

# 2021

## ANNUAL REPORT



KRŠKO  
NUCLEAR  
POWER  
PLANT

# CONTENTS

ADDRESS BY THE MANAGEMENT BOARD	4
SUMMARY REPORT AND CHALLENGES FOR 2022	6
Challenges for 2022	14
PRESENTATION OF NPP	16
Identification Card	18
Mission, Vision and Values	19
Management Bodies	20
Company Organisation	20
Supervisory Board Report	22
Statement about Business Operations	24
Company's Business Policy	26
Company Research and Development	27
Risk Exposure	27
Goals	30
<b>Business Report</b>	<b>32</b>
1.0 RESPONSIBLE ATTITUDE TOWARDS THE ENVIRONMENT	34
1.1 Liquid Radioactive Discharges	36
1.2 Radioactive Releases into the Air	37
1.3 Measurements of Radioactive Release and Environmental Samples	38
1.4 Measurements of the Sava River and Groundwater Parameters	38
1.5 Data on Radioactive Waste and Spent Fuel	39
1.6 Environmental Management and Municipal Waste	39
2.0 HIGH LEVEL OF NUCLEAR SAFETY	40
2.1 Process Auditing	44
2.2 Observation and Coaching	45
3.0 TECHNOLOGICAL MODERNISATION AND SAFETY UPGRADE PROGRAM	46
3.1 Ensuring Safety and Operational Reliability	48
3.1.1 Permanent Repairs of the Main Steam Connecting Pipelines	48
3.1.2 Installation of Magnetic Structures in Condenser	49
3.2 Safety Upgrade Program 2013–2021	50
3.2.1 Construction of the Emergency Control Room	50
3.2.2 Providing Adequate Habitability in the Emergency Control Room and in the Technical Support Centre	51
3.2.3 Alternative Cooling of the Core and the Containment	52
3.2.4 Reconstruction of the Operational Support Centre	52
3.2.5 Construction of the Reinforced Bunkered Building 2	53
3.2.6 Alternative Auxiliary Feedwater System	54
3.2.7 Alternative Safety Injection into Reactor Cooling System	54
3.2.8 Construction of Spent Fuel Dry Storage - Phase 1	55
3.2.9 Installation of Passive Seals on Reactor Coolant Pumps	55
4.0 MAJOR MAINTENANCE ACTIVITIES AND INSPECTION OF PRESSURE BOUNDARIES	56
5.0 PLANT PERFORMANCE	60
5.1 Operation	63
5.2 Nuclear Fuel and Secondary Chemistry System	64
5.3 Procurement of Services and Equipment	66

6.0 INTERNATIONAL COOPERATION	68
6.1 Our Cooperation with International Organisations in 2021	68
6.2 Memberships and Participations in International Organisations	71
7.0 PROFESSIONALISM AND ENTHUSIASM OF STAFF AS THE BASIS OF SUCCESS	74
7.1 Comprehensive Development of Staff	76
7.2 Training of Operating Staff	77
7.3 Staff Training for Maintenance and Other Support Functions	80
7.4 Other Legally Prescribed and General Training	81
8.0 EVENTS AT THE END OF THE BUSINESS YEAR	82
<b>Financial Report</b>	<b>84</b>
1.0 INDEPENDENT AUDITOR'S REPORT	86
2.0 STATEMENT OF MANAGEMENT RESPONSIBILITY	88
3.0 PRELIMINARY EXPLANATION ON PREPARING FINANCIAL STATEMENTS	89
4.0 FINANCIAL STATEMENTS	90
4.1 Balance Sheet	90
4.2 Income Statement	92
4.3 Statement for Other Comprehensive Income	93
4.4 Cash Flow Statement	93
4.5 Equity Changes Statement	94
5.0 GENERAL ACCOUNTING POLICIES	96
5.1 Legal Basis	96
5.2 Presentation of Financial Statements	97
5.3 Assets and Liabilities in Foreign Currency	97
5.4 Business and Geographical Segments	97
5.5 Revaluation of Assets	97
5.6 Changes to Accounting Policies	98
5.7 Risk Management	99
6.0 ACCOUNTING POLICIES BY INDIVIDUAL ECONOMIC CATEGORIES	100
6.1 Balance Sheet	100
6.1.1 Tangible Fixed Assets	100
6.1.2 Depreciation	100
6.1.3 Impairment of Tangible Fixed Assets	102
6.1.4 Long-term Financial Investments	102
6.1.5 Inventories and Cost for Spent Material	102
6.1.6 Operating Receivables	103
6.1.7 Short-term Financial Investments	103
6.1.8 Cash	103
6.1.9 Short-term Deferred Expenses and Accrued Revenue	103
6.1.10 Capital	104
6.1.11 Reserves and Long-term Accrued Costs and Deferred Revenue	104
6.1.12 Long-term Financial and Operating Liabilities	104
6.1.13 Short-term Financial and Operating Liabilities	104
6.1.14 Short-term Deferred Expenses and Accrued Revenue	105
6.1.15 Conditional Assets and Liabilities	105
6.2 Income Statement	106
6.2.1 Revenue	106
6.2.2 Expenses	106
6.2.3 Corporate Income Tax	107
6.3 Notes to Financial Statements	107
6.3.1 Notes to the Balance Sheet	107
6.3.2 Notes to the Income Statement	118
6.3.3 Notes to Cash Flow Statement	121
6.3.4 Notes to the Equity Changes Statement	122
6.4 Additional Explanations	123
6.4.1 Information on Groups of People	123
6.4.2 Information on Affiliated Companies	124
EVENTS AFTER BALANCE SHEET DATE	125
LIST OF ACRONYMS	126



# ADDRESS BY THE MANAGEMENT BOARD

Dear business partners,  
owners and colleagues,

Before you is our Annual Report showing the results and achievements of our work, the implementation of high working standards, ethic actions and transparent and lawful work. Year 2021 was exceptionally demanding. Nevertheless, with clearly defined targets and priorities, with enthusiasm of all employees, we maintained safe and stable generation of electrical energy and reached other planned targets.

We completed all activities of the voluminous outage by the planned deadline in spite of pandemic and other associated administrative measures. We also completed a sizeable Safety Upgrade Program which brought the plant's nuclear safety in the technological sense to the level of new nuclear plants built nowadays. This means that the basic volume of the 10-year program of safety upgrading, which represents the investment of almost 400 million euros, has been fully completed with planned funds. The last project of the Safety Upgrade Program – the construction of dry spent fuel storage, has been progressing in accordance with the plan and is to be finished by the end of 2022.



Documentation needed to apply for the environmental consent for future long-term operation after 2023 was prepared and timely lodged with the competent ministry; thus, the procedure is in progress as planned.

Several internal and external audits were carried out which confirmed excellent results achieved by the plant both in the aspect of operational availability and nuclear safety as well as established business and financial plans. The plant's operations whose reliability and successful performance at a very demanding time were above average, is a result of high-level team work and mutual support as well as an extremely high-level of safety culture of all our staff and external contractors.



The plant generated 5,419 billion kW hours of electrical energy at its high 90% availability, which played a crucial role in providing electrical energy in the country during the measures applied to control pandemic and during partial or full lockdown in the country.

In year 2021, it was 40 years from the first criticality date of the nuclear reactor and when the first kilowatt hours of electrical energy were generated. From the beginning of commercial operation and until the end of 2021, a total of 192 terawatt hours of electrical energy was transmitted to the transmission lines.

The Krško Nuclear Power Plant remains the foundation of the Slovenian and Croatian electric power systems since it supplies their founders and co-owners safe and carbon-free energy, but also pandemic economically competitive energy.

It is our plan to continue with such stable, safe and competitive production for another not less than 20 years. Such plans are based on activities carried out and excellent cooperation and support by the owners – *GEN energija* and *Hrvatska elektroprivreda*.

Stanislav Rožman  
President of the  
Management Board

Saša Medaković  
Member of the  
Management Board

## SUMMARY REPORT AND CHALLENGES FOR 2022

NPP is maintaining high stability and operating efficiency even in conditions of high uncertainty due to long lasting pandemic. With consistent application of all administrative limitations and high standards in nuclear industry, NPP exceeded its planned production in 2021 by a good percent. The outage was completed within planned time and scope despite its significant scale due to connecting and testing the new equipment upon the completion of the technological upgrade. The main challenges in 2022 will remain to be high operating efficiency, successful implementation of outage and all activities for ensuring transition to long-term operation of NPP which will allow for sustainable transformation of energy in order to realise the goals for environmental neutrality.







A very important element for upgrading safety at NPP is constructing the spent fuel dry storage facility at the NPP's location. After completing complex administrative cross-border assessment process with the Republic of Croatia and the Republic of Austria, the Ministry of the Environment and Spatial Planning issued the building permit at the end of 2020 for constructing the spent fuel dry storage facility within the existing nuclear NPP complex. The construction of the building for spent fuel dry storage started in 2021 and is being carried out according to the planned timeframe.

In November, the external certification organisation checked and confirmed compliance of the environment treatment system with the standard ISO 14001:2015 and health and safety at work with the standards ISO 45001:2018.

Due to measures on preventing the spread of coronavirus SARS-CoV-2 NPP carried out one of two planned regular annual theoretical-practical exercises for emergency situation. Most of other training in this field was successfully completed as planned.



In 2021, NPP produced 5.42 terawatt hours (TWh) of electrical energy which is more than the planned 5.33 TWh. We are especially proud of exceeding the goals because of the pandemic which significantly paralysed the economy and logistical infrastructure globally.

We will continue with the good practice measures and directions in NPP, as these were set up in 2020 to prevent coronavirus infection. Despite individual infections the plant operated without interruptions, safely and reliably, and during the outage we did not register any significant failures or influences on outage works. The complete 2021 outage, including its preparation, in pandemic conditions, was very successful and required effective measures. Organising COVID-point before entering NPP went well since it allowed for immediate action in case of suspected infection.

Procedures for obtaining permits in accordance with spatial, environmental, construction and nuclear laws were intensively underway. All required permits for completing the extensive Safety Upgrade Program (SUP) were obtained before the 2021 outage, and during the 2021 outage all works for the second and third phase of SUP were completed except the project for spent fuel dry storage. Reinforced bunkered building 2 was completed where systems preventing and mitigating consequences of unlikely accidents are installed, taking into account the expanded project design. After realising the complete Program, safety criteria of NPP will be comparable to plants built today.



To satisfy administrative requirements and for continued operation of the plant after 2023, works continued on projects for extending the operating period of NPP. According to the program for third periodic safety review of NPP (PSR3), the review of safety indicators is ongoing while other activities were carried out within approved plan and scope. In October, NPP submitted an application with the Ministry of the Environment and Spatial Planning to obtain the environmental permit; the assessment of environmental effects with cross-border procedures was prepared and opinions of all opinion holders in the proceedings were obtained.

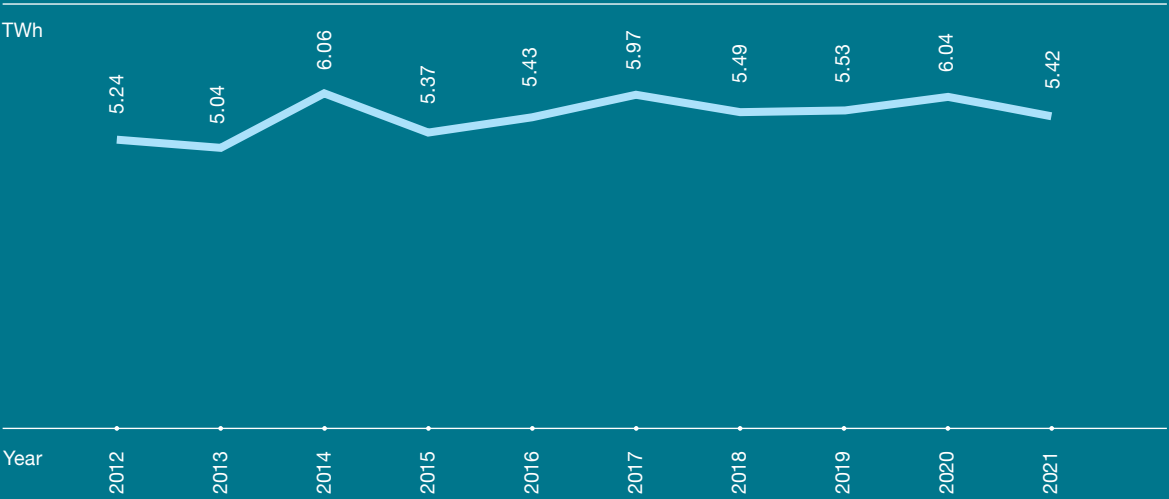
In October 2021, members of the Pre-SALTO (Safety Aspects of Long-Term Operation), appointed by the International Atomic Energy Agency (IAEA), were assessing safety aspects of long-term operation. They found that NPP has prepared on time for safe long-term operation of the plant and has in place a system for supervising and managing ageing of systems, structures and components. The mission gave certain recommendations and proposals for improvements and found good practices are in place.

In 2021, NPP had stable operation without unplanned shutdowns. On 17 October, the power of the plant was reduced to 80 percent in order to find a leaking point in the condenser tube bundle which pointed to weakening chemical parameters values of the secondary system. NPP production was for around 1.66 percent higher than planned. We applied all operating limitations and conditions as well as environmental restrictions as specified in the water and environmental permit.

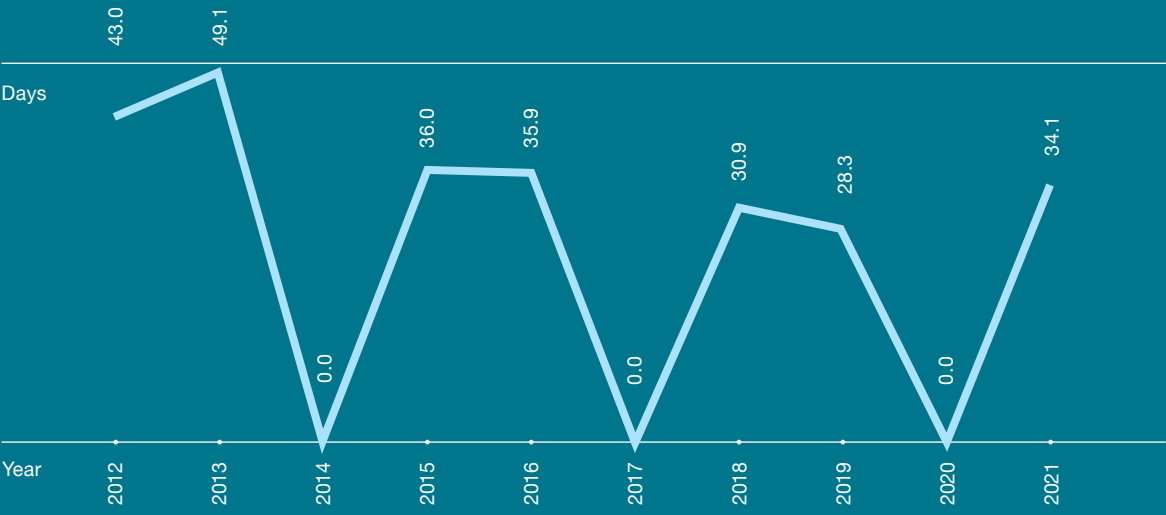


DIAGRAM OF OUTPUT BY YEARS

Total: 192.05 TWh  
(output since the start of commercial operation)  
NEK target for 2021: ≥ 5.33 TWh



OUTAGE DURATION

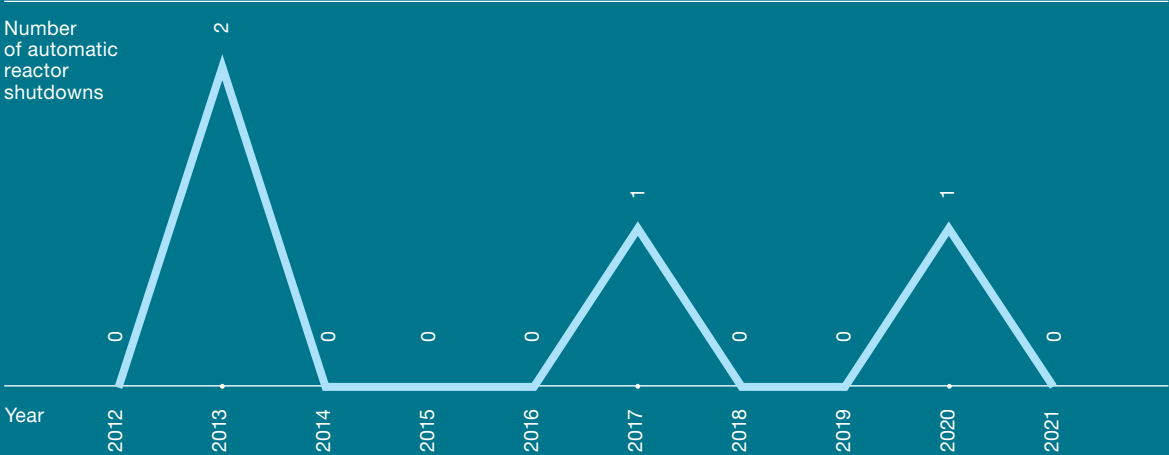


The regular outage started on 1 April 2021. Due to large scope of maintenance works and upgrades, it lasted until 5 May 2021 when the plant was again connected to the electric power system. The outage lasted 34 days as planned.





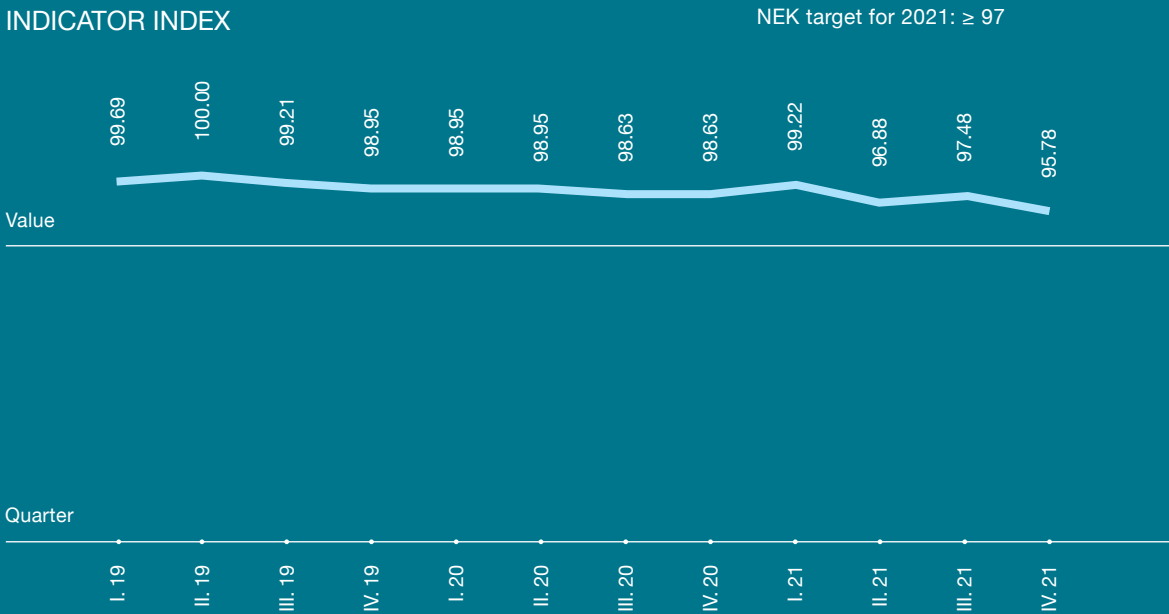
UNPLANNED  
AUTOMATIC SHUTDOWNS



In 2021, there were no unplanned automatic reactor shutdowns.



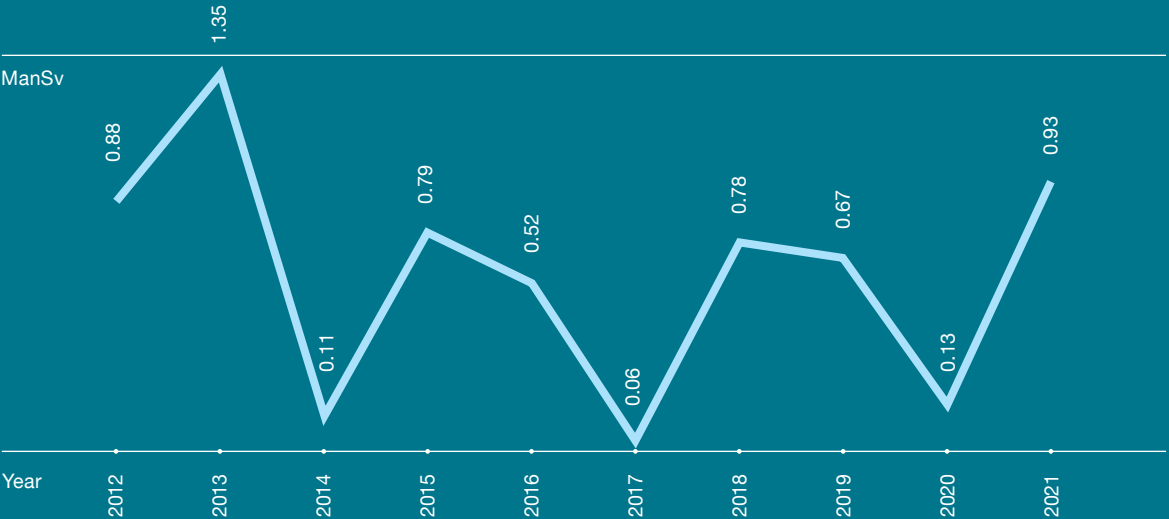
PERFORMANCE  
INDICATOR INDEX



For easier monitoring of efficiency and comparison between plants, the World Association of Nuclear Operators (WANO) had introduced a performance indicator index. It is calculated by weighted values of individual indicators, with the scale from 0 to 100. In 2021, the Performance Indicator Index value was between 99.22 and 95.78. The performance indicator index at the end of 2021 was a little weaker because of weakening of chemical parameters of the secondary system, three work accidents and extensive works in the Radiologically Controlled Area.



