



REPORT ON ENVIRONMENTAL
IMPACT OF JAVYS, A.S.,
OPERATION FOR THE YEAR 2018

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01

INTRODUCTION

The Environment Report for the Year 2018 provides comprehensive information on the air protection, water and waste management systems, the prevention of serious industrial accidents, the treatment of chemicals, the Environmental Impact Assessment (EIA) procedures and on activities related to environmental protection performed within JAVYS, a. s.

By maintaining the certified environmental management system of JAVYS, a. s., in accordance with the standard ISO 14001:2015 Environmental Management Systems, the goal and mission to perform all activities with regard to environmental protection are demonstrated.

During the performance of all the activities, the emphasis is put on compliance with legal requirements identified from the SR and EU legal regulations in individual areas of environmental protection, as well as on the obligation to comply with Technical Specifications included in decisions made by the national authorities and supervisory bodies for the protection of individual environment components.

The environmental protection is included in the Safety process within the framework of the Integrated Management System.

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AIR PROTECTION

In the field of air protection, JAVYS, a. s. complies with the basic legal regulation, i.e. the Act of the National Council of the Slovak Republic No. 137/2010, Coll., on Air, as amended, and with all related acts, executive decrees and regulations of the Government of the Slovak Republic. The operation method of air pollution sources is governed by applicable decisions by the national authorities and supervisory bodies in relation to the air protection issued for JAVYS, a. s., starting from the source permission, the specification of the emission monitoring system, as far as the determination of the limits of pollutants discharged into the air.

Sources of Air Pollution and Volumes of Discharged Emissions

JAVYS, a. s., is the operator of air pollution sources in the following categories – large, medium, small sources.

| | |
|----------------------------------------------------------------------------|----------------------|
| Start-up and reserve boiler room (SuRBR) | large source |
| LOOS boiler in the SuRBR premises | medium source |
| Diesel generator in the V1 pumping station | medium source |
| Diesel generator next to the A1 outdoor switchyard | medium source |
| Diesel generator in the V1 substation (2 pcs) | medium source |
| Diesel generator at the ISFS | small source |
| Production of fibre concrete mixture in the V1 FCC production plant | small source |

JAVYS, a. s., re-evaluated the further usage of the Start-up and Reserve Boiler Room and, subsequently, made a decision to reconstruct it to the Reserve Boiler Room including a potential to be used exclusively for JAVYS, a. s., purposes. For the given reason, on 1 November 2018, the operation capacity was reduced from the original level of 79.8 MW to 26.6 MW (K1 and K2 boilers were separated from the gas supply line), whereby JAVYS, a. s., duties were modified from existing air pollution source operator duties to operator duties resulting from the operation of the existing medium air pollution source.

By reason of the operation capacity reduction, JAVYS, a. s., requested the relevant supervisory body, i. e., the Slovak Environmental Inspectorate, to cancel the integrated authorization of pollution control for the Start-up and Reserve Boiler Room.

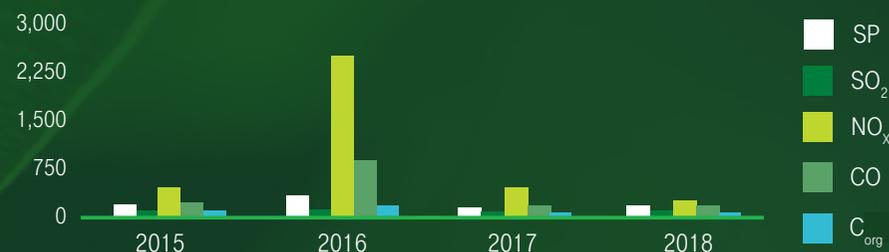
Volumes of emissions discharged from individual sources in 2018

| Source of pollution | Fuel | Operational hours | Volume of pollutant (kg) | | | | |
|----------------------------------------------------------------|------------------------------------------|-------------------|--------------------------|-----------------|-----------------|-----------------|------------------|
| | Natural gas (thous. of Nm ³) | | Hrs/year | SP | SO ₂ | NO _x | CO |
| SuRBR | 6.73 | 9 | 0.512 | 0.061 | 11.256 | 3.773 | 0.480 |
| LOOS Boiler | 8.63 | 113 | 0.656 | 0.079 | 12.785 | 5.163 | 0.861 |
| | Diesel fuel (t) | Hrs/year | SP | SO ₂ | NO _x | CO | C _{org} |
| DG Caterpillar Olympian | 0.362 | 7 | 0.515 | 0.007 | 1.814 | 0,290 | 0.026 |
| DG Martin Power MP 1700 | 2.069 | 10 | 2.830 | 0.040 | 9.967 | 1.595 | 0.219 |
| DG1 Martin Power MP 400 | 0.1008 | 2 | 0.286 | 0.004 | 1.008 | 0.161 | 0.022 |
| DG2 Martin Power MP 400 | 0.1008 | 2 | 0.286 | 0.004 | 1.008 | 0.161 | 0.022 |
| DG Caterpillar 3306 | 1.2 | 20 | 1.704 | 0.024 | 6.000 | 0.960 | 0.137 |
| Production of FCM | - | - | 31.5 | - | - | - | - |
| Total pollutants from all sources of air pollution (kg) | | | 38.29 | 0.22 | 43.84 | 12.10 | 1.77 |

All the mentioned diesel generators are not permanently in operation, they serve as emergency sources of electrical power supply.

In 2018, 372 fibre-reinforced concrete containers were produced in the FCC production plant, i.e. 1,613.68 t of fibre-concrete mixture, representing the air pollution by solid pollutants in the amount of 0.0315 t.

Amounts of emissions released from all sources of air pollution during the period of 2015 to 2018 (kg)



Note: The increased amounts of pollutants discharged from SuRBR into the atmosphere in 2016 was caused by extra supply of heat contained in steam for SE-EBO – V2 NPP (14 May – 20 June 2016) during the period of planned outage of the V2 Nuclear Power Plant within the meaning of the valid contract between JAVYS, a. s., and SE, a. s.

Amounts of pollutants discharged from BRWTC for 2018 and comparisons with preceding years

| Pollutant (kg) | 2018 | 2017 | 2016 | 2015 | 2014 |
|------------------------|--------------|--------------|--------------|--------------|--------------|
| HCl | 0.450 | 0.870 | 1.460 | 1.740 | 9.520 |
| HF | 6.660 | 4.260 | 2.700 | 2.230 | 1.510 |
| Hg+Tl+Cd | 0.233 | 0.248 | 0.265 | 0.227 | 0.128 |
| As+Ni+Cr+Co | 1.332 | 1.301 | 1.232 | 1.053 | 0.616 |
| Pb+Cu+Mn | 0.832 | 0.929 | 1.056 | 0.903 | 0.523 |
| SO ₂ | 91.960 | 38.000 | 86.670 | 46.730 | 150.320 |
| NO _x | 666.280 | 681.710 | 642.570 | 456.450 | 362.370 |
| CO | 86.400 | 71.030 | 80.770 | 79.840 | 64.930 |
| TZL | 1.590 | 1.620 | 1.610 | 1.380 | 3.320 |
| C _{org} | 6.260 | 8.670 | 11.990 | 12.760 | 6.760 |
| Operational hours/year | 6,697 | 7,017 | 6,857 | 5,659 | 3,796 |

The BRWTC incineration plant operation does not fall under the Act on Air, it is not categorized as a source of air pollution. The state supervision over the incineration plant is provided by the Nuclear Regulatory Authority of the Slovak Republic.

