadings. Activities in 2024 included a review of Turkey‘s existing regulatory framework for the commissioning phase, a questionnaire survey on selected topics (e.g. personnel qualifications, safety culture, risk-based decision making, etc.), and support to the NSC to develop and improve procedures and guidance for the supervision of activities during commissioning.

Experts of the ÚJD SR are actively involved in addressing key tasks in the context of

WENRA (Western European Nuclear Regulators Association) priorities within two WENRA Working Groups (WGs): RHWG - Reactor Harmonisation Working Group and WGWD – Working Group on Waste and Decommissioning). The RHWG aims to continuously improve the safety of nuclear reactors and to harmonise the safety standards of the Member States. To this end, it has established safety reference levels (SRLs) for existing nuclear power plants. Member States have committed to implement these SRLs in their regulatory framework and to update them periodically in the light of new experience and knowledge. In 2024, the benchmarking of the implementation of the 2020 reference levels in the national legislation of the Member States continued in the areas of management system, ageing management, on-site hazards and off-site hazards. Discussion also continued on the application of WENRA Safety Objectives to new types of reactors. It appears that the view on the need to change the existing Safety Objectives is not uniform within the RHWG. The WGWD aims to harmonise the national legislation of the Member States in four thematic areas: RAW and SNF storage, decommissioning of NPPs, disposal of RAW and treatment of RAW.

2.4 Areas Under Supervision

2.4.1 Nuclear Installations

The main supervised entities in the Slovak Republic are the license holders for the construction, commissioning, operation and decommissioning stages of the NIs. The holders of such licences are Slovenské elektrárne, a. s. (SE, a. s.), and Jadrová a vyraďovacia spoločnosť, a. s. (Nuclear and Decommissioning Company, JAVYS, a. s.). The nuclear facilities

2.4.1.1 Nuclear Power Plants in Operation

Assessment of Safety Indicators of Operating NPPs

The assessment of the NPP operation by safety indicators is carried out by the ÚJD SR on an ongoing basis and evaluated annually. The five NPP units in operation (Bohunice V-2 NPP, Mochovce 1, 2 and 3 NPP) are assessed by indicators in four specific areas of operation: significant incidents, human factor (HF), operation of safety systems and barrier leak-tightness.

Nuclear Power Plants:

- Nuclear Power Plant Bohunice V-2 (NPP Bohunice V-2/EBO V-2), two Units in operation,
- Nuclear Power Plant Mochovce 1, 2 (NPP Mochovce 1, 2/EMO1, 2), two Units in operation,
- Nuclear Power Plant Mochovce 3, 4 (NPP Mochovce 3, 4/MO 34), Unit 3 in trial operation, Unit 4 under construction,
- Nuclear Power Plant Bohunice V-1 (NPP Bohunice V-1/EBO V-1), two Units in phase II of decommissioning,
- Nuclear Power Plant Bohunice A-1 (NPP Bohunice A-1/EBO A-1), one Unit in phase III and IV of decommissioning.

Other Nuclear Installations:

- Interim Spent Fuel Storage Facility (MSVP),
- Technology for Treatment and Conditioning of Radioactive Waste (TSÚ RAO),
- National Radwaste Repository (RÚ RAO),
- Final Treatment of Liquid Radioactive Waste (FS KRAO),
- Integral Radwaste Storage Facility (IS RAO).

Significant incidents and human factor:

The following main indicators shall be monitored in these areas:

- The number of reactor scrams (AO1),
- The number of violations of Limits and Conditions (L&Cs) of safe operation (L&Cs is a document that specifies the requirements for the permissible values of the NI parameters, the readiness of the safety systems and the verification of their readiness, any deviation from the specified values and requirements is recorded as a violation of L&Cs),
- The number of equipment and system failures that the NI operator is required to report to the ÚJD SR according to the established criteria,
- The number of OEs with the contribution of HF reported to the ÚJD SR,
- The number of incidents at NIs classified according to INES scale as INES 1.

Results recorded in 2024 are shown in Tables 3 and 4.

2024	EB03	EB04	EM01	EM02	EM03
Number of AO1	1	0	1	0	2
Violations of L&Cs	0	0	1	0	3

Table 3: Number of AO1 and violations of L&Cs on NI Units in operation in SR in 2024

2024	EBO3	EBO4	EBO3,4	EMO1	EMO2	EMO3	EMO3,4
OEs reported to the ÚJD SR	4	4	2	11	6	16	1
OEs with HF	1	1	1	5	0	5	0
OEs classified as INES 1	1	0	1	0	0	1	0

Table 4: OE Statistics

The numbers of OEs with HF contribution refer only to events reported to the Authority. The contribution of HF to these incidents has been reviewed (confirmed) by the Incident Analysis Group of the ÚJD SR.

Operation of Safety Systems:

The operation of safety systems is evaluated by means of unavailability factors. The unavailability factor is defined as the ratio of the sum of the unavailability time of a given system to the total time when its availability is required. Unavailability is generally caused by the repair of faults detected during the periodic testing of systems.

There was one safety systems failure at Mochovce 3 NPP. There were no safety system failures in Bohunice V-2 NPP or in Mochovce 1, 2 NPP during 2024.

Table 5 shows calculated unavailability factors of the following safety systems:

- Unavailability of diesel generators (DG), which provide power supply to other safety systems in the event of the loss of other on-site and off-site sources of power supply,
- Unavailability of the primary circuit high-pressure (HP) emergency make-up pumps – these pumps are designed to cool the reactor core in the event of coolant leaks from the primary circuit,
- Unavailability of the steam generators (SG) feedwater system - pumps of the super emergency steam generators feedwater system (SHNČ) and pumps of the emergency steam generators feedwater system (HNČ) provide for make-up of the secondary side of the steam generators and thus also heat removal from the primary circuit in conditions of abnormal operation and in emergency conditions.

2024	EB03	EB04	EM01	EM02	EM03
Unavailability of DGs	0,000812	0,000133	0,00027	0,00022	0
HP unavailability	0,000942	0,000157	0	0,000025	0
SHNČ+HNČ unavailability	0,00071	0,00842	0,000131	0,000185	0,00219

Table 5: Unavailability factors of selected safety systems for NI Units in SR in 2024

Unavailability factors are low, demonstrating high readiness of safety systems to be activated when needed (i.e. in the event of failure or emergency).

Leak-tightness of barriers:
This indicator monitors the leak tightness of the fuel cell cladding in the reactor and the leak tightness of the hermetic compartments that form a barrier against the release of radioactive substances during potential accidents. The indicator, the fuel reliability factor, has reached its lowest possible level in all NPPs. The values of the containment tightness indicator are good, stable and, together with the fuel cell cladding tightness indicator, meet the L&Cs criteria.

Conclusion:
The evaluation of nuclear safety indicators for 2024 together with the results of inspections allow to conclude that all NPPs in the Slovak Republic are operated safely.

a) Nuclear Power Plant Bohunice V-2

The standard performance of inspection and assessment activities related to the operation of NIs was carried out in 2024 at both operating units of the Bohunice V-2 NPP (Unit 3 - EBO3, Unit 4 - EBO4). Within the scope of its activities, the ÚJD SR inspected the condition of the operated equipment and its maintenance, the fulfilment of tasks resulting from the ageing management programmes and design modifications, with the aim of increasing the level of safety of the NIs:

- On EBO3, an extended overhaul (GO) with refuelling took place from 19 June to 2 August 2024, lasted 58.5 days and was extended by 14.5 days compared to the original plan. The largest contribution to the extended outage was caused by the repair of the main loop isolating valve on Loop 4 due to disassembly issues, surface damage and subsequent necessary repair of the valve. During the GO, foreign objects were found in the open technology (remnants of the gasket in the pressurizer), at the same time a foreign object fell into the open technology (scaffolding component fell into the main condenser of turbine-generator No. 31 during scaffolding dismantling). All foreign objects were subsequently removed from the technology. From 20 December 2024 to 26 December 2024, Unit 3 was shut down for forced unit repairs to inspect the HRK casing bolts.

- On EBO4, from 28 April 2024 to 13 June 2024, there was an outage of 53.5 days, an extension of 7.5 days compared to the plan. During the GO, foreign objects fell into the open technology (level gauge in the water chamber of the main condenser of turbo-generator No. 41, gasket fell into the feed pump pit of separator No. 43, graphite gasket dropped inside the storage pump during removal of the top cover, foreign objects in the support casing of shaft No. 2 - small particles, flakes of graphite and dirt at the bottom of the core basket, 7 foreign objects during inspection for core cleanliness). All foreign objects have been removed from the technology. On 14 November 2024, following the reactor scram of Unit 4 by AO1 protection due electrical root cause, an inspection of the Unit identified an increased leakage from the end stage seal on the main circulating pump No. 4. A decision was taken to cool down the Unit to allow the replacement of the seal block. This required repair of the Unit was completed on 21 November 2024.

Operational Events

The number and nature of OEs in 2024 at EBO V-2 did not exceed the usual rate of operational failures. The ÚJD SR recorded 10 events reportable to the regulatory authority, and 1 event additionally reported from 2023.

During the year, the AO1 reactor protection was activated once. The protection activation occurred at Unit 4 on 14 November 2024 from the signal "Outage of 4 or more HCC" (main circulating pump). The tripping of the protection was caused by the interaction of the protections and the automatic controls. On one Unit transformer of Unit 4, a differential protection was triggered, which sends a signal to trip the 400 kV circuit breaker, then the unit passes a bulk automatic reserve backup signal to the 110 kV backup line supply.

Two incidents were classified as grade 1 on the INES scale. An incident additionally reported from 2023 - damaged wooden beams of the natural draft cooling towers and a fastener corrosion incident on the upper block of the Unit 3 reactor. Both incidents were classified as INES 1 due to the indication of a safety culture issue.

b) Nuclear Power Plant Mochovce 1,2

In 2024, the standard performance of inspection and assessment activities associated with daily operation was carried out at both operating units of Mochovce NPP 1, 2. Within the framework of its activities, the ÚJD SR checked the fulfilment of the tasks resulting from the ageing management programme and seismic reinforcement; and a number of design modifications were approved with the intention of increasing the safety level of the NIs.

Planned outages for refuelling were carried out at EMO1, 2:

- on Unit 1 from 6 April 2024 to 28 April 2024 - the outage lasted 22.73 days and was extended by 4.73 days compared to the plan due to late installation of the block of protecting tubes (BOR), prolongation of work on the upper block (HB), resealing of dampers 1KLA70AA301,302,303, as well as repeating of test PVKO 1JEF10AA027,

- on Unit 2 from 7 September 2024 to 17 September 2024 - the outage lasted 19.9 days, the plan was 19.7 days and the extension compared to the plan was 4.5 hours due to the extension of maintenance work.

The Authority has approved a number of changes to the quality documentation and design changes related to increase of the NPP safety level and seismic reinforcement of NI equipment and structures.

In-service inspections were carried out on Units 1 and 2 of the Mochovce NPP in accordance with the annual plans for in-service inspections of the classified equipment, submitted by the operator to the ÚJD SR. The results of the in-service inspections confirmed the satisfactory condition of both Units.

Inspections were carried out within the Unit GOs, aimed at carrying out conformity checks after repairs of classified equipment.

The operator submits annual assessment reports on the fatigue life of major components and selected important pipeline routes to the ÚJD SR. The reports submitted by the operator show that the monitored parameter limits of all assessed classified equipment, as well as the condition of the reactor pressure vessel materials have not been exceeded.

