REPORT ON THE ENVIRONMENTAL IMPACT OF JAVYS, a. s., OPERATIONS 2023

2023

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CONTENT

1. INTRODUCTION

The Environment Report 2023 provides comprehensive information on the air protection, water and waste management systems, on the handling and use of chemicals, on environmental impact assessment (EIA) processes and on activities related to the environmental protection performed within JAVYS, a. s., is certified in environmental management system in accordance with the ISO standard 14001:2015
Environmental Management Systems, which demonstrates our goal and mission to perform all activities related to environmental protection.

Environmental protection forms part of the Safety process within the framework of the Integrated Management System. During the performance of all the activities, emphasis is placed on compliance with the legal requirements of the SR and EU in the individual fields of environmental protection; and on the obligation to comply with limits and conditions included in decisions made by state authorities and regulatory bodies which oversee the protection of individual environmental components.

2.

AIR PROTECTION

Company JAVYS, a. s., complies with the basic legal regulation in the field of air protection - the new Act of the National Council of the Slovak Republic No. 146/2023 Coll. on Air Protection, as well as all directly and indirectly related laws, implementing Decrees and Regulations. Act No. 137/2010 Coll. on Air and all related decrees were repealed upon its entry into force on 1 July 2023.

The method to operate sources of air pollution, be it the granting of permits, the specification of the emission monitoring system, and the definition of the limits of pollutants discharged into the air, is governed by applicable decisions by the national authorities and supervisory bodies in relation to the air protection issued for JAVYS, a. s.

Sources of air pollution and volumes of discharged emissions

In 2023, company JAVYS, a. s., operated five (5) medium sources and one (1) small source of air pollution.

Reserve boiler plant (RBP)	medium source
Diesel generator in pumping station "V1"	medium source
Diesel generator adjacent to the outdoor switchboard "A1"	medium source
Diesel generator in sub-station V1 (2 pcs)	medium source
Diesel generator next to ISFS (interim spent fuel storage)	medium source
Production of fibre concrete mixture in the V1 FCC production plant	small source

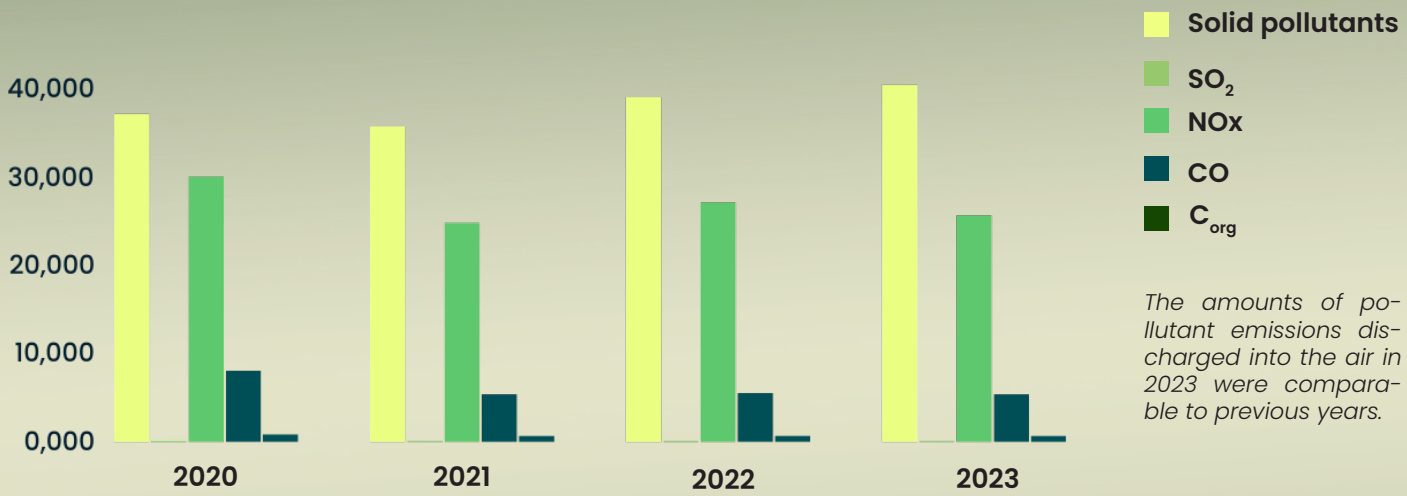
A new permit was issued for the medium air pollution source - Reserve Boiler Plant in accordance with the new Act on Air Protection by the Trnava Regional Authority - Decision No. OU-TT-OSZP3-2023/065039-003 (dated 21.11.2023) - permit for the operation of the stationary source Reserve Boiler Plant.
According to the valid decision, the operator is obliged to comply with the emission limits specified in the Decree of the Ministry of Environment of the Slovak Republic No. 248/2023 Coll. for pollutants NOx and CO. Emission measurements are carried out for this medium air pollution source by authorised periodic measurements in line with the Decree of the Ministry of the Environment of the Slovak Republic No. 249/2023 Coll.

Amount of Fuel Consumed, Number of Operating Hours and Amount of Emissions Discharged from Individual Sources in 2023

Air Pollution Source	Fuel	Number of operating hours	Amount of pollutant (kg)				
Medium air pollution sources							
Reserve boiler plant	Natural gas (thous. $Nm^{3)}$	Hours/year	Solid pollut-ants	SO_2	NOx	CO	C_{org}
	4.365	6	0.332	0.040	7.255	2.455	0.317

Diesel generators	diesel (tonnes)	hours/year	Solid pollu-tants	SO_2	NOx	CO	C_{org}
DG Caterpillar Olympian	(tonnes)	17.8	0.544	0.008	1.915	0.306	0.027
DG Martin Power MP 1700	2.016	10.3	2.863	0.040	10.08	1.613	0.222
DG1 Martin Power MP 400 / 2 pcs	0.,166	4.2	0.236	0.003	0.832	0.133	0.018
DG Caterpillar C13ATAAC400-SA	1.130	19.8	1.604	0.023	5.649	0.904	0.129
Small air pollution sources							
FMC production	-	-	34.985	-	-	-	-
Total amount of pollutants from all small air pollution sources (kg)			**40.564**	**0.114**	**25.731**	**5.411**	**0.713**

Amounts of discharged emissions of all air pollutants (2020 – 2023)



The amounts of pollutant emissions discharged into the air in 2023 were comparable to previous years.

Company JAVYS, a. s., also operates nuclear facilities that are not categorized as sources of air pollution according to the Act on Air Protection, (RAW Incineration Plant until the source permit has been issued by the District Authority, i.e. until 31 December 2023), despite the fact that inactive emissions of pollutants discharged into the air are measured in them by an automated measuring system (AMS). Emission limits for polluting substances are approved for these facilities by the Nuclear Regulatory Authority of the Slovak Republic, which is also the regulator for the nuclear facilities. The nuclear facilities are as follows:

- BRWTC Incineration Plant (PS06) in the buil ding 808,
- RAW Incineration Plant (PS45) in the building 809,
- Metallic RAW Melting Facility (PS37) in the building 34.