TOTAL COLLECTIVE  
RADIATION DOSE



Total Collective Radiation Dose at the end of 2021 was somewhat higher than usual due to large scope of works in the Radiologically Controlled Area.



## Challenges for 2022

Four decades had passed last year since NPP placed itself on the world nuclear map and created foundations for long term use of nuclear energy. The construction and equipment installation were completed seven years after placing the foundation stone. The construction site transformed into an operating facility. The responsibility for safe operation was assumed by home experts. In February 1981, the leak-tight integrity of the reactor building was successfully tested. In May of the same year, fuel was inserted into the reactor and since then the nuclear power plant has been managed by the NPP staff. Self-sustaining chain reaction was set up for the first time in September. Tests at low reactor power commenced at the same time which confirmed suitability and conservatism of project design and installation. Testing with increasing power until its nominal value commenced with the first synchronisation of the power plant with the electric power system on 2 October 1981. Testing operation was completed at the end of the following year and commercial operation commenced in January 1983.

After first operating years the main challenges were complying with high expert-technical standards for nuclear energy while today's equal challenges are market rules, self-critical assessment of achievements, relationship reciprocity with all stakeholders and the realisation of sustainable development principles. The results achieved confirm we are successfully facing current challenges of the modern world. Our goals remain maintaining high operational efficiency which can be provided only by expert and dedicated work of competent plant's staff and its contracting partners. Low production cost

of electrical energy from NPP is a contribution in conditions of sudden energy price increase towards competitive economy and household access to this good, while its low carbon is a contribution towards commitments to move to environmental neutrality. The provision of conditions for long-term plant operation is one of our main challenges. In NPP which is technically able to operate at least until 2043, we had completed the extensive Safety Upgrade Program which realised a number of improvements and installation of additional response systems to extreme and very unlikely external occurrences and introduced passive solutions. The construction of spent fuel dry storage facility is still ongoing. We plan to complete the building by the end of 2022 and the first 592 fuel elements to be moved from the spent fuel pool into dry storage is planned in the first half of the next year. In accordance with Slovenian laws and the guidelines of the International Atomic Energy Agency we must conduct the third periodic safety review in 2023 which is to be confirmed by the Slovenian Nuclear Safety Administration. The assessment of environmental effects to obtain the environmental permit for extending the operation is also ongoing and it includes cross-border assessment in accordance with the decision of the Slovenian Environmental Agency (ARSO).

Observing sustainable development principles confirms our care for the environment which includes responsible handling of low- and intermediate-level waste (LILW) and appropriate temporary storage of such waste throughout operation. In autumn 2021, the intergovernmental commission confirmed good coordination of both shareholders on priorities and support for the long-term operation of the plant and by setting up a coordination committee, it started preparations for taking over LILW by authorised institutions on both sides - the Slovenian ARAO and the Croatian Fund for Decommissioning in accordance with the Intergovernmental Agreement. The takeover is planned between 2023 and 2025. NPP will carry an important role since we are going to prepare depositing packages and packages for removal of LILW from our temporary storage.



NPP is carefully maintaining its equipment, constantly supplementing and upgrading technological systems, work processes and organisation. Throughout decisions are based on rules and industrial standards and on our own and international experience. Upgrades, 1000 of which have already been carried out, increase operating reliability and electrical energy production. At the turn of the century, replacing steam generators and adjusting equipment, the plant's capacity at generator output increased by 50 megawatts. By replacing low pressure turbines, the plant's thermal performance improved which brought in additional 20 megawatts of electrical energy. Through investments into NPP in two decades we increased the plant's power on generator output, from the original 664 to 727 megawatts. By replacing high power turbine during the regular outage in autumn 2022 we will further increase the plant's capacity. Through upgrades and expansion of cooling towers, extending the fuel cycle to 18 months, shortening regular outages and preventive replacement of equipment

and upgrading of working processes we also increased its availability. In the last two decades, NPP production increased for billion kWh per year - from 4.5 billion to 5.4 billion kWh during outage years and 6 billion kWh of electrical energy during years when there was no outage.

The suitability of our strategic direction into constant upgrades and compliance with the highest standards of nuclear energy to assure long-term use of electrical energy was confirmed also by the decision of the European Commission which had recommended investments into nuclear energy to mitigate and adjust to environmental changes while investments into nuclear energy was defined as sustainable and included into EU taxonomy. It assesses that increasing private investments into non-carbon society is the key to achieving EU environmental goals and all available tools must be used for it.



## PRESENTATION OF NPP

The decision to build the nuclear plant in Slovenia was made from the position there was a need for electrical energy. The plant operates safely and reliably and has an important role in the Slovenian and Croatian electrical grid. In accordance with high professional-technical nuclear technology standards we satisfy fundamental expectations and orientations regarding operating safety and stability, production competitiveness when compared to other resources and public acceptance. Available power of net capacity in optimal conditions is around 700 megawatts. In an 18-month fuel cycles in years without outage we generate around 6,000,000 megawatt hours of electrical energy and in years with outage around 5,400,000. We are commercially operating since 1983. In 2021 we marked 40 years since the first synchronisation of the plant to the grid. We put over 191,000,000 megawatt hours of electrical energy into both electrical grids.



The status of the company is governed by the Agreement concluded between the Government of the Republic of Slovenia and the Government of the Republic of Croatia on regulating the status and other legal issues related to investments in the Krško Nuclear Power Plant, its utilisation and decommissioning - Intergovernmental Treaty (Official Gazette of the RS No 23/2003, MP 5; hereinafter: IT) and the Articles of Association (NPP d. o. o. consolidated text of 24.09.2019; hereinafter: AA), concluded by the shareholders *GEN energija, d. o. o.* (hereinafter: GEN) and *Hrvatska elektroprivreda, d. d.* (hereinafter: HEP). Upon introduction of statute changes in 2003, we do not sell the electrical energy but supply it exclusively to our shareholders who must accept it.



In 2021, the year marked by COVID-19 pandemic, operating circumstances were a particular challenge. We are proactive and very conservative in NPP. We organised a special group to monitor conditions and propose measures. We are still introducing numerous measures to ensure normal course of processes and unhindered operation of the plant. We are informing our employees about the importance to vaccinate from the start of the year.

After successful outage, in particular due to good preparation and use of all protective measures, our operation was successful. The shareholders were supplied 5,418,642 megawatts of electrical energy. We generated EUR 179,497,645 of turnover and EUR 179,371,860 of expenditure; the difference of EUR 125,785 is income tax liability.

Taking into account nuclear safety criteria, operating stability and business efficiency, we are among the best nuclear plants in the world.

Ever since IT came into effect we have operated successfully and in accordance with shareholders' expectations.



Identification Card

Company name	Krško Nuclear Power Plant, d. o. o.
Short name	NEK, d. o. o.
Company seat	Vrbina 12, 8270 Krško
Date of establishment	29.04.1974
Registration	Krško District Court, entry number 10012000 SRG 200300116
Share capital	EUR 353,544,826.00
Ownership structure	50% GEN energija, d. o. o., Krško, Slovenia 50% Hrvatska elektroprivreda, d. d., Zagreb, Croatia
Standard classification of activities	D 35.112 – Production of electrical energy in thermal power stations, nuclear power stations
Registration number	5034345
Tax number	61082597
VAT identification number	SI61082597
Bank accounts	SI56 0292 4001 8793 453 NLB, d. d., Ljubljana SI56 0315 5100 1607 765 SKB banka, d. d., Ljubljana SI56 2900 0005 5284 134 UniCredit Banka Slovenija, d. d. SI56 1010 0005 7820 337 Banka Intesa Sanpaolo, d. d. SI56 0400 1004 8892 548 Nova KBM, d. d., Maribor
Representatives	Stanislav Rožman, President of the Management Board Saša Medaković, Member of the Management Board
Website	www.nek.si
Email	nek@nek.si

Mission, Vision and Values

We realise our mission and responsibility:

- by providing safe and stable operation which are in accordance with leading standards that ensure individual and collective safety;
- by competitive production of electrical energy;
- by critical self-assessment of results achieved and introducing constant improvements;
- by ensuring socially acceptable operation which is transparent, ethical and environmentally positively directed;
- by accepting principles set out in the IT on regulating the status and other legal issues related to investments in the NPP, its utilisation and decommissioning.

Our vision is to be an example of nuclear safety and excellence at a global level. According to criteria on nuclear safety, operating stability and business efficiency NPP is among the best operating nuclear plants worldwide.

The fundamental values are the reference line of our actions, the basis and condition for realising our vision and mission. They are part of our work processes and relationships. We live these fundamental values; we are recognised by them by the professional public and the environment.





## Management Bodies

Management and supervisory bodies of NPP are the annual general meeting, the supervisory board and the management board, constituted in accordance with the Intergovernmental Agreement and Articles of Association. Their composition on the date of drawing up this Annual Report:

- The shareholders' meeting constitutes the two shareholders, each with 50% shareholding, namely:
- GEN, represented by the general director Gordana Radanović and the Managing Director Danijel Levičar, and
  - HEP, represented by the Chairman of the Board Frane Barbarić.

On 23.02.2022, the General Director Martin Novšak was removed and as of 24.02.2022 Gordana Radanović was appointed the acting General Director until a new general director has been appointed.

- The supervisory board members' mandate is until 07.04.2023. The supervisory board performs its supervisory function in the composition of:
- Kažimir Vrankić, Msc. – president;
  - Martin Novšak – deputy president;
  - Robert Krklec, Msc. – member;
  - Josip Lebegner, Msc. – member;
  - PhD Rajko Pirnat – member;
  - Primož Stropnik – member.

The company's Management Board composition is: Stanislav Rožman – president of the board; and Saša Medaković – board member.

The board president Stanislav Rožman's mandate is until 10.04.2023 and the board member Saša Medaković's mandate is until 02.11.2024.



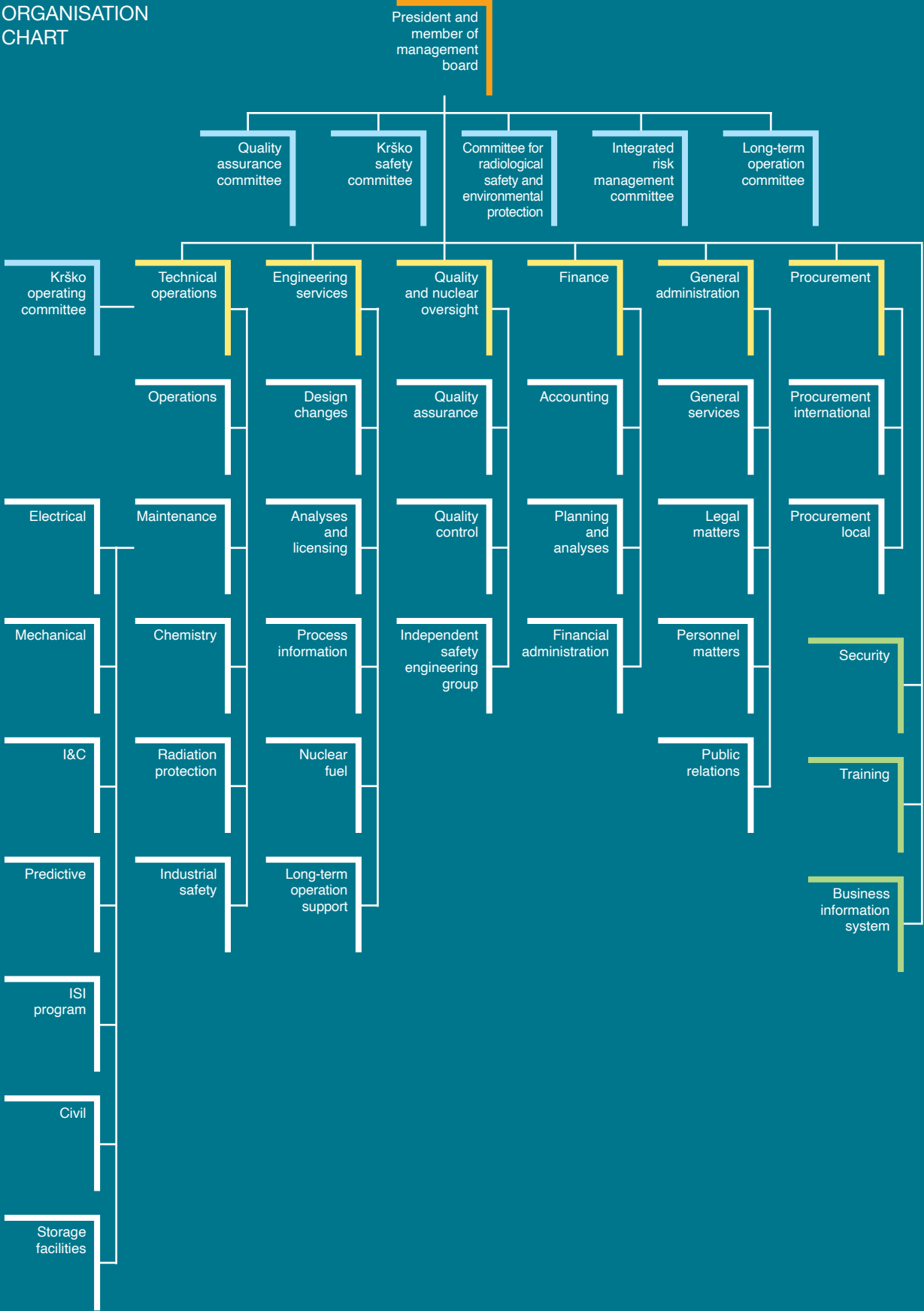
## Company Organisation

The company is designed to cover all functions which are in accordance with nuclear industry standards and regulations necessary for quality professional work processes. Due to the company's specific position, its internal organisation covers engineering and corporate functions, including independent nuclear safety function. The Management System, as one of the key documents, systematically shows the primary organisational properties and defines the responsibility for management, key and support processes.

The advantage of our organisation lies in the competent and responsible structure of our employees, whose virtue lies in their high dedication and motivation. Knowledge and expertise are very important values and we ensure continuous staff development.



### ORGANISATION CHART



## Supervisory Board Report

### Supervisory Board Report

Pursuant to Article 282 of Companies Act, Official Gazette of RS No. 42/06, and the NEK Articles of Association, as amended and consolidated on 24 September 2019, the NEK Supervisory Board prepared the following report on their functions.

In 2021, the NEK Supervisory Board was composed of the following members:

- Kažimir Vrankić, MSc – chairman,
- Martin Novšak – deputy chairman,
- Robert Krklec, MSc – member,
- Josip Lebegner, MSc – member,
- Rajko Pirnat, PhD – member, and
- Primož Stropnik – member.

In 2021, the NEK Supervisory Board had four regular meetings, three correspondent ones, and one extraordinary meeting. It monitored the company operations and supervised its management. The basis for the board's work were written materials prepared by the company Management Board. The tasks of NEK Supervisory Board included reviewing, giving approvals, making checks, getting informed and/or accepted:

- NEK annual report for 2020 and gave their opinion about the auditor's report;
- Business plan for 2022, rev. 0 and gave their approval to the electric power budget price for 2022;
- NEK long-term investment plan for safety upgrades for the following five-year period (2022–2026), rev. 22;
- Semi-annual reports on the status of modifications II-2020 (July-December) and I-2021 (January-July);
- Approval to 33 RCCA procurement to be inserted into the core during Outage 2022;
- Approval to new In-core guide thimbles procurement to be inserted during Outage 2022;
- Approval to the conclusion of the contract for food services for 2021 and 2022;
- Approval to the conclusion of an Annex to the existing contract with Westinghouse for manufacturing nuclear fuel elements for the period until the end of the extended lifetime of NEK, expected until the end of 2043;
- Approval to the conclusion of the mechanical maintenance works on the plant primary side for 2022-2024;
- Investment Programs:
  - Third Periodic Safety Review (PSR3), rev. 0;
  - Vibration Monitoring of Major Rotation Components, rev. 0;
  - Mechanical Stress Relaxation of Reactor Vessel Nozzle Connections, rev 0 and rev. 1;
  - Lifetime Extension of the Krško NPP, rev. 0;
  - Spent Fuel Dry Storage, Phase 1 & 2, rev. 2;
  - Necessary upgrades of the WD- and WP-system in order to establish the preconditions for the transfer of LILRW to ARAO (Republic of Slovenia) and Fond (Republic of Croatia), rev. 0;
  - Waste Manipulation Building, rev. 2;
  - Ageing Management, rev. 2;
  - IB-cooling on elevation 107, rev. 0;
  - New Technical Security Systems (Central Alarm Station, wireless detection system, etc.), rev.0;

- Replacement of MG cabinets, rev.0;
- Upgrade of PARMS Radiation Monitors, rev.0;
- Quarterly Information on Operation;
- Monthly Reports of the Independent Safety Engineering Group (ISEG), and
- Other matters within the Board's responsibilities.

In line with the accepted methodology, the members of the NEK Supervisory Board received certain data on operations from the NEK's basic financial statements and investment reports, as well as on electrical energy supplies, employees, and average salaries.

As provided for under the Articles of Association, in March 2022 the NEK Supervisory Board reviewed the draft Annual Report for 2021 and found that it reflects a credible position of the company and complete information on 2021 operations, thus complementing information received by the Board during the business year.

The NEK Supervisory Board established that the auditing company *BDO Revizija, d.o.o.*, in their report assessed that the financial statements for 2021 were in all important segments prepared in accordance with the Intergovernmental Agreement, Official Gazette of RS No. 23/2003, the Articles of Association and Slovenian Accounting Standards in those areas not regulated by the Intergovernmental Agreement and the Articles of Association.

Pursuant to Article 546 a of the Companies Act, the NEK Supervisory Board also reviewed the Report on the relationships with related companies for 2021 together with the report of independent auditor on the limited assurance. The NEK Supervisory Board established that the auditor concluded that:

- information contained in the report is correct in all significant aspects;
- the value of NEK at the time of concluding legal acts with related companies was not in significant aspects disproportional; and
- there were no circumstances which would demonstrate essentially different assessment from the one given by the management.

The NEK Supervisory Board has no comments to the Independent Auditor's Report concerning the limited assurances.

Krško, 24 March 2022

NEK Supervisory Board Chairman  
Kažimir Vrankić, MSc



## Statement about Business Operations

### Statement about Business Operations

Pursuant to article 70 paragraph 5 of the *Companies Act the Management* of the company hereby declares that in 2021 it respected all the principles concerning the operation of the company striving to ensure their implementation.

The Management Board declares that:

- it operates the company in accordance with the Intergovernmental Agreement (Official Gazette of RS, No. 23/2003) and the *Article of Association* (last consolidated amended version of 24 September 2019) as well as the current legislation and nuclear industry standards;
- it complies with the *Code of Moral and Business Principles* published at [www.nek.si](http://www.nek.si), the *Five-Year Development Plan*, and the *Management System*.

The company status is regulated with the Intergovernmental Agreement and the *Articles of Association* entered into by GEN energija, d.o.o. (GEN) and Hrvatska elektroprivreda, d.d. (HEP). According to the Intergovernmental Agreement the owners of the company are GEN and HEP, each with a 50% share of the company's capital.

To ensure effective operations of all business processes, management systems have been implemented with effective systems of internal control.

The purpose of internal controls is to ensure accuracy, reliability, transparency and clarity of all processes coupled with effective management of risk related to financial reporting. The key factors of effective internal control are a clear organizational structure with a detailed listing of tasks and responsibilities and internal procedures per each working process. The internal control system is implemented in business processes at all organizational levels. Internal controls are systemized and laid down in writing in Internal Instructions which include the entire production process and the plant key supportive functions. The effective system of internal controls of the work process establish mechanisms which ensure safe and stable plant operation and its cost effectiveness.

The accounting systems incorporate controls which ensure that:

- the umbrella regulations related to the NEK association and operations, i.e. the Intergovernmental Agreement and the *Articles of Association* are fully respected, and
- business events are properly recorded as defined by umbrella regulations and *Slovenian Accounting Standards*.

Appropriate and effective internal control systems and reliable risk management ensure the plant operation is in line with its mission and long-term strategic goals.

The General Meeting and its key responsibilities are governed by the Intergovernmental Agreement and the Articles of Association. As a company body, it is set up on a parity basis. All responsibilities of the General Meeting are undertaken by the owners. There was one General Meeting in 2021 passing the following resolutions:

- *Annual Report 2020* was accepted and
- Discharge for 2020 was given to the Management Board and Supervisory Board.

The supervisory and management bodies are the Supervisory Board and the Management Board, both composed on the parity basis. Their composition, responsibilities and functions are defined in the Intergovernmental Agreement and the *Articles of Association*. The functions of the Supervisory Board are detailed in the *Supervisory Board report* for 2021.

Krško, 18 March 2022

Stanislav Rožman, President of the Management Board

Saša Medaković, Member of the Management Board

## Company's Business Policy

The business policy is defined by NPP's management board, taking into account the IT and AA. The management board manages the company's operations, determines its business policy for assuring safe and reliable operation, competitive production and social acceptability.

Legislation, the Intergovernmental Agreement, nuclear industry standards and the standards of effective company management represent a framework of NPP's business. Strategic documents: Code of Safety and Business Ethics, Five-Year Development Plan, and Management System guide us towards accomplishing our mission and vision.