Operational Events

The number and nature of operational events in 2024 at EMO1, 2 exceeded the normal rate of operational failures. The ÚJD SR recorded 17 incidents reportable to the supervisory authority, but these did not have a significant impact on nuclear safety. During 2024, an automatic reactor trip occurred due to AO1 protection from the failure of the second operating turbine as a result of mishandling of the detection of the causes of the failure of the first operating turbine. During the restart there were a number of NPP staff misconduct cases, resulting in removal of their Special Competence Certificates and ordering a special training with exams. There was also one AO3 protection activation (reduction of reactor power by the HRK control group) following the tripping of a 400 kV circuit breaker.

2.4.1.2 Nuclear Power Plants in Commissioning Phase

Nuclear Power Plant Mochovce 3

At Mochovce NPP Unit 3, which was in the pre-operational test phase, all tests according to the approved special regulation - 3-SP/0001 Pre-operational tests - were completed in 2024. Following the assessment of the pre-operational testing stage, on 4 October 2024 the ÚJD SR issued the approval for the transition to the trial operation and operation stage of Unit 3. During the pre-operational test phase, the first general outage of the Unit was carried out between 18 May and 8 July 2024. The main activities carried out during the general outage included: refuelling, work on the second redundancy of DG systems, essential service water, emergency core cooling systems, inspections and repairs of heat exchangers, pumps, electrical equipment, non-destructive inspections of selected welded joints. The high-pressure part of the turbine-generators' distributor wheels were replaced in order to increase the production efficiency. In October 2024, one Unit transformer was replaced due to its failure. A transformer from Unit 4 was used. Throughout the whole phase, the ÚJD SR monitored the activities carried out by the licence holder and continuously assessed the submitted protocols and reports and, in case of findings, imposed corrective actions on the licence holder. On 6 November 2024, the ÚJD SR Decision No. 439/2024 came into force, authorising the operation, management of radioactive waste and spent nuclear fuel, management of nuclear material in the nuclear installation, trial operation and temporary use of the structure of Unit 3 of the Mochovce NPP.

Operational Events

In 2024, 17 events reportable to the Authority were registered by the ÚJD SR: local temperature increase in containment areas due to incomplete thermal insulation work, mass automatic reserve back-up due to an electrical fault at the external substation, activation of AO1 (automatic protection) and start-up of emergency pumps from safety system signals during testing and control of the system in Mode 6 (subcritical core and unsealed primary circuit), non-compliance with process requirements during pump commissioning, non-functioning interlocking protections of selected valves on the SG feed-water system due to active simulations, exceeding the time allowed for pump repair activities. In these events, the ÚJD SR pointed out that several attributes of the safety culture were affected, mainly due to the inadequate response of the personnel and the lack of a critical attitude.

2.4.1.3 Nuclear Power Plants under Construction

Nuclear Power Plant Mochovce 4

The construction of Unit 4 of Mochovce NPP continued with functional tests of emergency systems. All secured power supply systems were functionally tested and taken into service together with the ventilation and air conditioning systems, as well as the electrical fire alarm system. The licence holder continued with the strength and leak-tightness testing on both the primary and secondary circuit equipment. Signal transmission testing of I&C system instrumentation chains, functional tests of process equipment including integral tests to verify interoperability, and of I&C system equipment were carried out.

The ÚJD SR regularly inspected and evaluated the condition of the nuclear facility under construction, the quality of installation of classified equipment, post-installation inspections of assembled technological units and their parts, as well as the course and results of individual inactive tests and trials. The use of one Unit 4 transformer on Unit 3 and its replacement by another transformer was identified as a significant activity in terms of the potential negative impact on the schedule of inactive tests.

2.4.1.4 Nuclear Power Plants under Decommissioning

a) Nuclear Power Plant Bohunice A-1

In 2024, the implementation of phase III and IV of decommissioning continued in accordance with the ÚJD SR Decision No. 369/2016, which issued an authorisation for both phases at the same time in a single authorisation procedure. The work associated with these decommissioning phases is planned until the end of 2024 and focuses on the continued treatment of liquid RAW, sludge from the long-term storage facility and the long-term storage casings for SNF. The licence holder continued to implement activities related to the decommissioning of the original, non-functional and unused technological systems of the external facilities and technological equipment of the main production unit of the reactor hall and intermediate plant.

During 2024, this mainly involved the decommissioning of cooling loops and isolation valves of the primary circuit, reconstruction of the special sewerage system, reconstruction of the air handling system of the main production unit, decommissioning of the turbo-compressors and SGs 3 and 4, decommissioning of the tanks, monitoring and sorting of

contaminated soils and concrete. The work will be followed by the final phase V decommissioning, which is scheduled to be completed in 2033.

During 2024, the Authority reviewed the report "Periodic Nuclear Safety Assessment of NPP A-1 after phases III and IV of decommissioning". The results of the periodic assessment indicated that no non-conformities of major safety significance were identified. The documentation related to the commissioning and use of the air handling systems was reviewed. In addition, the Authority reviewed changes to the operating procedures for the vitrification of chrompic and the L&Cs for the safe decommissioning of NPP A-1. It also assessed the evaluations of the pre-complex and complex testing programmes for the air supply and exhaust systems and the refurbished carbon sewer system in Plant No. 30. In June 2024, the Authority initiated an administrative proceeding to issue an authorization to phase V of the decommissioning of NPP A-1, in the framework of which it assessed the submitted documentation and requested the opinions of the authorities concerned. The authorisation for phase V will be issued upon receipt of the Final Opinion of the Ministry of the Environment of the SR on this stage.

b) Nuclear Power Plant Bohunice V-1

By Decision No. 900/2014, the Authority granted JAVYS, a. s., an authorisation for phase II of the decommissioning and at the same time an authorisation for the RAW and NM management during phase II of the decommissioning. Phase II mainly includes the decommissioning of the main generating block, the auxiliary plant building and the remaining auxiliary facilities. In 2024, activities were underway to remove activated and contaminated concrete from the shafts of both reactors and to remove contaminated concrete from the R003/1,2 storage pools and the boric acid solution emergency tanks. Dismantling of V-1 containment liners, removal of auxiliary systems, electrical equipment and lifting equipment continued. Activities were carried out to dispose of contaminated concrete and dismantled materials.

In 2024, the Authority reviewed changes in the L&Cs operating procedures for the safe decommissioning of the NPP V-1 and in the selected operating procedure Ventilation of the Reactor Hall and auxiliary plant building, which were triggered by the progressive dismantling of selected air handling units of the ventilation systems. On 30 December 2024, the final decommissioning project, Decontamination and

demolition of NPP V1 buildings and restoration of the site to its original condition, entered into implementation phase.

The final site condition at the end of phase II will be the release of the site for limited use. Upon final inspection, the site will be exempted from the Atomic Act.

2.4.1.5 Other Nuclear Installations

a) Interim Spent Fuel Storage Facility Bohunice (MSVP- ISFS)

The SNF from NPP Bohunice V-1 (production of SNF has been finished), NPP Bohunice V-2 and NPP Mochovce 1, 2 is temporarily stored in the MSVP in Bohunice. The fuel is stored in pools filled with demineralised water. As of 31 December 2024, the MSVP was filled to approximately 98 % of its total capacity.

In 2021, the construction of the dry part of the MSVP was started, which will be able to store 10,115 assemblies in dry form. These assemblies will be stored in special packaging units cooled by natural air circulation. In January 2024, the Authority issued the Final Decision for commissioning and operation of the dry part of the MSVP. At the end of February, following the entry into force of the Final Decision, the NI started to be commissioned in the scope of the active testing programmes.

In the framework of inspection activities in 2024, two inspections were carried out at the Bohunice MSVP focused on the safety of SNF storage, and one inspection of the commissioning of the dry part of the MSVP. The aim of the inspections was to check compliance with the L&Cs and operating procedures for the operation of the individual facilities, as well as the preparedness of the operating personnel in the event of an undesirable event. In none of the cases were violations of nuclear safety conditions and operating procedures detected. The operating staff demonstrated a high level of preparedness and knowledge and procedures in the event of abnormal operation. A fuel handler malfunction occurred during commissioning. However, during this event, there was no damage to the fuel assemblies and no leakage of radioactive materials. Once the fault was eliminated, safe commissioning resumed.

b) Technology for RAW Treatment and Conditioning (TSÚ RAO)

The TSU RAO includes the Bohunice Radioactive Waste Treatment Centre (BSC RAO), a fragmentation line, a large capacity decontamination line, a spent air filter

treatment plant, a wastewater treatment plant and RAW storage facilities. The BSC RAO serves as the main facility for the final treatment of RAW prior to its disposal at the National RAW Repository in Mochovce (RÚ RAO).

In addition to cementation, incineration, fragmentation, high-pressure compacting, remelting and concentration enhancement by evaporation, are also used to process and treat RAW. The resulting products of the RAW treatment and conditioning are placed in a fibre concrete container (FCC) to meet the conditions for disposal at the RÚ RAO.

In 2024, the Authority reviewed the changes in the operating procedures, L&C of the Safe Operation of the TSU RAO, Justification of the Limits and Conditions for the Safe Operation of the TSU RAO, and issued approval for the implementation of the change in the operating procedures Dealing with abnormal operating conditions in TSU RAO, Pre-operational Safety Report for TSU RAO, Optimisation of TSU RAO treatment capacities - HP compacting, List of classified equipment for NPP A1, TSU RAO, MSVP and FS KRAO, Conceptual Plan for Decommissioning of TSU RAO; and approved the documentation of the Quality Management System of the licence holder JAVYS, a. s., within the scope of the Quality Assurance requirements for classified equipment and the Nuclear Facilities of JAVYS, a. s., and their boundaries.

c) National RAW Repository Mochovce (RÚ RAO)

The RÚ RAO is intended for the disposal of low-level radioactive waste (LRW) and very low-level radioactive waste (VLRW) from the operation and decommissioning of NIs. The LRW and VLRW disposal activities were carried out as standard. In 2024, 404 pieces of FCCs with LRW and 1,248.23m3 of VLRW were disposed of. The construction of the 4th double row continued throughout the year. In December, the Authority initiated administrative proceedings to give consent for the implementation of a change in the scope of commissioning and operation of the 4th double row of LRW disposal boxes and for the final approval decision under the project „Construction of the 4th double row of the LRW repository at RÚ RAO Mochovce“, in the framework of which an internal assessment of the submitted documentation was in progress.

The special inspection activity, mainly aimed at checking the readiness of the 4th double row of storage boxes for LRW disposal, has been postponed from Q4/2024 to Q1/2025.

d) Final Treatment of Liquid RAW Mochovce (FS KRAO)

The purpose of the FS KRAO facility is the final treatment and conditioning of liquid RAW (radioactive concentrates, saturated sorbents and sludge) produced in EMO1, 2, certain types of solid RAW from the operation of the units of this power plant and the conditioning of treated solid RAW from other NIs. The capacity of the process lines far exceeds the production of RAW from the Mochovce Units. The technologies for treatment of radioactive concentrates by bituminisation in the film rotor evaporator and thickening in the concentration evaporator are located in the FS KRAO.