BRWTC Incineration Plant (PS06)

In 2023, the BRWTC Incineration Plant (PS06) was operated during the months of June-November (2,808.5 hours). The table below shows the quantities of pollutants discharged from the Incineration Plant over this period and a comparison with previous years.

Amounts of emissions discharged from the BRWTC Incineration Plant (PS06) for the year 2023 and comparison with previous years

Pollutant	year 2020 [kg]	year 2021 [kg]	year 2022 [kg]	year 2023 [kg]
Solid pollutants	0.050	1.640	0.380	<0.01
CO	56.700	27.240	20.160	23.540
C_{org}	1.370	0.800	0.490	0.777
SO_2	39.700	80.610	4.630	1.300
NOx	931.000	839.620	230.240	230.700
HCl	6.210	16.640	1.008	1.310
HF	1.240	6.600	0.437	0.890
Hg+Tl+Cd	0.218	0.085	-	-
As+Ni+Cr+Co	1.249	0.383	-	-
Pb+Cu+Mn	0.780	0.194	-	-
Hg *	-	-	0.004	0.007
Tl + Cd *	-	-	0.007	0.025
Sb+As+P-b+Ni+Cr+Co+Cu+Mn+V *	-	-	0.090	0.077
Operating hours /year	**7,160**	**8,107**	**2,619**	**2,809**

** New Limits & Conditions for the BRWTC Incineration Plant (PS06), in which, in addition to the emission limits for pollutants discharged into the air, the composition of heavy metals for their monitoring in the flue gases changed, have been effective since the 17th of January 2022*

Emissions of pollutants (solid pollutants, CO, C_{org}, SO_2, NOx, HF and HCL) are continuously measured by the AMS system, the functionality of which is checked by an authorised person at regular annual intervals. The limit values, frequency of measurement and control of the AMS are specified in operating procedure (OP) 10-LAP-001 Limits & Conditions for the safe operation of the nuclear facility TSU RAO.
During the operation of the BRWTC Incineration Plant PS 06 in 2023, the set values for the concentration of individual pollutants discharged into the air were not exceeded.

RAW Incineration Plant (PS45)

In 2023, the BRWTC Incineration Plant (PS45) was operated during the months of January-May, August-September, and November-December (5,343 hours). The table below shows the quantities of pollutants discharged from the Incineration Plant over this period.

Amounts of emissions discharged from the BRWTC Incineration Plant (PS45) for the year 2023 and comparison with previous years

Pollutant	year 2022 [kg]	year 2023 [kg]
Solid pollutants	0.019	4.21
CO	143.420	165.42
C_{org}	16.930	16.50
SO_2	146.470	274.69
NOx	961.760	1, 152.05
HCl	10.824	10.74
HF	1.660	0.12
Hg	0.010	0.008
Tl + Cd	0.007	0.005
Sb+As+Pb+Ni+Cr+Co+Cu +Mn+V	0.109	0.083
Operating hours /year	**6,034**	**5,343**

Emissions of pollutants (solid pollutants, CO, C_{org}, SO_2, NOx, HF and HCL) are continuously measured by the AMS system, the functionality of which is checked by an authorised person at regular annual intervals. The limit values, frequency of measurement and control of the AMS are specified in operating procedure (OP) 10-LAP-001 Limits & Conditions for the safe operation of the nuclear facility TSU RAO.

During the operation of the RAW Incineration Plant (PS 45) in 2022, the concentration values of individual pollutants discharged into the air were not exceeded.

Metallic RAW Melting Facility

For the Metallic RAW Melting Facility (PS37) in the building No. 34, a Decision No. 199/2023 of the Slovak Nuclear Regulatory Authority was issued in 2023 with validity from 10 August 2023 - a permit for use of the construction. The metallic RAW melting facility was in operation for 434 hours in 2023, the amounts of emissions discharged to air were very low and are shown in Table. Chemical monitoring system (AMS) of gaseous emissions of solid pollutants, NOx, CO and SO_2 is installed at the facility. In the annual report for 2023 from the AMS measurements, the measured pollutant concentration levels were well below the established emission limits.

Amounts of pollutants discharged from the metallic RAW melting facility for the year 2023

Pollutants	**year 2023 [kg]**
Solid pollutants	0
CO	1
SO_2	10
NOx	2
Operating hours /year	**434**

Air pollution charges (NEIS)

In 2023, company JAVYS, a. s., was obliged under the Acts No. 137/2010 Coll. on Air and No. 401/1998 Coll. on Air Pollution Charges, effective at that time, to report the data on stationary sources, quantities and types of pollutants discharged into the air for the previous year, compliance with emission limits and calculation of the annual fee for all medium-sized sources of air pollution. The data were sent in January 2023 to the relevant District Environment Office (according to the cadastral area of the source) and subsequently to the National Emission Information System (NEIS).

With regard to the negligible amounts of pollutants produced (calculated in compliance with the approved calculation formulas) in 2023, JAVYS, a. s. was not obliged to pay any charge for the emissions discharged as a result of the operation of its medium air pollution sources. The amount of € 10 was charged by Municipal Office Jaslovské Bohunice for the operation of a small source of air pollution.

Equipment containing fluorinated greenhouse gases

Pursuant to the Act No. 286/2009, Coll., on Fluorinated Greenhouse Gases, and Regulation 517/2014 of the European Parliament and the Council (EC) on Fluorinated Greenhouse Gases, JAVYS, a. s. is the operator of multiple equip-

ment containing fluorinated greenhouse gases (F gases). Such gases are mainly found in air conditioning units, current and voltage transformers, switchboards and stationary fire suppression equipment. The operators of equipment which contain F gases provide for regular mandatory inspections of discharged F gases on all such equipment. Inspections are performed by professionally competent individuals. In line with the Act, JAVYS, a. s., sent the annual report on fluorinated greenhouse gases to the relevant District Offices, Departments of Environmental Protection. The report concerned equipment with a volume of 5 and more tonnes of CO_2 equivalent, within the deadline specified by the Act.

Greenhouse gas emissions

Pursuant to Act No. 414/2012 Coll., on Emission Allowances Trading, JAVYS a. s., is a mandatory trading scheme participant.
20 tonnes of greenhouse gases (CO_2) were discharged by the Reserve Boiler Plant and diesel-generators in 2023. The amount of CO_2 emissions slightly decreased (from 21 tonnes to 20 tonnes).