Code of Safety and Business Ethics gives the basic principles for our ethical and moral conducts. It defines fundamental and personal values, vision and mission, principles of conduct and action in our interrelationships. The Code directs our actions and tells us who we are, what we believe in and what we can expect from our co-workers and everyone we work with.

In our operations, NPP has constantly been facing diversity as its founders are electrical energy generating companies from Slovenia and Croatia. Important diversity extends to including American technology in the European infrastructure, legislative and cultural space and cooperation with suppliers of different cultures from Europe, America and Asia.

The general assembly, the supervisory board and the management board of the company are aware of these diversities and therefore they subject their management to four goals: nuclear safety, competitiveness, social acceptability and critical self-assessment. NPP takes into consideration the IT which governs its operations by the parity principle when constituting the general assembly, the management and the supervisory boards, as well as employment laws prohibiting discrimination and maltreatment. The Code of Safety and Business Ethics and the human resources management policy are also observed.



## Company Research and Development

NPP invests important resources and human resources into research and development:

- research work which is financed by NPP due to specific needs, for example development of new safety solutions and analysis, in cooperation with Slovenian and Croatian universities and institutes;
- research which is conducted together with research institutes from Slovenia and Croatia; these are research projects which are more fundamental, generic and from which NPP has indirect benefit.

## Risk Exposure

The comprehensive risk management program systematic methods, processes and activities are in place for timely detection of exposure to different types of risks which affect our business as well as operation, and ensures that all known risks are addressed, minimised and managed.

The identification of risks is carried out at all levels of the plant. Any identified risks are categorised into two groups; minor risks and significant risks. Significant risks are those whose consequences could significantly affect nuclear safety, electrical energy production or personal safety. These risks are discussed by the Integrated Risk Management Committee, an advisory committee of the NPP's board. Smaller risks are risks that also affect nuclear safety, electrical energy production or personal safety and are examined in accordance with internal procedures, either by the Krško Operating Committee for technical questions or by the board committee for non-technical questions.





Main risk areas are nuclear safety risks, radiological risks, personal risks, environmental risks, operating risks, facility management risks, marketing risks, financial risks, purchasing of goods, services and building risks and other risks.

Since nuclear safety of the facility is our highest priority, nuclear safety risks are addressed first and examined most thoroughly. Nuclear safety risks and operating risks are also managed through regular investments into safety and other systems (with emphasis on SUP), taking into consideration administrative decisions in the field of nuclear safety, good practices from best plants around the world and WANO and OSART mission recommendations. We maintain high level of safety culture and awareness by all employees. Property is insured against nuclear, fire and other risks and against lightning. We also maintain insurance contracts for third party damages.

Radiological risks are risks that affect radiological safety of an individual or a group of people due to unplanned radiological exposure, external or internal contamination or spread of radioactive hot particles.

Personal risks mean workers' exposure in terms of classical industrial safety and injury at work.

Environmental risks affect the environment, living organisms or nature due to waste and emissions from the plant.

Operating risks affect reliability and availability of the plant, undesired transients and shutdowns, length of outage as parameters of plant's availability. Operating risks are risks related to unplanned shutdowns, causing loss of revenue. These are protected by the IT and AA. The daily supply value at cost price is around EUR 485,728, the market price is around EUR 1,431,503 (the average HUPX price).

Facility operating risks refer to inability to make key decisions on investment, maintenance and operation of the facility and its financing which includes financial risks.

Marketing risks refer mostly to risks of price drop in the electrical energy market.

Financial risks refer to price risks associated with the price growth risk of raw materials and other materials, financial liquidity risk, capital inadequacy risk, foreign currency risk, interest risk and credit risk.

Risks in the purchasing of goods, services and building refer to delays and inability to realise public procurement due to public procurement and associated processes with the National Review Commission.

Other risks include risks for non-performance of suppliers' obligations, unsuitable processes of qualification and commercial grade dedication, out-of-date and unavailability of components, forged products and/or declarations for the built-in components and materials.

## Goals

Goals are set in our Business Plan. We list indicators and pointers which demonstrate success in managing some objectives set for 2021 and objectives planned for 2022.

PLANT PERFORMANCE	Plan 2021	Realisation 2021	Plan 2022
Performance Indicator Index	≥ 97	95.78	≥ 98
Unit Capability Factor (UCF)	≥ 90%	90.15%	≥ 90%
Produced Electrical Energy (in GWh)	≥ 5,330	5,419	≥ 5,400
Outage Duration	≤ 34 days	34 days	≤ 32 days
<b>OPERATING EVENTS</b>			
Unplanned Automatic Reactor Trips	≤ 1 per 2 years	1 per 2 years	≤ 1 per 3 years
Operating Events, level 1 and 2	≤ 4	0	≤ 4
<b>UNPLANNED AND PLANNED SHUTDOWNS</b>			
Number of Unplanned Shutdowns	≤ 2 per 3 years	1 per 3 years	≤ 1 per 2 years
Forced Capability Loss	≥ 0.7%	0.0%	≥ 0.65%
<b>OPERATING RISKS ASSESSMENT</b>			
Reactor Core Safety			
CDP/12 weeks - online	≤ 7 E-7	5.20 E-7	≤ 7 E-7
CDP/outage - during outage	≤ 3 E-5	2.79 E-5	≤ 3 E-5
Reactor Fuel Reliability (Ci/m³)	≤ 8 E-5	1.00 E-6	≤ 6 E-5
<b>OPERATIONAL SAFETY AND HEALTH</b>			
Collective Radiation Exposure (manSv)	≤ 0.70	0.93	≤ 0.85
Maximum Individual Dose Exposure (mSV)	≤ 10	9.25	≤ 10
Industrial Safety Accident Rate	≤ 0.17	0.55	≤ 0.47
<b>ECONOMIC AND PROJECT GOALS</b>			
Estimated price / realised power cost price	≤ 33.05	32.72	≤ 35.49
Total operating costs (Without depreciation in EUR million)	≤ 139.7	135.8	≤ 147.1
Investments into safety upgrade (in EUR million)	44.5	62.8	44.4



MAJOR PROJECTS	Plan 2021	Realisation 2021	Plan 2022
SUP - Phase 2			
Alternative Cooling of Reactor Coolant System (RCS) and Reactor Building (RB)	100%	100%	
SUP - Phase 3			
Spent Fuel Dry Storage	70%	50%	80%
Reinforced Bunkered Building 2 (BB2)	100%	100%	
Replacement of Temperature Resilient Seals at RC Pumps	100%	100%	
<b>NPP OPERATIONAL LIFE EXTENSION</b>			
Periodic Safety Review (PSR3)	40%	40%	70%
Environmental Impact Assessment and Obtaining Environmental Consent	50%	50%	80%
Safety Aspects of Long-Term Operation (Mission IAEA Pre-SALTO)	100%	100%	
<b>OTHER PROJECTS</b>			
High Pressure Turbine Replacement	60%	50%	100%
AMSAC System Replacement	20%	20%	100%
Replacement of Component Cooling Heat Exchangers	20%	20%	50%
New Technical Security Systems (Central Alarm Station, Wireless Detection System ...)			30%
Radiological Monitors PARMS Upgrade			20%
Seismic Instrumentation System Upgrade			100%
Mechanical Stress Improvement Process (MSIP)			100%
RW Treatment System Adjustment and Upgrade - preparation for delivery of LILW in accordance with the IT			80%
<b>ATTITUDE TOWARDS THE ENVIRONMENT AND PUBLIC</b>			
All emissions into environment	Under regulatory restrictions	Under regulatory restrictions	Under regulatory restrictions

As seen from the above information, 2021 was exceptionally successful in realisation of set business and commercial objectives.



## BUSINESS REPORT



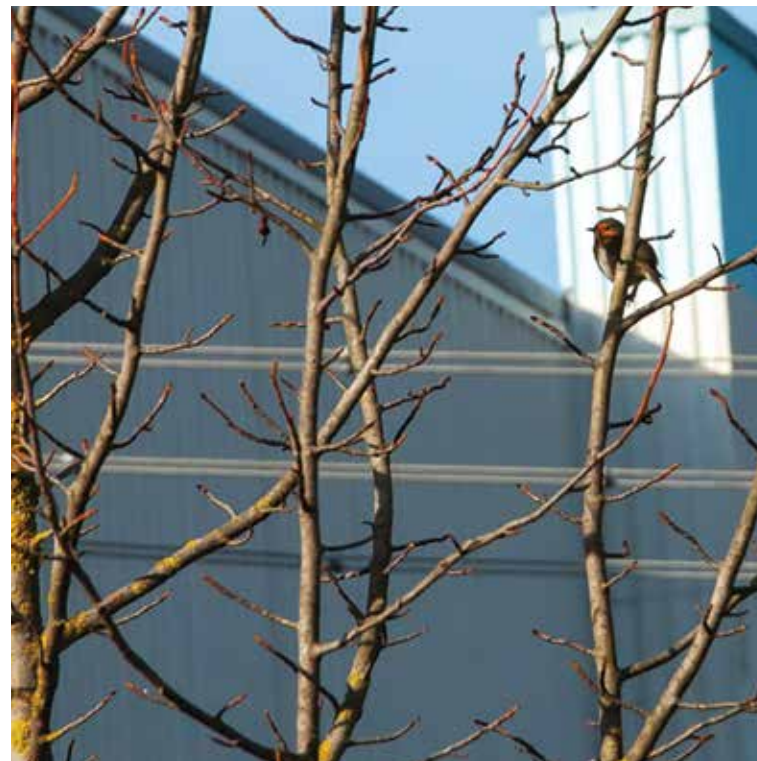


# 1.0

## RESPONSIBLE ATTITUDE TOWARDS THE ENVIRONMENT

Environmental protection is included in all work processes of the plant. The measurement results demonstrate that all effects on the environment are far from administrative limits. Authorised organisations prepare a special annual report on radiation monitoring in the surroundings of the plant. Suitability of environment management was again confirmed by the control review on complying with the environmental standards requirements ISO 14001:2015.

The objective of radiation monitoring is to monitor the plant's operation and assess the effects on the environment and the population. This ensures that prescribed limits are respected.



NPP carries out radioactive measurements of the wastewater releases into the Sava River and emissions from the ventilation system into the air. Independently, external authorised organisations measure samples in the surroundings, in particular in the area around NPP, within a distance of 12 kilometres. In addition, there are 13 automatic radiation measuring stations located in the vicinity of the plant which can detect changes in the natural level of radiation due to precipitations as well as potential changes due to the nuclear facility. The Sava River is monitored downstream for 30 kilometres from the plant by independent authorised organisations.





The effects of the NPP onto the environment are so low that they are practically immeasurable. By using models, it is possible to calculate the effects for most exposed population group and compare the calculated dose with natural and other radiation sources. The assessment of a dose received by an individual in a critical reference group (an adult receiving the highest doses and whose food originates exclusively from locally grown food and fish) shows that the annual dose of such an individual is approximately 0.5 microsievert. The annual dose for NPP is limited to 50 microsieverts per individual (at a distance of 500 m from the reactor or more) from emissions into the environment. Natural radiation and lower effects of general radioactive environment pollution gives a dose of 2300 microsieverts in one year. In 2021, radiation effects of NPP on the population in the vicinity was assessed at less than 0.15 microsievert which is 0.3% of the said restriction (50 µSv). The results of measurements taken are dealt with in detail in the special report, to be prepared by the Jožef Stefan Institute for 2021, together with the Institute for Occupational Safety, MEIS and the Ruđer Bošković Institute.

## 1.1 Liquid Radioactive Discharges

Wastewater may contain fission and activation products. The activity of fission and activation products (excluding tritium H-3, carbon C-14 and alpha particle emitters) amounted to 0.0353 percent of the additional annual limit of activity for liquid discharges. The activity of discharged tritium was approximately 35.9 percent of the prescribed annual limit. Tritium is a hydrogen isotope found in water; because of low radiotoxicity it is less important despite higher activities when compared to other contaminants.

The plant observed administrative and technical regulations which require the concentration of radioactivity in the discharge channel wastewater not to exceed the prescribed limits.



DATA ON LIQUID  
RADIOACTIVE  
DISCHARGES IN 2021

radioactive substances	annual limit	emission activity	percentage of the limit
fission and activation products	100 GBq	0.0353 GBq 2.95 TBq	0.0353
tritium (H-3)	45 TBq	16.15 TBq	35.9

## 1.2 Radioactive Releases into the Air

The annual limit dose of 50 microsieverts for releases into the air and water are checked monthly. The dose calculated for the air at a 500-metre distance from the reactor is calculated as the dose that could have been received by an individual at such distance in one year from external and internal radiation. The least favourable monthly average air rarefaction values and releases near the ground are presumed in the calculation of particular wind directions. The result for 2021 was 0.87 microsieverts (1.74 percent of the annual limit). Detailed information is presented in the table below.

Technical regulations were taken into account to limit the radioactive concentrations in the air, e.g. the dose rate within a 500-metre distance from the reactor, to the prescribed value.



DATA ON RADIOACTIVE  
RELEASES INTO THE  
AIR IN 2021

radioactive substances	total annual limit	dose	percentage of the limit
fission and activation gases (total)		3.07E-02 µSv	
iodines (I-131 and others)		1.00E-05 µSv	
dust particles (Cobalt, Caesium, etc.)		5.43E-05 µSv	
tritium (H-3)		7.93E-01 µSv	
carbon (C-14)		4.85E-02 µSv	
	50 µSv	total 0.87µSv	1.74

## 1.3 Measurements of Radioactive Release and Environmental Samples

The NPP laboratory for radioactive protection regularly checks air and environmental samples by an accredited method, thus having fulfilled conditions set by the standard SIST EN ISO/IEC 17025 which is checked by a Slovenian accreditation body. The accredited measurements of radioactivity of periodically inspected samples of liquid releases are carried out by the NPP laboratory for radio-chemistry.

## 1.4 Measurements of the Sava River and Groundwater Parameters

In accordance with the environmental permit concerning emissions to water and the water permit, we measured temperature and the Sava River flow rate, monitored the river level and the underground water levels, and took monthly measurements of biological and chemical oxygen consumption.

The highest permitted temperature of the Sava River (3 °C) was reached a few times; in general, hydrological situation through the year was favourable. The exception were the months of September and October when we used cooling towers for most of the time to further cool down the Sava River.



## 1.5 Data on Radioactive Waste and Spent Fuel

In 2021, 277 new packages of low- and intermediate-level radioactive waste (NSRAO) were stored, with a total volume of 78.7 cubic meters (m³). The total volume of inventory stored in the NPP on 31 December 2021 was 4,567 LILW packages, with a total volume of 2488.2 m³ and a total activity of 18.5 TBq.

The spent fuel pool contains 1376 spent fuel elements from 31 fuel cycles. The overall mass of spent fuel material is 534.6 tonnes.

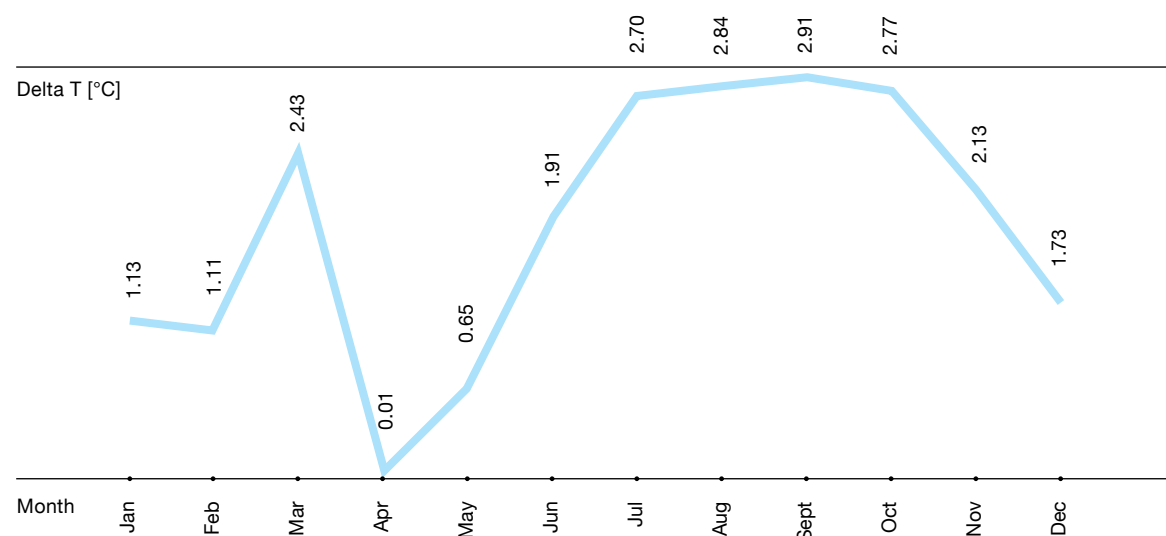
## 1.6 Environmental Management and Municipal Waste

Since the end of 2008, the standard ISO 14001 on the environmental management has been in place in NPP. Since the certificate was granted, the system has been checked regularly on an annual basis by an external certification organisation. Control assessment was conducted according to the standard ISO 14001:2015. It was established that NPP adequately respects the environmental management system requirements.

A special waste water treatment plant is used for communal waste water. Measurements of pH, temperature, non-soluble substances, chemical and biological use of oxygen, and efficiency of treatment at the outlet are taken by an external organisation, which is in line with the environmental permit requirements. Monitoring results show adequate operation of the treatment plant since all values were in accordance with regulations.



AVERAGE INCREASE  
OF WATER TEMPERATURE  
IN THE SAVA RIVER IN 2021



Groundwater is regularly inspected by the plant and authorised organisations. The ground water level and temperature in three boreholes and at two locations on the Sava River are measured constantly and in 14-day periods in ten boreholes in the Krško-Brežice field. The level of groundwater in the boreholes observed in the vicinity of the watercourse increased for about 2 m when compared to the past year due to the accumulation of the Brežice hydro power plant and is similar to the levels of 2020.



# 2.0

## HIGH LEVEL OF NUCLEAR SAFETY

**Nuclear safety always has a priority at NPP. A high level of nuclear safety of our plant is achieved by independent verifications and critical self-assessment of the results, on-going improvement of human performance and the safety culture, equipment and processes upgrading, learning from own operating experience and international practices, and by comparing with the best facilities in the world.**

NPP has paid special consideration to ensuring and verifying the implementation of legal regulations and standards related to nuclear technology as well as other modern technologies in the project designs (equipment modernisation), operational and maintenance activities, procurement and other activities which all contribute to safe plant operation and the safety of the wider population. We are committed to ongoing progress, professional work and personal growth. Our mission is achieved through independent verification, continual improvements of human performance and safety culture, critical self-assessment of results achieved, permanent comparison with best comparable facilities in the world, operating experience at home and abroad, and continual assessment of safety and stability of plant's operation.



Due to its specific nature, NPP had its attitude towards the environment implanted in its very initial project (extensive research prior to site selection, strict respect of standards during building). During the start-up and later operation, independent supervision of the effects on the environment was established (radioactive substance release into water and air, measuring of radioactivity in the environment, management of spent fuel, radioactive and hazardous waste). The Protection and Rescue Plan of NPP (NZIR NPP) has been prepared, defining organisation, measures and means to be followed in case of emergency events having potential radioactive effects on the environment. The attitude towards the environment is part of the business policy within which we give priority to safe and stable operation.





One of the vital elements to be considered in maintenance and nuclear safety improvements lie in operating experience. On the basis of past experience from the industry and regulatory requirements, we developed the Safety Upgrade Program (SUP) as requested by the Regulatory Body which set out plant's long-term upgrade plan and as a preparation for the plant's life extension.

The Program includes a list of projects for upgrading safety systems, electrical safety supply systems, radioactive release monitoring, flood safety, seismic safety and spent fuel storage.

In 2021, we completed the projects of the SUP third phase which includes the construction of Bunkered Building BB2, the installation of alternative auxiliary feedwater system and alternative safety injection. The project to construct dry storage for spent fuel for which we obtained the integrated construction permit in 2021 is ongoing and we have started to construct the dry storage. This means that the first phase of spent fuel dry storage, which involves moving the first 592 spent fuel elements into dry storage, is planned to be completed in 2023.



In 2021, we commenced the third periodic safety review as confirmed by the decision of the Slovenian Nuclear Safety Administration and will be completed by the end of 2023. This is one of the key reviews through which we ensure long-term operation of the plant.

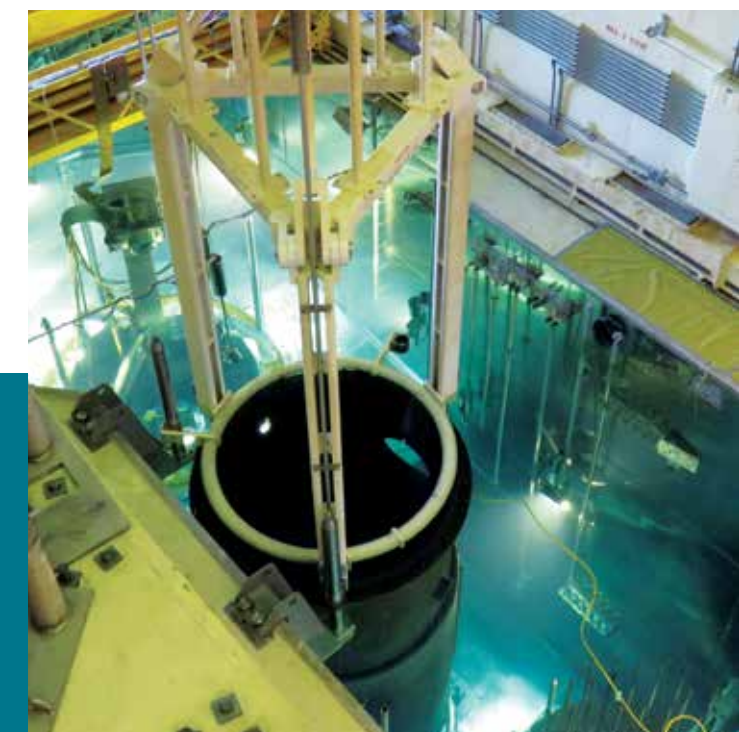
Our developmental tasks and work priorities are part of the document entitled Commitments and Goals. They reflect the management board's expectations and established policies as well as our priority areas. We directed our attention to avoiding operating risks, to cooperation in implementing and finalising the SUP and to performing work carefully and safely.