The discontinuous bituminisation line (DBL) is used for fixation of radioactive sorbents. On the cementation line, the treated RAW and other solid or solidified RAW are subsequently loaded into the FCCs and covered with an active cement grout. FCCs are shipped and disposed in RÚ RAO. In 2024, the Authority reviewed changes to the operating procedures, L&Cs for the safe operation of the FS KRAO and the Pre-Operational Safety Report for the FS KRAO. The operation of the FS KRAO in 2024 consisted mainly of the conditioning of the RAW by cementation to the FCCs on the cementation line.

e) Integral RAW Storage facility (IS RAO)

The facility is intended for long-term storage of RAW from NPP decommissioning. In addition, it is used for the temporary storage of intermediate RAW until the decrease in radioactivity over time allows its release into the environment. By Decision No. 423/2017, the ÚJD SR issued an authorisation for the operation of the IS RAO. In 2020, Decision No. 330/2020 was issued by the Authority authorising the change of use of the IS RAO structure. This change consisted of changing the originally approved activity inventory of 8.41x1014 Bq to a design inventory of 1x1018 Bq. During 2023, RAW from the NPP V-1 and NPP A-1 decommissioning projects were gradually received at the facility, with a total activity of 1.78x1016 Bq.

In 2024, the Authority reviewed changes to the operating procedures, L&Cs for the safe operation of the IS RAO, Justifications for L&C for the safe operation of the IS RAO and issued approval for the implementation of changes to the operating procedures, Pre-operational Safety Report for the IS RAO at Bohunice, Plan for the radioactive waste management of the IS RAO and Technological Regulation for the IS RAO.

During 2024, inspections focused on the control of the method of acceptance of RAW for storage, on the control of the RAW status records in the IS RAO. The Authority also focused on the compliance with the requirements for the safe operation of the facilities in accordance with the operational documentation.

f) Shipments of Radioactive Waste

By continuous type-approval of transport equipment, issuing shipment permits and approving international shipments in accordance with Council Directive 2006/117/ on the supervision and control of shipments of RAW and SNF, the ÚJD SR created conditions for maintaining a functioning and safe system in order to ensure the necessary shipments of RAW between various technologies and reactor units, as well as imports of RAW for treatment on the TSU RAO treatment lines and return shipments of treatment products to the countries of RAW origin.

Specifically, in 2024, based on the applications and following the assessment of the submitted documentation, the ÚJD SR issued an authorisation to JAVYS, a. s., for the road transport of radioactive materials in a combined way in a transport equipment of FRC AS IP type fibre concrete container for the conditions of a shipment of type A and for the road transport of radioactive materials in a transport equipment of the type PK/SK container for the conditions of a shipment of type A. At the same time, the ISO 20□ container was type-approved as shipping equipment for Type 2 industrial consignment conditions (PZ-2) and the PK90 type shipping equipment for Type B (U) consignment conditions.

In the field of international RAW shipments, the Authority did not issue any new authorisations for RAW shipments or imports of RAW during 2024. The Authority controlled and evaluated the fulfilment of the requirements for the submission of Section A-6 of the Standard Document in connection with the international RAW shipments from the Czech Republic for treatment by high-pressure compacting at the TSÚ RAO.

2.4.2 Nuclear Materials

2.4.2.1 Accounting for and Control of Nuclear Materials

The ÚJD SR is the state authority responsible for the supervisory activities in the field of peaceful uses of nuclear energy. In the Slovak Republic, NMs may be used only for peaceful purposes and in accordance with the licence for activities issued by the ÚJD SR only to those applicants who demonstrate their ability to manage NMs in accordance with the applicable legislation and the international obligations of the Slovak Republic.

The Slovak Republic is bound to accept the NM safeguards by the Treaty on the Non-Proliferation of Nuclear Weapons and the resulting Agreement on the Implementation of Article III, (1) and (4), of the Treaty on the Non-Proliferation of Nuclear Weapons and its Additional Protocol. At the same time, the acceptance of the NM safeguards is a fundamental first step towards the peaceful uses of nuclear energy. An important instrument in the field of safeguards on NM is the State System for the accounting for and control of NM, which is maintained by the ÚJD SR pursuant to the Atomic Act.

In addition to the requirements of the NM Safeguards Implementation Agreement and its Additional Protocol, SR is also bound by the requirements of EU legislation arising from the Euratom Treaty and related legislation, such as Commission Regulation (Euratom) No. 302/2005 on the application of the Euratom safeguards system. Also, UN Security Council Resolution No. 1540/2004 commits UN Member States in the field of the use of nuclear energy to take transparent measures to enhance non-proliferation control. The aim of these measures is to prevent illicit trafficking in NM and other nuclear items.

The purpose of the State System of accounting for and control of NM in the Slovak Republic is to keep records of all NMs declared in the territory of the Slovak Republic, to confirm the consistency between the declared data and the actual status, to detect the loss of NMs, to provide information that could lead to the recovery of missing NMs, to prevent the unauthorized use of NMs, to cooperate in the detection of unauthorized use of NMs and to provide up-to-date information on the number and location of NMs in the Slovak Republic. The accuracy of the data held in the national system for the accounting of NMs is verified by inspections.

An effective system of NM accounting for and control is the basis for independent verification of NM on the territory of the SR by inspectors of the ÚJD SR, IAEA and Euratom. This verification confirms that the NMs are used as declared and that they have not been diverted for non-peaceful purposes.

Since 1 September 2009, inspection activities in the area of NM accounting for and control have been carried out under the Integrated Safeguards scheme, which is an optimal and efficient combination of all safeguards activities carried out in accordance with the legal framework.

In 2020, the State Level Approach for the Slovak Republic was approved. The "SLA" concept is the next level of the IAEA's approach, in which the IAEA considers and assesses a wide range of information on a state's nuclear capabilities and tailors the safeguards procedures applied in that state to the results of that assessment. Implementing this approach will allow the IAEA to better allocate resources and focus its efforts on States with any suspected nuclear safeguards concerns.

Within the framework of the inspection activities in the field of NM accounting for and control, in 2024, the ÚJD SR carried out 40 inspections. The inspections at nuclear installations were carried out in the presence of international inspectors. The exception are usually inspections aimed at checking the fuelling of the reactor core. In the case of inspections of licence holders for the management of NMs outside the NI, 6 inspections were carried out in the presence of international inspectors. The remaining inspections were conducted as separate inspections by the ÚJD SR.
The activities of the ÚJD SR also include the control and processing of the registration reports sent to the ÚJD SR by the holders of authorisations. These are entered into the national NM accounting system, and the accuracy of the data is also checked. For the nuclear material balance area, covering licence holders for the management of nuclear material outside the NI, the ÚJD SR sends monthly registration reports to Euratom.

In 2024, the ÚJD SR also cooperated in the process of implementation of NM safeguards in the framework of the project for the completion of the spent nuclear fuel storage capacity and participated in IAEA and Euratom activities related to it.

Furthermore, within the scope of its competences, the ÚJD SR is also responsible for the timely reporting to Euratom and the IAEA of the reports prepared on the basis of the requirements of Article 2 of the Additional Protocol to the Trilateral Safeguards Agreement. In 2024, 10 such reports were sent by the ÚJD SR. These reports are further confirmation of the fact that only activities related to the peaceful uses of nuclear energy are carried in the Slovak Republic and that non-proliferation commitments are respected.

Pursuant to Section 5(2)(n) of Act No. 541/2004 Coll. on the peaceful use of nuclear energy and on amendments to certain acts, as amended, the ÚJD SR issues authorisations for the NM management outside a nuclear installation. In 2024, 6 such authorisations were issued.

Based on the results of the inspections and checks of the registration and operational records of the licence holders, it can be clearly stated that in 2024 nuclear materials in the Slovak Republic were used only for peaceful purposes. The Slovak Republic is in full compliance with its international obligations in the field of safeguards of nuclear materials and the data in the State system for the accounting for and control of nuclear materials are fully in line with Euratom and IAEA data.

2.4.2.2 Shipments of Nuclear Materials

Supervisory activities to ensure nuclear safety during shipments of SNF were carried out in accordance with the Atomic Act, Decree No. 57/2006, as amended by Decree No. 105/2016, and international standards and recommendations. During the period under review, shipments of fresh nuclear fuel (FNF) from the Russian Federation to Bohunice NPP and Mochovce NPP were carried out. The FNF was transported by rail and combined (air and road) transport via the transhipment airport. Shipments of spent nuclear fuel (SNF) from the EBO V-2 units also took place in 2024. The shipment of SNF from the EMO NPP to the MSVP will be carried out in 2025. In addition to the licence holders and the Authority, other institutions were also involved in the shipments, e.g. the Police Corps of the SR, the Office of Civil Protection of the Ministry of Interior of the SR, the Fire and Rescue Corps, the Railways of the SR and others. Nuclear safety and physical protection were provided during transport in accordance with the legislation in force.

In 2024, the Authority's inspectors carried out a total of 12 inspections of shipments of FNF and SNF. The inspectors found no serious deficiencies.

2.4.2.3 Illicit Nuclear Materials and Radioactive Materials Trafficking

The fight against illicit trafficking in NMs is international in nature and the various State authorities coordinate their activities aimed at preventing and detecting illicit trafficking in NM not only with each other, but also engage in cooperation with international organisations. The illicit trafficking of NMs is an international crime and international cooperation allows for its early and successful detection.

Cooperation with the U.S. within the framework of the Joint Action Plan of the Slovak Government and the U.S. Government to Combat Illicit Management of NM, RAM and Related Technologies continues. Within the framework of this cooperation, the ÚJD SR experts participate in conferences, meetings, courses and joint exercises are organised. Information exchange is an important part of the cooperation. The Authority ensures the exchange of information at international level in the Incident and Trafficking Database, which is operated by the IAEA. Currently, 145 States from all over the world, including Slovakia, contribute to this database. Timely exchange of information contributes to increasing the effectiveness of the fight against illicit trafficking in NMs.

2.4.2.4 Inspection of storage of fresh nuclear fuel and spent nuclear fuel

In 2024, scheduled inspections were carried out to check the storage of FNF and SNF at power plants. The FNF is stored in the fresh fuel storage facility in the main generating unit of the plant. The SNF is stored at the plants in the SNF pool near the reactor. Spent fuel is stored there until such time as it can be shipped to the MSVP at the Jaslovské Bohunice site. This period ranges from 3 to 7 years. At the Bohunice V-2 NPP, NPP Mochovce 1, 2 and NPP

Mochovce 34 sites, a total of 5 inspections were conducted and no serious deficiencies were detected and the operation of the FNF storage and SNF pools was assessed as safe in accordance with the requirements of the Atomic Act, the Limits and Conditions and the applicable regulations.

In 2024, SE, a.s., submitted applications to the Authority regarding the expansion of storage capacity at the FNF storage facilities. The design documentation has been assessed by the majority of the Authority's technical departments. At the same time, these changes were also subject to a screening procedure conducted by the Ministry of Environment of the SR.

In February, the dry section of the MSVP became operational. The entire commissioning process was supervised by inspection. The inspection was aimed at checking compliance with nuclear safety and the implementation of all activities according to the commissioning programme.

2.4.3 Security of NI and NM

Physical protection consists of a set of technical, regime or organisational measures necessary to prevent and protect against unauthorised activities with NI, NM, special materials and equipment, when handling RAW, SNF, when transporting RAM, as well as unauthorised intrusion into the NI and sabotage.

The obligations of the SR in the field of physical protection of NM result from the accession to the Convention on the Physical Protection of Nuclear Material – INFCIRC 274/rev.1, which was signed by the Government of the Czechoslovak Socialist Republic on 8 February 1987.