Equipment Containing Fluorinated Greenhouse Gases

JAVYS, a. s., is the operator of equipment containing fluorinated greenhouse gases (F gases). Based on this, JAVYS, a. s., is obliged to report data on those equipment on the yearly basis to environment departments of relevant district offices, within the meaning of the Act No. 286/2009, Coll., on Fluorinated Greenhouse Gases and the Regulation of the European Parliament and the Council (EC) No. 517/2014, on Fluorinated Greenhouse Gases.

Equipment containing fluorinated greenhouse gases with volume of 5 and more equivalent tonnes of CO₂ on the Jaslovské Bohunice site

| Building | Equipment/number of pieces | Filling | F gas Volume (equivalent t CO ₂) |
|------------------------|-------------------------------------------|-----------------|----------------------------------------------|
| A1 Outdoor Switchyards | compact substation 110 kV/2 pcs | SF ₆ | 2x2120.4 |
| A1 Outdoor Switchyards | measuring current transformer/6 pcs | SF ₆ | 6x91.2 |
| A1 Outdoor Switchyards | measuring voltage transformer/6 pcs | SF ₆ | 6x100.32 |
| V1 Outdoor Switchyards | switchboard 6 kV/4 pcs | SF ₆ | 4x118.79 |
| V1 Outdoor Switchyards | switchboard 6 kV/4 pcs | SF ₆ | 163.02 |
| V1 Outdoor Switchyards | switchboard 6 kV/4 pcs | SF ₆ | 105.79 |
| V1 Outdoor Switchyards | Circuit breaker ALSTOM AEA 01/1 pc | SF ₆ | 189.24 |
| V1 Outdoor Switchyards | EAE 10 enc. VHV switchyard - HYPACT/2 pcs | SF ₆ | 2x818.52 |
| V1 Outdoor Switchyards | AEA 02 circuit breaker Siemens/4 pcs | SF ₆ | 4x173.28 |
| V1 Outdoor Switchyards | switchboard 6 kV/26 pcs | SF ₆ | 26x25.76 |
| V1 Outdoor Switchyards | switchboard 6 kV/7 pcs | SF ₆ | 7x58.14 |

| | | | |
|---------------------------------------|----------------------------------------|-----------------|-----------|
| V1 Outdoor Switchyards | switchboard 6 kV/1 pc | SF ₆ | 53.81 |
| V1 Outdoor Switchyards | switchboard 6 kV/5 pcs | SF ₆ | 5 x 31.69 |
| V1 Outdoor Switchyards | switchboard 6 kV/1 pc | SF ₆ | 41.04 |
| V1 Outdoor Switchyards | switchboard 6 kV/2 pcs | SF ₆ | 2 x 27.36 |
| V1 Outdoor Switchyards | switchboard 6 kV/1 pc | SF ₆ | 36.48 |
| V1 Outdoor Switchyards | switchboard 6 kV/2 pcs | SF ₆ | 2 x 29.64 |
| V1 Outdoor Switchyards | switchboard 22 kV/1 pc | SF ₆ | 23.26 |
| V1 Outdoor Switchyards | switchboard 22 kV/1 pc | SF ₆ | 30.55 |
| V1 Outdoor Switchyards | circuit breaker Siemens AEA/5 pcs | SF ₆ | 5 x 57 |
| V1 Pumping Station | switchboard r6-16.05/2 pcs | SF ₆ | 2 x 13.68 |
| V1 Pumping Station | switchboard r6-16.05/2 pcs | SF ₆ | 2 x 25.08 |
| V1 Pumping Station | switchboard r6-16.05/5 pcs | SF ₆ | 5 x 20.52 |
| V1 Pumping Station | switchboard r6-16.05/2 pcs | SF ₆ | 2 x 27.36 |
| V1 Pumping Station | switchboard r6-16.05/2 pcs | SF ₆ | 2 x 15.96 |
| A1 Reactor Building | stable extinguisher LPG-190-00/1 pc | R 227ea | 320.71 |
| A1 Reactor Building | stable extinguisher LPG-190-00/1 pc | R 227ea | 337.46 |
| A1 Reactor Building | stable extinguisher LPG-190-00/1 pc | R 227ea | 303 |
| A1 Reactor Building | stable extinguisher KD 200/1 pc | R 227ea | 82.11 |
| Operation building | stable extinguisher KD 200/1 pc | R 227ea | 144.9 |
| Operation building | stable extinguisher KD 200/1 pc | R 227ea | 74.06 |
| Operation building | stable extinguisher KD 200/1 pc | R 227ea | 17.71 |
| Operation building | stable extinguisher KD 200/1 pc | R 227ea | 17.35 |
| Operation building | stable extinguisher KD 200/1 pc | R 227ea | 157.78 |
| Exchanger plant | stable extinguisher KD 200/1 pc | R 227ea | 141.36 |
| A1 Steam-generator building | air conditioning unit MITSUBISHI/1 pc | R 410A | 7.31 |
| Turbine hall | air conditioning unit PANASONIC/1 pc | R 410A | 5.51 |
| Active water purification plant | air conditioning unit DAIKIN/2 pcs | R 410A | 2 x 7.73 |
| Operation building | air conditioning unit MITSUBISHI/2 pcs | R 410A | 2 x 48.02 |
| Operation building | air conditioning unit MITSUBISHI/1 pc | R 410A | 54.29 |
| Operation building | air conditioning unit MITSUBISHI/1 pc | R 410A | 45.94 |
| Operation building | air conditioning unit MITSUBISHI/1 pc | R 410A | 48.02 |
| Operation building | air conditioning unit PANASONIC/1 pc | R 410A | 7.1 |
| Operation building | air conditioning unit PANASONIC/1 pc | R 410A | 7.1 |
| Operation building | air conditioning unit LG/1 pc | R 410A | 15.76 |
| Maint., equip., manag., inspection c. | air conditioning unit TOSHIBA/1 pc | R 410A | 37.58 |
| V1 SuRBR | air conditioning unit TOSHIBA/1 pc | R 410A | 5.01 |
| V1 Substation | air conditioning unit MITSUBISHI/1 pc | R 410A | 12.11 |
| V1 Administrative building | split unit LG/4 pcs | R 410A | 4 x 15.76 |
| V1 Administrative building | air conditioning unit LG/2 pcs | R 410A | 2 x 6.06 |
| V1 Administrative building | air conditioning unit TOSHIBA/1 pc | R 410A | 5.85 |
| V1 CM storages abd workshop | cooling unit LENNOX/1 pc | R 410A | 56.38 |
| Security building | air conditioning unit TOSHIBA/5 pcs | R 410A | 5 x 5.01 |
| Security building | air conditioning unit TOSHIBA/1 pc | R 410A | 5.01 |
| Lodge at ISFS | air conditioning unit TOSHIBA/1 pc | R 410A | 5.01 |
| BRWTC | air conditioning unit TOSHIBA/2 pcs | R 407C | 2 x 51.45 |