In September 2021, we hosted two missions organised by the World Association of Nuclear Operators (WANO): review of corporate management of NPP and status review of our five areas for improvements (AFI) which the Association pointed out during the last expert review of plant's operation (Peer Review) in 2019.

In October 2021, the plant completed the 10-day mission of the International Atomic Energy Agency (IAEA) whose objective was the review of our readiness for long-term operation of the plant - Pre-SALTO (Safety Aspects of Long-Term Operation).

In October, we submitted an application for environmental impact assessment with the Ministry of the Environment and Spatial Planning and to obtain the environmental approval for 'Extending operating period of NPP from 40 to 60 years, until 2043'. Thus, the procedure conducted by the Ministry of the Environment and Spatial Planning was formally initiated.

In November 2021, at the location of our customs warehouse, the construction works started for the new centre for theoretical and practical training on health and safety at work which will be mostly used by our external providers. The 150 m<sup>2</sup> space includes a lecture room for 50 people and space for the instructor.







## 2.1 Process Auditing

An integral part of the NPP operation are specific risks due to enormous stored energy in the reactor, residual heat and radioactive material in the reactor core. The formally defined management system in NPP lays down fundamental premises and processes for ensuring adequate control of radioactivity and consequently nuclear safety, which in turn ensures adequate operation, maintenance, design changes and control of radioactive releases, etc. We treat nuclear safety in all areas of our work as our first priority. By encouraging and respecting the principles of safety culture at all levels, each NPP's employee, within their individual expertise, responsibility and competence, takes part in ensuring nuclear safety, the safety of employees, population and environment. The principles of our operations are manifested in the efficiency of inter-dependant processes within NPP and which support the overall facility's operations.

Adequacy of NPP's programs and efficiency of processes are assessed by periodic internal audits. We assess the efficiency of activities with a direct impact on structures, systems and components by assessing their effects on safe and reliable plant operation. Audits are regularly planned in accordance with the NPP's QA Plan. They are carried out by qualified staff who have no direct responsibilities in areas being assessed. A written report is drawn up for every audit and its results which is sent to the responsible individual of the process. The report is sent to individuals responsible for the relevant process together with harmonised corrective measures and deadlines for their completion. NPP's management is informed of the audit's conclusions at the management review.

In 2021, the QA engineers, in cooperation with other organisational units in NPP, conducted ten internal audits in the following areas:

- organisation and administration: assessing compliance of the environmental management system with the ISO 14001 standard and the occupational health and safety management system with the ISO 45001 standard;
- radiological protection, which includes checks of the compliance of accredited laboratories with the ISO 17025 standard;
- chemical and radiochemical systems, which includes checks of the compliance of accredited laboratories with the ISO 17025 standard;
- radioactive waste treatment;
- operation;
- fire protection;
- maintenance;
- engineering - design changes;
- engineering - nuclear fuel and reactor core;
- Corrective Action Program and operating experience;
- security.

The conclusions of internal audits confirm that the systems in place in NPP function in accordance with the requirements of the legislation and standards and comply with the policies and objectives defined. Discrepancies found are recorded in the Corrective Action Program, and organisers and deadlines are set for implementing corrective measures. Implementation of corrective measures are regularly monitored and their efficiency checked.

## 2.2 Observation and Coaching

Observation and coaching are one of the most important tools used for preventing human error at work, enabling high quality of work processes and the strengthening of safety culture. Coaching through observation includes observing an individual's behaviour at work and emphasising the desired behaviour, followed by an immediate correction of the behaviour which is not in line with expectations. The basic objective of observation is not to criticise an individual but to uncover discrepancies and opportunities for working process improvements.

In 2021, the monitoring group continued to monitor effectiveness of observation programs. Its objective was to analyse observation trends through coaching in various organisational units, identify discrepancies in work processes and suggest improvements. The monitoring group for monitoring the effectiveness of observations met quarterly. The records of meetings contained their main findings of the analyses of individual activities from the e-form with their suggestions for improving the observation process. The annual report prepared by the monitoring group for monitoring the effectiveness of observations contains the results gathered from 624 observations that were carried out between 01.01.2021 and 31.12.2021. The observations included all disciplines and work groups in different plant departments.

# 3.0

## TECHNOLOGICAL MODERNISATION AND SAFETY UPGRADE PROGRAM

In 2021, technological upgrades of existing systems and the upgrades within the Safety Upgrade Program (SUP) of NPP were completed.

The SUP second and third phases were completed which means the completion of the reinforced bunkered building 2 which houses the systems for preventing and mitigating consequences of accidents, taking into account the design extension conditions. The SUP third phase is continued with the construction of the spent fuel dry storage.



In 2021, we completed a number of modifications of SUP: alternative cooling of reactor coolant system and reactor building, completion of infrastructure for reinforced bunkered building 1, completion of support systems in the emergency control room and in the technical support centre, completion of reconstruction of operational support centre, completion of the reinforced bunkered building 2 with the installation of the alternative safety injection system and the alternative auxiliary feedwater system. At the same time, we installed passive seals on reactor coolant pumps.

After obtaining the final building permit, we started with the construction of the spent fuel dry storage in March and its progress is in accordance with the schedule.





Other technical improvements included replacing electrical actuators on the valves in the Chemical and Volume Control System of the primary system. Magnetic structures for reducing the content of iron particles in the secondary system were installed in the condenser. The last phase of the welding overlay on cross-under piping project was also completed.

We replaced the electric pump panel of the fire protection system, introduced on-going measurement of radiation at the discharge from the Passive Containment Filtered Pressure Relief Ventilation System and updated the nitrogen and hydrogen station.

From the projects that were completed in 2021 or will continue in 2022, we present some of the most important ones:

## 3.1 Ensuring Safety and Operational Reliability

Among the most important upgrades are projects which will ensure safe and reliable operation of the plant in the future, and the projects through which we comply with environmental and other regulatory requirements.

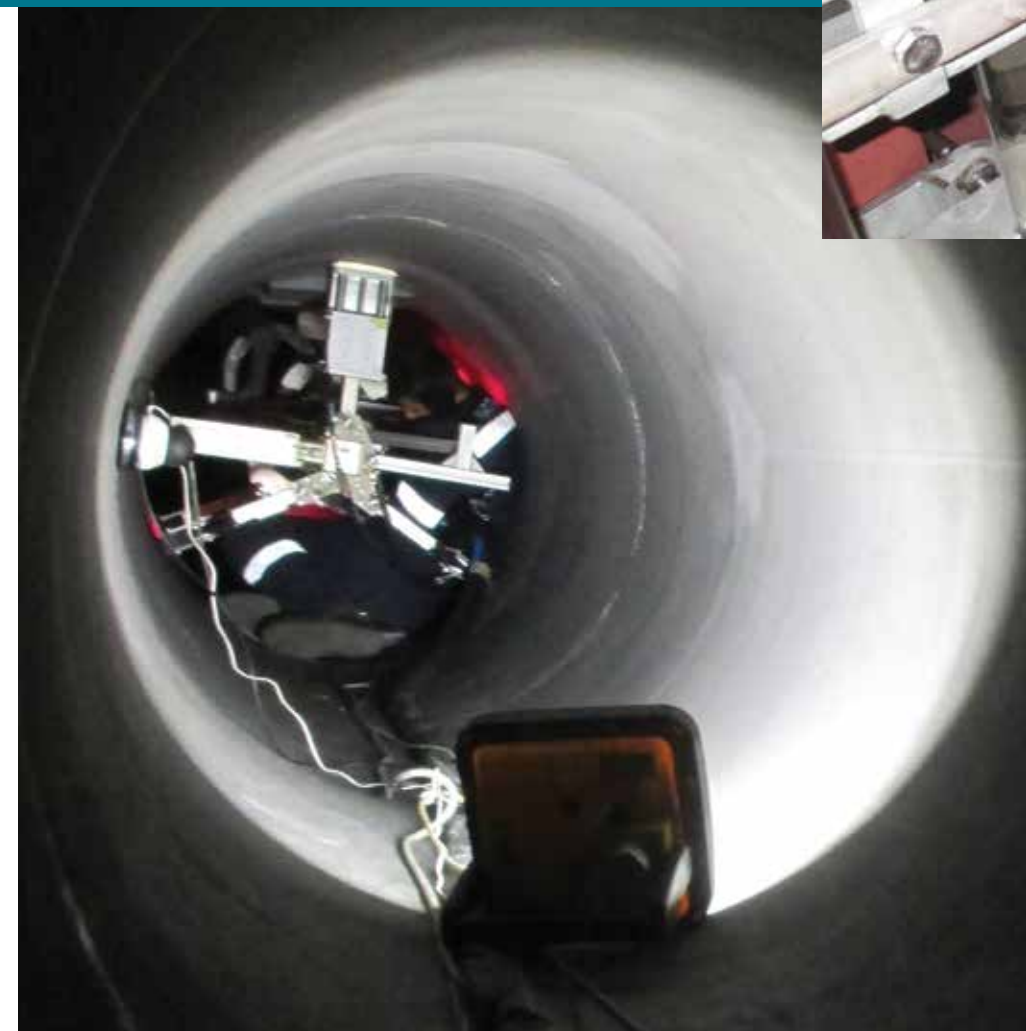
### 3.1.1 PERMANENT REPAIRS OF THE MAIN STEAM CONNECTING PIPELINES

During the 2021 outage, the third and final part of the permanent repairs of the main steam connecting pipelines was completed.

The whole surface of four connecting pipelines has now been welded with noncorrosive material and permanently protected from pipe material loss due to steam impact.

### 3.1.2 INSTALLATION OF MAGNETIC STRUCTURES IN CONDENSER

The purpose of the modification was to develop and install magnetic structures inside the condenser to provide the effective removal of magnetic material released during the operating cycle. This reduces the ingress of this material into the secondary cycle systems.





## 3.2 Safety Upgrade Program 2013–2021

The Safety Upgrade Program (SUP) is related to the decision on the plant's long-term operation and experiences gained following the accident in the Fukushima NPP in Japan. It comprises the installation of additional safety systems to provide the reactor core cooling and additional safety systems for spent fuel cooling, which represent an even higher level of plant's resilience in case of emergency natural and other unlikely events such as extreme earthquake, flood, extreme external temperature, extreme wind and aircraft crash. Additional safety systems enable the integrity of the containment and ensure minimum discharges into the environment in the event of unlikely extreme events.

- In 2021, projects under SUP were continued and included:
- completing the project for providing adequate habitability in the emergency control room and in the technical support centre;
  - completing the project for the alternative cooling of the core and the containment;
  - completing the reconstruction of the operational support centre;
  - reinforced bunkered building 2;
  - alternative auxiliary feedwater system;
  - alternative safety injection system;
  - installation of passive seals on reactor coolant pumps.

The last project under SUP is the construction of the spent fuel dry storage, which is under construction.

### 3.2.1 CONSTRUCTION OF THE EMERGENCY CONTROL ROOM

In 2021, the last two phases of the project of the emergency control room construction was completed, which included the installation of instruments for continuous measuring the radiation at the discharge from the system for passive containment filtered pressure relief ventilation, and the replacement of all level gauges in the containment sump.



### 3.2.2 PROVIDING ADEQUATE HABITABILITY IN THE EMERGENCY CONTROL ROOM AND IN THE TECHNICAL SUPPORT CENTRE

In 2021, the installation project of new heating, cooling, and ventilation equipment was completed, as well as the protection systems for the emergency control room and the technical support centre in the bunkered building 1. The upgrade will provide safe habitability which will enable operators and technical support system staff to control and operate the plant even in the event of severe accidents.





**3.2.3**  
ALTERNATIVE  
COOLING OF THE CORE  
AND THE CONTAINMENT

The main objective of this project is the installation of an independent alternative system for the residual heat removal from the primary system and the containment in the event of design extension conditions.

The newly installed equipment, which can be controlled from the main control room and from the emergency control room, will allow the removal of residual heat from the primary system with the existing heat exchangers or with the newly installed heat exchanger. Residual heat removal from the reactor coolant is possible from the reactor coolant system either in the event of loss of coolant accidents or when the existing residual heat removal equipment is not available.

**3.2.4**  
RECONSTRUCTION  
OF THE OPERATIONAL  
SUPPORT CENTRE

The operational support centre was put into use at the end of December 2021. The facility provides:

- shelter (provides shelter against radiological, biological and chemical danger from the environment);
- 7-day operation in the event of a bomb attack or nuclear accident, with flood and earthquake;
- suitable radiological protection in the event of nuclear accident;
- space for the relocation of the central alarm station.

While the construction work of new annex to the shelter was in progress, the existing area was also renovated.



**3.2.5**  
CONSTRUCTION  
OF THE REINFORCED  
BUNKERED BUILDING 2

The upgrade involved the construction of a new special reinforced bunkered building 2 with auxiliary systems and connections of new systems to the existing systems, buildings and components of NPP.

The alternative safety injection system, the alternative auxiliary feedwater system and the safety power supply were installed into the special reinforced building 2. In the vicinity of the facility there is a new well for pumping groundwater for additional water supply for the alternative systems also in the event of design extension condition.







### 3.2.6 ALTERNATIVE AUXILIARY FEEDWATER SYSTEM

The upgrade includes installing the alternative pump for the steam generator feedwater system and water reservoir. The new alternative auxiliary feedwater system will ensure the alternative source of coolant water for the steam generators in extended project conditions when the existing auxiliary feedwater system is not available, therefore enabling the residual heat removal from the primary system and reactor cooling.

### 3.2.7 ALTERNATIVE SAFETY INJECTION INTO REACTOR COOLING SYSTEM

The upgrade, also falling within safety upgrade projects, refers to the alternative system of safety borated water injection into the primary reactor coolant system. The system includes a reservoir of borated water and a high-pressure pump for safety injection. The pipeline system, with equipment and support isolation valves was installed in the containment in 2019. The installation continued in 2020 and was completed in 2021 when the new alternative safety injection system was connected to the existing safety injection system.



### 3.2.8 CONSTRUCTION OF SPENT FUEL DRY STORAGE - PHASE 1

The construction of the spent fuel dry storage is an independent building in the northwest part of the NPP premises. The purpose of the building is to store spent fuel into multi-purpose canisters for dry storage. This system uses passive cooling of spent fuel elements and is therefore inherently safe as it allows for transportation of the casks to another location without the modification of the existing system. This solution is not unique as most plants around the world are about to or already use dry storage for spent fuel.



The construction of the building started in March 2021 after receiving the final building permission and half of the steel structure was completed by the end of December 2021.

### 3.2.9 INSTALLATION OF PASSIVE SEALS ON REACTOR COOLANT PUMPS

In 2021, passive seals were installed on reactor coolant pumps. The purpose of seals is to limit the loss of primary coolant in the event of station blackout, which would cause the loss of primary coolant sources and the sealing effect of the original pump seals, which could cause the leak of pump seals. Passive seals are activated automatically when the temperature of the medium increases as a result of such a situation.

Sealing elements with passive seals were installed into both reactor pumps during the regular maintenance.



# 4.0

## MAJOR MAINTENANCE ACTIVITIES AND INSPECTION OF PRESSURE BOUNDARIES

We ensure maximum availability of systems, assemblies and devices through regular maintenance during operating inspection and upgrades. We are focused on preventive measures. Preventive maintenance is carried out at certain time intervals, based on recommendations of suppliers, international practice and own analysis and experience. In certain cases, we use predictive maintenance instead of time-based preventive maintenance which is based on determining the status of a device or assembly, subject to data obtained by measurement, after they have been analytically processed. On the basis of such measurements, we then forecast further functioning of a component and determine its optimum scope and the time for refurbishment.

If a component or an assembly nevertheless fails or degrades, corrective measures are carried out which primarily include diagnosis, remedy of faults and analysis of reasons for failure.



Maintenance activities are carried out according to procedures and instructions prepared in advance. After the health of a device or an assembly section is assessed, the planned interventions and corrective actions are carried out. These actions are generally followed by post maintenance tests, demonstrating that the equipment is faultless and the action successful. This is followed by documenting the process which includes assessing the work carried out and the equipment condition considering its aging. During corrective actions on the equipment which are included in the preventive maintenance program, we conduct a detailed root cause analysis; on the basis of this analysis, the preventive maintenance program is revised as needed. The objective is to have as few failures as possible through good preventive measures.





The most intensive maintenance period is the plant's outage which was carried out in April 2021. At that time, we carried out a number of regular planned activities such as overhauls of valves, overhauls of pumps, overhauls and inspections of ventilation systems, overhauls and revisions of high-voltage and low-voltage motors, overhaul of electric control equipment, calibration of measuring-regulating equipment, and reactor safety system testing and examinations. We also carried out activities which are less frequent or require additional preparation, coordination or means: These include:

- overhaul of auxiliary feedwater pump;
- replacement of vital sections of the 3.5-megawatt diesel generator 2 engine;
- replacement of safety battery 125 V, train B;
- replacement of reactor pump 1 engine with a renewed engine, and
- repair of the seismic yoke of the in-core instrumentation thimbles.

In addition to works on active components, which are part of regular preventive programs during outage, we also carried out a number of long-term operating support activities. These are mostly inspections of large components including the steam generators, reactor and its internals, turbine parts, heat exchangers, cables and pressure pipelines. All these inspections showed that their condition was good. The examinations of pipelines, the reactor and the steam generators are intertwined with regular in-service inspections. These are mostly non-destructive techniques which are very complex due to difficult access to individual assemblies, often under water, and the examinations are mostly carried out remotely. The most examinations include:

- ultrasound examination of reactor vessel welds;
- visual examination of external surfaces of reactor head and penetrations;
- examination of steam generator pipes with eddy current test;
- visual examination of rod cluster control assembly (RCCA) guide thimbles;
- visual examination of the lower and upper internals in the reactor;
- examination of in-core thimbles with eddy current testing.



No examination or inspection showed any significant discrepancies. It can be concluded that degradations are lower than anticipated from the analyses and measures need not be corrected. At the same time, these examinations gave us an affirmation that there are no obstacles for the long-term operation of NPP.

In 2021, we carried out maintenance on the basis 8,797 work orders. Of these, 3,623 work orders were for outage during the plant's shut down when the systems and devices were accessible and where maintenance work cannot be carried out while in operation; 5,174 work orders were carried out online. These maintenance interventions were a great challenge in terms of planning because the equipment and assemblies had to be separated from the technological process before the start of maintenance work and all energy sources had to be isolated. Interventions had to be as short as possible to ensure that the unavailability of assemblies and equipment due to maintenance was also as short as possible and thus to keep the outage critical path short. Each such maintenance activity requires detailed instructions, qualified staff, available spare parts, an optimal schedule and coordinated actions of different departments.

Maintenance efficiency is measured with various indicators; it is periodically monitored and checked according to the program. One of the indicators is the amount of corrective work orders in the total number of executed orders; in 2021, this was 5.4%. In 2021, there were 16 reworks; these are carried out when the first attempt is not successful. None of the failures caused any breach of limiting condition for operation (LCO) set out in the Technical specifications and no failure caused operating disruption.

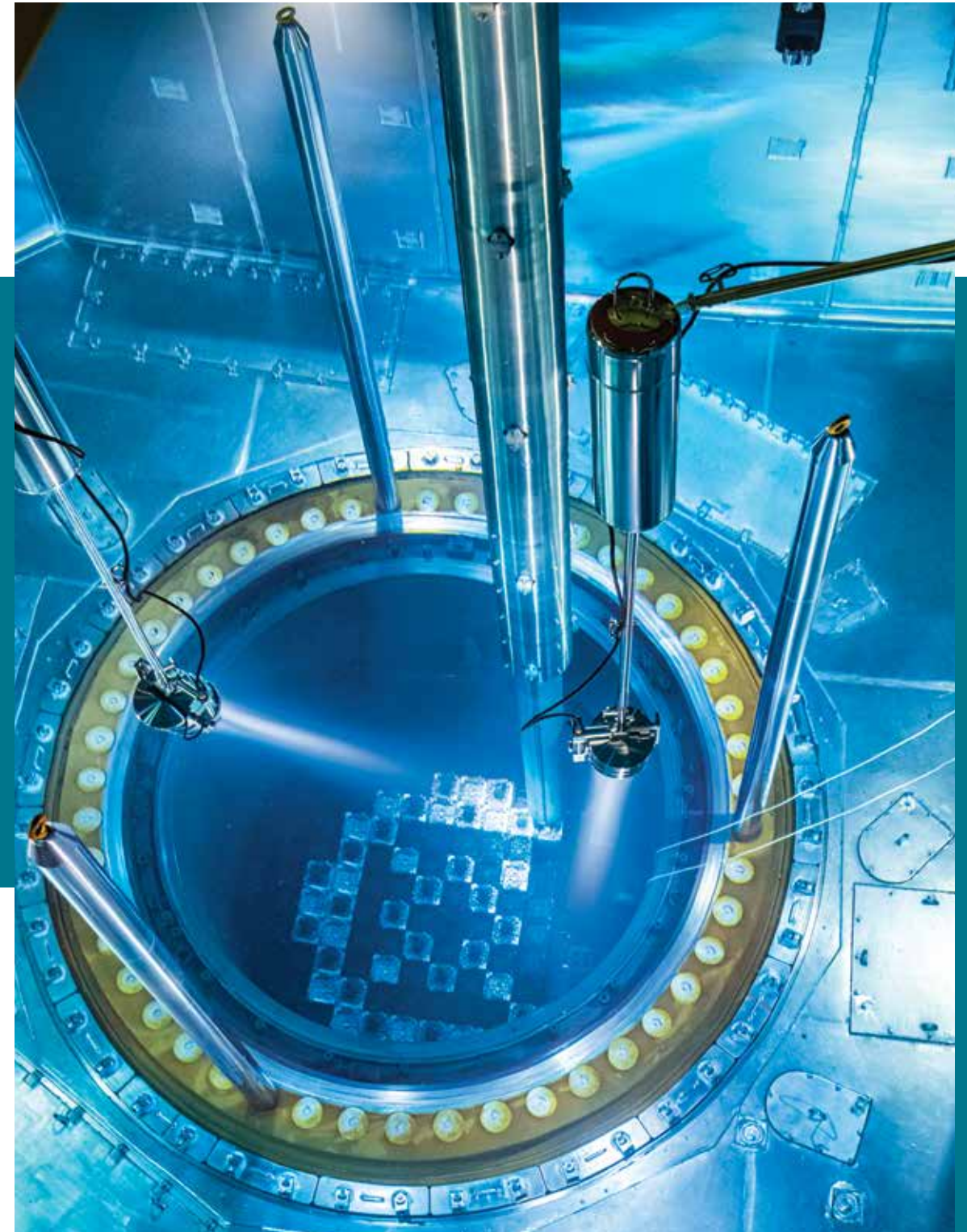
The condition of assemblies and devices showed no degradation that would affect continued operation. All assemblies, systems and devices were in a condition which allows the plant's long-term operation. It is expected that the on-going maintenance in accordance with the maintenance scope program will ensure the plant's excellent condition.