The Amendment to the Convention on the Physical Protection of Nuclear Material was adopted in Vienna on 8 July 2005 and entered into force on 8 May 2016.
According to the Amendment to the Convention on the Physical Protection of Nuclear Material, one of the fundamental principles is Principle G: "Threat". This principle states that "Physical protection by the State should be based on the State's current threat assessment". Government Resolution No. 229/2009 approved the "Proposal for the determination of the threat by nuclear installations and to nuclear installations and nuclear materials in the framework of the design-basis threat to the State". This document is the initial basis for the determination of the design basis threat for the NIs. Based on the Resolution, a permanent inter-ministerial WG was established by the Chairperson of the Authority to update the determination of the threat by nuclear facilities and to NIs and nuclear materials within the framework of the design-basis threat to the State, which was actively working also in 2024. On 3 April 2024, the Security Council of the SR adopted Resolution No. 855, which took note of the update of the "Determination of the threat by nuclear facilities and to nuclear facilities and nuclear materials within the framework of the design threat to the State". In addition to the update of the document in question, the Group reviewed the threat assessment in relation to the provision of physical protection, cyber security, operational handling of situations arising from incidents, either in the Slovak Republic or abroad, which have an

impact on the physical protection of NMs and NIs.

The requirements for physical protection of NM and NIs for SR are defined by the Atomic Act, the ÚJD SR Decree No. 51/2006, establishing details on the requirements for physical protection and the requirements for physical protection for RAM shipments, the ÚJD SR Decree No. 57/2006, establishing details on the requirements for RAM shipments, as amended by the ÚJD SR Decree No. 105/2016.

The ÚJD SR focused its supervisory activities in this area on the control of the operation of the technical systems of physical protection, regime protection at JAVYS, EBO, EMO and MO3,4, as well as the control of the physical protection during the shipments of FNF and SNF.

Physical protection at JAVYS, a. s. was ensured in accordance with the approved physical protection plans for NI at the JAVYS, a. s., Jaslovské Bohunice site. Physical protection at the RÚ RAO site was also ensured in 2024 in accordance with the approved documents "Physical Protection Plan of JAVYS, a. s., for the RÚ RAO Mochovce site", edition 3 and its amendment.

Physical protection at EBO was ensured in accordance with the approved EBO Physical Protection Plan and its Authority-approved amendments. In 2024, the Authority reviewed and approved a number of changes to the physical protection plans of the SE-EBO in connection with temporary changes in the physical protection performance.

The provision of physical protection at the EMO and MO3,4 site was in accordance with the approved EMO and MO3,4 physical protection plans and their previous Authority-approved amendments. At the same time, the Authority reviewed and approved the 'SE-EMO Physical Protection Plan, edition 2, revision 7' and the 'SE-MO34 Physical Protection Plan, edition 2, revision 1".

Furthermore, the Authority reviewed and approved the physical protection plans for RAM - FNF shipments in the territory of the SR and for SNF shipments from EMO to MSVP.

Physical protection exercises were carried out at the sites with the participation of representatives of the Authority to verify the effectiveness of the physical protection system. The exercises focused on the response and coordination of the activities of all physical protection components to the situation. The readiness of the training staff of the licence holder, the operators

of the physical protection control centres, the physical protection units - private security services and the SR Police to react to the handling of the simulated situation was tested, as well as the verification of the system of connection and communication between the individual physical protection units.

During 2024, the ÚJD SR carried out inspections focused on the physical protection of the NIs and NMs, and on the physical protection of FNF and SNF shipments. Inspection activities were, in accordance with the inspection procedure of the ÚJD SR, focused on the provision of regime protection, the manner of carrying out the control of entries and vehicle entrances, comparison of the condition of the technical means of the physical protection system with the legislation in force and with the state agreed in the documentation for each individual NIs.

During 2024, 14 inspections focused on physical protection of the NIs and NMs were carried out by the ÚJD SR and at the same time inspections were conducted to ensure physical protection of RAM shipments.

In 2024, the ÚJD SR also carried out 2 inspections focused on nuclear security culture. The concept of nuclear security culture is one of the basic principles stated in the Amendment to the Convention on the Physical Protection of Nuclear Material, which states that “all organisations involved in implementing physical protection should give due priority to the security culture, to its development and maintenance, necessary to ensure its effective implementation in the entire organisation”. In 2024, 2 cybersecurity inspections were also carried out at licence holders. By cybersecurity of NIs and NMs we mean the protection of the confidentiality, integrity and availability of data, computer systems and their processes/networks, as well as their ability to resist unauthorised or malicious actions that could compromise the confidentiality, integrity or availability of the data stored, transmitted or processed or related services provided or accessed through these networks and information systems. In view of the obligations of the Slovak Republic arising from the Convention on the Physical Protection of Nuclear Material and its Amendment, and given the fact that the cyber security of nuclear installations is part of the nuclear security, cyber security inspections are also carried out by the Authority. In the field of cybersecurity, the IAEA issues publications (in accordance with the Convention on the Physical Protection of Nuclear Material and its Amendment), which are used by the ÚJD SR as reference documentation for its

supervisory activities. These publications document best practices and requirements for the implementation and maintenance of the physical protection system of the NM and the cyber security of the computer systems of the NIs.

2.4.4 Special Building Authority

The Authority exercises the powers of the building authority according to Act No. 50/1976 Coll. on spatial planning and building regulations (Building Act) for constructions of the NIs and constructions related to the NIs located in the area delimited by the boundaries of the NI. This means permitting of constructions, alterations to constructions, maintenance works, issuing decisions on the use of structures and removal of structures.

In 2024, the most important activities within the scope of competence of the Building Authority were the issuance of building permit and final approval permit related to the enhancement of nuclear safety of the operating NIs, decommissioning of NPP Bohunice A-1 and NPP Bohunice V-1, as well as the completion of the SNF storage capacities for the licence holder JAVYS, a. s.

2.4.5 Emergency Planning and Preparedness

Emergency preparedness includes the capability of the licence holder and relevant public authorities to activate and implement the necessary activities and measures to effectively identify and manage incidents or accidents at the NIs or during the transport of radioactive materials. These actions shall be aimed at minimising the risk of harm to the life and health of workers, the public, damage to property and the environment. Therefore, licence holders for the operation of NIs develop emergency documentation that specifies the procedures and organisation of work for coping with different levels of emergencies. The main document in this area is the on-site emergency plan, approved by the Authority. In order to ensure emergency preparedness activities, such as the planning and preparation of organisational, personnel, material and technical means and measures for the successful management of crisis and emergency situations according to the classified event, the licence holder shall have established an emergency response organisation, an emergency control centre and other facilities dedicated to emergency preparedness. Members of both the emergency response organisation and

the licence holder participate annually in exercises and drills to acquire and maintain skills in emergency operations, with an exercise involving the entire emergency response organisation being conducted at least once a year. These exercises have been carried out at all NIs and in 2024 at both Mochovce and Bohunice sites.

As the NI operating licence holders, licence holders for the shipments of radioactive materials (e.g. fresh nuclear fuel, spent nuclear fuel, radioactive waste and other nuclear materials) also develop their emergency management procedures - emergency traffic schedules. These include actions and precautions to be taken in the event of incidents during the transport of the above materials. The Authority controls and assesses these plans and the Ministry of Transport approves them.

The district authorities, whose territory is located in the emergency planning zone of one of the NIs, develop Public Protection Plans, which include, among other things, a section on counter-radiological measures. These describe the tasks involved in ensuring the protection of the public against the effects of ionising radiation, their implementation, other technical information and various summaries needed to ensure urgent and rapid decision-making. The plans specify the management, control and response organisation mechanisms, with emphasis on the preparedness of crisis management bodies, executive bodies in the event of an emergency occurring as a result of an accident at a NI, as well as the interconnection with the on-site emergency plans of the holder of the NI operating licence. The Public Protection Plans are assessed by the Authority and subsequently approved by the Ministry of the Interior of the SR.

For effective communication in the event of a nuclear accident or radiation emergency (such as an incident or accident at a NI, during shipment of radioactive materials, seizures of radioactive materials, losses, recoveries, thefts of radioactive sources) in the Slovak Republic or similar incidents abroad, the Authority has established a Point of Contact, which is staffed by designated employees of the Authority. In order to harmonise the procedure for mutual information between the various ministries in the event of the occurrence or detection of an incident related to sources of ionising radiation, the obligation to inform the public and the international community of significant events related to the use of sources of ionising radiation, as well as the criteria for informing the Point of Contact, the Authority has issued a common guideline with the ministries concerned. The Authority is also the competent authority

for requesting assistance from the IAEA.

The Authority uses its Emergency Response Centre (ERC) to independently assess emergency incidents, analyse their progress and potential consequences. The Emergency Staff, which is formed from the Authority´s staff, assesses the possible evolution of an incident based on the state of NI technology and develops proposals for recommended urgent actions to protect the public in the early phase of such incidents, such as sheltering, iodine prophylaxis, or evacuation. These activities are practiced by the Emergency Staff on a regular basis during shift-, site- or interoperability exercises of individual NIs. Employees of the Public Health Authority of the SR, as members of the external Emergency Staff, also cooperate in the forecast of the incident development, which assists in the design of protective actions. In addition to the above-mentioned exercises at individual sites and during transport of radioactive materials, the ERC regularly participates in exercises organised at international level. These are the annual ConvEx series exercises, organised by the Vienna-based IAEA, the ECUREX exercises under the auspices of the EC and, in 2024, the INEX series exercises organised by the Organisation for Economic Co-operation and Development (OECD) and its Paris-based Nuclear Energy Agency (NEA). The sixth INEX exercise took place in February 2024, in cooperation with relevant ministries and organisations, jointly addressing issues related to the long-term management of the recovery phase one year after the incident. This was a fictitious incident that happened during the RAM transfer. The conclusions of this exercise were subsequently sent by the participating countries to the OECD/NEA, with a joint evaluation expected in 2025. The lessons learned should then be used to improve the response to similar incidents.

The Authority's inspectors also focus annually on the area of emergency preparedness, with inspections of licence holders in 2024 focusing on reviews of training, exercises and inspection of documentation relating to on-site emergency plans. In addition, they also reviewed the facilities and means for emergency preparedness and monitoring in the vicinity of the NIs and checked the fulfilment of the legislative obligation to send technological, radiation and meteorological data to the Emergency Response Centre. Inspections were also carried out with holders of licences for the transport of radioactive materials, where preparedness for response to transport incidents was checked.

2.5 International Cooperation

2.5.1 Cooperation with the European Union and the European Atomic Energy Community

In the context of Slovakia's membership in the EU and in the European Atomic Energy Community (Euratom), in 2024, the ÚJD SR performed the tasks and fulfilled the obligations arising from this membership. Representatives of the ÚJD SR actively participated in the discussions of the working groups of the Council of the EU, as well as in the meetings of the working committees and groups of the EC, defending the interests of the Slovak Republic as experts in the areas related to the competences of the ÚJD SR, in particular in relation to the obligations and activities arising from the Treaty establishing the European Atomic Energy Community (Euratom Treaty).