Equipment containing fluorinated greenhouse gases with volume of 5 or more tonnes equivalent of CO₂ on the Bratislava site

| Building | Equipment/pieces | Náplň | F Gas Volume (equivalent t CO ₂) |
|-------------------------|-------------------------------------------|--------|----------------------------------------------|
| Administrative building | 1 air conditioning unit TOSHIBA / 1 pc | R 410A | 22,97 |
| Administrative building | 1 cooling unit DAIKIN / 1 pc | R 410A | 20,04 |
| Administrative building | air conditioning unit LG M30AH UEO / 1 pc | R 410A | 5,22 |
| Administrative building | air conditioning unit LG M30AH / 1 pc | R 410A | 5,22 |
| Administrative building | cooling unit YORK / 1 pc | R 407C | 39,03 |
| Administrative building | VRV system DAIKIN / 2 pc | R 407C | 2 x 19,87 |
| Administrative building | VRV system DAIKIN / 1 pc | R 407C | 20,93 |
| Administrative building | VRV system DAIKIN / 1 pc | R 407C | 11,18 |
| Administrative building | VRV system DAIKIN / 1 pc | R 407C | 11,35 |

Equipment containing fluorinated greenhouse gases with volume of 5 and more equivalent tonnes of CO₂ on the Mochovce site (institutional radioactive waste - IRAW and captured radioactive materials - CRAM)

| Building | Equipment/number of pieces | Filling | F Gas Volume (equivalent t CO ₂) |
|---------------------------|-------------------------------------------------------|---------|----------------------------------------------|
| 808 | automatic extinguishing system type SAH FE-36 / 2 pcs | R 236fa | 2 x 490.5 |
| 808 | air conditioning unit of MITSUBISHI type | R 407C | 10.64 |
| Active auxiliary building | air conditioning unit MITSUBISHI / 1 pc | R 410A | 49.07 |

Greenhouse Gas Emissions

Within the meaning of Act No. 414/2012 Coll., on Emission Allowances Trading, JAVYS a. s., is a mandatory trading scheme participant. In 2018, 42 t of greenhouse gases (CO₂) were discharged into the atmosphere from the operation. Compared with the year 2017, amounts of CO₂ emissions moderately decreased and remain at average annual values, because, in 2018, air pollution sources were only operated in the emergency mode (no steady operation). In November 2018, the activity level report for parts of operation for the year 2018 was developed. Moreover, the report on greenhouse gas emissions from the operation for the year 2018 was developed. Both the reports were verified within the meaning of the law by an accredited verifier (ASTRAIA Certification, s. r. o.). The emission report together with the verification report, were sent to the District Office in Trnava and to the Ministry of Environment of the Slovak Republic, within the meaning of Act No. 414/2012, Coll.

Inspections and Controls in the Air Protection Area

An environmental control was performed within JAVYS, a. s., by the Slovak Environmental Inspectorate, the Bratislava Environmental Inspectorate, the permanent infrastructure Nitra, the Integrated Authorization and Control Department, in the area of the integrated authorization of pollution control (IAPC) on 13 September 2018. The control was focused on the verification of meeting the conditions specified by the applicable decision No. 5818-33736/2007/Bal/370660107, as amended, for the Start-up and Reserve Boiler Room operation in areas of air protection, waste management and water management systems. Based on the accomplished environmental control, the Inspectorate team did not identify any deficiencies and confirmed, in accordance with § 35(1) of the Act on IAPC, the compliance between the state of implementation of operational activities identified by the control and the conditions specified by the integrated authorization.

Discharges of Radioactive Substances into the Atmosphere

Following repeated control measurements, small percentage of the permitted guiding limits for gaseous discharges are only discharged into the surrounding environment from JAVYS, a. s., nuclear facilities.

The objective of the guiding limits for discharges is to ensure that the effective dose per capita caused by the discharges of radioactive substances into the atmosphere and hydrosphere from the JAVYS, a. s., Jaslovské Bohunice nuclear facilities do not exceed 32 µSv/year and the same from the FP LRAW nuclear facility do not exceed 10 µSv/year. The guiding limits for radioactive discharges into the atmosphere are specified in the limits and conditions for each nuclear facility (RAW PTT, A1 NPP, ISFS, V1 NPP, FP LRAW). These limits were set up by decisions of the Public Health Authority of the Slovak Republic and they are approved by the Nuclear Regulatory Authority of the Slovak Republic.

Gaseous discharges of radioactive aerosols (β, γ) for the year 2018

| Nuclear Facility | Activity in Discharges (Bq) | Annual Guiding Limit (Bq) | % of Guiding Limit |
|--------------------------------|-------------------------------|----------------------------|--------------------|
| Aerosols VS 46A (MPB) | 0.03406 x 10 ⁹ Bq | 6.58 × 10 ⁹ Bq | 0.518 |
| Aerosols VS 46B (BL and OS) | 0.00026 x 10 ⁹ Bq | 1.41 × 10 ⁹ Bq | 0.045 |
| Aerosols VS 808 (BRWTC and OS) | 0.00158 x 10 ⁹ Bq | 1.41 × 10 ⁹ Bq | 0.112 |
| Aerosols VS 840 (ISFS) | 0.00091 x 10 ⁹ Bq | 3.00 × 10 ⁹ Bq | 0.030 |
| Aerosols V1 NPP | 0.00157 x 10 ¹⁰ Bq | 8.00 × 10 ¹⁰ Bq | 0.020 |
| Aerosols from FP LRAW | 0.00170 x 10 ⁷ Bq | 8.00 × 10 ⁷ Bq | 0.015 |

* A common limit of 3 × 10⁸ Bq is specified for ISFS for all radionuclides, not only for (β, γ)

The air mass from the FP LRAW facilities is discharged into the SE-EMO stack (it is not discharged immediately into the environment). The air mass re-filtration and subsequent discharge into the environment is performed in SE-EMO facilities together with the SE-EMO air mass.

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

In 2018, the discharges from JAVYS, a. s. nuclear facilities into the atmosphere were well below the authorized guiding limits specified by the Public Health Authority of the Slovak Republic.

03

WATER MANAGEMENT SYSTEM

As for the field of water protection, JAVYS, a. s., complies with the basic legal regulation – the Act of the National Council of the Slovak Republic No. 364/2004, Col., the “Water Act”, as well as with all directly and indirectly related acts and executive decrees and regulations.

The values of permitted amounts of discharged wastewaters, the concentration and balance limits of pollutants in the wastewaters, places and methods of the wastewater discharges, etc., are determined by applicable decisions of the national and supervisory authorities in the field of water protection 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 concluded between TAVOS, a. s., and JAVYS, a. s.

The Mochovce site (NRWR and FP LRAW) is connected to the SE-EMO drinking water distribution line, the drinking water supply to the administrative building in Bratislava (22, Tomášikova Street) is provided from the public water main of Bratislavská vodárenská spoločnosť.