The report on the level of operation and the report on greenhouse gas emissions from the operation in 2023 were redacted in line with requirements defined by the Act No. 414/2012 Coll. on Emission Allowances Trading. In line with the Act, both reports were verified by an accredited verifier (ASTRAIA Certification, s. r. o.). The report on emissions along with the verification report were sent to the District Office in Trnava and to the Ministry of Environment of the Slovak Republic by means of the electronic EU emission system (ETS).

Discharges of radioactive substances into the atmosphere

Only fractions of permitted guidance limit values of exhaust gases are discharged into the environment by the nuclear facilities owned by JAVYS, a. s., as confirmed by multiple monitoring measurements.

The guidance limit values of discharged radioactive substances were established by decisions of the Public Health Authority of the Slovak Republic, and approved by the Nuclear Regulatory Authority of the Slovak Republic.

Discharged radioactive aerosols (β, γ) in 2023

Nuclear facility	Vol. activity of discharged substances (Bq)	Annual guidance value (Bq)	% of guidance limit
Aerosols VK 46A (MRB)	3.3×10^{7} Bq	6.58×10^{8} Bq	4.96
Aerosols VK 46B (Bitum. Line and External buildings)	3.0×10^{6} Bq	1.41×10^{8} Bq	2.10
Aerosols VK 808 (BRWTC and External buildings)	2.3×10^{5} Bq	1.41×10^{8} Bq	0.17
Aerosols VK 840 (ISFS)*	1.7×10^{5} Bq	3.00×10^{8} Bq	0.06
Aerosols V1 NPP	1.7×10^{7} Bq	8.00×10^{10} Bq	0.02
Aerosols (FP LRAW)	6.5×10^{4} Bq	8.00×10^{7} Bq	0.08

** Shared limit value of 3×10^{8} Bq applies to all radionuclides produced by ISFS (β, γ) included)*

No radioactive substances were discharged into the atmosphere from the NRAWR premises, due to the nature of the repository.

In 2023, substances discharged from nuclear facilities operated by JAVYS, a. s., into the atmosphere were significantly below the authorized guidance limits specified by the Public Health Authority of the Slovak Republic.

3.

WATER MANAGEMENT SYSTEM

In the field of water protection, JAVYS, a s., complies with the basic legal regulation, i.e. Act No. 364/2004 Coll., on Water, as amended, adopted by the National Council of the Slovak Republic, and with all subsequent related Acts, executive ordinances and regulations. The permitted amounts of discharged wastewater, the concentrations and balance limit values of pollutants in the wastewater, places and methods of wastewater discharge, etc., are defined by applicable decisions of state authorities and regulatory authorities in the field of water protection, and issued for JAVYS, a. s.

Drinking water

Drinking water is supplied to the Jaslovské Bohunice site from the TAVOS, a. s., distribution line, based on a valid drinking water supply contract. The Mochovce nuclear site is connected to the SE, a. s. EMO Plant (SE-EMO) drinking water distribution line. The drinking water supply to the administrative building in Bratislava is provided from the public water mains of Bratislavská vodárenská spoločnosť, a. s.

Amount of drinking water consumed between2020 – 2023

SITE	Consumption [m³]			
	2020	2021	2022	2023
Jaslovské Bohunice	48,602	51,778	59,034	59,624
NRAWR Mochovce	397	806	402	730
FP LRAW Mochovce	283	256	259	253
Office building Bratislava	1 ,180	998	880	908
SUM TOTAL	**50,462**	**53,838**	**60,575**	**61,515**

Total drinking water consumption in 2023 increased by 940 m³ compared to last year, which represents an increase of 1.6%. An increase of 590 m³ of drinking water consumption was recorded in Jaslovské Bohunice. The increase in consumption was caused by an increase in the number of employees of Contractors working on individual projects. At the National Radioactive Waste Repository, consumption was 328 m³ higher due to the construction of the fourth double-row for the low-level radioactive waste repository. At the Liquid RAW Final Treatment Facility and in the administrative building in Bratislava, consumption was comparable to the previous year.

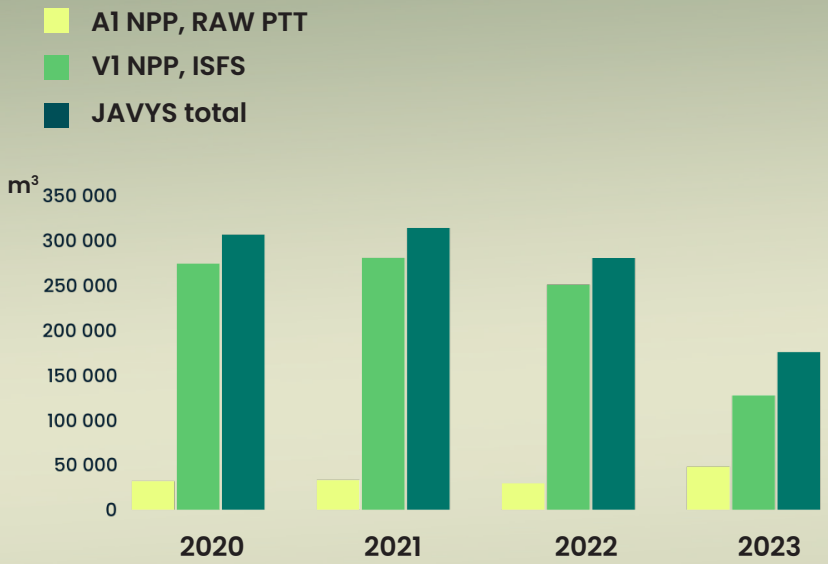
In company JAVYS, a. s., the quality of drinking water was inspected in accordance with the Decree of the Ministry of Health of the Slo-

vak Republic No. 247/2017 Coll., which was from 1 April 2023 replaced by a new Decree No. 91/2023 Coll., establishing the indicators and limit values of drinking water quality and hot water quality, the procedure for monitoring drinking water, risk management of the drinking water supply system and risk management of domestic distribution systems, and in accordance with Decree of the Ministry of Health of the Slovak Republic No. 100 /2018 Coll. on limiting the exposure of residents from drinking water, natural mineral water and spring water.
The results of the analyses of all samples in the evaluated indicators were in accordance with the limit values set by the decrees of the Ministry of Health of the Slovak Republic.

Cooling water

Surface water taken from the Sĺňava water reservoir is used as cooling water at the Jaslovské Bohunice site. It is supplied by SE-EBO. The surface water is used for the cooling of the V1 NPP wastewater treatment system, for the cooling of facilities where radioactive waste is managed and stored, and for cooling of the processing facilities and storage premises for RAW and SNF (ISFS).

Consumed cooling water (supplied from the River Váh) 2020 - 2023



The FP LRAW (the bituminization lines and the thickening evaporator) technological facilities are connected to the supply of the non-essential utility water system from the SE-EMO distribution system, i.e. to the cooling water circulation system. The consumption of cooling water reached 1,978 m^3 in 2023.