One of the most important working groups of the Council of the EU in terms of nuclear safety is the Working Party on Atomic Questions (WPAQ). In the first half of 2024, the Council of the EU was chaired by Belgium (BE PRES) and in the second half of the year by Hungary (HU PRES). Experts of the ÚJD SR participated in the meetings of the WPAQ as needed, while the position of the SR was prepared for each meeting in close cooperation with the Ministry of Economy of the SR and the Permanent Representation of the SR to the EU in Brussels. The main topic during BE PRES was the proposal for a Council Decision approving the EC (Euratom) Regulation on the application of the Euratom Community safeguards system to nuclear materials. This Commission initiative was intended to replace the currently applicable Commission Regulation (Euratom) 302/2005. The ÚJD SR, as the sponsor of the Regulation, cooperated closely with the NM holders (SE, a. s., JAVYS, a. s., JESS, a. s.) in promoting the interests of the SR. In June 2024, deliberations on the above proposal within the WPAQ were concluded with the adoption of a presidential compromise text - the Political Agreement. At the same time, the Council Conclusions on the security of supply of medical radioisotopes for medical purposes were adopted during BE PRES. During both BE PRES and HU PRES, the current security situation in Ukraine (UA), in particular the report on the Commission and IAEA activities carried out in relation to UA and the impact of Russia's military aggression on UA nuclear facilities, resonated during the negotiations.

At the meetings of the European Nuclear Safety Regulators Group (ENSREG) the

current safety situation in UA nuclear facilities and the account of the implemented activities for UA performed in cooperation with the IAEA were discussed. Furthermore, ENSREG activities in the past period focused mainly on the preparation of the 2nd Peer Review, Stress Tests in third countries, information on the activities of the ENSREG subgroups, the need for communication between the regulators and the industry in the framework of the Industrial Alliance on Small Modular Reactors and the coordination of the 8th Review Meeting on the Joint Convention on the Safe Management of Spent Fuel and on the Safe Management of RAW.

The 7th ENSREG Conference on Nuclear Safety in Europe was held in Brussels in June 2024 under the auspices of ENSREG and in cooperation with the Commission. The conference reflected the growing interest in nuclear energy, in particular with regard to the decarbonisation of the industrial sector through the introduction of new technologies, such as small modular reactors, and the response of nuclear regulators to the need for licensing of new technologies and international cooperation and coordination of the approach to licensing in the new context. There were also discussions on strengthening regional nuclear capacities, building trust and transparency towards the interested public, and the use of artificial intelligence in nuclear energy sector.

During 2024, a second topical review on the protection of nuclear installations against fire was conducted pursuant to Article 8(e) of Council Directive 2014/87/Euratom to share operational experience, review fire protection measures for nuclear installations, identify good performance and areas for improvement. The process started in the previous year with a self-assessment and a National Assessment Report on Fire Protection of Nuclear Installations in Slovakia, which was reviewed by other Member States and the Commission, followed by a discussion at the autumn workshops in Luxembourg, where the National Report was defended and additional questions were answered. The result is a draft Final Assessment Report, as well as a report for the SR, based on the findings of which an Action Plan will be prepared in 2025. No new findings beyond those identified by the SR in the self-assessment have been identified.

During 2024, tasks were coordinated and obligations under Article 37 of the Euratom Treaty were fulfilled. In February 2024, notification was made to the Commission of the general data pursuant to Article 37 of the Euratom Treaty concerning the phase V of decommissioning of the A-1 NPP and the subsequent release of the A-1 NPP site from administrative control. In May 2024, the Commission sent additional questions on the text and asked for

answers. In July 2024, the answers were forwarded to the EC. Subsequently, on 18 December 2024, the Commission's Opinion was published in the Official Journal of the EU under C/2024/7439 and the process was closed.

In May 2024, the Commission published the Third Report from the Commission to the European Parliament and the Council on the progress in the implementation of Council Directive 2011/70/EURATOM and the inventory of radioactive waste and spent fuel present in the territory of the Community and on the forecast of future developments in the shipment of RAW and SNF by the Member States, which the Commission prepared based on the National Reports of the Member States, including SR. The report covers the years 2018-2021. The conclusions state that radioactive waste and spent fuel was managed safely in the Member States during the period under review and that the system of self-assessment and international peer reviews is in line with the needs and leads to continuous improvement in waste management. The main issues to be addressed are the control and financing of the programmes, as well as the review and updating of the national programmes.

At the same time, in August 2024, the 4th National Report of the Slovak Republic in accordance with the relevant provisions of Council Directive 2011/70/Euratom establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste was sent to the EC. The SR fulfils all its obligations under this Directive.

In the course of 2024, the Inter-Ministerial Coordination Group for the coordination of tasks arising from the articles of the Euratom Treaty, which was established at the ÚJD SR based on the Government Resolution No. 442/2006, continued its activities. Two meetings were held during the year, in June and November 2024. Topical issues such as the preparation of the Report under Council Directive 2011/70/Euratom, the activities of the Nuclear Alliance, the results of the INEX 6 exercise, the ENEF meeting, as well as the topic of small modular reactors (PHOENIX, NEXT) were discussed at the meetings, while recommendations for the implementation of the Euratom Treaty were also adopted.

2.5.2 Cooperation of European Nuclear Regulators (WENRA)

WENRA is an independent association of Western European Nuclear Regulators dedicated to the development, implementation and dissemination of harmonised

reference levels of nuclear safety. WENRA's mission is to work together with regulators to continuously improve and harmonise the safety of NIs in the EU, Switzerland and other WENRA Member States. Currently, the association has 18 full members, including the ÚJD SR. In addition to the full members, the supervisory authorities of other countries also participate in the activities of WENRA (with the status of associate member or observer). The ÚJD SR actively works in two working groups - the WG on Harmonisation of Requirements for the Safety of Nuclear Reactors and the WG on Harmonisation of Requirements for the Safety of RAW Management and Decommissioning of NIs.

2.5.3 Cooperation with the International Atomic Energy Agency (IAEA)

The IAEA, based in Vienna, plays the most important role in the field of international cooperation due to its political, technical and international importance and the wide range of possibilities within the framework of technical cooperation and assistance programmes in the field of peaceful uses of nuclear energy, use of nuclear applications for energy and non-energy purposes, building and strengthening of national expert capacities, exchange of know-how and access to technology in Slovakia. The cooperation of the Slovak Republic with the IAEA in this portfolio was carried out in a cross-sectoral manner, mainly in the field of energy sector, nuclear safety and radiation protection, environment, healthcare, science and research. In 2024, the following took place: the 68th IAEA General Conference (16-20 September 2024), meetings and special sessions of the IAEA Board of Governors (March, April, June, July, September, November, December), the IAEA Board of Governors Programme and Budget Committee (February, May) and the Technical Assistance and Cooperation Committee (November).

Slovak experts actively participated in the work of IAEA expert groups and committees. In terms of the transfer of scientific expertise, know-how and nuclear technologies to the national level, the cooperation between the Slovak Republic and the IAEA was ensured, among others, by the implementation of 3 national, more than 20 regional and 2 inter-regional projects within the IAEA Technical Cooperation Programme (TCP). In the framework of the preparatory phase of the upcoming IAEA TCP 2026-2027 cycle, the Slovak Republic has submitted draft concepts for 4 national projects.

Slovak experts also participate in the work of the review committees of the

Commission for Safety Standards (CSS), whose main role is the process of preparation and review of new or amended safety standards.

For the year 2024, Slovakia's regular membership contribution to the IAEA of EUR 550,837 and USD 88,605, the contribution to the IAEA Technical Cooperation Fund of EUR 143,040 and the national participation contribution of EUR 14,002 were paid.

In 2024, the Government of the Slovak Republic approved the Action Plan to address the measures from the IRRS Mission in the Slovak Republic, which was prepared by the ÚJD SR in coordination with stakeholders. Coordination of the implementation of the IRRS Action Plan was carried out through the Coordination Committee of Public Authorities in the field of safe use of nuclear energy, whose meetings were held on 26 June 2024 and 14 October 2024. During 2024, the ÚJD SR also participated in the preparation and implementation of the Action Plan for follow-up to the ARTEMIS Mission (2023), in cooperation with other state organisations.

2.5.4 Cooperation with the Comprehensive Test-Ban Treaty Organisation (CTBTO)

On 3 March 1998, the Slovak Government ratified the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and by Resolution No. 514/1997 instructed the ÚJD SR to provide for the function of the National Contact Point for the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO). Despite strong international support, the Treaty has not entered into force to date. The CTBT is now considered one of the cornerstones of global nuclear disarmament.

The ÚJD SR actively participates in the process of preparation for the entry into force of the CTBT, primarily through the participation of its representatives in the meetings of the CTBTO Preparatory Commission and its Working Groups, by hosting CTBTO training courses in the Slovak Republic in the area of On-Site Inspections and by supporting the training of experts and surrogate CTBT inspectors.

Within the framework of the expert-technical and international significance of Slovakia's membership in the CTBTO, the promotion of Slovakia's interests at the CTBTO in 2024 was ensured through Slovakia's participation in the meetings of the CTBTO Preparatory Commission in June and November, the meetings of Working Group B and of Working Group A.

A significant event on the CTBTO's agenda was the official visit of Robert Floyd, Executive Secretary of the CTBTO, to the Slovak Republic on 9 April 2024. In August 2024, the Slovak Republic hosted the filming of an e-learning course for surrogate CTBTO inspectors at the locations where the 25th Regional Induction Course for Surrogate CTBTO Inspectors - RIC-25 exercise was held in 2023. In connection with both of the above-mentioned activities, the Slovak Republic was evaluated very positively by the CTBTO.

For the year 2024, the regular membership contribution of the Slovak Republic to the CTBTO was paid in the amount of

2.5.5 Cooperation with the Nuclear Energy Agency at the Organisation for Economic Co-operation and Development (OECD/NEA))

Pursuant to the Slovak Government Resolution No. 245/2001, the ÚJD SR, as the coordinator of cooperation with the OECD/NEA, manages the effective cooperation between the SR and the OECD/NEA and ensures the fulfilment of the obligations of the SR arising from this membership. At the same time, the ÚJD SR is actively involved in the activities of the OECD/NEA, which are governed by the Steering Committee (SC) for Nuclear Energy. Since 2016, the Chairperson of the ÚJD SR executes the position of the Chair of the SC. Comprehensive information, summarising Slovakia's cooperation with the OECD/NEA for the 4th quarter 2023 and 1st quarter 2024 was sent to the MZVEZ SR on 26 April 2024 and for the 2nd and 3rd quarters 2024 on 30 September 2024. Representatives of the ÚJD SR participated in 147th and 148th OECD/NEA SC meetings, OECD/NEA SC Bureau meetings, as well as the OECD/NEA SC virtual budget meetings and the EU coordination meetings on the agenda of the 147th and 148th OECD/NEA SC meetings. During 2024, the representatives of the ÚJD SR also participated in the meetings of the Standing Technical Committees and OECD/NEA Working and Expert Groups. Active cooperation with the Permanent Mission of the SR to the OECD in Paris continued (e.g. nominations of SR representatives to various OECD/NEA services, registration of SR representatives to relevant meetings, organisation of OECD/NEA SC Bureau dinners, consultations in preparation for relevant meetings.

Membership contributions for 2024 to OECD/NEA of EUR 52,759 and to NEA Data Bank of EUR 12,614.70 were paid in full and on time.

2.5.6 Compliance with Obligations Under International Instruments

The Convention on Nuclear Safety

The Convention on Nuclear Safety was ratified by the Slovak Republic on 23 February 1995. Pursuant to Article 5 of the Convention, the Slovak Republic has prepared the 9th National Report of the Slovak Republic, which was sent to the IAEA in August 2022. The National Report contains basic information on how the Slovak Republic is complying with the relevant articles of the Convention. The National Report in question was subsequently discussed at the Joint 8th and 9th Review Meetings of the Convention, which took place from 20 to 31 March 2023 at the IAEA Headquarters in Vienna. Representatives of States Parties commented positively on the comprehensive and informative nature of the National Report, highly appreciating its compactness, transparency and the wealth of technical information provided (the National Report of 2022 is available from the ÚJD SR website: www.ujd.gov.sk).