Amounts of drinking water consumed during the period of 2015 to 2018

| Site | Consumption (m ³) | | | |
|---------------------------------------|-------------------------------|---------------|---------------|---------------|
| | 2018 | 2017 | 2016 | 2015 |
| J. Bohunice site | 51,157 | 40,218 | 46,509 | 50,364 |
| NRWR | 1,160 | 826 | 642 | 791 |
| FP LRAW | 306 | 295 | 257 | 331 |
| FCC production plant Trnava | -* | 177 | 785 | 997 |
| Administrative building in Bratislava | 1,519 | 1,060 | 1,219 | 1,040 |
| Total | 54,142 | 42,576 | 49,412 | 53,523 |

* in 1 half-year 2017 operation moved to the Jaslovské Bohunice site.

In 2018, the total drinking water consumption increased by 11,566 m³, compared to the previous year, which represents an increase by 27.2 %.

The drinking water consumption on the Jaslovské Bohunice site increased due to the fact that the FCC production plant had been moved from Trnava to the Jaslovské Bohunice site. The increase in the consumption was also due to the increased number of contractor staff members resulting from the A1 and V1 NPPs decommissioning process, as well as from drinking water supply line leakage within the JAVYS, a. s., site.

The increase in the drinking water consumption on the Bratislava site was due to a change in the building usage mode - the Pan-European University teaching premises were established there.

The drinking water consumption also increased on the Mochovce NRWR site as a result of contractor activities involved in the C9.4 Project “Low-Level Waste Repository Facility (Construction of the Third Double-Row)”.

Analyses of drinking water samples

The quality of drinking water was controlled in JAVYS, a. s., within the meaning of the Decree of the Ministry of Health of the Slovak Republic No. 247/2017, Coll., as amended, laying down the details of drinking water quality, the drinking water quality control, the monitoring program and the risk management in relation to the drinking water supply and the Decree of the Ministry of Health of the Slovak Republic No. 100/2018, Coll., on the reduction of population exposure from drinking water, natural mineral water and spring water.

In 2018, 8 minimum and 2 full-scope drinking water analyses were performed in JAVYS, a. s., based on a valid contract. Test records were issued for each analysis, while in all cases the tested sample complied with the limit values specified by the Decree of the Ministry of Health of the Slovak Republic No. 247/2017, Coll., for the evaluated sample indicators, and, in case of the full-scope tests, and also with the indication values specified by the Decree of the Ministry of Health of the Slovak Republic No. 100/2018, Coll., for the evaluated radiological indicators.

Cooling Water

Jaslovské Bohunice Site

Surface water from the Sĺňava water reservoir is used as cooling water on the Jaslovské Bohunice site. SE-EBO is its supplier. Surface (raw) water of the River Váh is used for the cooling of the safety and emergency systems at V1 NPP, for the cooling of the facilities providing radioactive waste processing and storage and the Spent nuclear fuel storage (ISFS).

The following diagram shows amounts of the consumed cooling water that have indicated a decreasing trend since the year 2016 with regard to both the technology and methods of decommissioning of individual operation systems and buildings situated on the A1 and V1 NPP sites.

Amounts of consumed cooling water from the River Váh during the period of 2014 to 2018 (m³)



Mochovce FP LRAW Site

The FP LRAW (the bituminization lines and the thickening evaporator) technological facilities are connected to the supply of the non-essential service water system from the SE-EMO distribution system, i.e. to the circulation cooling water system. The cooling water consumption from January to December 2018 amounted to 2,725 m³.

Wastewater

Jaslovské Bohunice Site

Several kinds of sewage systems are in operation on the JAVYS, a. s., site in Jaslovské Bohunice:

- Rain water sewage system – it empties into the Dudváh river recipient through the open channel Manivier.
- Sanitary sewage system – it empties into the sanitary water treatment facility – BIOCLAR and, subsequently, into the River Váh via the pipe drainage collector SOCOMAN.
- Industrial sewage system – waters contaminated by oil substances are led into the central gravitational oil separator; after the purification, the water is led to SE-EBO for the treatment of additional cooling water by clarification.
- Special sewage system – it is emptied into collection tanks of special active water cleaning facilities on the relevant site and, subsequently, following the purification and inspection, the wastewater is discharged under control.

Other wastewater from technological facilities for the processing and treatment of RAW, including low-level water, is drained by the final sewage collector SOCOMAN into the Váh river recipient.

Balance of discharged wastewater

Wastewater from the Jaslovské Bohunice site is discharged through the pipe drainage collector SOCOMAN and the open canal Manivier within the meaning of the applicable decision No. OU-TT-OSŽP2-2013/00026/GI, issued by the District Office in Trnava on 24 October 2013. This authorization is valid till 31 October 2023.

Within the meaning of the applicable decision, JAVYS, a. s. is not obliged to measure quantity and quality of rainfall water discharged from JAVYS a. s. into the river Dudváh recipient.

There was no exceeding of the limit values of pollutant indicators in wastewater discharged into the river Váh recipient during the monitored period.

The following diagram shows amounts of wastewater discharged into the river Váh recipient during the period of 2014 to 2018.

Amounts of wastewater discharged into the river Váh recipient during the period of 2014 to 2018 (m³)



Average chemical pollution concentration discharged into the river Váh recipient

| Chemical pollution indicators | Average concentration of discharged pollution (for the year 2018) | Maximum allowed concentration (decision No. OU-TT-OSŽP2-2013 /00026/GI) |
|------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------|
| | mg/l | mg/l |
| Acidity, alkalinity – pH | 8.053 | 9.00 |
| Biochemical oxyg. consumption – BOC ₅ | 2.442 | 8.00 |
| Chemical oxyg. consumption – CHOC _{C_r} | 10.097 | 30.00 |
| Insoluble substances – IS | 15.000 | 20.00 |
| Soluble substances – SS | 382.528 | 1 000.00 |
| Ammonia – N-NH ₄ ⁺ | 1.315 | 4.00 |
| Nitrates – NO ₃ | 17.022 | 50.00 |
| Sulphates – SO ₄ ²⁻ | 24.272 | 150.00 |
| Chlorides – Cl ⁻ | 17.590 | 100.00 |
| Extracted non-polar substances – ENS | 0.022 | 0.35 |
| Total phosphates – P _{total} | 0.402 | 2.00 |
| Iron – Fe | 0.087 | 2.00 |
| Detergents – PAL | 0.099 | 0.50 |

Mochovce NRWR Site

A rain water sewage system is installed on the NRWR site that is emptied into the creek Telinsky potok via rain water tanks.

The Chief Public Health Officer of the Slovak Republic issued a permission to JAVYS, a. s., included in his decision No. OOZPŽ/6573/2011 specifying also the guiding values of radionuclide activities discharged into water of the surface drainage from the Mochovce NRWR.

Decision No. 2015/040759 – the permission to discharge water from the surface drainage into the surface flow of the creek Telinsky potok, was issued by the District Office in Nitra, the Environment Care Department.

In 2018, 1,927 m³ of water were discharged from the NRWR surface drainage and into the creek Telinsky potok. Sanitary water amounting to 221 m³ was accumulated in a waterproof cesspool at the NRWR and removed to the wastewater treatment plant for cleaning.

Mochovce FP LRAW Site

Sanitary water from the FP LRAW is drained into the SE-EMO sewage system, it is taken from there into the wastewater treatment plant and, following the purification, it is discharged into the environment together with SE-EMO waters.