Wastewater

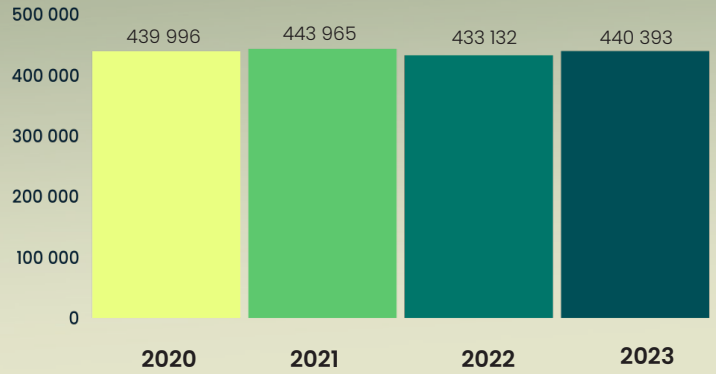
Jaslovské Bohunice site

Wastewater from the JAVYS, a. s., site in Jaslovské Bohunice is discharged by a separate sewerage system to the Rivers Váh (water used by technology) and Dudváh (surface drainage water).

Balance of discharged wastewater

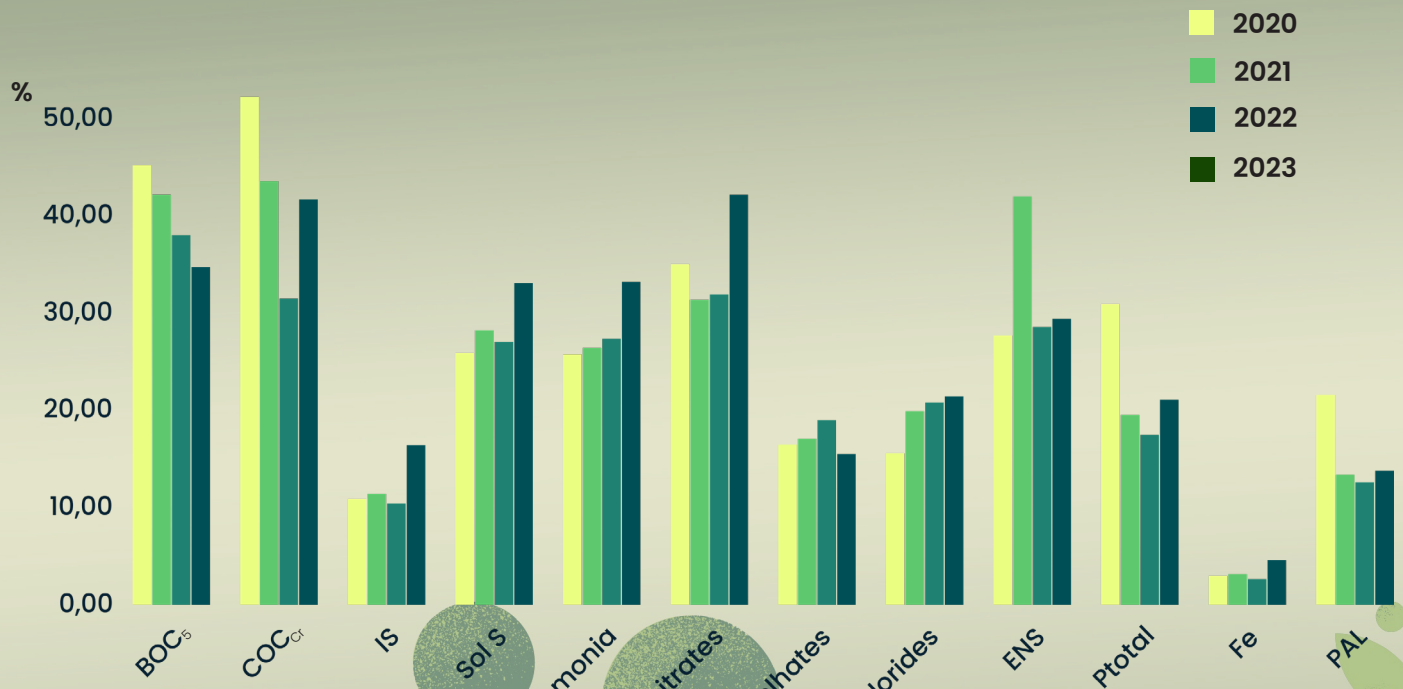
Wastewater from the Jaslovské Bohunice site is discharged through the SOCOMAN pipe collector and the Manivier open channel in accordance with the valid decision of the District Office in Trnava no. OU-TT-OSŽP2-2013/00026/GI, the validity of which was extended by decision no. OU-TT-OSZP2-2023/041505-002 until 31st July 2033.
Quality of wastewater discharged into the River Váh recipient is monitored by taking samples collected over a period of 24 hours analyzed in an accredited laboratory. Company JAVYS, a.s. is not obliged to measure the quantity and quality of rainwater discharged into the recipient Dudváh.

Amounts of wastewater discharged into the River Váh, 2020-2023 (m³)



According to the results of accredited sampling and analyzes of wastewater samples discharged into the Váh recipient, in 2023 a one-time exceedance of the concentration limit value of the pollutant in the "soluble substances" indicator was recorded in one wastewater sample. Pursuant to the regulation of the Government of the Slovak Republic no. 269/2010 Coll. company JAVYS, a. s., fulfilled the provision listed in Annex no. 9 and did not exceed the permissible number of non-compliant samples from the total number of analyzed samples. Section 5 of article 19 of the SR Government Regulation No. 269/2010 Coll. was also fulfilled when 1.2 times the limit value stated in the valid permit for discharging waste water and water from the surface drain into the Váh and Dudváh waterways was not exceeded.

Percentage of Usage Limit of individual contaminantsin discharged wastewater 2020-2023



Average Concentration of Chemical Pollutants Discharged into the River Váh Recipient

Chemical pollution indicator	Average concentration of discharged contaminants	Permitted concetration (decision OU-TTOSŽP2-2013/00026/GI)
Acidity, alkalinity – pH	7.485	9.00
	mg/l	mg/l
Biochemical oxygen consumption -BSK_5	2.778	8.00
Chemical oxygen consumption – $CHSK_{Cr}$	12.515	30.00
Insoluble substances – IS	3.286	20.00
Soluble substances – SS	330.861	1,000.00
Ammonia – $N\text{-}NH_4+$	1.328	4.00
Nitrates - NO_3^-	21.084	50.00
Sulphates- SO_4^{2-}	23.313	150.00
Chlorides- Cl^-	21.451	100.00
Extracted non-polar substances - NEL	0.103	0.35
Total phosphates – P_{TOTAL}	0.422	2.00
Iron – Fe	0.092	2.00
Detergents – PAL	0.069	0.50

NRAWR Mochovce site

A rainwater sewage system is installed at the NRAWR site. The system of tanks is emptied into the Telinsky potok stream. Decision OU-NR-OSZP2-2020/043017-003 issued by the District Office in Nitra permitted the discharge of surface drainage water into the Telinsky potok stream. NRAWR discharged 2,724 m^3 of surface drainage water into the Telínsky potok stream in 2023. 162 m^3 of sanitary water accumulated in a waterproof cesspool in NRAWR were transported to a wastewater treatment plant to be treated.