# 5.0

## PLANT PERFORMANCE

Performance indicators used to monitor the achievement of targets, efficiency and improvements in specific areas of the plant operation provide the grounds for setting new goals after relevant improvements have been made, the adjustment of priorities and the provision of means to ensure successful operation of the plant. These indicators also allow for comparison with other power plants.



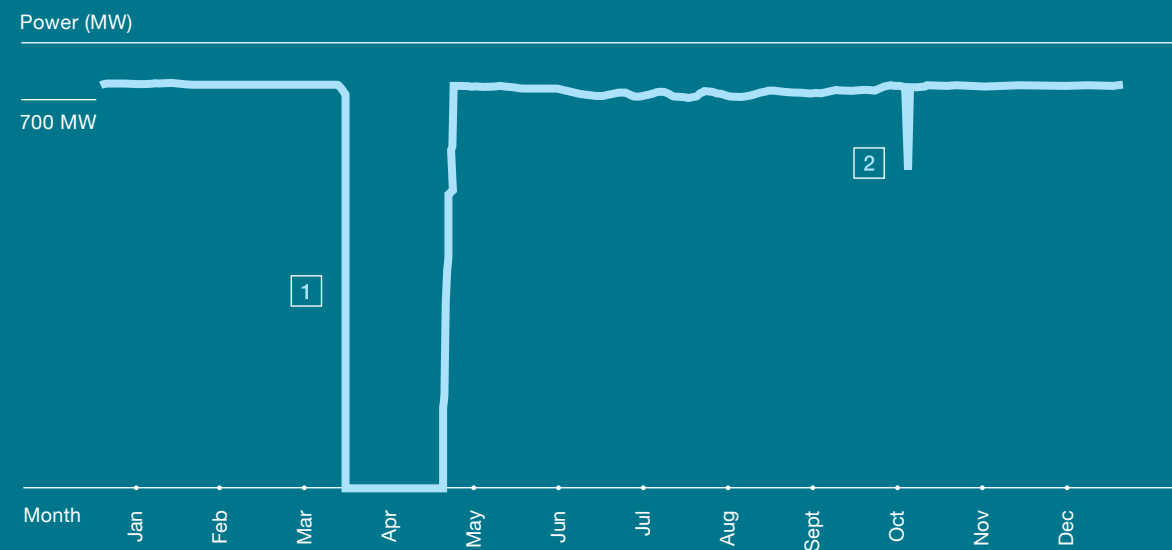
In 2021, the NPP's total output at the generator outlet was 5,705,951.26 MWh of gross electrical energy, representing 5,418,643.26 MWh of net electrical energy. The annual output was for 1.66% higher than planned, which was 5,330,000.00 MWh. The availability factor was 90.65% while the capability factor was 90.15%.



## OUTPUT DIAGRAM FOR 2021

Gross energy produced: 5,705,951.3 MWh  
Net energy produced: 5,418,643.3 MWh  
Availability factor: 90.7%  
Capability factor: 90.2%

1. Outage 2021
2. Turbine valves test and searching for condenser leak

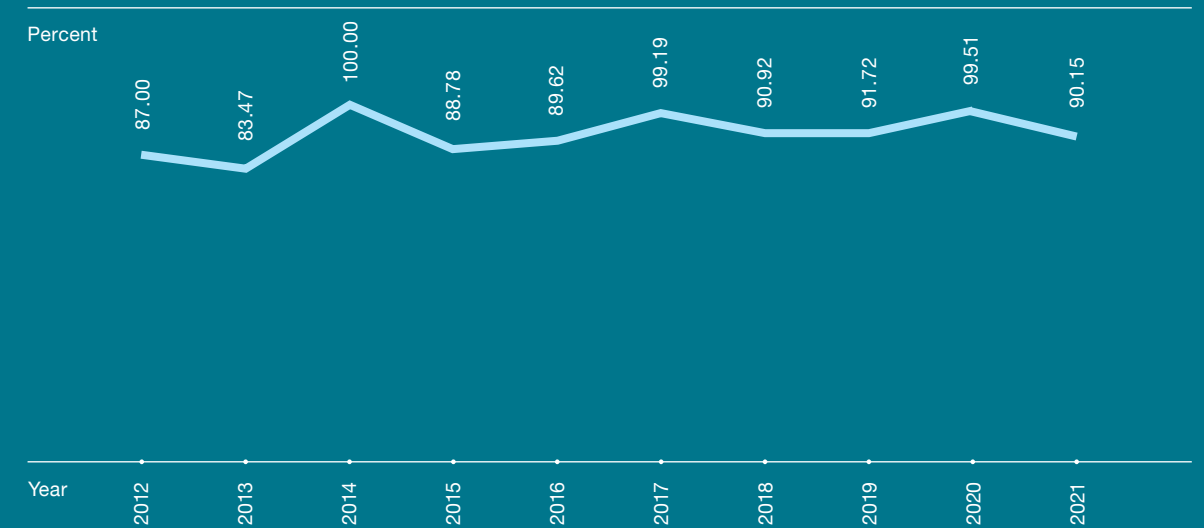


## 5.1 Operation

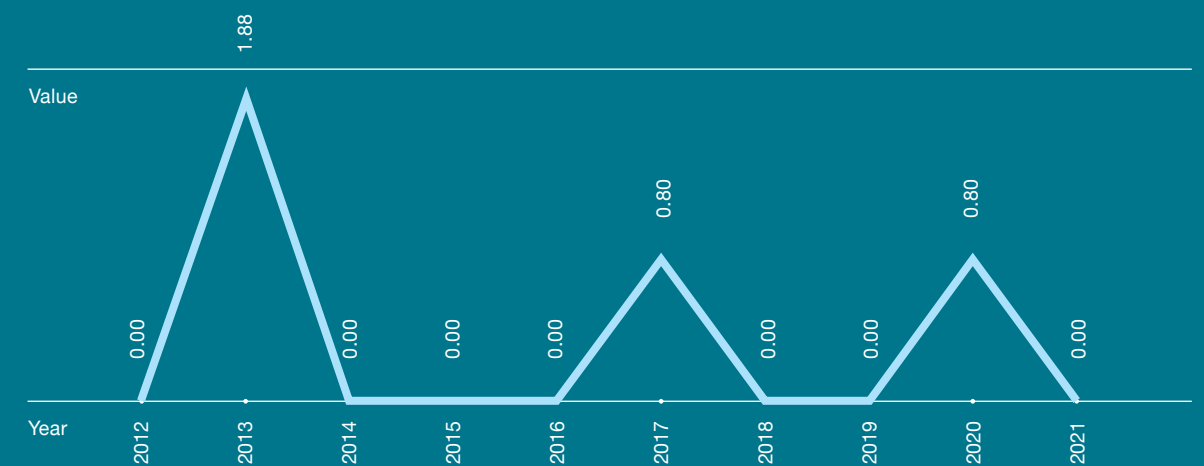


### UNIT CAPABILITY FACTOR

NEK target for 2021:  $\geq 90\%$



### UNPLANNED AUTOMATIC REACTOR SHUTDOWNS, NORMALISED AT 7000 HOURS CRITICAL





## 5.2 Nuclear Fuel and Secondary Chemistry System

Specific activity of the primary coolant and its contamination were far below the limits prescribed by law in 2021 (during fuel cycle 32). By the end of 2021, there were no damages to the nuclear fuel or deterioration of its integrity in the fuel cycle 32. The nuclear fuel reliability indicator met targets set by NPP and INPO (Institute for Nuclear Power Operations), which proves the reactor core operational reliability was without nuclear fuel leakage.



Chemical and radiochemical parameters in the cooling water media systems were maintained in accordance with the technical and chemical specifications. The ingress of aggressive chemical contaminants into the primary cycle remains low. This applies also to the radiation source inventory, resulting from corrosion products and impurities in the reactor coolant.

In the second half, some control parameters of the secondary system concentration values increased. The reason was a slight leakage of the condenser pipe assembly which is a challenge for reliable determination and accurate location of chemical contaminant entry point. At the end of the year, the target performance indicator value of the secondary chemistry system was for this reason exceeded.

In the secondary system we detected lower discharge of iron particles and iron oxides transport and lower deposition in the steam generators which restricts degradation mechanisms.

The chemistry of other water media in the closed cooling cycles was also adequately maintained.

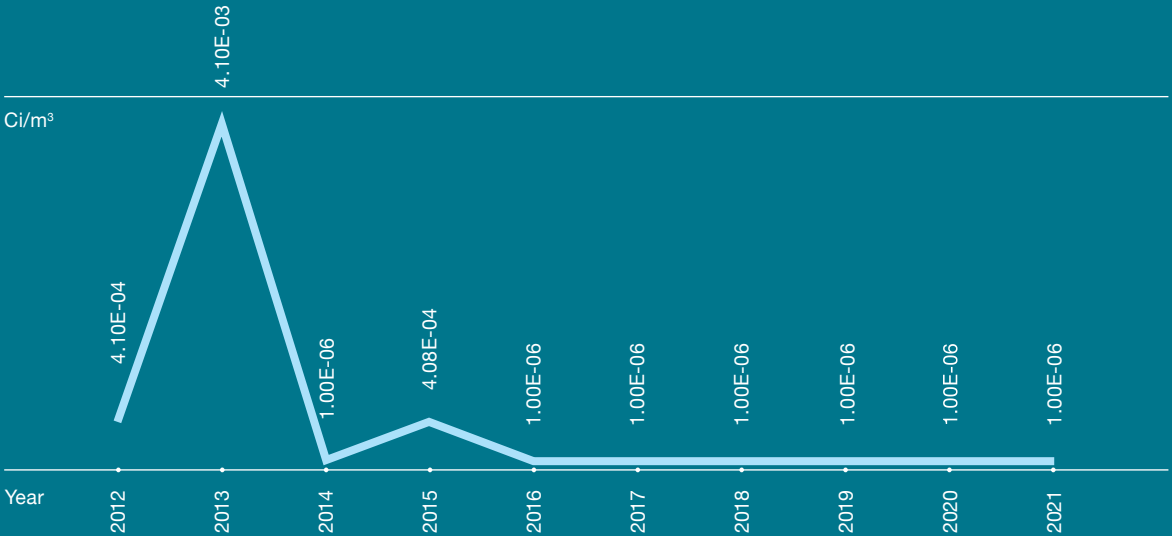
The monitoring of key chemical parameters was effective; the cleaning systems which contributed to the effective chemistry program were available. Trends in monitoring microbiological activities in the systems where there is a possibility of the presence of microbiological elements did not require special measures.

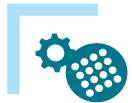
The suitable chemistry of water media systems in NPP continues to ensure long-term plant system availability, the integrity of nuclear fuel and reactor coolant as well as doses within limits.



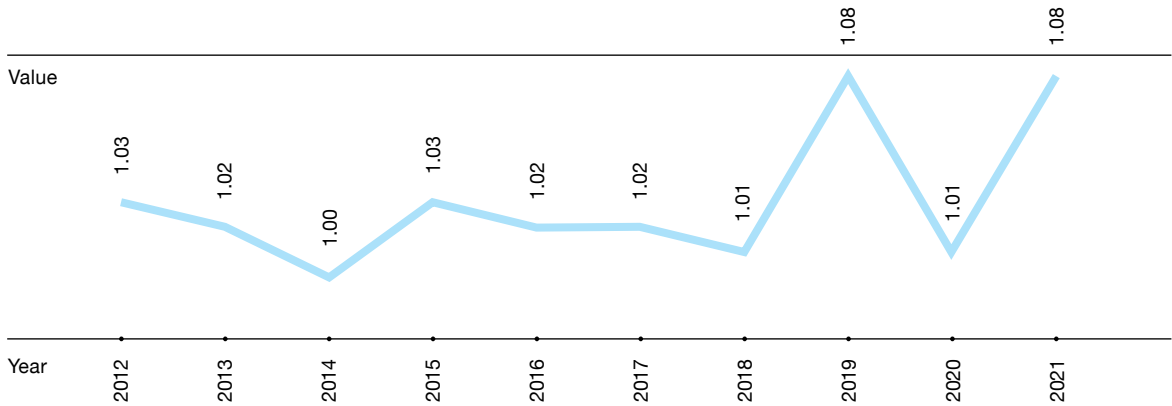
FUEL RELIABILITY INDICATOR

NEK target for 2021:  $\leq 8 \text{ E-5 Ci/m}^3$





SECONDARY CHEMISTRY  
PERFORMANCE



### 5.3 Procurement of Services and Equipment

We had concluded contracts for purchase of goods and services for maintenance interventions and modifications for 2022 outage, completed SUP projects and other modifications and intensively participated in ordering services for the plant extended operational period project (environmental impact assessment, third periodic safety review, independent expert opinions). We extended the long-term contract with the existing contractor for the provision and supply of nuclear fuel elements. In September, we participated in the expert team for the plant corporate management peer review (WANO CPR).

We published 151 public tenders on the Public Procurement Portal of which 44 were also published in the Official Journal of the EU and on the basis of these publications, we received 104 offers from various bidders. We concluded more than 1,900 recorded orders (below the threshold for publication under the Public Procurement Act).

The prices offered locally were affected by another increase of the minimum salary in the Republic of Slovenia, the price and access to the market work force, the inflation rate and price increase of materials and raw materials. There was a noticeable effect of shortage in materials and raw materials and longer supply chains, which resulted in extended contractual deadlines. In the foreign market, difficulties with American suppliers intensified, especially due to COVID-19 infections disease since our suppliers had problems with their sub-suppliers due to higher prices, longer response time, organisation and higher transport costs.



The duration of the pandemic and therewith related restrictions also affected the availability of contractual workers on NPP work sites, delays and the method of certain work performance.



# 6.0

## INTERNATIONAL COOPERATION

NPP has joined numerous international professional organisations, which enables our employees to remain up-to-date with and to co-create the best practices, exchange knowledge and experience and transfer them into the domestic work environment. Our active role in these organisations and international peer reviews of the plant significantly contribute to improving work processes and achieving good safety and operational results.



### 6.1 Our Cooperation with International Organisations in 2021

Two NPP's employees temporarily worked at WANO in the Paris Centre. One worker was responsible for the review of operating experience while the second one offered expert support to plants.

In September, we hosted representatives of the World Association of Nuclear Operators (WANO) in two missions. The Peer Review Follow-up mission (PRFU mission) checked the status of five areas for improvements. In parallel, the expert review of the plant Corporate Peer Review (CPR mission) was conducted.



We have been actively cooperating with WANO for years now. Our experts have taken part in 60 of their missions worldwide. In 2021, two of our representatives were active in international expert operating peer reviews of two plants, Saint-Alban in France and Ringhals in Sweden.

The representatives of our plant participated in WANO member support mission at the plant Nogent-sur-Seine in France.

Through the technical assistance program our plant has hosted 37 expert missions in the past years which cover various areas of the plant's activities.

The NPP's representatives take part in professional training organised by various expert organisations. Good results of our plant are becoming a model practice to other nuclear plant operators and an example of good practices in various fields of work. To date, there have been 42 expert benchmarking visits in NPP.

Our representative was a participant in a number of online events where representatives of certain plants and WANO exchanged experience and information on measures due to COVID-19. Through joint recommendations, they helped other members in managing the pandemic (WANO Medical Officers Forum).

Through WANO, NPP informed the industry of 16 operating experiences in our plant.

In October, we hosted representatives from the International Atomic Energy Agency (IAEA) on readiness expert review of our plant for safe long-term operation – Pre-SALTO (Safety Aspects of Long-Term Operation) mission. The Pre-SALTO reviews are usually carried out before plants extend their operating time. The recommendations and suggestions for improvements from the Pre-SALTO review will be taken into consideration in the third periodic safety review (PSR3) of the plant which has already been started and will be completed at the end of 2023.

Together with NUPIC, representatives of NPP took part in six audits of safety equipment suppliers in the USA and Europe.

NPP also takes an active part in some of the important areas of the EPRI activities, including:

- equipment maintenance of nuclear facilities (NMAC);
- engineering support (EP);
- non-destructive testing and research (NDE);
- exchange of experience in applying accident analysis programs (MAAP);
- exchange of experience concerning erosion/corrosion issues (CHUG);
- chemical water media (water chemistry).

Our plant has participated in the PWROG annual conferences, organised separately for nuclear facilities from Europe.

We actively participated at the conference of the Nuclear Society of Slovenia and in the forum of the Croatian Nuclear Society.



## 6.2 Memberships and Participations in International Organisations

At NPP, we are aware of the importance to participate in international organisations and in the international monitoring of our operation. Only this way can we attain international comparable operation and safety results. For this purpose, NPP is a member of many organisations listed below:

### WANO

All nuclear power plants in the world are members of World Association of Nuclear Operators (WANO). NPP has been a member of this organisation since its establishment in 1989. Its aim is to promote the highest standards of operational safety, availability and excellence of nuclear power plants. WANO runs programs for sharing operating experience, reviews plants' operations, assists member plants in their operational improvement programs, encourages communication, and promotes benchmarking and copying best practices.





### EPRI

EPRI (Electrical Power Research Institute) is a non-profit and independent organisation for research in the area of electrical energy production and environment protection. It was established in 1973 in support of the development of the electrical industry. The Institute currently covers all aspects of production, transmission and use of electrical energy.

### PWROG

PWROG (Pressurized Water Reactor Owners Group) is an association of all the pressurized water reactor (PWR) operators and Westinghouse. The organisation offers various programs related to improved equipment, optimisation of technical specifications, reduced number of unplanned shutdowns, increased power of the plant, simplification of the plant systems, the manufacture and use of nuclear fuel, analyses by contemporary programs and analytical methods, etc.

### FORATOM

FORATOM – European Atomic Forum is a trading association for nuclear energy in Brussels. NPP cooperates with the expert team for optimising and improving support change of nuclear suppliers. The group develops methodology and prepares a report on the use of high-quality industrial equipment and spare parts in nuclear plants.

### EC – JRC

EC – JRC (European Commission Joint Research Centre) is a joint research centre, providing scientific and technical support to EU policy in a number of areas. NPP participates in drawing up reports on challenges and possible solutions on issues with nuclear suppliers.

### ENISS

As a member of ENISS group (European Nuclear Industry Safety Standards), Krško NPP took part in the preparation of the EU nuclear industry position in drafting amendments to legislation in this industry. The work group acts within FORATOM, an EU nuclear industry organisation.

### NUPIC

NUPIC (Nuclear Procurement Issues Committee) is a committee of American and other nuclear facilities for joint evaluation of safety class equipment suppliers. The aim of this organisation is to improve the process of locating the suppliers of high-quality standards.

### IAEA

The International Atomic Energy Agency (IAEA) is an independent intergovernmental organisation which operates within the United Nations Organisation. Its primary objective is to help members in planning and using nuclear technology for various peaceful purposes. This includes production of electrical energy and transfer of technology and knowledge in this area. IAEA develops safety standards that support the realisation of high level of safety in using nuclear energy and on protecting the public against ionising radiation. The organisation operates on the basis of various programs such as control over nuclear material, nuclear technology application, nuclear energy, nuclear safety and technical cooperation. It organises OSART (Operational Safety Review Team) missions which involve visiting power plants in order to inspect and assess their operational safety.

### NRC

NRC (Nuclear Regulatory Commission) is an USA independent nuclear regulatory commission to ensure safety and protection of people from radioactive nuclear material, reactors and nuclear waste reprocessing plants. Through the Slovenian Nuclear Safety Administration and the Institute 'Jožef Stefan' (IJS), NPP is a member in several programs which gives access to information and literature in various areas.