Amounts of rain water are calculated from the total FP LRAW roof surface and the average annual rainfall (1.7 mm/day). The rainwater is also drained into the SE-EMO rainwater sewage system together with rainfall waters from other SE-EMO buildings. The rainwater is captured in retention tanks and after being measured, it is discharged into the environment.

The sewage water and rainwater drainage is provided by Slovenské elektrárne, a. s.

Discharges of Radioactive Substances into the Hydrosphere

Fractures of percentage of the permitted limits for liquid discharges are only discharged from the JAVYS, a. s., nuclear facilities into the surrounding environment after multiple control measurements. The objective of the guiding limits for discharges is to ensure that the effective dose per capita caused by the discharges of radioactive substances into the atmosphere and hydrosphere from the JAVYS, a. s., Jaslovské Bohunice nuclear facilities do not exceed 32 $\mu\text{Sv}/\text{year}$, the same from the FP LRAW nuclear facility do not exceed 10 $\mu\text{Sv}/\text{year}$ and the same from the NRWR nuclear facility do not exceed 20 $\mu\text{Sv}/\text{year}$.

Guiding limits for radioactive discharges into the surface water are specified in limits and conditions for each JAVYS, a. s., nuclear facility (RAW PTT, A1 NPP, ISFS, V1 NPP, FP LRAW, NRWR). These limits were set up by decisions of the Public Health Authority of the Slovak Republic and they are approved by the Nuclear Regulatory Authority of the Slovak Republic.

The control of the discharged activities contained in wastewater is carried out by measuring volumetric activities of tritium, corrosive and fission products, and of water amounts stored in collection tanks of RAW PTT, A1 NPP, ISFS and V1 NPP, while water discharges are also checked by means of continuous monitoring in measurement locations. Low-level waters also include the water discharged based on the implementation of the standard operation of the groundwater remediation pumping system from well N-3 (SO 106) for which the permission was issued by the District Office in Trnava within the meaning of Act No. 364/2004, Coll., on Waters.

Low-level water discharges from the Jaslovské Bohunice site (including the water coming from the remediation pumping from the RAW PTT and A1 NPP sites) into the river Váh recipient

| 2018 | Activities of radionuclides in wastewaters of the river Váh recipient | | | | | | | |
|----------------------------------------------|-----------------------------------------------------------------------|---------------|-----------------------------|----------------------------------------|-----------------------|---------------|------------------------------|-----------------------------------------|
| | V1 NPP V1, ISFS Sites | | | | A1 NPP, RAW PTT Sites | | | |
| Volume of discharged water (m ³) | 4,000 | | | | 189,840 | | | |
| | CFP (MBq) | Tritium (GBq) | % of the guiding limit CFP* | % of the guiding limit ³ H* | CFP (MBq) | Tritium (GBq) | % of the guiding limit CFP** | % of the guiding limit ³ H** |
| Total | 11.281 | 2.378 | 0.087 | 0.119 | 17.791 | 460.381 | 0.148 | 4.604 |

* guiding limit for CFP – 13,000 MBq; guiding limit for tritium – 2,000 GBq

** guiding limit for CFP – 12,000 MBq; guiding limit for tritium – 10,000 GBq

The river Dudváh recipient – low-level water discharges

No low-level water was discharged into the river Dudváh recipient in 2018.

Active discharges into the hydrosphere from NRWR and FP LRAW

Surface drainage water is only discharged from NRWR and limits of indicators for the discharged water were not exceeded during the monitored period. The measured values (³H, ⁶⁰Co, ¹³⁷Cs, ⁹⁰Sr, ²³⁹⁺²⁴⁰Pu) moved around the levels of the detection limits.

The volume of 1,927 m³ of water containing the total activity of 5.307×10^6 Bq was discharged into the hydrosphere, i.e. into the creek Telinský potok.

The following table shows the percentage assessment of the total activity for individual radionuclides in the volume of 1,927 m³ discharged from the surface drainage in relation to the limits and conditions. The limits for volumetric activity of radionuclides in the discharged water specified in the decision of the Chief Public Health Officer were not exceeded for any of the indicators during the monitored period.

Data on quality of rainfall wastewater discharged from NRWR

| Radionuclide | Activ. of Discharges (Bq) | Annual Guiding limit (Bq) | % of Guiding Limit |
|-----------------------|---------------------------|---------------------------|--------------------|
| ³ H | 4.82×10^6 | 1.88×10^{10} | 0.026 |
| ¹³⁷ Cs | 4.10×10^4 | 2.28×10^7 | 0.180 |
| ⁶⁰ Co | 2.50×10^4 | 2.24×10^7 | 0.112 |
| ⁹⁰ Sr | 4.09×10^5 | 2.44×10^6 | 0.168 |
| ²³⁹⁺²⁴⁰ Pu | 1.20×10^4 | 5.56×10^5 | 2.158 |

Two kinds of secondary active liquid waste are produced in the FP LRAW facility. These active media (wastewater, waste vapours - bride condensate) are not discharged into the environment (active discharges), but they can be pumped into the SE-EMO system for further processing, or they are returned back to the FP LRAW technology. No liquid wastes were pumped through to SE-EMO in 2018, they were treated by the FP LRAW.

Groundwater Monitoring and Protection

Jaslovské Bohunice Site

The monitoring and protection of groundwater and soil water on the Jaslovské Bohunice site and in its surroundings has been carried out since 1997 in accordance with the approved monitoring program. The radiation situation in the groundwater under RAW PTT and A1 NPP sites, monitored in the long term and regularly, is currently stabilized. The continuous remediation pumping system has been in operation on the site since 2000.

Activities are carried out under the A1 NPP decommissioning project based on which primary soil contamination sources were gradually removed and, subsequently, the same was implemented for groundwater contamination sources. The remediation pumping system operation was performed in accordance with the Decision of the Ministry of Environment of the Slovak Republic No. R-AR 05/2013 of 2 May 2013 on the approval of the final report including the risk analysis for the contaminated territory. Based on the requirement to prepare its updates every 6 years submitted by the Ministry of Environment of the Slovak Republic, the "Partial Final Report Involving the Risk Analysis Update for the contaminated territory for the year 2017" was sent to the Ministry of Environment of the Slovak Republic, the Geology and Natural Resources Section, on 18 June 2018. The Report approval proceedings before the Commission for the Review and Approval of Final Reports Involving the Risk Analysis for the Contaminated Territories were held on 19 November 2018. The Report was finished within the meaning of comments given by opposers and of the Minutes of 50th session of the Commission for the Review and Approval of Final Reports Involving the Risk Analysis for the Contaminated Territories No. 66062/2018 and it is expected to be approved by the Ministry of Environment of the Slovak Republic in the year 2019.