FP LRAW Mochovce

Sanitary water from FP LRAW is drained into the SE-EMO sewage system, then taken into the wastewater treatment plant and, after its purification, discharged into the environment with SE-EMO water. The rainwater is drained into the SE-EMO rainwater sewage system along with rainfall water from other SE-EMO civil buildings. The sanitary water and rainwater is drained by Slovenské elektrárne, a. s.

Discharges of radioactive substances into the hydrosphere

Only fractions of permitted limit values of discharged liquids are discharged into the environment by the nuclear facilities operated by company JAVYS, a. s., as confirmed by multiple monitoring measurements. The guidance limit values of radioactive substances discharged into surface water by nuclear facilities of JAVYS, a. s., were established by decisions of the Public Health Authority of the Slovak Republic, and approved by the Nuclear Regulatory Authority of the Slovak Republic. The substances discharged in wastewater are monitored by measuring the volumes of tritium, corrosion and fission products, and the volume of water stored in retention tanks at RAW PTT, A1 NPP, ISFS and V1 NPP, while water discharges are also continuously monitored at measurement points. Water with low values of contaminants also includes water discharged due to the standard operation of the groundwater pumping system from well N-3 (BO 106) permitted by the District Office in Trnava in line with the Act No. 364/2004 Coll. on Water.

Low-level Water Discharge from the Jaslovské Bohunice Site (including water pumped from the recovery pumps at the RAW PTT and A1 NPP Sites) into the River Váh

2023	Activities of radionuclides in wastewater of the River Váh recipient							
	V1 NPP site				A1 NPP site, TSÚ RAO, ISFS			
Volume of discharged water [m³]	4,520				197,459.5			
	Corr. & fiss. prod. (MBq)	Tritium (GBq)	% of CFP guidance limit*	% of Tritium guidance limit*	Corr. & fiss. prod. (MBq)	Tritium (GBq)	% of CFP guidance limit**	% of Tritium guidance limit**
Total	16.162	0.326	0.124	0.016	23.166	55.241	0.193	0.552

** CFP guidance limit: 13,000 Mbq; Tritium guidance limit: 2,000 GBq*
*** CFP guidance limit: 12,000 Mbq; Tritium guidance limit: 10,000 GBq*

No low-level waters were discharged into the Dudváh recipient in 2023.

Water Actively Discharged into the Hydrosphere from NRAWR and FP LRAW

Surface drainage water is only discharged from NRAWR into the Telinský potok stream. 2,724m^3 was discharged in 2023, with disintegration activity 6.92 × 10^6 Bq. Limits of volumetric activities of radionuclides in discharged water specified by the decision of the Chief Public Health Officer were not exceeded for any of the indicators monitored in this period.

Quality of rainfall wastewater discharged from NRAWR

Radionuclide	Guidance limit [Bq/year]	Disintegration activity in discharged water (Bq) [Bq]	% of guidance limit
Tritium	1.88 x 10^{10}	6.81 x 10^6	0.036
Cs-137	2.28 x 10^7	4.80 x 10^4	0.211
Co-60	2.24 x 10^7	2.40 x 10^4	0.107
Sr-90	2.44 x 10^8	3.18 x 10^4	0.013
Pu-239	5.56 x 10^5	1.40 x 10^3	0.244

Secondary active wastewater was not discharged from the FP LRAW facility in 2023.

Groundwater monitoring and protection Jaslovské Bohunice site

The monitoring and protection of groundwater and soil waters at the Jaslovské Bohunice site and in its surroundings have been carried out since 1997 in accordance with the approved monitoring programme. Long-term and regularly monitored radiation in ground water at RAW PTT and A1 NPP is currently stable. Continuously working recovery pumps onsite have been in operation since 2000. Activities are carried out under the A1 NPP decommissioning project, based on which primary sources of soil contamination, followed by sources of groundwater contamination, were gradually removed. Recovery pumps are operated in compliance with the MoE SR decision in force.

Evaluation of the Standard Operation of the Groundwater Recovery Pumps, Well N-3

Recovery Pumping in 2023	Reached CFP activity [MBq]	[%] of CFP guidance limit*	Reached tritium activity [GBq]	[%] of Tritium guidance limit*	Volume of pumped water [m^3]
Total	**1.60**	**0.013**	**44.02**	**0.440**	**193,543**

** Guidance limits are specified by decision as follows:*
- CFP guidance limit = 1.2 × 10^4 MBq,
- Tritium guidance limit = 1.0 × 10^4 GBq.

In addition to the monitoring within the company's site, the surroundings are monitored as well. Based on the groundwater monitoring results in the surroundings of the Jaslovské Bohunice site, it is possible to observe a significant reduction of radiation (reduced tritium volumetric activities to an insignificant level at the natural level) in the surroundings of municipalities Malženice and Žlkovce.

NRR Mochovce site

Within and nearby NRAWR, groundwater samples were collected from monitoring wells in line with the monitoring calendar 2023, for the purpose of chemical and radiochemical analyses. Apart from ground water, drainage water is also monitored at NRAWR. The volumetric activity of the individual radionuclides in 2023 was below the limit specified by the Chief Health Officer of the Slovak Republic. Drainage water is discharged through rainwater tanks. Its amount and analyses are included in data on discharged water.

Results of Chemical and Radiochemical Analyses of Water in 2023

Measured quantity	Activity limit (Bq/l)
Tritium	< 5
Total beta activity	< 1
Cs-137	< 1,21
Co-60	< 0,78
Sr-90	< 0,11
Pu-239	< 0,03

The results of radiochemical analyses reached the level of normal potential values; the environment was not negatively impacted at NRAWR and its surroundings during operation.

4.

Statistics

WASTE MANAGEMENT (Inactive Waste)

In the field of waste management, JAVYS, a. s., complied in 2023 with the basic legal regulation, i.e. Act No. 79/2015, Coll., on Waste, as amended, adopted by the National Council of the Slovak Republic, and with all subsequent related acts, executive ordinances and regulations of the Government of the Slovak Republic. JAVYS, a. s., provides waste management by the collection, sorting and accumulation of waste within the premises allocated for such purpose - the Waste Collection Yard.