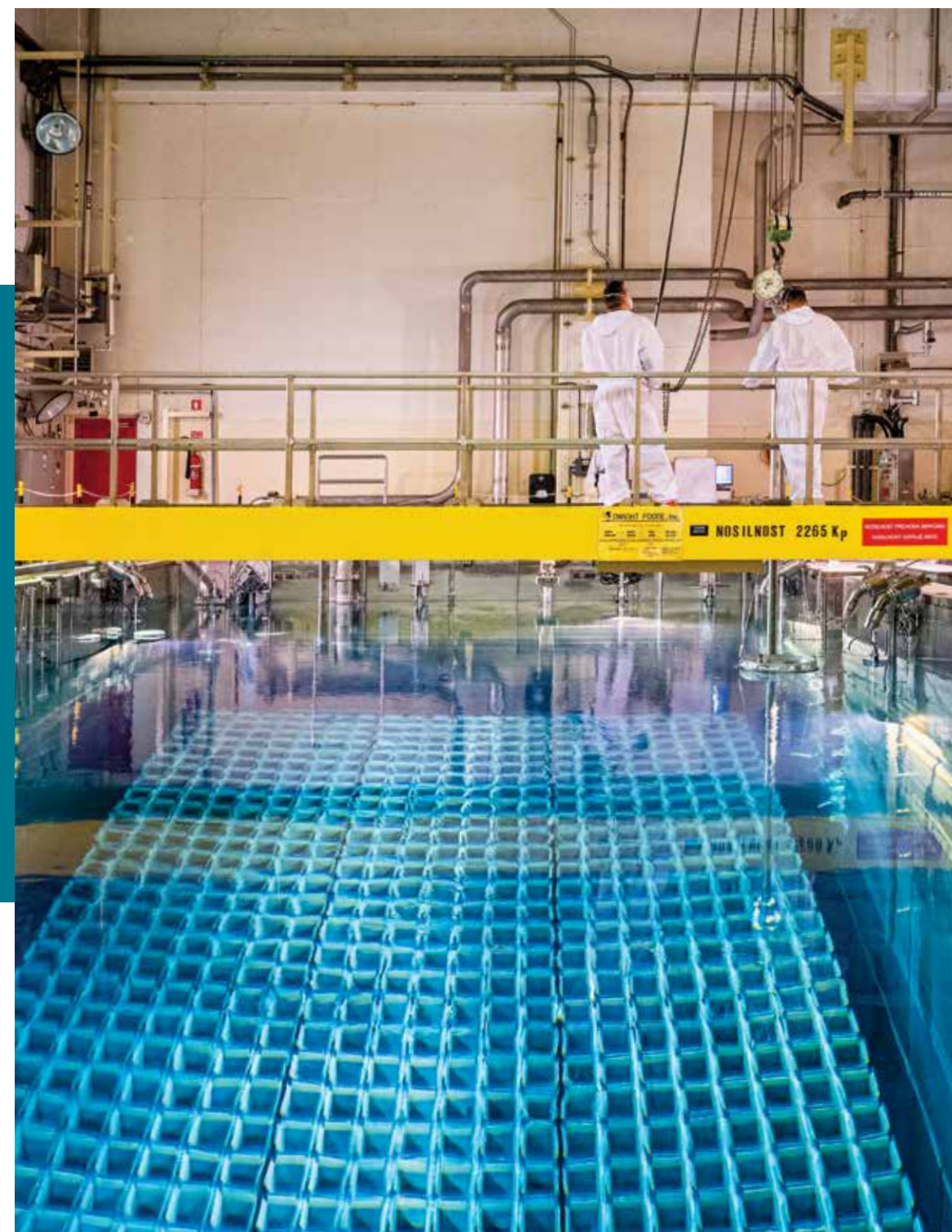
# 7.0

## PROFESSIONALISM AND ENTHUSIASM OF STAFF AS THE BASIS OF SUCCESS

Through systematic staff training and the system for managing staff knowledge we ensure high level of professionalism and enthusiasm. The comprehensive development of staff is one of the fundamental values which are the basis for our activities which in return assist us in permanently achieving our vision and mission.



The fundamental values which are part of our work processes and relationships include safety culture, excellence in relationships and integral personal development. At the same time, these values are the reference line of our actions and the basis of our vision and mission.





# 7.1

## Comprehensive Development of Staff

Prerequisites for long-term safe and stable operation of the plant are provided through long-term planning of human resource processes, timely staff recruitment and the provision of systematic development for all employees. We are aware that professional, well qualified and competent individuals are a prerequisite for work processes to be performed safely, efficiently and at high quality level, as well as for constant improvements in all work areas. The established professional training programs are intended to provide and reinforce professional knowledge and skills which ensure successful completion of all work tasks at a high professional level and in accordance with international standards. Reinforcement of knowledge and transfer of skills from highly experienced staff onto younger generations are provided through on-the-job training programs at the work place and under mentorship. The same as in 2020, there was less training carried out in 2021 due to conditions in the country. Most training took place on-line through various tools (Teams, Zoom, Skype, etc.). In-house training took place in various formats - in lecture rooms, on-line and in the combination of both. Whenever there were more people present, we observed the standards of the National Institute for Public Health to prevent spreading infections. At the same time, steps were taken to bring up and develop the next generation for key positions in the plant. In the area of human resources, special attention has always been paid to monitoring staff enthusiasm and management processes, such as annual development discussions.

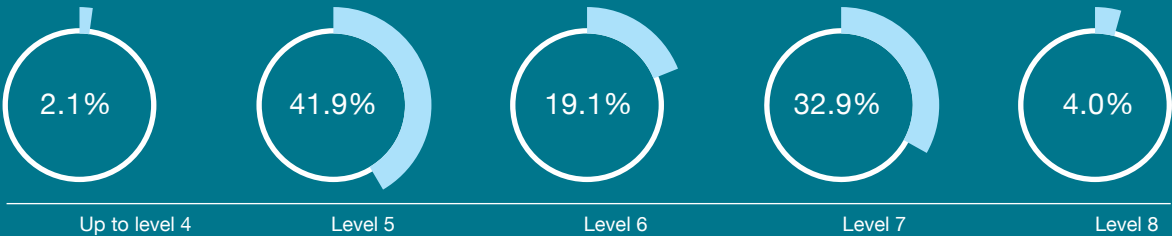
Staff with expertise and skill, while possessing essential virtues, are of strategic importance and one of the key factors of nuclear safety, long-term stability, competitiveness and success. Year 2021 was a year when the gradual replacement of generations, witnessed in the

last decade, took a stronger course since we employed 39 new employees on the basis of current and future needs. In accordance with expectations, employee retirement process continued in 2021 for those who had met the conditions for old-age retirement. The annual staff turnover was 3.9 percent, expressing a stable human resources culture.

At the end of the year, there were 644 employees at NPP of which 45.3 percent with high professional and university education. The employee structure included 10 doctors of science and 16 masters of science. The share of female staff was 13.8 percent. At the end of the year, 22 students were receiving our scholarship for the Bologna first- or second-degree university study program.



DISTRIBUTION OF EMPLOYEES ACCORDING TO THE LEVEL OF EDUCATION



# 7.2

## Training of Operating Staff

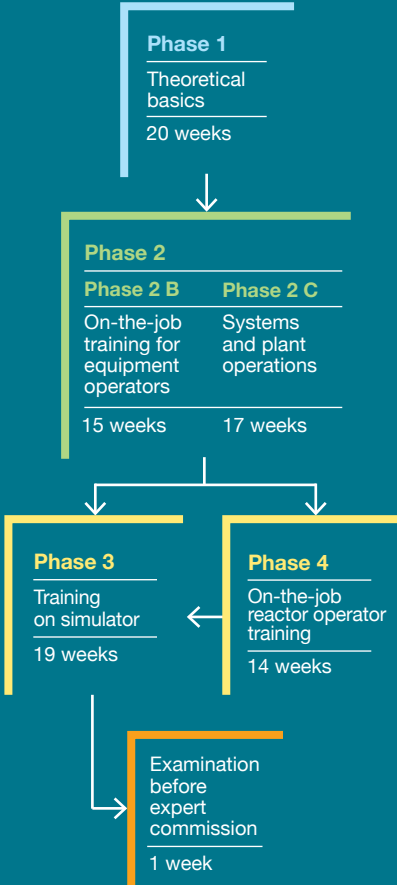
In NPP, we organise initial licensed staff training and provide a continuous licensed staff training and professional training of equipment operators.

Initial licensed staff training for reactor operators was conducted in accordance with national legislative requirements and practices in the nuclear industry. The 85-week training course is structured in four phases of different forms of training, aimed at preparing the candidates for independent work in the Main Control Room (MCR). In 2021, we had two groups of participants in the program for initial licenced

staff training. On 13 September, a new group of 9 participants started their training (Phase 1 - Theoretical basis). In the second group, 17 participants successfully completed Phase 2, Plant systems and operation, 9 will continue training to obtain reactor operator licence; the training is to be completed in April 2022.



THE INITIAL LICENSED STAFF TRAINING



The on-going professional training for equipment operators was conducted in parallel with the training for licensed staff, in four weekly training segments. The program focused on technical expertise and hands-on training by using operating procedures in the technological building or with the full-scope simulator. Other training was aimed at refreshing and upgrading existing knowledge and skills which equipment operators need in their day-to-day work.

Due to conditions, the four-day hands-on training which included handling of refuelling equipment at Westinghouse facility in the United States of America did not take place. Training was aimed at preparing the participants for safe and quality performance of this important refuelling activity during the outage. Training took place at NPP using internal experts in this field.

Prior to undertaking major activities in the plant, the operational staff underwent training on the full-scope simulator.



On-going professional training of licensed staff was conducted in accordance with the approved outline program and the plant's internal procedures regardless of difficult conditions due to pandemic. The training was conducted through lectures and various scenarios on the simulator, during four weekly segments, attended by all operation crews and other licensed personnel.

Examinations before expert commission, nominated by URSJV, were successfully completed by eight candidates: Three candidates were awarded their first Senior Reactor Operator licences, three candidates successfully renewed their Senior Operator licences, four renewed their shift engineer licences. There were no candidates for the renewal of reactor operator licences.





## 7.3 Staff Training for Maintenance and Other Support Functions

The professional training of technical personnel included courses to acquire the general and specialist knowledge needed for performing maintenance, engineering and other supporting functions.

Courses for technical staff aimed at acquiring legally required knowledge and refresher courses for general and professional knowledge and skills were conducted for maintenance and other support functions.

Within the framework of initial training for technical staff, a course in the Fundamentals of Nuclear Power Plant Technology (OTJE) is usually carried out. In 2021, we repeated this course three times, two of them with a two-week delay in May for 22 participants, while the third one started in November for 7 participants.

Training of maintenance personnel programs continued in the field of specialist and legally required knowledge. The training required was prepared on the basis of matrices of required qualifications. Some courses were conducted in the Maintenance Personnel Training Centre and in NPP technological units, and partly in cooperation with external institutions. The training was conducted by engaging mentors for practical training from individual maintenance departments in addition to our own training staff.

Within the on-going training of maintenance staff, we carried out training in two segments and thus completed the training program on the subject of general and legally required areas. The maintenance staff was updated with new aspects of plant processes, and with in-house and industry operating experience.



## 7.4 Other Legally Prescribed and General Training

Legally required training includes: occupational health and safety, fire protection, hazardous substances, etc. General training includes: General Employee Training (GET) program, first-line supervisor training, etc.

We continued with established programs of initial training and refresher courses related to occupational health and safety, fire protection, hazardous substances, Protection and Rescue Plan (NZIR), movement within the power generating facilities, etc.

Radiation protection initial and refresher training was conducted according to legal requirements.

Extensive two NZIR drills were carried out, both supported by the use of the full-scope simulator.

In addition to the above-mentioned training, many courses were carried out for other departments within the power plant. They were intended to update the staff on new legislation, on the implementation of innovations in individual processes, as well as general courses on computer literacy and foreign languages.



# 8.0

## EVENTS AT THE END OF THE BUSINESS YEAR

It is estimated that from the date of the balance sheet and until the time the Annual Business Report was prepared, there were no business events which would significantly affect the 2021 financial statements of the company.

NEK is in the process of obtaining environmental approval for the long-term operation which includes the assessment of the cross-border environmental impacts. At the end of February, the Ministry for Environment and Spatial Planning made a public announcement that the environmental approval was to be issued. It is expected that the procedure will be completed by the end of 2022 and that by that time the environmental approval will also be received.

In February 2022, the European Commission passed a decision that nuclear energy is to be classified as one among the others in the sustainable energy source taxonomy.





## FINANCIAL REPORT





# 1.0

## INDEPENDENT AUDITOR'S REPORT



Tel: +386 1 53 00 920  
info@bdo.si  
www.bdo.si

Cesta v Mestni log 1  
SI-1000 Ljubljana  
Slovenija

### INDEPENDENT AUDITOR'S REPORT to the owners of NUKLEARNA ELEKTRARNA KRŠKO D.O.O. (Translation from the original in Slovene language)

#### Opinion

We have audited the financial statements of NUKLEARNA ELEKTRARNA KRŠKO D.O.O. (hereinafter "the Company"), which comprise the balance sheet as at December 31, 2021 and the income statement, statement of other comprehensive income, statement of changes in equity and cash flow statements for the year then ended, and summary of significant accounting policies and notes to the financial statements.

In our opinion, the accompanying financial statements are prepared, in all material respects, in accordance with provisions of the Treaty between Government of Republic of Slovenia and the Government of the Republic of Croatia on the Regulation of the Status and Other Legal Relations Regarding Investment, Exploitation and Decommissioning of the Krško Nuclear Plant (hereinafter "the Intergovernmental Treaty"), the NEK d.o.o. Contract of Members (hereinafter "the Contract of Members"), and Slovenian Accounting Standards in those parts that are not governed by the Intergovernmental Treaty or the Contract of Members.

#### Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of our report. We are independent of the Company in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) and other ethical requirements that are relevant to our audit of the financial statements in Slovenia, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Other information

Management is responsible for the other information. The other information comprises the business report which is integral part of Annual report, but they do not include financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we express no assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements, regulatory requirements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. With regards to these procedures, we report on the following:

- Other information is consistent with audited financial statements in all respect
- Other information is prepared in line with regulatory requirements and
- Based on our knowledge and understanding of the Company and its environment, obtained during the audit, no material inconsistencies were found in relation to other information.

#### Responsibilities of Management and Supervisory Board for the Financial Statements

Management is responsible for the preparation of the financial statements in accordance with Intergovernmental Treaty, the Contract of Members and Slovenian Accounting Standards in those parts that are not governed by the Intergovernmental Treaty or the Contract of Members, and for such internal

BDO Revizija d.o.o., slovenska družba z omejeno odgovornostjo, je članica BDO International Limited, britanske družbe "limited by guarantee" in je del mednarodne BDO mreže med seboj neodvisnih družb članic.  
Odobreno sodišče v Ljubljani, v.l.b. 1/2009/10, omejeni kapital: 9.736,64 EUR, matična št.: 5913491, ID št. za DDV: SI94637920.



control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements of the Company, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Supervisory Board is responsible for overseeing the Company's financial reporting process and for confirmation of audited annual report.

#### Auditor's Responsibilities for the Audit of Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the organization to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether financial statements represent the underlying transactions and events in accordance with Intergovernmental Treaty, the Contract of Members and Slovenian Accounting Standards in those parts that are not governed by the Intergovernmental Treaty or the Contract of Members.

We communicate with the Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Ljubljana, March 22, 2022

BDO Revizija d.o.o.  
Cesta v Mestni log 1, Ljubljana

Uroš Kavčnik  
Certified auditor

(Signature on original Slovene independent auditor's report)



## 2.0

### STATEMENT OF MANAGEMENT RESPONSIBILITY

#### Statement of Management Responsibility

The company Management is responsible for the preparation of the NEK Annual Report and Financial Statements in a manner which provide for the interested public a true and fair presentation of the financial position and business challenges of NEK in 2021.

The management declares that:

- the financial statements have been prepared under the assumption that NEK will continue operations until the expiry of the plant's operational life;
- the company has applied selected accounting policies and discloses potential changes of accounting policies;
- the financial assessments are fair and well-thought-out as well as in accordance with the principles of due care and due diligence;
- the financial statements with explanatory notes have been prepared in accordance with the Intergovernmental Agreement (Official Gazette of RS No. 23/2003, MP 5) and the Articles of Association (last consolidated amended version of 24 September 2019) as well as with current legislation and Slovenian Accounting Standards.

The management is responsible for implementing measures to ensure the value of NEK property is maintained and fraud and other misdeeds are prevented and detected.

The Management affirms and accepts the financial statements and the annual report for 2021.

Krško, 18 March 2022

Stanislav Rožman, President of the Management Board

Saša Medaković, Member of the Management Board

## 3.0

### PRELIMINARY EXPLANATION ON PREPARING FINANCIAL STATEMENTS

Financial statements of NPP and their notes have been prepared in accordance with the Intergovernmental Agreement and the Articles of Association, The Companies Act (ZGD-1) and Slovenian Accounting Standards (SRS) for areas not otherwise regulated by the Intergovernmental Agreement or the Articles of Association.

The financial statements were audited by the auditing company *BDO REVIZIJA d. o. o.*



# 4.0

## FINANCIAL STATEMENTS

### 4.1

#### Balance Sheet

ASSETS in EUR	31.12.2021	31.12.2020
<b>A. LONG-TERM ASSETS</b>	<b>434,124,817</b>	<b>411,777,389</b>
Tangible fixed assets	434,118,581	411,763,177
Land and buildings	64,331,673	66,525,915
Land	1,927,370	1,927,370
Buildings	62,404,303	64,598,545
Production equipment and machinery	277,180,447	250,253,544
Other equipment and machinery	6,085,496	6,098,885
Tangible fixed assets being obtained	86,520,965	88,884,833
Tangible fixed assets being installed or produced	86,416,687	88,757,616
Advances for acquiring tangible fixed assets	104,278	127,217
Long-term financial investments	6,236	14,212
Long-term loans	6,236	14,212
Long-term loans to others	6,236	14,212
<b>B. CURRENT ASSETS</b>	<b>122,029,988</b>	<b>153,474,756</b>
Inventories	56,498,815	85,225,634
Material	56,498,626	85,225,345
Advance payments for inventories	189	289
Short-term financial investments	22,009,765	25,011,921
Short-term loans	22,009,765	25,011,921
Short-term loans to others	22,009,765	25,011,921
Short-term operating receivables	17,564,827	19,055,785
Short-term operating receivables from buyers	16,860,560	18,137,780
Short-term operating receivables from others	704,267	918,005
Cash	25,956,581	24,181,416
<b>C. SHORT-TERM DEFERRED EXPENSES AND ACCRUED REVENUE</b>	<b>1,134,031</b>	<b>641,245</b>
<b>TOTAL ASSETS</b>	<b>557,288,836</b>	<b>565,893,390</b>

LIABILITIES in EUR	31.12.2021	31.12.2020
<b>A. CAPITAL</b>	<b>481,585,536</b>	<b>475,858,719</b>
Called-up capital	353,544,826	353,544,826
Share capital	353,544,826	353,544,826
Capital reserves	41,850,000	36,350,000
Revenue reserves	89,294,326	89,294,326
Legal reserves	35,354,483	35,354,483
Statutory reserves	53,321,477	53,321,477
Other reserves from profit	618,366	618,366
Reserves from fair value re-evaluation	700,856	474,039
Net profit or loss carried over	-3,804,472	-3,804,472
Retained net profit or loss	0	0
<b>B. Provisions and long-term accrued costs and deferred revenue</b>	<b>12,392,445</b>	<b>16,417,417</b>
Provisions for jubilee benefits and severance pay	12,117,663	12,211,965
Long-term accrued costs and deferred revenue	274,782	4,205,452
<b>C. Long-term operating liabilities</b>	<b>37,826,798</b>	<b>42,023,320</b>
Long-term operating liabilities	37,665,000	41,850,000
Long-term financial liabilities to banks	37,665,000	41,850,000
Long-term operating liabilities	161,798	173,320
Other long-term operating liabilities	161,798	173,320
<b>Č. Short-term operating liabilities</b>	<b>18,764,834</b>	<b>22,898,168</b>
Short-term financial liabilities	4,185,000	0
Short-term financial liabilities to banks	4,185,000	0
Short-term operating liabilities	14,579,834	22,898,168
Short-term operating liabilities to suppliers	8,452,528	16,722,858
Other short-term operating liabilities	6,127,306	6,175,310
<b>D. Long-term accrued costs and deferred revenue</b>	<b>6,719,223</b>	<b>8,695,766</b>
<b>TOTAL LIABILITIES</b>	<b>557,288,836</b>	<b>565,893,390</b>

Note: Notes to Financial Statements are part of the Financial Statements and should be read together.