Evaluation of the standard operation of the groundwater remediation pumping system from well N-3 in the year 2018

| Remediation pumping 2018 | CFP Activity Drawn Away | Use of Guiding Limit for CFP* | Tritium Activity Drawn Away | Use of Guiding Limit for ³ H* | Water Volume Drawn Away (m ³) |
|--------------------------|-------------------------|-------------------------------|-----------------------------|------------------------------------------|-------------------------------------------|
| | MBq | % | GBq | % | |
| Total | 1.61 | 0.013 | 53.94 | 0.539 | 186,095 |

* Values of "Use of Guiding Limit" are determined by the decision:
- the guiding limit for CFP – 1.2×10^4 MBq
- the guiding limit for ³H – 1.0×10^4 GBq

In addition to the monitoring inside the company site, the monitoring of the surroundings is also performed. Based on the groundwater monitoring results in the vicinity of the Jaslovské Bohunice site, it is possible to observe significant improvements in the radiation situation (the decrease in the level of tritium volumetric activities as low as an insignificant level, achieving the natural background level) in the vicinity of the Malženice and Žlkovce villages.

Mochovce NRWR Site

There are 52 monitoring wells (groundwater) on the NRWR site and in its vicinity, from which samples were taken according to the applicable schedule for the year 2018 and, subsequently, their chemical and radiochemical analyses were performed.

In addition to the groundwater monitoring, drainage water is also monitored at the NRWR facility where, in the year 2018, volumetric activities of individual radionuclides in drainage water were below the limit specified by the Chief Health Officer of the Slovak Republic in the Decision No. OOZPŽ/6573/2011.

Drainage waters have been discharged through the rain tanks. Their amounts and analyses have been included in the discharged waters.

Results of chemical and radiochemical analyses of waters in 2018

| Measured Quantity | Activity Level (Bq/l) |
|---------------------|-----------------------|
| ³ H | < 5 |
| Total beta activity | < 1 |
| ¹³⁷ Cs | < 1.25 |
| ⁶⁰ Co | < 0.87 |
| ⁹⁰ Sr | < 0.13 |
| ²³⁹ Pu | < 0.01 |

Results of radiochemical measurements are at the background level and during the operation no negative impacts on the environment occurred on the NRWR site and in its surroundings.

Inspections and Controls in the Water Management System Area

On 17 May 2018, the Slovak Environmental Inspectorate in Nitra, the Water Protection Inspection Department, performed an operative control aimed at the assessing of the completeness and timeliness of the operating procedure 8-PLN-010 "Plan of Emergency Measures against the Surface and Groundwater Pollution in JAVYS, a. s. on the Jaslovské Bohunice site" and its compliance with the actually identified state in accordance with Act No. 364/2004, Coll., on Waters and on Amendment of the Act of the National Council of the Slovak Republic No. 372/1990, Coll., on Infringements, as amended, (the Water Act).

The control resulted in the Minutes where the Slovak Environmental Inspectorate stated that no discrepancy was identified between the emergency plan contents and the reality.

The Slovak Environmental Inspectorate in Nitra issued Decision No. 4811-17026/326/2018/Jan on the approval of the emergency plan for JAVYS, a. s., on the Jaslovské Bohunice site that entered into force on 8 June 2018.

04

WASTE MANAGEMENT SYSTEM (NON-ACTIVE WASTE)

In 2018, JAVYS, a. s., complied with the basic legal regulation in the waste management system field (non-active waste) – the Act of the National Council of the Slovak Republic No. 79/2015, Coll., on Wastes, as amended, and with all related acts and executive orders, as amended.

The waste management is provided by means of collection, sorting and accumulation within premises reserved for those purposes – the Waste Collection Yard. Wastes that can potentially endanger any of the environment components, or that must meet hygienic or safety requirements, are temporarily stored in appropriate technologically secured premises in a manner to avoid their negative impacts or threats to life and health of people, property and the environment.

The composition of produced wastes directly or indirectly results from activities related to the business of JAVYS, a. s.

For the purposes of collecting hazardous wastes within the waste producer premises prior to their further management, JAVYS, a. s., was granted the consent by the District Office in Trnava No. OU-TT-OSZP3-2016/018193/ŠSOH/Du, in force till 17 June 2021.

In 2018, wastes were produced in JAVYS, a. s., in categories of Other Waste (O) and Hazardous Waste (H) according to the Catalogue of Wastes - the Decree of the Ministry of Environment of SR No. 365/2015 Coll., on Municipal and Biodegradable Wastes.

Balance of Wastes Produced off BIDSF Projects

The disposal and recovery of wastes produced during activities that are not implemented by means of BIDSF projects come within the scope of JAVYS, a. s., competence. In case of contractor activities, the disposal and recovery of such wastes are ensured, based on a contract with the relevant contractor.

**Amounts and types of other wastes produced in JAVYS, a.s.,
off BIDSF projects on the Jaslovské Bohunice site in 2018**

| Catalogue Number | Waste type | Name of Other Waste | Amount (t) | Recovered (t) | Disposed (t) |
|-------------------------|------------|-----------------------------------------------------------------------------------|---------------|----------------|----------------|
| 080318 | O | Waste toner for printers other than under 080317 | 0.120 | | ✓ |
| 150101 | O | Paper and paperboard packaging | 7.470 | ✓ | |
| 150102 | O | Plastic packaging - PET bottles | 2.580 | ✓ | |
| 160214 | O | Discarded equipment other than those indicated under 160209 to 160213 | 16.300 | ✓ | |
| 170201 | O | Wood | 8.460 | ✓ | |
| 170302 | O | Bitumen mixtures other than under 170301 | 8.440 | | ✓ |
| 170403 | O | Lead | 0.940 | ✓ | |
| 170504 | O | Earth and stone aggregates other than under 170503 | 8.200 | | ✓ |
| 170604 | O | Insulation materials other than those indicated under 170601-03 | 29.626 | | ✓ |
| 190809 | O | Fat and oil blends from oil separators from water containing edible oils and fats | 15.000 | ✓ | |
| Total amount (t) | | | 97.136 | 50.75 | 46.386 |
| Total amount (%) | | | 100 % | 52.25 % | 47.75 % |

**Amounts and types of hazardous waste produced in JAVYS, a.s.,
off BIDSF projects on the Jaslovské Bohunice site in 2018**

| Catalogue Number | Waste Type | Name of Hazardous Waste | Amount (t) | Recovered (t) | Disposed (t) |
|-------------------------|------------|----------------------------------------------------------------------------------------------------|---------------|----------------|----------------|
| 090104 | H | Fixing agent solutions | 0.720 | | ✓ |
| 130310 | H | Other insulation and heat transferring oils | 0.580 | ✓ | |
| 130502 | H | Sludge from oil separators from water | 0.430 | | ✓ |
| 130506 | H | Oil from oil separators from water | 5.520 | ✓ | |
| 150110 | H | Packaging containing especially hazardous substances, cont. by hazardous substances | 0.290 | ✓ | |
| 150202 | H | Absorbents, filtering materials incl. oil filters, cleaning cloths contam. by hazardous substances | 0.100 | ✓ | |
| 160213 | H | Discarded equip. containing danger. parts other than those indicated under 160209-160212 | 0.340 | ✓ | |
| 160506 | H | Laboratory chemicals consisting of HS, containing HS | 0.178 | | ✓ |
| 160507 | H | Discarded inorganic chem. cons. from hazardous subst., containing hazardous substances | 0.290 | | ✓ |
| 160601 | H | Lead-acid batteries | 2.700 | ✓ | |
| 170410 | H | Cables containing oil, coal tar and other hazardous substances | 2.960 | ✓ | |
| 200121 | H | Fluorescent lamps and other waste containing mercury | 0.560 | ✓ | |
| Total amount (t) | | | 14.668 | 13.050 | 1.618 |
| Total amount (%) | | | 100 % | 88.97 % | 11.03 % |