Balance of Waste Produced from Projects co-financed by the EU

Disposal and recycling of waste produced by activities not implemented by projects co-financed by the EU fall under the competence of JAVYS, a. s. If such activities are provided, the disposal and recycling of such waste is ensured by a contracted supplier.

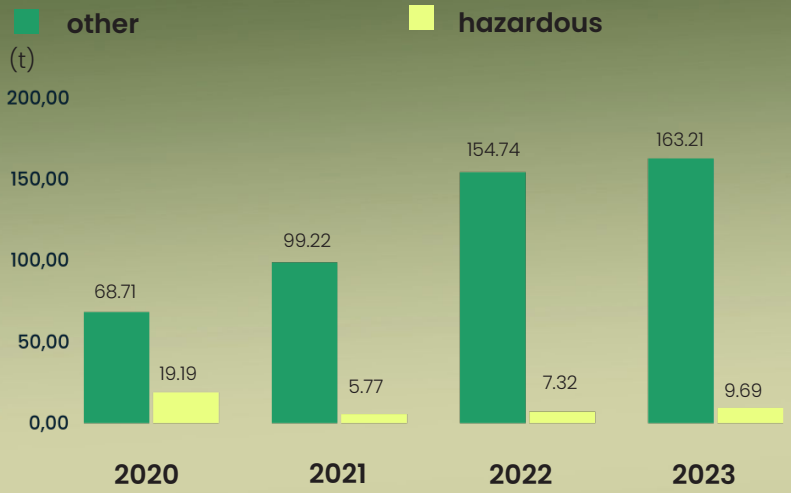
Amount and type of waste (category "other") produced by JAVYS, a. s., in 2023, within projects not financed by the EU in the locality of Jaslovské Bohunice

Cata-logue Number	Type of Waste	Other waste – name	Amount (tonnes)	Recycled waste (tonnes)	Disposed waste (tonnes)
150101	O	Paper and cardboard packaging	12.875	✓	
150106	O	Mixed packaging	3.000	✓	
160214	O	Discarded equipment not listed under 160209-160213	9.880	✓	
170201	O	Wood	11.820	✓	
170604	O	Insulation materials not listed under 170601-03	28.630		✓
190809	O	Grease and oil mixture from oil/water separation containing only edible oil and fats	18.000	✓	
170107	O	Mixtures of concrete, bricks, tiles, facing material	39.160		✓
150203	O	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	1.400	✓	
170302	O	Bituminous mixtures other than those mentioned in 17 03 01	38.440		
200201	O	Biodegradable waste	6.520	✓	✓
Total amount [t]			**169.725**	**63.495**	**106.230**
Total amount [%]			**100%**	**37.41%**	**62.59%**

Amount and type of hazardous waste produced by JAVYS, a. s., within projects not financed by the EU in the locality of Jaslovské Bohunice

Catalogue Number	Type of Waste	Hazardous waste – name	Amount (tonnes)	Recycled waste (tonnes)	Disposed waste (tonnes)
130208	H	Other motor, gear and lubricating oils	0.320	✓	
160602	H	Ni-Cd batteries	0.040	✓	
150110	H	Packaging containing residues of or contaminated by hazardous substances	0.420		✓
150202	H	Absorbents, filters (oil filters included), cloths used to clean contaminated hazardous substances	0.060		✓
160213	H	Discarded equipment containing parts made of hazardous materials - not listed under 160209 to 160212	0.780	✓	
160506	H	Laboratory chemicals which consist of/contain hazardous substances	0.020		✓
160601	H	Lead-acid batteries	0.640	✓	
080317	H	Used printer cartridges containing hazardous substances	0.100		✓
200121	H	Fluorescent tubes and other mercury-containing waste	0.308	✓	
130502	H	Sludges from oil-water separators	0.300	✓	
130507	H	Water containing oil from water oil separators	6.700	✓	
Total amount [t]			**9.688**	**9.088**	**0.600**
Total amount [%]			**100%**	**93.81%**	**6.19%**

Other and hazardous waste produced at the Jaslovské Bohunice site, unrelated to projects co-financed by the EU (2020 - 2023)



Total waste production (excluding projects co-financed from EU sources) increased slightly compared to the previous year, which was caused by increased waste production due to the reconstruction of buildings No.47 and No.808 and cleaning of oil separators.

Balance of Waste Produced within Projects co-financed by the EU

Waste was produced by JAVYS, a. s., in 2023 during Stage 2 of V1 NPP decommissioning, and recycled and disposed of by contractors and sub-contractors engaged in the individual projects.

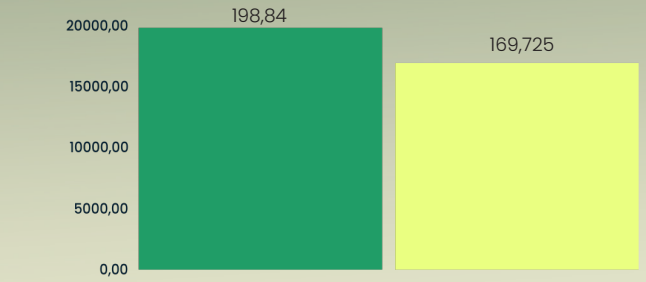
Amount and type of waste (category "other" and "hazardous") produced by JAVYS, a. s., in 2023, within projects financed by the EU

Catalogue Number	Type of Waste	Other waste – name	Amount (tonnes)	Recycled Waste	Disposed waste
170604	O	Insulated materials other then those listed in 170601- 03- BIDSF Project D4.4C	11.88		✓
170101	O	Concrete - BIDSF Project D4.2	28.58	✓	
190904	O	Used activated charcoal - BIDSF Project D4.4C	44.12		✓
120102	O	Dust and fragments of ferrous metals BIDSF Project D4.2	12.12	✓	
170411	O	Cables other than those listed in 17 04 10 - BIDSF Project D1.2	102.14	✓	
Total amount (tonnes)			**198.84**	**142.84**	**56.00**
Total amount[%]			**100%**	**71.84%**	**28.16%**

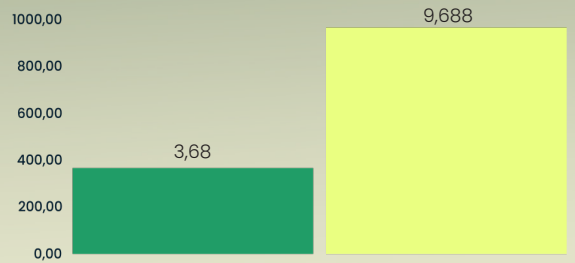
Catalogue Number	Type of Waste	Hazardous waste – name	Amount (tonnes)	Recycled Waste	Disposed waste
190304	H	Partially stabilized waste - BIDSF Project D4.4C	3.68		✓
Total amount (tonnes)			**3.68**	**0**	**3.68**
Total amount [%]			**100%**	**0**	**100%**