The Joint Convention on the Safety of SNF Management and on the Safety of RAW Management

The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention) entered into force on 18 June 2001. Under Article 30 of the Joint Convention, in 2024 the Slovak Republic prepared a national report in accordance with the Joint Convention, which was sent to the IAEA in August 2024. This National Report (available on the ÚJD SR website www.ujd.gov.sk) will be discussed during the 8th Review Meeting of the Parties to the Joint Convention to be held from 17 to 28 March 2025 at the IAEA Headquarters in Vienna.

The Non-Proliferation Treaty

Under the Agreement between the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of Germany, the Republic of Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the European Atomic Energy Community for the implementation of Article III (1) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons and its Additional Protocol, inspections were carried out by Euratom and IAEA inspectors. No violation of the Slovak Republic's non-proliferation and safeguards obligations was found in any of the cases.

In 2024, the preparatory process for the 11th Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), to be held in 2026, continued. In 2024, the second meeting of the NPT Preparatory Committee was held in Geneva.

2.5.7 Bilateral Cooperation

Bilateral cooperation is implemented at governmental level, in particular with neighbouring countries, and at the level of nuclear and radiation safety regulators. The ÚJD SR regularly organises meetings with representatives of governmental and other partner organisations of neighbouring countries.

Annual bilateral and multilateral meetings on nuclear and radiation safety issues of common interest were held also in 2024. On 11 and 12 April 2024, a bilateral meeting of representatives of the nuclear safety supervisory authorities of the Slovak Republic (ÚJD SR) and the Republic of Poland (PAA) was held in Tomášov. The participants informed each other about the current development of the activities of the supervisory authorities and the most important activities in the recent period. They also discussed current issues related to the safety of nuclear installations in their countries, supervisory and legislative frameworks and developments in international affairs. The next bilateral meeting will take place in 2025 in the Republic of Poland.

On 14 and 15 May 2024, a multilateral meeting of the representatives of the nuclear safety regulatory authorities of the Slovak Republic (ÚJD SR), the Czech Republic (SÚJB), the Republic of Finland (STUK), the Republic of Hungary (OAH) and the Republic of Slovenia (SNSA) was held in Balatonfüred, Hungary, where for the first time representatives from the Polish regulatory authority (PAA) were also invited. The participants of the meeting informed each other about the latest developments of the activities carried out in the framework of their respective supervisory activities over the last period. They also discussed current issues related to the safety of nuclear installations in their countries, the regulatory and legislative frameworks, developments in international affairs (including EU/Euratom), international projects in which the regulatory authorities from these countries are involved, as well as the diversification of the nuclear fuel supplies. The next multilateral meeting is planned for 2025 in the Republic of Slovenia.

On 17 and 18 June 2024, the ÚJD SR organised the 31st bilateral meeting of the delegations of the Slovak Republic and the Republic of Austria on issues of common interest related to nuclear safety and radiation protection in Voderady. The partners informed each other about the latest developments in the field of nuclear safety and radiation protection, activities of supervisory authorities and relevant institutions, commissioning and operation of nuclear facilities, changes in legislation, as well as developments in the field of radiation monitoring in both countries. Topics discussed also included emergency preparedness, decommissioning of nuclear installations and the issue of a new nuclear power source in the Slovak Republic. The next bilateral meeting will take place in 2025 in Austria.

During 2024, communication with other partners also continued at a high level. Information was exchanged on the state of nuclear safety in national territories and issues of common interest were consulted and common positions adopted.

2.6 Public Relations

Communication and informing the public by all available means and channels is one of the main priorities of the ÚJD SR, which results from its status and competence.
Also in 2024, the Authority's external communication was conducted in accordance with the methodological guidance contained in the Strategy for the Communication of the ÚJD SR with the Public until 2028. The document defines the Authority's objective in the field of communication with the public, determines the strategy and means for achieving the objective, target groups and principles of public communication. The document is reflected in the Action Plan for Public and Media Communication 2024-2025 of the Authority, containing tasks, deadlines and responsibilities leading to the achievement of the set objective.

The primary objective of public communication is to inform the domestic and foreign public about the developments in the scope of activities of the ÚJD SR and to build public confidence in the activities of the ÚJD SR through up-to-date, objective and comprehensible information and two-way open communication. The Authority, as an objective and independent regulator,

continuously creates conditions to ensure proactive information to the public and the media through the press releases, news published on the Authority's website, as well as through profiles on the social network Facebook and LinkedIn. For the foreign public, the website is also available in English version.

The main communication channel with the public is the website, therefore, among other things, the laws and regulations in the field of nuclear safety, related legislation, full texts of the BN, Decisions issued by the ÚJD SR, as well as the ongoing administrative proceedings of the Authority are published and continuously updated on the website. On its website, and also through the open data portal data.slovensko.sk, the ÚJD SR permanently makes available selected open data files, datasets such as all orders, contracts and invoices, list of licence holders, scheduled inspections, list of working groups, etc. In total, the ÚJD SR provides 13 datasets within the open data.

The ÚJD SR website, which was made available to the public in 2021 in accordance with the applicable legislative requirements for public administration information systems, was also subject to continuous development in 2024. The ÚJD SR focused

on further improvements and continued to systematically develop and optimise its website in order to increase its user-friendliness, information level and efficiency. As part of these activities, the functionality of the cookie consent bar was improved in line with current legislative requirements. In 2024, search filters were implemented in the orders and invoices section, allowing faster and easier navigation through the available data for users.

In addition, a new way of displaying administrative proceedings has been developed, ensuring greater clarity and transparency in the communication of the Authority's material activities to the public. As regards the accessibility of the website, inconsistencies have been eliminated and the accessibility statement has been updated as in previous years. Throughout the year, work was carried out to regularly update the content in both language versions so that the public can easily obtain comprehensive and up-to-date information on the Authority's activities. As communication and information provision is one of the priorities of the ÚJD SR, the Authority enables direct contact with the public and media through a special e-mail address: info@ujd.gov.sk.

In 2024, the ÚJD SR answered questions from domestic and foreign media, which mainly concerned the commissioning of Unit 3 of the Mochovce NPP, the completion of Unit 4, the licensing of new nuclear fuel and nuclear safety in the UA. In addition, the Authority issued press releases throughout the year not only on the above issues.

The Chairperson of the ÚJD SR gave interviews on topics closely related to the performance of the Authority's activities. In connection with the operating licence for Unit 3 and the issuance of the commissioning licence for Unit 4 of the Mochovce NPP, the Authority regularly informed about the individual steps not only through administrative procedures, press releases and answers to media questions, but also by regularly updating the website sub-page dedicated exclusively to the completion and commissioning of this NPP.

On the occasion of the 20th anniversary of Slovakia's accession to the EU, the Chairperson of the ÚJD SR received the honorary title of "Alexander Dubček State Prize Holder" awarded by the Government of the Slovak Republic for her significant contribution to the development of nuclear energy and spreading the good reputation of the Slovak Republic in international professional institutions.

During the year, the Authority, as a central body of public administration, also responded to requests for information pursuant to Act No. 211/2000 Coll. on Free Access to Information and on amendments to certain acts ("Freedom of Information Act"), as amended. In 2024, 17 requests were received by the ÚJD SR pursuant to Act No. 211/2000 Coll. on Free Access to Information, of which 16 were handled by full disclosure of information within the statutory time limits (of these 16 requests, 1 request was handled by a reply within the statutory time limit and also by a subsequent referral) and 1 request was handled by referral.

The touch-screen information kiosk, which the Authority has been operating since 2016, also serves a communication and information function for the public. The kiosk is located at the entrance to the headquarters of the ÚJD SR in Bratislava and is accessible to the public 24 hours a day. In addition to the kiosk serving as an electronic official notice board of the ÚJD SR, where ongoing administrative proceedings and all decisions issued by the Authority are clearly displayed, the public also has full access to the website through the kiosk. For greater clarity and easier access to information on the Authority's decision-making activities, a section 'Official Notice Board of the ÚJD SR' has been created on the website, where ongoing administrative proceedings and the ÚJD SR Decisions are clearly displayed.

The ÚJD SR deepens public awareness of its activities and mission in order to build and increase trust in a professional and reliable supervisory authority, which is a credible source of information, also by preparing and publishing information materials, in particular by issuing an annual report each year. Continued attention is paid to clear information to the public and to the fairness of the information published, including inter-ministerial cooperation in the fight against the spread of disinformation.

At the same time, in 2024, the ÚJD SR also made efforts to educate the public on the peaceful and safe uses of nuclear energy through the professional journal Nuclear Energy, in which it is represented on the editorial board and which is distributed free of charge to selected schools, libraries and institutions.

The planning and implementation of the activities of the ÚJD SR towards informing the public is also largely influenced by the results of public opinion surveys, which the Authority conducts on a regular basis

at two levels. A nationwide public opinion survey is alternated with a local survey at an annual interval, where respondents answer questions on the perception of nuclear safety, the provision of information by the licensee and the state supervisory authority, or the level of trust towards stakeholders. In September 2024, a public opinion poll was conducted in Jaslovské Bohunice and Mochovce NI sites by the MEDIAN SK, s. r. o. agency. The results of the survey show that the perception of the safety of nuclear power plants is quite high, with the majority of respondents from both Mochovce and Jaslovské Bohunice considering the plants to be safe.

In terms of awareness of behaviour in the event of a nuclear accident, there was a slight improvement in 2024 in the Mochovce area. The proportion of respondents who consider their awareness to be sufficient (either fully or partially) has increased to 53%, up from 46% in 2022. Conversely, in the Jaslovské Bohunice area there was a slight decrease in awareness compared to previous years, with 50% of respondents considering their awareness to be sufficient in 2024.

Despite the fact that in 2024 there has been a decrease in the number of respondents who are informed about the competence of the ÚJD SR, the Authority still retains a relatively high level of trust, with 60% of respondents in Mochovce trusting or rather trusting it, while in the Jaslovské Bohunice area it is 65 %. The full results of the current survey, as well as the results of previous surveys, are available on the Authority's website.

In 2024, representatives of the ÚJD SR continued to communicate with MPs, representatives of the central government, local government bodies and municipalities. They actively participated in the meetings of the Civic Information Commissions (CICs) in the Bohunice and Mochovce NPP regions, as well as in the meetings of the Association of Towns and Municipalities, Jaslovské Bohunice NPP Region and the Interest-based Regional Association of Towns and Municipalities of Slovakia, Mochovce NPP Region.

3. Internal Activities

3.1 Management System

For an organisation to be successfully led and run, it must be guided and managed in a systematic and transparent way. Success can come from implementing and maintaining a management system that is designed to sustainably improve the performance and effectiveness of the organisation while addressing the needs of all stakeholders. The management system of the ÚJD SR is built in accordance with the requirements of EN ISO 9001:2015, and complemented by specific IAEA requirements in the area of nuclear safety assurance. An advisory body to the Chairperson is the Management System Council, which assesses the concept of the development of the management system, issues of its development and application, the need to carry out reviews, their conditions and requirements, audit reports, evaluations and comparative studies, issues of cooperation, exchange of experience and good practice in the implementation of the management system in the Slovak administration and abroad, and proposes procedures for its improvement, increasing its efficiency and effectiveness.