## 4.2 Income Statement

in EUR	2021	2020
<b>Operating revenue</b>	<b>179,467,425</b>	<b>200,772,351</b>
Net revenue from sales	176,734,714	196,969,582
Other operating revenue	2,732,711	3,802,769
<b>Operating expenses</b>	<b>178,724,298</b>	<b>200,354,270</b>
Costs of material and services	78,795,647	80,523,829
Costs of spent material	38,115,473	41,450,683
Costs of services	40,680,174	39,073,146
Costs of labour	43,324,263	41,331,719
Costs of salaries	29,528,907	28,703,394
Costs of social insurance, of which:	8,081,464	7,813,899
Pension and disability insurance	4,394,034	4,247,360
Costs for supplementary pension insurance	1,340,673	1,276,358
Other costs of labour	5,713,892	4,814,426
Write-offs	44,647,551	66,070,220
Depreciation	41,382,941	63,476,411
Revalued operating expenses for fixed assets	5,650	1,284,837
Revalued operating expenses for working capital	3,258,960	1,308,972
Other operating expenses	11,956,837	12,428,502
<b>OPERATING PROFIT OR LOSS FROM OPERATIONS</b>	<b>743,127</b>	<b>418,081</b>
<b>Financial revenue</b>	<b>30,220</b>	<b>325,619</b>
Financial revenue from loans given	1,614	3,585
Financial revenue from loans given to others	1,614	3,585
Financial revenue from operating receivables	28,606	322,034
Financial revenue from operating receivables from others	28,606	322,034
<b>Financial expenses</b>	<b>647,562</b>	<b>608,983</b>
Financial expenses for financial liabilities	494,846	437,797
Financial expenses for loans from banks	418,500	417,353
Financial expenses for other financial liabilities	76,346	20,444
Financial expenses for operating liabilities	152,716	171,186
Financial expenses for liabilities to suppliers and commercial instruments	119,643	109,909
Financial expenses for other operating liabilities	33,073	61,277
<b>OPERATING PROFIT OR LOSS FROM FINANCING</b>	<b>-617,342</b>	<b>-283,364</b>
<b>NET OPERATING PROFIT OR LOSS FOR THE ACCOUNTING PERIOD</b>	<b>125,785</b>	<b>134,717</b>
Corporate income tax	125,785	134,717
<b>NET OPERATING PROFIT OR LOSS FOR THE ACCOUNTING PERIOD</b>	<b>0</b>	<b>0</b>

Note: Notes to Financial Statements are part of the Financial Statements and should be read together.

## 4.3 Statement for Other Comprehensive Income

in EUR	2021	2020
<b>NET OPERATING PROFIT OR LOSS FOR THE ACCOUNTING PERIOD</b>	<b>0</b>	<b>0</b>
Other elements of comprehensive income	226,817	-393,024
<b>TOTAL COMPREHENSIVE INCOME FOR THE ACCOUNTING PERIOD</b>	<b>226,817</b>	<b>-393,024</b>

Note: Notes to Financial Statements are part of the Financial Statements and should be read together.

## 4.4 Cash Flow Statement

in EUR	2021	2020
<b>A. Cash flows from operating activities</b>		
<b>Cash receipts from operating activities</b>	<b>200,534,776</b>	<b>217,372,667</b>
Receipts from sales of products and services	197,455,820	215,793,205
Other receipts from operating activities	3,078,956	1,579,462
<b>Cash disbursements from operating activities</b>	<b>131,662,815</b>	<b>151,214,299</b>
Expenses for material and services	68,282,429	87,501,417
Expenses for salaries and employee profit participation	35,004,787	32,098,426
Expenses for all types of duties	26,985,699	30,336,682
Other operating expenses	1,389,900	1,277,774
<b>POSITIVE OR NEGATIVE CASH FLOW STATEMENT FROM OPERATING ACTIVITIES</b>	<b>68,871,961</b>	<b>66,158,368</b>
<b>B. Cash flows from investing activities</b>		
<b>Cash receipts from investing activities</b>	<b>26,000,048</b>	<b>27,751,785</b>
Receipts from interests obtained and participation in profits of others from investments	48	1,785
Receipts from divestment of financial investments	26,000,000	27,750,000
<b>Expenses for investing activities</b>	<b>98,178,633</b>	<b>105,752,643</b>
Expenses for acquiring tangible fixed assets	75,106,162	63,945,643
Expenses for acquiring financial investments	23,072,471	41,807,000
<b>POSITIVE OR NEGATIVE CASH FLOW STATEMENT FROM INVESTMENTS</b>	<b>-72,178,585</b>	<b>-78,000,858</b>
<b>C. Cash flow from financing activities</b>		
<b>Cash receipts from financing activities</b>	<b>5,500,000</b>	<b>36,350,000</b>
Receipts from called-up capital	5,500,000	36,350,000
Receipts from increasing financial liabilities	0	0
<b>Cash disbursements from financing activities</b>	<b>418,211</b>	<b>370,630</b>
Expenses for interests from financial activities	418,211	370,630
Expenses for financial liabilities	0	0
<b>POSITIVE OR NEGATIVE CASH FLOW STATEMENT FROM FINANCING ACTIVITIES</b>	<b>5,081,789</b>	<b>35,979,370</b>
<b>CLOSING BALANCE OF CASH</b>	<b>25,956,581</b>	<b>24,181,416</b>
Cash flow statement for the period	1,775,165	24,136,880
Opening balance of cash	24,181,416	44,536

Note: Notes to Financial Statements are part of the Financial Statements and should be read together.



## 4.5 Equity Changes Statement

in EUR	Nominal capital	Capital reserves	Legal reserves	Statutory reserves	Other reserves from profit	Reserves from fair value re- evaluation	Net profit or loss carried over	Retained net profit or loss	TOTAL
<b>Closing balance 31.12.2020</b>	353,544,826	36,350,000	35,354,483	53,321,477	618,366	474,039	-3,804,472	0	475,858,719
<b>Opening balance 01.01.2021</b>	353,544,826	36,350,000	35,354,483	53,321,477	618,366	474,039	-3,804,472	0	475,858,719
<b>Changes to equity - transactions with owners</b>	-	5,500,000	-	-	-	-	-	-	5,500,000
Additional paid-up capital	-	5,500,000	-	-	-	-	-	-	5,500,000
<b>Total comprehensive income for the accounting period</b>	-	-	-	-	-	226,817	-	-	226,817
Other elements of comprehensive income	-	-	-	-	-	226,817	-	-	226,817
<b>Closing balance 31.12.2021</b>	353,544,826	41,850,000	35,354,483	53,321,477	618,366	700,856	-3,804,472	0	481,585,536
<b>Closing Balance 31.12.2019</b>	353,544,826	0	35,354,483	53,321,477	618,366	867,063	-3,804,472	0	439,901,743
<b>Opening balance 01.01.2020</b>	353,544,826	0	35,354,483	53,321,477	618,366	867,063	-3,804,472	0	439,901,743
<b>Changes to equity - transactions with owners</b>	-	36,350,000	-	-	-	-	-	-	36,350,000
Additional paid-up capital	-	36,350,000	-	-	-	-	-	-	36,350,000
<b>Total comprehensive income for the accounting period</b>	-	-	-	-	-	-393,024	-	-	-393,024
Other elements of comprehensive income	-	-	-	-	-	-393,024	-	-	-393,024
<b>Closing balance 31.12.2020</b>	353,544,826	36,350,000	35,354,483	53,321,477	618,366	474,039	-3,804,472	0	475,858,719

Note: Notes to Financial Statements are part of the Financial Statements and should be read together.



# 5.0

## GENERAL ACCOUNTING POLICIES

### 5.1 Legal Basis

The Intergovernmental Agreement (IA) came into effect on 11 March 2003 and the Articles of Association (AA) are based thereon as the fundamental company's act. It is stipulated that mutual relationships between the two shareholders and the company, as well as the legal status of the company in its legal transactions, shall be regulated in accordance with IA. The ZGD-1 and the SRS apply unless IA provides otherwise for mutual relationships and criteria. In certain areas the SRS allows for options and these areas are governed by the internal rules Accounting in NPP (hereinafter: Rules). The Financial Statements for 2021 were drawn up on the basis of these Rules.

NPP engages only in one energy activity which is base-load power generation as a commercial activity. In accordance with the IA, we have an obligation to supply electrical energy exclusively to the two shareholders, half each. The shareholders then sell it in the market.

The key activity is electrical energy generation and it amounts to more than 99% of all revenue. We engage in supplementary activities to a small extent, including food operations, letting out our own holiday and business apartments, mostly to employees. This supplementary activity is to cover our own needs and amounts to less than one percent of all revenue or expenses in the total structure of revenue and expenses.

### 5.2 Presentation of Financial Statements

When drawing up the Financial Statements, we took into consideration that NPP is a large company according to the ZGD-1; in accordance with SRS, large companies disclose all important items set out in the Rules. For better information, we disclose also certain less important items.

Balance sheet items in the Financial Statements are presented and explained in EUR (excluding cents) for the business year which is the same as a calendar year. Items not applicable to NPP are not shown in the Financial Statements. For comparison purposes, the information is presented in two columns in the Balance Sheet, the first contains information on the last day of the current business year and the second column contains information for the previous business year.

The Income Statement which also contains elements of comprehensive income is presented in version I. For comparison purposes, we present data in two columns – the first column contains data for the current year and the second column for the previous year. The basis for drawing up these two statements is the gross Balance Sheet on the last business day of the year.

The Cash Flow Statement is drawn up applying the direct method, the form of such presentation is successive-tiered. The basis for drawing up the Cash Flow Statement are the recorded transactions on bank accounts. For comparison purposes we present data information in two columns – the first column contains data for the current year and the second column for the past year.

The Equity Changes Statement is drawn up in a table including changes to all elements of capital; the columns illustrate elements of capital, the rows changes to these elements. For comparison purposes, we present this Statement in two columns – the first column contains data for the current year and the second column for the previous year.

### 5.3 Assets and Liabilities in Foreign Currency

Assets and liabilities in foreign currency are converted into domestic currency according to the reference exchange rate of the European Central Bank, valid on the day the business event occurred and on the date of the balance sheet. Currency differences arising until the payment date and conversion effects due to currency exchange rate changes until the date of the Balance Sheet are included in the Income Statement as financial revenue or financial expenses.

### 5.4 Business and Geographical Segments

NPP does not have any business and geographical segments defined.

Electrical energy is supplied to shareholders, to GEN with its seat in Slovenia and to HEP with its seat in Croatia.

### 5.5 Revaluation of Assets

Revaluation of assets is a change to the initially presented value of assets. The revaluation model is not used for any group of assets and therefore we do not carry out asset reinforcement. The impairment of assets can arise with respect to all assets, regardless of the selected model of showing assets, that is if bookkeeping value of assets exceeds their replacement value.

In accordance with company's directions, we carry out impairment for spare parts inventory if they were not used in the last six years.

## 5.6 Changes to Accounting Policies

The accounting policies were not changed in 2021.



## 5.7 Risk Management

Risks include marketing risk and financial risk that encompasses mostly price growth risk for raw materials and other materials, liquidity risk, capital inadequacy risk, foreign currency risk, interest risk, credit risk and investment risk.

We are exposed to marketing risk due to market fluctuations of electrical energy prices. We are monitoring information on marketing prices for electrical energy and currently, market prices are significantly higher than the price of NPP electrical energy.

Price growth risk for raw materials and other materials mostly refers to higher prices for raw materials on the world markets. The risk is minimised by contractual provisions through which we try to limit the growth of contractual value for purchasing materials and services.

Liquidity risk is risk that at a certain point in time a company will not have adequate financial assets for paying its obligations and will need additional sources of financing. By searching for bridging sources there are risks to existing long-term borrowing since banks take into account financial leverage and capital index when making credit assessment. We monitor indicators values and found we still have room for any additional bridging borrowing if needed.

Capital inadequacy risks is risk for inadequate coverage of long-term assets. Considering the current banking information, we have all long-term assets and stock covered with long-term sources and we are not exposed to this risk.

We are exposed to currency exchange risk, mostly due to our obligations in US dollars due to currency volatility but the majority of obligations are in euros. We monitor our exposure to obligations in foreign currency monthly.

We are currently not exposed to interest risk connected to borrowing because long-term borrowing is subject to fixed interest rate.

Credit risk refers to unsettled receivables for electrical energy supplied. In accordance with the AA, shareholders must settle their obligations in 15 days from invoice issue date. The supply of electrical energy to a shareholder can be terminated if their obligations are not paid in further 8 days or if adequate insurances for paying obligations are not given. In such a case, we sell electrical energy on the market ourselves.

Investment risks refer mostly to risks of non-recovery of deposits. The risk is minimised by dispersing deposits between best banks, taking into account optimal financial structure and the criteria that a cumulative deposit amount cannot exceed 0.8% of the bank's total balance sheet and the deposit at a particular bank cannot exceed 5% of NPP's assets. Due to the excess of liquidity in the financial market, we were faced with interest risk related to negative interest for deposits at banks and with fees for cash balances on bank accounts. This risk is minimised by dispersing excess cash between all bank accounts, and through deposit placement under most favourable conditions and early payment of liabilities.



# 6.0

## ACCOUNTING POLICIES BY INDIVIDUAL ECONOMIC CATEGORIES

### 6.1 Balance Sheet

#### 6.1.1 TANGIBLE FIXED ASSETS

Tangible fixed assets are initially recognised by their purchase value consisting of purchase price and all costs which can be directly attributed to using a particular tangible fixed asset (for example transport costs, installation, etc.). In accordance with the IA and AA, the purchase value of a tangible fixed asset does not include borrowing costs for acquiring the tangible fixed assets, until the asset is ready for use. In accordance with the AA, depreciation costs are calculated only in the number of authorised investments and repayments of long-term loans and are not increased for interest costs for these loans.

Costs incurred later, which allow for extending the operating period, increased safety or operating reliability or for reducing operating costs compared to their initial assessment, increase the purchasing value. Replacement parts are treated as spare parts for maintenance and are recognised as costs of spent material.

Valuation of tangible fixed assets is carried out according to the purchase value model.

#### 6.1.2 DEPRECIATION

Residual value of a tangible fixed asset is reduced by depreciation.

Depreciation for all tangible fixed assets, except for nuclear reactor with the cooling and auxiliary systems (hereinafter: nuclear reactor), is calculated by the straight-line depreciation method, taking into account the useful life of assets. Land is not depreciated.

Depreciation of tangible fixed assets starts on the first day of the month after they have become available for use.

Annual depreciation cost is set out in the AA at the amount required for new investments and the repayment of loan principles for the assets, as defined in the long-term investment plan. The purpose of depreciation in accordance with the AA is not the replacement of tangible fixed assets at the end of their useful life as this arises from the SRS since the operating period of the plant is limited. The purpose of depreciation is technological upgrade of the plant during its operating period in accordance with the highest world standards and industry practice recommendations. Depreciation is methodologically calculated by taking into account valid depreciation rate for all tangible fixed assets except for nuclear reactor. The

depreciation value of the nuclear reactor is determined as a difference between the annually planned depreciation cost and calculated depreciation cost of other tangible fixed assets. Consequently, the rate and amount of depreciation of the nuclear reactor change in individual years. For other tangible fixed assets, the rates remain unchanged when compared to the previous year. Annual depreciation cost is a sum of assets required for investments; it may not be higher than the amount of approved investments.

Depreciation rates are shown for different groups of tangible fixed assets. Depreciation rate for the nuclear reactor changes in different years due to special provision in the AA.

TABLE:  
DEPRECIATION RATES FOR DIFFERENT  
GROUPS OF TANGIBLE FIXED ASSETS

		Depreciation rate in %
Buildings	Production buildings	6.0
	Simulator building	4.4
	Other buildings	from 3.0 to 4.75
	Holiday apartments buildings	3
Equipment	Nuclear reactor	2.1
	Radioactive waste equipment	3.1
	Radiological protection equipment	3.1
	Technical protection system	5.0
	Other technological equipment	from 3.1 to 4.5
	Simulator equipment	10.0
	Computer equipment	25.0
	Commercial vehicles	from 14.3 to 30.0
	Personal vehicles	15.5
	Other equipment	from 5.0 to 20.0

### 6.1.3 IMPAIRMENT OF TANGIBLE FIXED ASSETS

The company checks the bookkeeping value of tangible fixed assets once per year if signs of impairment are detected. If such signs are detected, the replacement value of a tangible fixed asset is assessed and impairment shown in the Income Statement.

### 6.1.4 LONG-TERM FINANCIAL INVESTMENTS

Long-term financial investments are initially recognised by their purchase value which is equal to the amount paid, expressed in cash or cash equivalent.

Long-term financial investments in a form of long-term housing loans are recognised according to the repayment value and they change to retain their value; however, they are reduced by the unpaid amount and the amount arising from short-term financial investments which are due for payment within one year or sooner.

Long-term financial investments are minimum portions of long-term assets and refer to long-term financial receivables from employees for housing loans given in the past.

If there is direct evidence that a financial investment was impaired for a long period, the impairment is recognised in the Income Statement as a financial expense.

### 6.1.5 INVENTORIES AND COST FOR SPENT MATERIAL

Due to the nature of production, we do not hold unfinished production or half-finished or finished stock among inventories. Inventories consists only of material, including only nuclear fuel, spare parts and material.

Inventory of material is initially evaluated at their purchase price, consisting of purchase price, import duties and direct procurement costs. Nuclear fuel inventory is initially evaluated at its purchase price of a particular region.

Due to importance and different method of evaluation, the nuclear fuel inventory is shown separately from spare parts and other material. Materials intended for investments are shown under tangible fixed assets.

The use of nuclear fuel is valued according to the actual price method, the use of other type of material, including spare parts and other material (technological fuel, chemicals, overhead material, cleaning material, office material, small inventory and other) are valued by the moving average price method.

For spare parts inventory which were not used in the past six years (non-current spare parts), value correction is made at 100% value.

The accounting principle for creating value correction for non-current spare parts allows bookkeeping value to express real stock value as close as possible.

All stock is shown as short-term assets in accordance with regulations. Inventory of spare parts and nuclear fuel have a long tying period - 733 days.

Inventory of material is not encumbered by guarantees.

### 6.1.6 OPERATING RECEIVABLES

Receivables of all types are initially recognised in the amount shown in documents, based on assumption that they will be settled. Receivables from buyers or recipients of sold and supplied electrical energy are secured by their own bills of exchange.

If our receivables are not settled within the regular or even additional period, bills of exchange are submitted for redemption. NPP may also terminate the supply of electrical energy to the shareholder if their obligations are not paid or does not provide adequate insurance for paying their obligations. In such a case we sell electrical energy on the market ourselves. If the proceeds of electrical energy so sold do not cover all costs or expenses, the shareholder remains obligated to pay the difference.

### 6.1.7 SHORT-TERM FINANCIAL INVESTMENTS

Short-term financial investments are short-term company assets which give return and increase financial revenue in the period shorter than one year. These include mostly deposits at business banks. When these are first recognised, they are valued at the original value, on the date of payment (settlement). After initial recognition, they are valued at the repayment value according to the valid interest rate method. If there is direct evidence that loss would arise from loans or financial investments until their maturity for payment due to impairment, the difference between the book and current value of expected future cash flow, discounted at effective interest rate for the asset, is recognised as financial expense. Due to exceeded liquidity on the financial market, returns are currently minimal or there are none (due to negative interest rate on deposits).

### 6.1.8 CASH

Cash includes cash at bank in the form of money in bank accounts.

Cash is recognised in the amount shown in documents.

### 6.1.9 SHORT-TERM DEFERRED EXPENSES AND ACCRUED REVENUE

Items for deferred costs and accrued revenue are recognised if it is likely that economic benefit is to increase from them in the future and their value can be reliably measured.

Deferred costs and accrued revenue mostly refer to short-term deferred costs which, at the time of their recognition, are not yet due as the cost attributed to the activity of the company.



### 6.1.10 CAPITAL

The value of total company capital is obtained by deducting all debts and company's provisions from the value of all the assets. It is defined as the sum invested by the shareholders and as sums arising from operations and which belong to the shareholders.

Capital consists of called-up capital, capital reserves, profit reserves and fair value reserves, net result carried forward, and net result of the business year.

### 6.1.11 RESERVES AND LONG-TERM ACCRUED COSTS AND DEFERRED REVENUE

Provisions are long-term liabilities which are likely in terms of time and future expenses to be paid.

Provisions for severance and jubilee payments are recognised as liability at the current value for future claims. Costs of the period are shown in the Income Statement while changes to financial forecasts of severance payments upon retirement, shown as a shortfall or an excess, affect the equity.

Long-term accrued costs and deferred revenue include costs calculated in advance or expenses calculated in advance and deferred revenue which are anticipated to occur in a period longer than one year as expenses or revenue. These include long-term costs or expenses calculated in advance and deferred revenue from the state aid received for purchasing tangible fixed assets which are reduced in accordance with their depreciation.

### 6.1.12 LONG-TERM FINANCIAL AND OPERATING LIABILITIES

Long-term liabilities show financial and operating liabilities which are initially recognised in the sum shown in related documents.

Long-term liabilities, expressed in foreign currency, are revalued due to changes in the domestic currency purchase power. Their consequential increase or reduction increase current financial expenses or revenue.

### 6.1.13 SHORT-TERM FINANCIAL AND OPERATING LIABILITIES

Short-term liabilities show financial and operating liabilities which are initially recognised in the sum shown in related documents showing debt.

Short-term liabilities, expressed in foreign currency, are revaluated to retain their real value. Their consequential increase or reduction are current financial expenses or revenue.

Short-term liabilities show also those elements of long-term liabilities which are due for payment within the year after the balance sheet date.