Comparison of the amount of other and hazardous waste produced within projects co-financed by the EU, and by in-house production

Compared production in 2022 – other waste



Compared production in 2022 – hazardous waste



amount (tonnes)

within projects co-financed by the EU

within projects not financed by the EU

within projects co-financed by the EU

within projects not financed by the EU

Balance of municipal waste

Amount of municipal waste produced in JAVYS, a. s., in 2023 at Jaslovské Bohunice and Mochovce site

Catalogue number	Type of waste	Name of other waste	Quantity [t]	Evaluated	Disposed
170402	O	Aluminum	4, 620	✓	
170407	O	Mixed metals	1, 574.5	✓	
Total amount [t]			**1, 579.12**	**1, 579.12**	**0**
Total amount [%]			**100 %**	**100 %**	**0 %**

In 2023, the sale of recyclable metallic waste and e-waste was ensured through valid contracts for the provision of services.

Balance of Municipal and Biodegradable Waste

Amount of municipal and biodegradable waste produced by JAVYS, a. s., in 2023, at Jaslovské Bohunice and Mochovce site

Catalogue Number	Type of Waste	Waste name	Amount (tonnes)	Recycled waste	Disposed waste
200301	O	Mixed municipal waste J. Bohunice	33.00		✓
200301	O	Mixed municipal waste – National Radioactive Waste Repository in Mochovce	2.56		✓
Total amount (tonnes)			**35.56**	**0**	**35.56**
Total amount (%)			**100 %**	**0 %**	**100 %**

Total balance of other and hazardous waste produced in all facilities operated by company JAVYS, a. s., for the years 2020 – 2022

Amount (tonnes)	2021	2022	2023
Recycled waste			
Other waste	31.621	51.701	209.027
Other waste - metallic	0	1, 932.29	1, 579.12
Hazardous waste	4.352	5.16	19.088
Total	**35.973**	**1, 989.151**	**1, 807.235**
Disposed waste			
OW (without MW)	260.24	130.62	162.23
Municipal waste (Other waste)	35.334	32.68	35.56
Hazardous waste	10.642	2.66	4.28
Total	**306.216**	**165.96**	**202.07**
Total amount (recycled and disposed)			
Other waste + Hazardous waste (t)	**342.189**	**2, 155.111**	**2, 009.305**

Total waste production in 2023 was lower than the previous year due to less metallic waste being generated.

5.

MANAGEMENT OF CHEMICAL SUBSTANCES

JAVYS, a. s., is, pursuant to the Act No. 67/2010 Coll. on Conditions of Marketing of Chemical Substances and Chemical Mixtures, is a downstream user of chemicals. The application "Management of Chemical Substances" (MCHL) is used to monitor the management of hazardous substances. The application contains a codebook of all chemical substances and mixtures purchased and used in our company as well as imported to JAVYS, a. s., site by contractors and tenants. All chemical substances and mixtures are categorised according to the Chemical Act, the Water Act and the Act on Prevention of Serious Industrial Accidents. In the application, actual "Safety Data Sheets" are available for employees for each chemical substance or mixture. JAVYS, a.s. is not classified as category "A" or "B" under Act No. 128/2015 Coll. on the Prevention of Serious Industrial Accidents and on Amendments and Supplements to Certain Acts on the basis of the quantity and characteristics of hazardous substances present at Jaslovské Bohunice site.

6. Statistics

ENVIRONMENTAL IMPACT ASSESSMENT

The environmental impact assessment is governed by Act No. 24/2006 Coll. on Environmental Impact Assessment, and on amendments and supplements to certain Acts, as amended, adopted by the National Council of the Slovak Republic. The provisions of the Act were implemented into Procedure BZ/OŽ/SM-04 Environmental impact assessment (EIA).

Environmental impact assessment processes

Mandatory assessment

In 2023, the mandatory impact assessment process for the proposed activity "5th Phase of A1 NPP decommissioning and subsequent release of the A1 NPP site from administrative control" was ongoing. On 17th March 2023 a draft scope of the assessment was sent to JAVYS, a. s., on the basis of which the assessment report was prepared. The assesssment report was commented in
JAVYS, a. s., the responsible person incorporated the comments and the report is ready for submission to the Ministry of Environment of the Slovak Republic.

Activities carried out during the permitting of assessed activities

The implementation and operation of activities that have been assessed in accordance with the Act on Environmental Impact Assessment is only possible under the condition of proving the compliance of the activity implementation with the final opinion from the assessment process or with the decision issued in the screening proceedings.

This compliance is demonstrated by developing a written evaluation of the conditions of the final opinion of the Ministry of the Environment of the Slovak Republic or the conditions of the decision issued in the fact-fiding procedure and attaching it to the application for an activity permit.
In the course of 2023, a written evaluation of the fulfilment of conditions resulting from the final opinions on permitting proceedings was prepared:

1. ***issuance of the final inspection for the activities:***
   - *Completion of spent nuclear fuel storage capacity at Jaslovské Bohunice site, relocation of utilities - 2nd stage, CB 840M/A - Compressor station*
   - *Completion of spent nuclear fuel storage capacity at Jaslovské Bohunice*
   - *BIDSF C7-A4 "Metallic Raw Melting Facility" at Jaslovské Bohunice*
   - *Extension to CB 30 for the management of large-size materials from the A1 NPP decommissioning*

2. ***issuing a permit for the removal of the building:***
   - *BIDSF D4.2 - Dismantling of the contaminated part of the concrete from rooms R003/1,2 and R048/1,2*

In all binding opinions, the Ministry of Environment of the Slovak Republic confirmed the compliance of the permitting proceedings with the Act No. 24/2006 Coll. and decisions issued pursuant to this Act.