Risk is an omnipresent and characteristic feature of the functioning of organisations. Risk management is the continuous activity of interrelated activities designed to reduce the likelihood of risks occurring, or to reduce their impact where they are threats, or to exploit opportunities to enhance the organisation's performance, thereby increasing the likelihood that the organisation will achieve its objectives and be able to ensure customer satisfaction. Risk management was integrated into the management system in 2016 by developing a Risk Register. The Risk Register defines and classifies potential or practically occurring risks associated with the activities of the ÚJD SR in a classified manner and includes all other information necessary for risk management. The Risk Register is regularly updated, monitoring identified risks and implementing measures to eliminate or mitigate the most serious risks identified.

In accordance with the annual plan of internal audits of the management system, 3 specifically targeted sub-internal audits were carried out in 2024. The internal audits confirmed that the activities carried

out in the ÚJD SR are governed by the applicable management system directives and procedures. However, the internal audits also resulted in a number of measures to address the identified non-conformities and suggestions for improving the Quality Management System.

Regular employee satisfaction surveys should be the basis for managing employee motivation in an organisation. The measurement of employee satisfaction and motivation in 2024 was conducted at the Nuclear Regulatory Authority of the SR for the seventh time. Almost 70% of employees participated in the survey.
The IAEA Safety Standards emphasize the integration of safety as a broad spectrum phenomenon into the management system of organisations operating in the field of nuclear energy. The safety culture in the ÚJD SR is based on the high professionalism of its employees and a responsible approach to work, which is supported by the ÚJD SR management. Independence is an important prerequisite for a strong safety culture. Independence is achieved by the autonomy of the ÚJD SR as a legal entity, sufficient resources and strong personalities in the leadership of the ÚJD SR. As a result, appropriate working conditions and environment are created for staff, with strong support for staff development and improvement of working practices.

The annual review of the Quality Management System by the management of the organisation, in the evaluation of which all process owners participate, is assessed by the Management System Council of the ÚJD SR. The outcome document is an integral assessment of the status of implementation of the quality policy and objectives, results of audits, periodic review of quality guidelines, implementation of related requirements, describes process performance, product compliance, description of the status of preventive and corrective actions and changes with potential impact on the management system, while also providing recommendations for process, activity and product improvements related to legitimate stakeholder requirements and necessary resources.

3.2 Information Security and Cyber Security

In 2024, after adopting organisational and technical measures, including the implementation of technical tools in the information and communication technology (ICT) infrastructure for cyber security needs, the ÚJD SR focused on the resilience and protection of its cyber environment.

Significant efforts have been directed at preventing and addressing the mitigation of cyber security incidents. To identify current threats and potential vulnerabilities to its information assets, the Authority ensured the monitoring of security threat reports from global knowledge bases.

In order to streamline and computerise services for the needs arising from the statutory obligations of the operator of essential services, a new information system for the administration and management of cyber security management agendas in an integrated and consolidated environment has been designed and deployed by the Authority.

Staff training objectives were met through the implementation of a series of training activities to raise awareness of cyber security in accordance with the 2024 training plan. As part of the organisational measures, security documentation for the cyber and information security policy was developed and updated.

There has been an increase in the number of reported cyber security incidents in the Authority's ICT infrastructure environment in 2024. Increased attention was therefore paid to the regular assessment of data network conditions, cyber hygiene, security of access, availability, confidentiality and integrity of processed and transmitted data.

The most serious threats that have been identified to the Authority's technical infrastructure include in particular those related to the supply chain of services and goods provided. Next is the area of staff capacity, where the potential skills gap in staff is increasingly evident. The misuse of social engineering tools, AI technologies, as well as the impact of threats from foreign state-sponsored actors also pose a threat.

The ÚJD SR adopted and applied security measures for elimination and mitigation of potential threats:

- deployment of the service „Support, maintenance and development of the systems acquired within the framework of the project Increasing the level of information and cyber security of the ÚJD SR",
- activities and processes aimed at the continuous maintenance and improvement of a high level of cyber security in the technical infrastructure environment of the ÚJD SR,
- systematic educational activities on cyber security awareness,
- recording and evaluating current threats and vulnerabilities to the Authority's information assets,
- proactive measures in the area of cyber hygiene of networks, system and application resources and processed data,
- Virtual Cyber Threat Analyst,
- Cyber Security Management" information system.

3.3 Human Resources

Quality human resources management is a prerequisite for achieving the strategic objectives of the ÚJD SR and is an important area of the ÚJD SR management in the implementation of the policy, principles and strategy for further development of nuclear safety. Human resources management is mainly oriented towards improving the quality of work life, which the ÚJD SR strives to achieve in particular through transparent selection procedures, flexible remuneration of employees, as well as continuous training of employees in order to develop human potential and to create

an atmosphere that motivates employees to fulfil the challenging tasks of the ÚJD SR as a supervisory authority.
For 2024, the total number of posts in the budgetary breakdown was 134, of which 122 were civil servant posts and 12 were public service posts. Of the above number, one civil servant post was temporarily allocated to the Ministry of Foreign Affairs of the SR for secondment of a civil servant abroad (Permanent Mission to International Organisations, Vienna) in support of cooperation in the field of peaceful uses of nuclear energy.

The process of filling civil servant (CS) posts in the ÚJD SR is carried out in accordance with Act No. 55/2017 Coll. on the Civil Service and on amendments to certain acts, as amended, and Decree No. 127/2017 Coll. of the Government Office of the SR, laying down the details of selection procedures, as amended.

The process of filling vacancies in the public service is governed by Act No. 552/2003 Coll. on the performance of public service work, as amended, and Act No. 311/2001 Coll. on the Labour Code, as amended. The announcement of selection procedures to fill vacant civil service posts was carried out by the ÚJD SR by publication in the register of selection procedures on the www.slovensko.sk portal, and from 1 June 2024 on the CISSS portal (Central Civil Service Information System). The ÚJD SR publishes the selection procedures for filling the civil servant posts and for filling the public service posts also on the ÚJD SR website. In the case of filling temporary civil service posts, for which there is less interest and in the case of filling posts in the public service posts, the ÚJD SR also publishes the selection procedures via the external job portal.

In 2024, the ÚJD SR has announced 23 selection procedures to fill vacant or temporarily vacant civil service positions. The two selection procedures announced in 2024 will not take place until 2025.

In 2024, the ÚJD SR carried out 17 selection procedures, of which 1 was announced still in the calendar year 2023. The six announced selection procedures (one from 2023) were not implemented due to the fact that no candidate applied; they were short-listed internal selection procedures. 12 civil service vacancies were filled through 17 selection procedures, 3 were unsuccessful, one selection procedure was successful but the candidate who was ranked first did not start in the civil service, one successful selection procedure will result in a civil service contract only in the calendar year 2025, one civil service post was filled following a successful selection procedure in 2023, four civil service

contracts were created in the temporary civil service.

In 2024, five civil servants terminated their employment at the ÚJD SR, two public service employees terminated their employment, and two civil servants were transferred to another civil service office. The main reasons for the termination of the civil service were retirement (3 civil servants) and 2 resignations by a civil servant. One public service employee terminated because of the creation of a subsequent civil service contract and the other because of retirement.

In terms of the actual number of employees, as of 31 December 2024, the ÚJD SR registered a total of 125 employees, of which 113 were civil servants and 12 were employees in public service. As of 31 December 2024, the Authority had 8 vacant civil service posts, of which one female civil servant was on sabbatical leave as of 1 March 2024.

As of 31 December 2024, the representation of women was 63 (52 women in the civil service posts and 11 women in the public service posts) and 62 posts were taken by men (61 men in civil service and 1 man in the public service post). The total proportion of women employed in the ÚJD SR was 50.40%.

In terms of the systematisation of the civil service posts, the ÚJD SR has a total of 81 civil service posts in the civil service department 2.05 Nuclear Supervision, of which 75 were occupied as of 31 December 2024. The Chairman and the Deputy Chairman of the Authority become nuclear safety inspectors on the date of their appointment.

	Total	Women	Men
2.05 Nuclear supervision	75	28	47

Table 6 Civil service posts taken in civil service dept. 2.05 Nuclear Supervision as at 31 December 2024

Gender	Higher edu. 3rd degree	Higher edu. 2nd degree	Higher edu. 1st degree	Complete secondary edu.	Total
Women	6	50	1	7	64
Men	7	53	0	1	61
Total	**13**	**103**	**1**	**8**	**125**

Table 7 Education structure of staff as at 31 December 2024

The educational structure of the employees influences the professional level of performance of the activities of the individual ÚJD SR departments. The analysis of the educational structure shows that 92.80 % of the employees of the ÚJD SR have completed the second level of higher education. This percentage of university-educated employees is related to the demanding nature of the work of the ÚJD SR staff and far exceeds the educational level of the population of the Slovak Republic.

In terms of the age structure of employees as of 31 December 2024, the group of employees aged 61 years and over represents 10.40% of the total number of employees, employees aged 46-60 years represent 55.20%, employees aged 36-45 years represent 22.40% and employees aged of 18-35 years represent 12% of the total number of 125 employees. The age structure of the ÚJD SR staff shows a long-term trend, namely that the performance of state supervision was also ensured in 2024 by staff with many years of professional experience. Within the systematisation, the ÚJD SR has 18 senior staff civil service posts.

Acquiring, deepening and maintaining the professional competences of the ÚJD SR staff is another of the preconditions for the successful fulfilment of new tasks in the current legal, economic and highly demanding technical environment, of which nuclear power sector is a part. Education is nowadays one of the fundamental objectives, but also one of the requirements of a modern society. The knowledge, skills, abilities and experience requirements of an employee in a modern society are constantly changing, and in order to function as a highly professional workforce, an employee must continually deepen and broaden his or her knowledge and skills. The computerisation of public administration and transparency in the performance of the regulatory activities,

which require the active involvement of staff in addressing the new challenges posed by these areas, constitute a separate chapter of training. To this end, it is necessary to learn about the new requirements and obligations of public authorities, which staff must fulfil.

Employee training was elaborated in the plan of continuous training of the ÚJD SR staff for 2024, with year-round content focusing on the training needs of all organisational units. Each employee has an individual competency-based training plan based on his/her performance appraisal for the previous calendar year. As part of the training process, staff were also offered ad hoc trainings organised by external training institutions. The training was targeted at all the professional areas provided by the ÚJD SR. The ÚJD SR staff made use of various forms of individual and collective training, such as e-learning, self-study, online conferences, etc.

Senior staff took advantage of the offer of the Centre for Education and Evaluation of the Government Office of the SR and participated in training courses aimed at supporting the development of managerial skills. The ÚJD SR staff regularly participate in workshops and training events organised by international organisations such as the IAEA and OECD/NEA. Training and the formation of working skills and competences is becoming a lifelong process in the conditions of the ÚJD SR, as it is necessary to constantly take into account the current needs caused by the reality of the changing legislative and technical environment.

The training expenses for the ÚJD SR staff were budgeted at EUR 186,094 in the ÚJD SR Continuing Education Plan for 2024. More than 60 % of the funds spent in 2024 for training of staff were allocated to technical training, mainly in the field of nuclear supervision. It is clear from the above that in the field of education, the ÚJD SR places great emphasis on highly specialised training of staff in the field of the Authority's competence, through which inspectors and inspector-in-waiting in particular acquire the necessary knowledge and skills to perform inspection activities. Separate funding has also been earmarked for training in computer science and cybersecurity.

The same emphasis is placed on training for civil servants in other branches of the civil service and on training for staff in the public service to ensure that their training is continuous and up-to-date in the light of

ongoing changes in legislation and in the civil administration. In the calendar year 2024, online education was also focused on personal development through the seduo.sk platform.