Amounts and types of other wastes produced in JAVYS, a.s., off BIDSF projects on the Mochovce NRWR site in 2018

| Catalogue Number | Waste type | Name of Other Waste | Amount (t) | Recovered (t) | Disposed (t) |
|-------------------------|------------|-----------------------|--------------|---------------|---------------|
| 150102 | O | Plastic packaging | 0.038 | ✓ | |
| 200301 | O | Mixed municipal waste | 2.081 | | ✓ |
| Total amount (t) | | | 2.119 | 0.038 | 2.081 |
| Total amount (%) | | | 100% | 1.80% | 98.20% |

Amounts and types of hazardous wastes produced in JAVYS, a.s., off BIDSF projects on the Mochovce NRWR site in 2018

| Catalogue number | Waste type | Name of Hazardous Waste | Amount (t) | Recovered (t) | Disposed (t) |
|-------------------------|------------|-----------------------------------------------------------------------|--------------|---------------|--------------|
| 080111 | H | Waste paints and lacquers containing OR or other hazardous substances | 0.030 | ✓ | ✓ |
| 200121 | H | Fluorescent lamps and other waste containing mercury | 0.010 | | |
| Total amount (t) | | | 0.040 | 0.010 | 0.030 |
| Total amount (%) | | | 100% | 25% | 75% |

Production of other and hazardous wastes on the J. Bohunice and Mochovce and NRWR sites off BIDSF projects during the years 2015 to 2018



Balance of Waste Produced during BIDSF Projects

Projects D3.1B “Dismantling and Demolition of V1 NPP Cooling Towers”, A5-A3 “Optimisation of Electric Scheme”, D1.2 “Dismantling of the Technical Equipment in the V1 NPP Turbine Hall”, D4.1 “Modification of the Plant and Installation of New Equipment”, D4.2 “Dismantling of Reactor Coolant System Large Components”, D4.4B “Dismantling of systems in V1 NPP controlled area – Part 1” were implemented by the Jadrová a vyradovacia spoločnosť, a. s. (JAVYS), within the group of V1 NPP decommissioning projects in the year 2018. The projects are a part of 2nd stage of V1 NPP decommissioning which implements the V1 NPP Jaslovské Bohunice decommissioning strategy, based on the Decision of the Government of the Slovak Republic on the ultimate V1 NPP Bohunice shutdown of September 1999.

During the implementation of the mentioned projects, other and hazardous wastes were recovered and disposed by contractors and subcontractors of individual project suppliers.

Amounts and types of other wastes produced in JAVYS, a.s., during BIDSF Projects in 2018

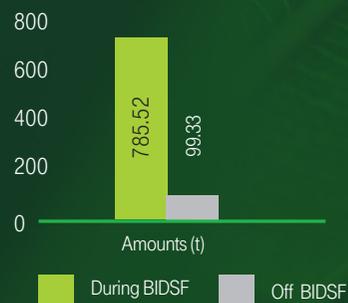
| Catalogue Number | Waste Type | Name of Other Waste | Amount (t) | Recovered (t) | Disposed (t) |
|-------------------------|------------|-----------------------------|----------------|---------------|----------------|
| 170201 | O | Wood – D3.1B | 30.440 | ✓ | |
| 170203 | O | Plastic materials – D3.1B | 726.880 | | ✓ |
| 170201 | O | Wood – A5-A3 | 0.420 | ✓ | |
| 170203 | O | Plastics – A5-A3 | 3.060 | | ✓ |
| 170203 | O | Plastic materials – D1.2 | 19.780 | | ✓ |
| 170604 | O | Insulation materials – D4.1 | 2.880 | | ✓ |
| 170904 | O | Mixed waste – D4.1 | 1.820 | | ✓ |
| 170203 | O | Plastic materials – D4.4B | 0.200 | | ✓ |
| 170604 | O | Insulation materials – D4.2 | 0.040 | | ✓ |
| Total amount (t) | | | 785.520 | 30.860 | 754.660 |
| Total amount (%) | | | 100% | 4.00% | 96.00% |

Amounts and types of hazardous wastes produced in JAVYS, a.s., during BIDSF Projects in 2018

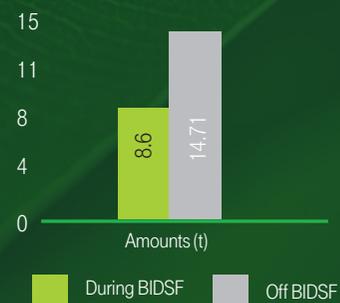
| Catalogue Number | Waste Type | Name of Hazardous Waste | Amount (t) | Recovered (t) | Disposed (t) |
|-------------------------|------------|-------------------------------------------------|--------------|---------------|---------------|
| 130307 | H | Non-chlor. mineral insulat. and heat oils A5-A3 | 3.620 | ✓ | |
| 140603 | H | Other solvents and solvent mixtures - D4.1 | 4.980 | | ✓ |
| Total amount (t) | | | 8.600 | 3.620 | 4.980 |
| Total amount (%) | | | 100% | 42.10% | 57.90% |

The following diagrams show a comparison of balances for wastes produced in JAVYS, a. s., during and off BIDSF projects:

Production comparison – other waste 2018 (t)



Production comparison – hazardous waste 2018 (t)



Balance of Municipal and Biodegradable Wastes

The collection, removal and further management of municipal and biodegradable wastes are provided contractually so that all requirements for the waste disposal or recovery are met, in compliance with requirements specified by the Act on Wastes No. 79/2015, Coll., as amended.

Amounts of municipal and biodegradable wastes produced in JAVYS, a. s., on the Jaslovské Bohunice site in 2018

| Catalogue Number | Waste Type | Waste Name | Amount (t) | Recovered (t) | Disposed (t) |
|-------------------------|------------|-----------------------|---------------|----------------|----------------|
| 200301 | O | Mixed municipal waste | 38.408 | | ✓ |
| 200201 | O | Biodegradable waste | 9.860 | ✓ | |
| Total amount (t) | | | 48.268 | 9.860 | 38.408 |
| Total amount(%) | | | 100 % | 20.40 % | 79.60 % |

05 SERIOUS INDUSTRIAL ACCIDENTS

JAVYS, a. s. complies with the basic legal regulation – the Act of the National Council of the Slovak Republic No. 128/2015, Coll., on Prevention of Serious Industrial Accidents and on amendments of certain acts, as well as with all related regulations, in the field of serious industrial accidents prevention.

Jadrová a vyradovacia spoločnosť, a. s., is not included in categories “A” or “B” within the meaning of the Act No. 128/2015, Coll., based on quantities and characteristics of hazardous substances present on the Jaslovské Bohunice site.

Nevertheless, the company is obliged to continue the regular monitoring of quantities, fire characteristics and types of hazardous substances present in the premises of the company and, in case it is necessary to change the

classification, the company is obliged to send a new notification to the District Office in the seat of the region.