Post-project analysis

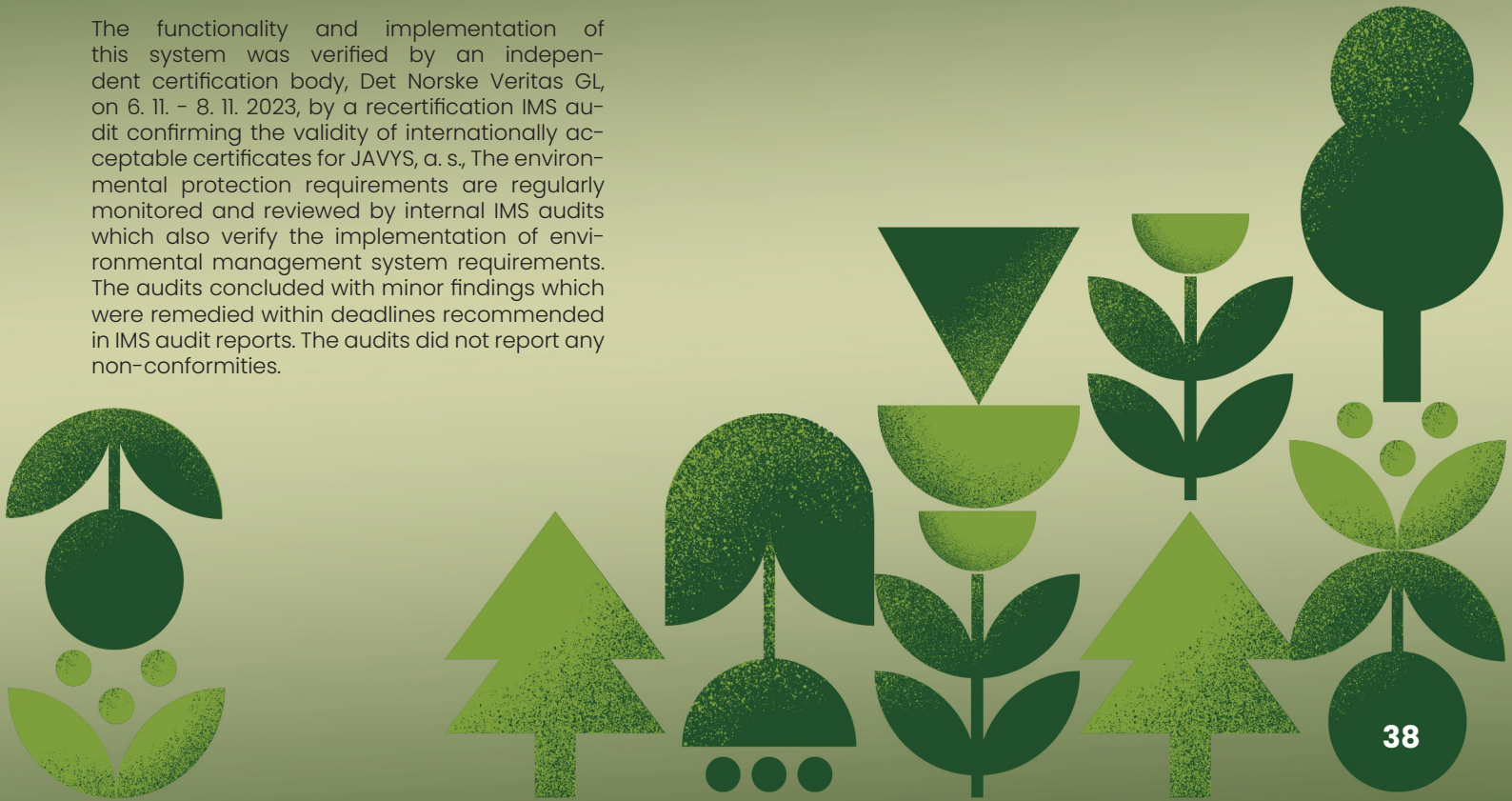
In the first half of 2022, a post-project analysis for 2021 was developed for all evaluated activities performed by JAVYS, a. s. The results of the post-project analysis and evaluated compliance with the conditions specified by the MoE SR in its Final Decisions showed that JAVYS, a. s., performed all reviewed activities in compliance with the Environmental Impact Assessment Act, and with decisions issued in compliance with the Act.

7.

ENVIRONMENTAL MANAGEMENT SYSTEM

JAVYS, a. s., adheres to the certified environmental management system in accordance with the ISO standard 14001:2015 Environmental Management Systems, to demonstrate it undertook all its activities in 2023 in compliance with the environmental protection requirements.

The functionality and implementation of this system was verified by an independent certification body, Det Norske Veritas GL, on 6. 11. - 8. 11. 2023, by a recertification IMS audit confirming the validity of internationally acceptable certificates for JAVYS, a. s., The environmental protection requirements are regularly monitored and reviewed by internal IMS audits which also verify the implementation of environmental management system requirements. The audits concluded with minor findings which were remedied within deadlines recommended in IMS audit reports. The audits did not report any non-conformities.



ABBREVIATIONS

AMS	Automated measuring system
As	Arsenic
Bq	Bequerel
BIDSF	Bohunice International Decommissioning Support Fund - V1 NPP
BSC RAO	Bohunice Radioactive Waste Treatment Centre
$C_{org.}$	Organic carbon
Cd	Cadmium
CO	Carbon monoxide
CO_2	Carbon dioxide
Co	Cobalt
Cr	Chrome
Cs	Caesium
Cu	Copper
DG	Diesel generator
EIA	Environmental impact assesment
EU ETS	European Union's electronic system for trading emission alowances
FS KRAO	Final processing of liquid radioactive waste

GBq	Gigabequerel
^{3}H	Tritium
HCl	Hydrogen chloride
HF	Hydrogen fluoride
Hg	Mercury
HVB	Main Reactor Building
ISM	Integrated management system
JAVYS, a. s.	Jadrová a vyraďovacia spoločnosť, a. s.
NF	Nuclear facility
MW	Municipal waste
CFP	Corrosion and fission products
MBq	Megabequerel
Mn	Manganese
ISFS	Interim Spent Fuel Storage
MH SR	Ministry of Health of the Slovak Republic
MoE SR	Ministry of the Environment of the Slovak Republic
LLW	Low-level waste
HP	Hazardous parts
NEIS	National Emission Information System
Ni	Nickel

NL	Hazardous substance
HW	Hazardous waste
NOx	Nitrogen oxides
OW	Other waste
DO	Disctrict Office
Pb	Lead
P_{total}	Total phosphate
OF	Operational file
Pu	Plutonium
RAW	Radioactive waste
NRR	National Radwaste Repository
SE-EBO	Slovenské elektrárne, a. s., Atómové elektrárne Bohunice power plant
SE-EMO	Slovenské elektrárne, a. s., Atómové elektrárne Mochovce power plant
SO_2	Sulfur dioxide
Sr	Strontium
TAVOS, a. s.	Trnavská vodárenská spoločnosť, a. s.
Tl	Tellurium
TSÚ RAO	Technogies for treatment and conditioning of RAW
SP	Sollid pollutants
NRA SR	Nuclear Regulatory Authority of the Slovak Republic

V	Vanadium
FCC	Fibre-concrete container
FCM	Fiber concrete mixture
SNF	Spent nuclear fuel
VS	Ventilation stack
SAP	Source of air pollution
Env	Environment

javys

Jadrová a vyraďovacia spoločnosť, a. s.
Jaslovské Bohunice 360
919 30 Jaslovské Bohunice
www.javys.sk

www.javys.sk