The adaptation of newly recruited civil servants was ensured by adaptation training and by mentoring. Eleven civil servants completed the process in 2024. The adaptation training provided the new staff with the basic skills and information necessary to perform the civil service in the relevant branch of the civil service.

Due attention was paid to language skills, in particular to the teaching of foreign languages, namely English and French. The Service Office has also introduced systematic training of the ÚJD SR staff in the field of linguistic culture, which has had a highly positive impact on the linguistic content of documents and materials produced by the Service Office.

The quality of the work of the ÚJD SR staff, like other central government authorities, has achieved a status which is highly appreciated both at home and abroad, which demonstrates the high level of expertise and professionalism of the staff of the regulatory authority.

3.4 Economic Data

As a budget chapter, the ÚJD SR is linked to the state budget in terms of its revenues and expenditures. Since 1 January 2008, the Atomic Act has imposed on licence holders the obligation to pay annual contributions to the state oversight of nuclear safety. The revenue for 2024 was budgeted at EUR 8,538,600 for the ÚJD SR, the revenue budget was not adjusted during the year by a budget measure.

Revenue actually amounted to EUR 9,049,043, of which administrative charges amounted to EUR 9,048,052 and other non-tax revenue to EUR 991. The expenditure limit for the year 2024 was approved for the ÚJD SR in the amount of EUR 10,961,624. Following budgetary measures, the expenditure limit was adjusted to EUR 10,842, 808. The total amount of expenditure on the activities of the ÚJD SR as at 31 December 2024 amounted to EUR 10,567,972.

Of this, EUR 10,138,199 was incurred for the financing of current activities and EUR 429,773 was incurred for the acquisition of capital assets.

Current expenditures

In the area of current expenditure, a significant share is accounted for by spending on foreign transfers, totalling EUR 976,613. These funds represent the payment of contributions for membership in international organisations. Regular contributions represent two current foreign transfers to the IAEA, namely the regular membership contribution of EUR 650,258 and the contribution to the Technical Cooperation Fund of EUR 146,020.

In 2024, the ÚJD SR also paid the contribution of the SR to the CTBTO in the amount of EUR 65,000. Furthermore, the SR contributions to the OECD/NEA - to the PART II programme in the amount of EUR 57, 076, the SR contribution to the OECD/NEA/ DATABANK - to the PART II programme in the amount of EUR 13,074 were also paid.

Under contributions to S&T cooperation programmes, a contribution of EUR 7,214 was paid for the programme in OECD/NEA project PKL3 (THEMIS), and a contribution of EUR 37,971 for the Implementation Agreement between the US NRC and the ÚJD SR (participation in the CSARP programme), where members use the outcomes of the R&D programmes to improve the safety and reliability of the NIs.

Item	Amount (EUR)
Limit on revenues	8,538,600
Actual revenues, total	**9,049,043**
Of which:	
Administrative charges	9,048,052
Other non-tax revenues	991
Limit on expenditures	10,961,624
Actual expenditures, total	**10,567,972**
Of which:	
Current expenditures	10,138,199
Capital expenditures	429,773

Table 8 Economic results in 2024

*At the end of the calendar year, a part of membership fees for the following year is paid in advance. The balance of the calculated membership fees shall then be paid at the beginning of the year. For this reason, the total amount paid in a calendar year may not be the same as the membership contribution to the international organisation for that calendar year.

Financial contributions to international organisations	Amount (EUR)
IAEA – membership fee	650,258
IAEA – Technical Cooperation Fund	146,020
CTBTO – membership contribution	65,000
OECD/NEA - PARR II programme	57,076
OECD/NEA - Databank - PART II programme	13,074
OECD/NEA – PKL3 Themis Project	7,214
Implementation Agreement US NRC and ÚJD SR (participation in CSARP programme)	37,971
Total	**976,613**

*Table 9 Foreign transfers to international organisations in 2024**

Domestic transfers amounted to EUR 204,890 and were used to pay the membership fee to the non-profit organisation SNUS (Slovak Nuclear Society), to compensate staff for temporary incapacity for work, for a financial contribution for meals, for severance pay, for redundancy payments and for allowances and contributions (sickness supplement).

Necessary support for the decision-making, licensing and inspection activities of the ÚJD SR is provided by expertise, opinions and analyses, for which expenditure amounting to EUR 728,609 was incurred in 2024.

EUR 4,976,914 was spent on payroll expenses for 122 employees, and EUR 1,971,199 was spent on health insurance and social security contributions.

Current expenditures	Amount (EUR)
Foreign transfers	976,613
Expert opinions, analyses	728,609
Payroll (122 employees)	4,976,914
Statutory employee insurance	1,971,199
Domestic transfers	204,890
Goods and services	1,243,916
Total	**10,102,141**

Tab. 10 Current expenditures (expenditure account 1) in 2024

Item	Amount (EUR)
Travel expenditures	152,738
Energy, water and telecom services	91,890
Materials	160,600
Car fleet	45,723
Routine and standard maintenance of building and operat. equipment	108,438
Rent for office space, garage, meeting rooms and equipment	79,204
Services (printing, cleaning, translations, information, revisions of equipment, trainings, advertising, meal vouchers, bank fees, allocations to Social Fund, compensations – recreation, entertainment and other)	605,323
Total	**1,243,916**

Table 11 Use of expenditures to procure goods and services in 2024

Item	Amount (EUR)
Payments by a state budget organisation for EU projects	27,821
Total	**27,821**

Table 12 Current expenditures in 2024 (expenditure account 2 – non-repayable financial contribution)

Capital expenditures

Within the category of capital expenditure, the ÚJD SR used budgetary appropriations totalling EUR 429,773 for the acquisition of capital assets as follows Table 13.

Appropriations from the Separate Account – Grants and Donations

Expenditure from the Grants and Donations separate account in 2024 amounted to EUR 8,237. The foreign Grants disbursements consisted of funds from the SARNET and RISKAUDIT U3.01. Projects, which covered expenses related to business trips and meetings of the WENRA RHWG and to meetings with representatives of the Turkish Supervisory Authority regarding the EU INSC TR3.01/22 Project.

Item	Amount (EUR)
Purchase of A/C units	11,022
Purchase – camera	4,598
Purchase (electrical wiring)	27,574
Purchase of business cars	74,300
Purchase of SW licences	33,911
SW upgrade (IS registry, website)	35,278
SW purchase (delivery of architecture and design of IS for data visualisation)	48,048
SW upgrade (IS in ERC, emergency portal)	86,592
Purchase of computer equipment (laptops)	6,350
Communication infrastructure (servers)	35,980
Communication infrastructure (firewall)	12,888
SW purchase (Administrative IS - licences)	32,400
SW upgrade (upgrade of Administrative IS)	20,832
Total	**429,773**

Table 13 Capital expenditures in 2024 (expenditures account 1)

	Expenditure account 1 (State Budget funds)	Expenditure account 2 (EU funds)	Grant and Donations account	Total
Current expenditures	10,102,141	27,821	8,237	10,138,199
Capital expenditures	429,773	-	-	429,773
Expenditures total	**10,531,914**	**27,821**	**8,237**	**10,567,972**

Table 14 Use of funds in 2024 (EUR)

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4. Abbreviations used

AO1	Reactor scram
AO3	Reduction of reactor power using HRK control group
BE PRES	Belgian Presidency of the Council of the EU
BN	Safety Guide
BSC RAO	Bohunice RAW Treatment Centre
CISSS	Central Information System of the Civil Service
CSS	Commission on Safety Standards
CTBT	Comprehensive Nuclear-Test-Ban Treaty
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organisation
DBL	Discontinuous bituminisation line
DG	Diesel generator
EBO	Bohunice NPP
EC, Commission	European Commission
EMO	Mochovce NPP
ENSREG	European Nuclear Safety Regulators Group
ERC	Emergency Response Centre
EU	European Union
Euratom	European Atomic Energy Community
FCC	Fibre-concrete container
FNF	Fresh nuclear fuel
FS KRAO	Final treatment of liquid RAW
GO	General overhaul
HB	Upper block
HCČ	Main circulating pumps
HF	Human factor
HNČ	Emergency system pumps feeding steam generators
HP	High pressure emergency make-up of the system
HRK	Emergency and control rod

HU PRES	Hungarian Presidency of the Council of the EU
I&C	Instrumentation and Control
IAEA	International Atomic Energy Agency
ICT	Information and Communication Technology
INES	International Nuclear and Radiological Event Scale
INRA	Iran Nuclear Regulatory Authority
IRRS	Integrated Regulatory Review Service
IS RAO	Integral RAW Storage facility
JAVYS, a. s.	Nuclear and Decommissioning Company
JESS, a. s.	Nuclear Energy Company of Slovakia
KV	Coordination committee
L&Cs	Limits and Conditions
LRAW	Low level RAW
MACCS	MELCOR Accident Consequence Code System
MD SR	Ministry of Transport of the SR
MELCOR	MELting CORe
MH SR	Ministry of Economy of the SR
MO3,4	Mochovce 3, 4 NPP
MPSVR SR	Ministry of Labour, Social Affairs and Family of the SR
MRPS OBPZJŠ	Inter-ministerial working group on civil liability for nuclear damage
MS SR	Ministry of Justice of the SR
MSVP	Interim Spent Fuel Storage facility
MV SR	Ministry of Interior of the SR
MZ SR	Ministry of Health of the SR
MŽP SR	Ministry of Environment of the SR
MZVEZ SR	Ministry of Foreign and European Affairs of the SR
NDK	Nuclear Regulatory Authority of Turkey
NI	Nuclear installation
NM	Nuclear materials
NPP	Nuclear power plant
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
OAH	Hungarian regulatory authority for nuclear safety

OE	Operational event
OECD/NEA	OECD Nuclear Energy Agency
OIK	Civil Information Commission
PAA	Polish regulatory authority for nuclear safety
RAM	Radioactive material
RAW	Radioactive waste
RHWG	Reactor Harmonisation Working Group
RÚ RAO	National RAW Repository
SC	Steering committee
SE, a. s.	Slovenské elektrárne, a. s.
SG	Steam generator
SHNČ	Super-emergency supply system pumps for steam generators
SNF	Spent nuclear fuel
SNSA	Slovenian supervisory authority for nuclear safety
SNUS	Slovak Nuclear Society
SR	Slovak Republic
SRLs	Safety Reference Levels
STUK	Radiation and Nuclear Safety Authority of Finland
SÚJB	State Office for Nuclear Safety Czech Republic
SÚRO	National Radiation Protection Institute, Czech Republic
TCP	IAEA Technical Cooperation Programme
TSO	Technical Support Organisation
TSÚ RAO	Technology for RAW Treatment and Conditioning
UA	Ukraine
ÚJD SR, Authority	Nuclear Regulatory Authority of the SR
UN	United Nations
US NRC	Nuclear Regulatory Commission
ÚVZ SR	Public Health Authority of the SR
VLRAW	Very low-level RAW
VUJE, a. s.	VUJE, a. s., Trnava – engineering, design and research organisation
VZ	Classified equipment

WENRA	Western European Nuclear Regulators' Association
WG	Working group
WGAMA	Working Group on the Analysis and Management of Accidents
WGLS	Working Group on Leadership and Safety Culture
WGRR	Working Group on Research Reactors
WGWD	Working Group on Waste and Decommissioning
WPAQ	Working Party for Atomic Questions

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We are open to your ideas, questions, suggestions and messages.

+421/2/5822 1111
info@ujd.gov.sk
www.ujd.gov.sk

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