The application “Management of chemical substances” (MCHS) is used to monitor the treatment of hazardous chemical substances. The application includes a code list of all chemical substances and mixtures purchased and used in the company and also of those brought into JAVYS, a. s., premises by contractors and tenants. All the chemical substances and mixtures are categorized according to the Chemical Act, the Act on Waters and the Act on Prevention of Serious Industrial Accidents. “Safety Data Sheets” are accessible to staff members in this application for each chemical substance or mixture.

06

ENVIRONMENTAL IMPACT ASSESSMENT

Requirements specified by the Act of the National Council of the Slovak Republic No. 24/2006, Coll., on Environmental Impact Assessment and on amendments to certain acts, as amended, are applied in the field of environmental impact assessment. They are implemented by means of the internal guideline BZ/OŽ/SM-04 Environmental Impact Assessment (EIA)

Environmental Impact Assessment Processes

Examination proceedings

In 2018, examination proceedings were performed for the following activities:

1. BIDSF D4.1
 - a) Modifications of chilled water and demineralized water supply systems for ISFS and the disassembly of APK-M and SPK-M conduits,
 - b) Modifications of the contaminated water drainage line from ISFS.
2. Installation and operation of the preliminary conditioning facility of solid radioactive waste situated in building SO 44/2.0.
3. BIDSF D4.2 Dismantling of Reactor Coolant System Large Components.
4. BIDSF D4.7 Decontamination and Demolition of V1 NPP Buildings and the Site Reinstating.
5. Optimization of Incineration Capacities in the RAW PTT Nuclear Facility on the Jaslovské Bohunice Site.

Compulsory Assessment

In 2018, the compulsory assessment process was commenced in compliance with the Act No. 24/2006, Coll., for the proposed activity “Optimization of Processing Capacities in the JAVYS, a. s., RAW PTT on the Jaslovské Bohunice Site“.

Activities Performed during the Authorisation Proceedings

The implementation and performance of activities that were assessed in accordance with the Act on the Environmental Impact Assessment is only possible on condition of proving the conformity of the activity implementation with the final position resulting from the assessment process, or with the decision issued during the examination proceedings. The conformity is proved by means of the development of a written evaluation of conditions specified in the final position of the Ministry of Environment of the Slovak Republic, or of conditions specified in the decision issued during the examination proceedings, and by means of attaching the written evaluation to the request for a permission to perform the activity.

During the year 2018, the following written evaluations of meeting conditions specified in final positions to authorization proceedings were developed:

1. „Engineering Infrastructure Rearrangements“ within the framework of implementation of the “Completion of Spent Nuclear Fuel Storage Capacities on the Jaslovské Bohunice Site“ project.
2. BIDSF D4.4A Auxiliary Buildings System Removal.
3. BIDSF D4.1 Modification of the Plant and Installation of New Equipment.
4. BIDSF D4.2 Dismantling of Reactor Coolant System Large Components.

Post-Project Analysis

In connection with the performance of assessed activities, the company is obliged to carry out post-project analyses whose procedure and monitoring plans have been transformed into the internal documentation for the Jaslovské Bohunice and Mochovce sites.

Based on the results of the post-project analyses and evaluations of meeting the conditions specified in final positions of the Ministry of Environment of the Slovak Republic, it can be stated that JAVYS, a. s., performs all the assessed activities in accordance with the Act on Environmental Impact Assessment and with decisions issued under this Act.

07

ENVIRONMENTAL MANAGEMENT SYSTEM

By maintaining the certified environmental management system in accordance with the standard ISO 14001:2015 “Environmental Management Systems”, JAVYS, a. s., performed all its activities with regard to environmental protection in 2018.

Both the functionality and implementation of that system was verified by the independent certification company Det Norske Veritas from 10 to 13 December 2018. The company, within the framework of the recertification ISM audit, repeatedly confirmed the validity of the internationally accepted certificate for JAVYS, a. s.

Within the process approach, the environmental protection is regularly inspected and verified by means of internal ISM audits during which the application of environmental management system requirements is also verified. Minor findings resulted from the audits that were removed in specified time periods and within the meaning of recommendations defined in ISM audit reports. No non-conformances were identified during the performance of those audits.

ABBREVIATIONS

| | |
|-------------------|--------------------------------------------------------------|
| AC | Administrative Centre |
| As | Arsenic |
| Bq | Becquerel |
| BIDSF | Bohunice International Decommissioning Support Fund (V1 NPP) |
| BL | Bituminization Line |
| BSC RAO | Bohunice Radioactive Waste Treatment Centre |
| C _{org.} | Organic Carbon |
| Cd | Cadmium |
| CFP | Corrosion and Fission Products |
| CO | Carbon Monoxide |
| Co | Cobalt |
| Cr | Chrome |
| Cs | Caesium |
| Cu | Copper |
| DG | Diesel Generator |
| DO | District Office |
| EIA | Environmental impact assessment |
| EÚ | European Union |
| FCC | Fibre Concrete Container |
| FCCP | Fibre Concrete Container Production |
| FCM | Fibre Concrete Mixture |
| FP LRAW | Final Processing of Liquid Radioactive Waste |
| GBq | Gigabequerel |
| ³ H | Tritium |
| HCl | Hydrogen Chloride |
| HF | Hydrogen Fluoride |
| Hg | Mercury |
| HS | Hazardous Substance |
| ISFS | Interim Spent Fuel Storage |
| ISM | Integrated Management System |
| JAVYS, a. s. | Jadrová a vyrad'ovacia spoločnosť, a. s. |

| | |
|--------------------|-----------------------------------------------------------|
| MBq | Megabequerel |
| MCHS | Management of chemical substances |
| Mn | Manganese |
| MPB | Main Production Building |
| MŽP SR | Ministry of Environment of the Slovak Republic |
| NF | Nuclear Facility |
| Ni | Nickel |
| NO _x | Oxides of Nitrogen |
| NRA SR | Nuclear Regulatory Authority of the Slovak Republic |
| NRWR | National Radioactive Waste Repository |
| OS | Outdoor Structures |
| Pb | Lead |
| PHA SR | Public Health Authority of the Slovak Republic |
| P _{Total} | Total Phosphorus |
| Pu | Plutonium |
| RAW | Radioactive Waste |
| RAW PTT | Radioactive Waste Processing and Treatment Technologies |
| REO | Regional Environmental Office |
| RG SR | Regulation of the Government of the Slovak Republic |
| SAP | Source of Air Pollution |
| SE-EBO | Slovenské elektrárne, a. s., Bohunice Nuclear Power Plant |
| SE-EMO | Slovenské elektrárne, a. s., Mochovce Nuclear Power Plant |
| SF ₆ | Sulphur Hexafluoride |
| SIA | Serious Industrial Accidents |
| SNF | Spent Nuclear Fuel |
| SO ₂ | Sulphur Dioxide |
| SP | Solid Pollutants |
| Sr | Strontium |
| SuRBR | Start-up and Reserve Boiler Room |
| TI | Tellurium |
| VS | Ventilation Stack |



Jadrová a vyrad'ovacia spoločnosť, a.s.
Tomášikova 22, 821 02 Bratislava
www.javys.sk