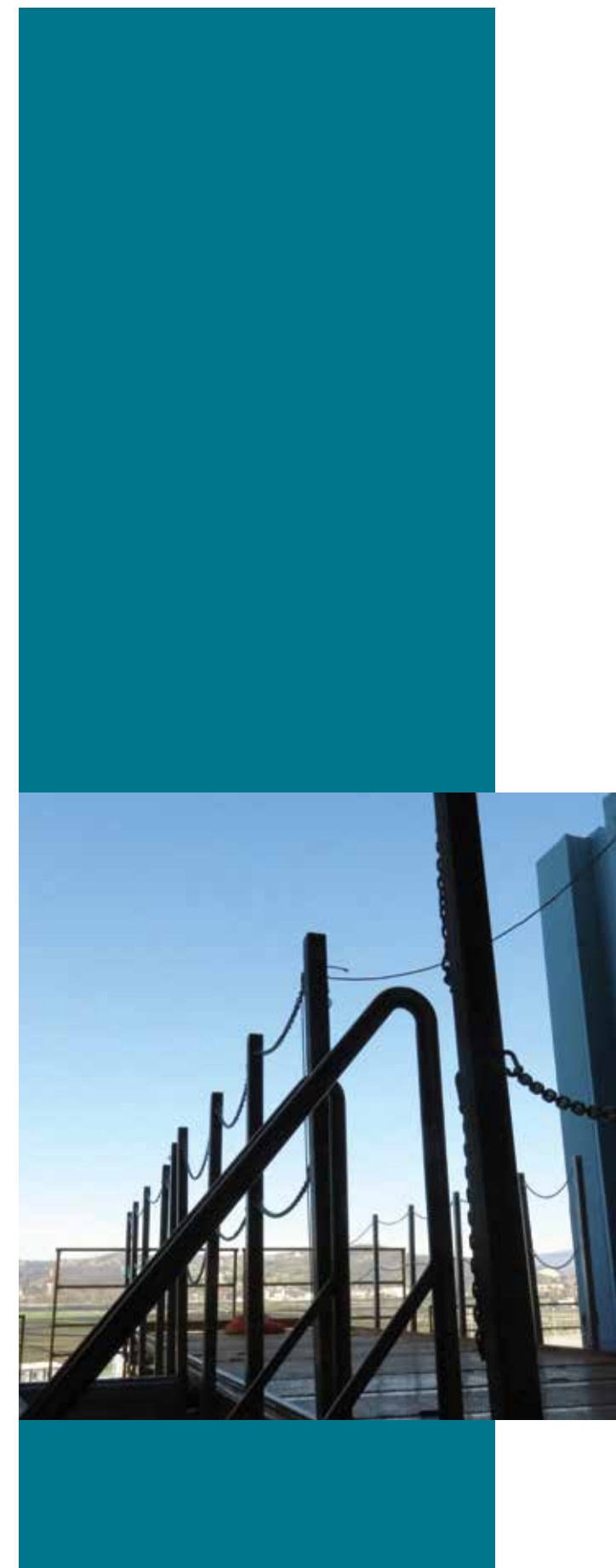
### 6.1.14 SHORT-TERM DEFERRED EXPENSES AND ACCRUED REVENUE

Accrued costs and deferred revenue are liabilities which are anticipated to occur within a year, they are likely to occur and their amounts can be reliably assessed.

Accrued costs and deferred revenue include mostly short-term costs calculated in advance.

### 6.1.15 CONDITIONAL ASSETS AND LIABILITIES

A conditional asset is a possible asset arising from past events and whose existence is confirmed by the occurrence or non-occurrence of one or more uncertain future events. A conditional liability is a possible liability or a current undertaking arising from past events but is not recognised as it is unlikely the settlement of the undertaking will require the outflow of factors enabling economic growth. Items for conditional assets do not have direct effect on the size or structure of assets and liabilities to their sources (balance sheet) and revenue and expenses (income statement) but they are source of information for operation and possible future company's liabilities.



## 6.2 Income Statement

### 6.2.1 REVENUE

Revenue includes operating revenue and financial revenue.

Operating revenue consist of the value of sold business effects in the accounting period when it is realistically to expect that they will be paid for goods and services. Sales price per one unit (available power and active energy) of produced electrical energy is composed of permanent and variable part. It is defined in accordance with the annual Business Plan, consisting of the plan of costs and production, and the annual investment plan, to the effect that the price covers all company's costs and expenses. Before drawing up final annual accounting statements, a budget is generally prepared so that revenue covers all company's expenses. On the basis of a shareholders' general meeting resolution, positive difference is distributed to reserves or for covering loss carried forward. Other operating revenue includes revenue from the supplemental activities, any revenue from sale of unused property and revenue from using provisions.

Explanation 1 to SRS 15.5. provides that other operating revenue is to show revenue associated with business effects such as subsidies, grants, benefits, compensations, premia and other similar revenue. These include state aid obtained from the State or a local community. These sometimes occur in a form of donation or subsidy. State aid is recognised as a revenue if there is an acceptable assurance that the company will fulfil the conditions for it and then also receive it.

Financial revenue is incurred in relation to financial investments and receivables. It consists of calculated interests and positive currency rate differences. Revalued financial revenue occurs upon divestment of financial investments if the sold value exceeds the bookkeeping value.

### 6.2.2 EXPENSES

Expenses include operating and financial expenses.

Operating expenses include costs of sold quantities and revalued operating expenses for tangible fixed assets and working capital which arise mostly as a result of lower sale price of these assets than their book value and as a result of impairment of tangible fixed assets, stock, operating receivables and differed costs and accrued revenue.

Financial expenses are expenses from financing and investing. The first refer to costs of calculated interests, negative currency exchange rate difference and revalued financial expenses. Financial expenses from investments arise from their impairment. This includes any shortfall from sold value when compared to the book value.

NPP does not have stock of finished or unfinished production. For this reason, all expenses arising in the accounting period are treated as operating expenses and affect the result in the period in which they arise.

Such costs are categorised by their type and functional groups. Based on their purpose or function, they are categorised into purchase value of sold quantities and to costs of general activities. Costs of general activities consist of costs for material and services for the following organisational units: Management Board, Finance and General Administration.

### 6.2.3 CORPORATE INCOME TAX

NPP must pay corporate income tax. In accordance with the Corporate Income Tax Act (ZDDPO-2), NPP is affiliated with the company GEN, a resident in the Republic of Slovenia, and HEP, a non-resident in the Republic of Slovenia, and in accordance with the Act we should increase revenue in the calculation of the corporate income tax for the differences between the comparable market prices and the transfer prices. The price of electrical energy supplied exclusively to the shareholders is administered and defined by the IA and the AA and, therefore, we do not determine comparable market prices and do not increase revenue when calculating corporate income tax.

## 6.3 Notes to Financial Statements

### 6.3.1 NOTES TO THE BALANCE SHEET

#### Tangible Fixed Assets and Depreciation

Tangible fixed assets are fully owned by the company. They are situated mostly at the seat of the company, those outside it are mostly buildings and equipment in holiday facilities and business apartments.

Book value of production devices and machinery increased in 2021 since depreciation value was lower than activated investments. Book value of other devices and equipment, as well as buildings, reduced because the values of activated investments were lower than the value correction made. In 2021 we activated and make improvements of significant modification: additional water source and safety injection pump, alternative cooling of the reactor cooling system and the reactor building, BB1 safety upgrade and others. Ongoing investments are tangible fixed assets under construction and production and mostly refer to systems upgrading to ensure safe and stable operation of the plant. Ongoing investments are those that are not yet activated such as spent fuel dry storage, additional water source and injection pump, operational support centre and others.

Tangible fixed assets are not encumbered by guarantees. Financial obligations for obtaining tangible fixed assets on the basis of concluded purchase agreements were in the sum of EUR 106,315,164.

Value changes of tangible fixed assets are shown in the table illustrating value changes of fixed assets.





TABLE:  
VALUE CHANGES  
OF TANGIBLE  
FIXED ASSETS

in EUR	Production equipment and machinery				Production equipment and machinery				Short-term advance payments	Ongoing investments with short-term advances	TOTAL
	Land	Buildings	Nuclear reactor	Radioactive waste equipment	Radiological protection equipment	Technical protection system	Other equipment	Ongoing investments			
PURCHASE VALUE											
Balance as at 31.12.2020	1,927,370	320,108,323	1,272,516,205	46,066,952	96,271,515	16,801,041	51,115,684	88,757,616	127,217	88,884,833	1,893,691,923
Purchasing	-	-	-	-	-	-	-	63,766,953	-22,939	63,744,014	63,744,014
Activations	-	5,048,165	59,748,690	82,421	-	-	1,228,607	-66,107,881	-	-66,107,881	0
Reductions	-	-	-	-	-	-	-393,468	-	-	-	-393,468
Bookkeeping differences in different periods	-	-	-	-	-	-	-	-	-	-	-
Balance as at 31.12.2021	1,927,370	325,156,488	1,332,264,895	46,149,373	96,271,515	16,801,041	51,950,823	86,416,688	104,278	86,520,966	1,957,042,471
VALUE CORRECTION											
Balance as at 31.12.2020	-	255,509,778	1,025,866,047	46,066,952	96,271,515	13,197,654	45,016,799	-	-	-	1,481,928,745
Reductions	-	-	-	-	-	-	-387,799	-	-	-	-387,799
Depreciation	-	7,242,406	31,981,736	82,421	-	840,052	1,236,326	-	-	-	41,382,941
Balance as at 31.12.2021	-	262,752,184	1,057,847,783	46,149,373	96,271,515	14,037,706	45,865,326	-	-	-	1,522,923,887
RESIDUAL VALUE											
Balance as at 31.12.2020	1,927,370	64,598,545	246,650,158	0	0	3,603,387	6,098,885	88,757,616	127,217	88,884,833	411,763,178
Balance as at 31.12.2021	1,927,370	62,404,304	274,417,112	0	0	2,763,335	6,085,496	86,416,687	104,278	86,520,965	434,118,581

## Long-term Financial Investments

Long-term financial investments are a minimum portion in long-term assets. They refer to long-term financial receivables from employees for housing loans given for individual constructions and purchase of apartments under the Croatian housing law and amount to EUR 6,236 (2020: EUR 14,212).

TABLE:  
LONG-TERM FINANCIAL  
INVESTMENTS

in EUR	Housing loans to employees	Total 2021	Total 2020
<b>Balance as at 01.01.</b>	<b>14,212</b>	<b>14,212</b>	<b>27,599</b>
Transfer from short-term financial investments	11,921	11,921	13,590
Repayments	-10,132	-10,132	-15,056
Divestiture	-	0	0
Impairment of financial investments	-	0	0
Transfer to short-term financial investments	-9,765	-9,765	-11,921
<b>Balance as at 31.12.</b>	<b>6,236</b>	<b>6,236</b>	<b>14,212</b>

The investment book values are the same as their purchase values. Long-term financial investments are not encumbered.

## Inventories and Cost for Spent Material

TABLE:  
VALUE CHANGES  
OF INVENTORY MATERIAL

in EUR	Nuclear fuel	Spare parts	Other material	Total 2021	Total 2020
<b>Balance as at 01.01.</b>	<b>52,600,226</b>	<b>28,018,931</b>	<b>4,606,188</b>	<b>85,225,345</b>	<b>70,482,917</b>
New purchases	2,085,919	5,605,603	4,404,456	12,095,978	57,583,746
Consumption	-30,090,389	-2,939,978	-4,535,572	-37,565,939	-41,534,332
Write-offs	-	-20,853	-20,333	-41,186	-16,120
Value correction	-	-3,215,572	0	-3,215,572	-1,290,866
<b>Balance as at 31.12. without advance payments</b>	<b>24,595,756</b>	<b>27,448,131</b>	<b>4,454,739</b>	<b>56,498,626</b>	<b>85,225,345</b>
Advance payments for inventories	-	189	-	189	289
<b>Balance as at 31.12. with advance payments</b>	<b>24,595,756</b>	<b>27,448,320</b>	<b>4,454,739</b>	<b>56,498,815</b>	<b>85,225,634</b>

The value of inventory, together with advance payments was in the amount of EUR 56,498,815 on 31.12.2021. Inventory of material refers to the nuclear fuel inventory, spare parts and other material. There was no excess or shortfall during inventory taking.

Net market value of inventory for spare parts and other material is difficult to assess due to their specific nature. There are only two similar plants operating around the world which are installing similar components and spare parts required for maintenance. Therefore, there is practically no demand in the market for such inventory and the costs for their sale would be greater than the profit. Usable value of spare parts inventory, in particular those categorised as a safety class, have great value for ensuring plant's safe operation.

## Operating Receivables

Operating receivables include receivables from shareholders who are also recipients of electrical energy and other short-term receivables. Operating receivables are not encumbered as securities for liabilities.

TABLE:  
OPERATING RECEIVABLES

in EUR	31.12.2021	31.12.2020
<b>Short-term operating receivables to affiliated companies</b>	<b>16,822,277</b>	<b>18,102,564</b>
GEN	9,244,675	9,948,256
HEP	7,577,602	8,154,308
<b>Short-term operating receivables from buyers</b>	<b>38,283</b>	<b>35,216</b>
<b>Short-term operating receivables from others</b>	<b>704,267</b>	<b>918,005</b>
<b>TOTAL</b>	<b>17,564,827</b>	<b>19,055,785</b>

Short-term operating receivables to affiliated companies in the amount of EUR 16,822,277 refer to receivables for supplied electrical energy to GEN (receivables from GEN include value added tax in the sum of EUR 1,667,073) and to HEP as of December 2021. Payments fall due for payment in 15 days after invoice issue date.



Short-term operating receivables from buyers in the amount of EUR 38,283 refer to receivables from supplementary activities.

Short-term operating receivables from others in the amount of EUR 704,267 refer mostly to claims for value added tax in the sum of EUR 502,460; the difference in the sum of EUR 201,807 refers to receivables from employees, government institutions for refund for gross salary compensation and contributions (disability and similar) and other receivables. Receivables were not yet due for payment on 31.12.2021.

Receivables are not encumbered. They are secured for the amount of EUR 16,822,277. Receivables in the amount of EUR 742,550 are receivables from other buyers, VAT and other receivables are not secured and are not subject to great risk for their recovery.

### Short-term Financial Investments

Short-term financial investments show deposits in banks and long-term housing loans given which are due for payment in the next business year.

TABLE:  
SHORT-TERM FINANCIAL  
INVESTMENTS BALANCE

in EUR	31.12.2021	31.12.2020
Deposits in banks	22,000,000	25,000,000
Long-term loans given, due for payment in 2022	9,765	11,921
<b>Total short-term financial investments</b>	<b>22,009,765</b>	<b>25,011,921</b>

Short-term financial investments amount to EUR 22,009,765 (2020: EUR 25,011,921). Most refer to deposits in business banks. Investments into deposits mostly refer to assets intended for investments made with deferment. Short-term financial investments are not encumbered.

### Cash

Cash shows balance on current and foreign currency accounts in the amount of EUR 25,956,581 (2020: EUR 24,181,416). They are mostly intended for covering expenses related to the purpose of nuclear fuel for the cycle 35 in 2022. No cash at hand was kept on 31.12.2021.

### Short-term Deferred Expenses and Accrued Revenue

Short-term deferred costs and accrued revenue in the amount of EUR 1,134,031 (2020: EUR 641,245) refer to short-term deferred costs for insurance premium (EUR 494,489), fee for limited use of space (EUR 290,108) and for membership costs for 2022 (EUR 349,434).

### Capital

Capital amounts to EUR 481,585,536 and is fully divided between the two shareholders in equal sum.

Called-up capital amounts to EUR 353,544,826 and it originates from the IA and is registered with the court.

Capital reserves amount to EUR 41,850,000 and were created due to subsequent contributions by shareholders, intended for covering expenses related to investments for safety upgrades.

Profit reserves amount to EUR 89,294,326. Legal and statutory reserves were created in accordance with the IA and legal reserves in accordance with the ZGD-1 in the amount prescribed which is 10% of called-up capital. Statutory reserves are created in accordance with the AA which stipulates that all possible profits arising from discrepancy between actual and planned revenue and expenses or from later tax or accounting changes be included. Other reserves from profit amount to EUR 618,366 and were created by distributing part of the profit from 2014 and 2016. Net profit of the business year can be used for covering loss brought forward if so decided by the general meeting. These reserves are intended for covering any loss arising from the same reasons.

Fair value reserves, which can be positive or negative, are shown in the actuarial calculation due to changes to financial items and experiences in calculating reserves for severance pay to employees upon their retirement. These reserves are positive and they amount to EUR 700,856.

Loss carried forward is in the amount of EUR 3,804,472 of which EUR 3,155,782 is for 2017 and refers to creating additional reserves for jubilee awards and severance pay, the difference of EUR 648,690 is for recording the unused annual leave for 2017.

### Reserves and Long-term Accrued Costs and Deferred Revenue

Reserves and long-term accrued costs and deferred revenue amount to EUR 12,392,445 as at 31.12.2021 (2020: EUR 16,417,417). The majority of the amount is for reserves for jubilee awards and severance pay, amounting to EUR 12,117,663 (2020: EUR 12,211,965). The amount is determined by the actuarial calculation of an authorised actuary (3sigma d. o. o.). The calculation took into account the following assumed parameters: discount rate (0.59% annually, corresponding to the discount rate which is the same as the rate of return for 10-year bonds with AA credit rate in Eurozone), determined operating period of the plant (until 30.06.2043), long-term salary growth at 2.5% annually, employee fluctuation at 3% and employee mortality based on last available mortality rate for population in Slovenia. The table shows sensitivity analysis for important actuarial assumed parameters.

TABLE:  
SENSITIVITY ANALYSIS  
FOR IMPORTANT ACTUARY  
ASSUMED PARAMETERS (IN EUR)

Parameter	Discrepancy	Description	Total	Severance pay	Jubilee awards	Severance pay under Article 108
Central scenario	0.00%	balance	12,117,663	6,602,069	2,660,691	2,854,903
Discount interest rate	-0.50%	balance	12,858,477	6,893,869	2,788,276	3,176,332
		(difference)	(740,814)	(291,800)	(127,585)	(321,429)
	0.50%	balance	11,439,688	6,330,556	2,541,779	2,567,353
		(difference)	(-677,975)	(-271,513)	(-118,912)	(-287,550)
Salary growth	-0.50%	balance	11,447,538	6,334,178	2,543,367	2,569,993
		(difference)	(-670,125)	(-267,891)	(-117,324)	(-284,910)
	0.50%	balance	12,841,758	6,886,796	2,785,186	3,169,776
		(difference)	(724,095)	(284,727)	(124,495)	(314,873)
Duration (DBO)			9.00	8.60	10.10	23.30

Long-term provisions for jubilee and severance pay upon retirement were created at the current value of future payments required for paying the obligations arising from employee service in the current and past period. We do not expect significant discrepancies from the assumed parameters applied and we assess that the risk is low.

Long-term deferred costs and accrued revenue in the amount of EUR 274,782 refer to deferred revenue. These refer to assets received (in 2000 and 2001) from the Republic of Slovenia budget for upgrading the plant and are reduced according to the calculated depreciation of these assets (2020: EUR 4,205,452). The amount of EUR 3,897,485 is not shown in 2021 because it was transferred to short-term business revenue.

TABLE:  
VALUE CHANGES TO PROVISIONS  
AND LONG-TERM ACCRUED COSTS  
AND DEFERRED REVENUE

	Provisions for jubilee awards	Provisions for severance pay	Long-term accrued costs and deferred revenue	Total 2021	Total 2020
in EUR					
Balance as at 01.01.	2,633,227	9,578,738	4,205,452	16,417,417	12,024,005
Transfer to short-term ACDR			-3,897,485	-3,897,485	
Provisions withdrawals	-228,028	-273,150	-33,185	-534,363	-769,158
Creating provisions as expenditure	255,493	378,200	-	633,693	872,061
Creating ACDR as costs of outage	-	-	-	0	3,897,485
Creating provisions as fair value reserves	0	-226,817	-	-226,817	393,024
Balance as at 31.12.	2,660,692	9,456,971	274,782	12,392,445	16,417,417

### Long-term Liabilities

Long-term liabilities refer to financial and business long-term liabilities.

TABLE:  
VALUE CHANGES  
IN THE LONG-TERM  
FINANCIAL LIABILITIES

	Long-term financial liabilities	Long-term financial liabilities
in EUR	2021	2020
Balance as at 01.01.	41,850,000	41,850,000
Reductions	-4,185,000	0
Balance as at 31.12.	37,665,000	41,850,000



Long-term financial liabilities amount to EUR 37,665,000. They refer to the long-term loan taken for financing investments into SUP, taken out in November 2019. The liabilities will be gradually reduced over 10 years after 2022, when the repayment of principal at the annual rate of EUR 4,185,000 starts and will be paid off in 2031. The principal carries fixed interest rate; the interest rate is not disclosed as it is a business secret.

Long-term financial liabilities with maturity longer than 5 years amount to EUR 20,925,000.

The reason for reduction is the transfer of liabilities due for payment within a year into the group of short-term financial liabilities.

TABLE:  
VALUE CHANGES  
IN THE LONG-TERM  
OPERATING LIABILITIES

	Long-term operating liabilities	Long-term operating liabilities
in EUR	2021	2020
<b>Balance as at 01.01.</b>	<b>173,320</b>	<b>178,982</b>
Transfer of short-term liabilities	7,749	8,833
Repayments	-11,494	-6,746
Transfer to short-term investments	-7,777	-7,749
<b>Balance as at 31.12.</b>	<b>161,798</b>	<b>173,320</b>

Long-term operating liabilities amount to EUR 161,798. They refer to liabilities towards the Croatian housing fund for apartments sold in accordance with legal regulations. There is no maturity date longer than five years.

We do not have long-term financial liabilities with maturity longer than 5 years.

## Short-term Liabilities

Short-term liabilities refer to financial and business short-term liabilities.

The short-term financial liabilities amount to EUR 4,185,000. They comprise two instalments of the long-term loan principal repayment due for payment in 2022.

TABLE:  
BALANCE OF SHORT-TERM  
BUSINESS LIABILITIES

in EUR	31.12.2021	31.12.2020
<b>Short-term operating liabilities to suppliers</b>	<b>8,452,528</b>	<b>16,722,858</b>
Domestic suppliers	4,726,588	8,827,893
Foreign suppliers	3,190,338	7,388,130
For goods and services not yet invoiced	535,602	506,835
<b>Short-term operating liabilities to others</b>	<b>6,127,306</b>	<b>6,175,310</b>
Employees	3,243,018	3,690,283
State and other institutions	2,648,767	2,279,695
Other short-term liabilities	235,521	205,332
<b>TOTAL</b>	<b>14,579,834</b>	<b>22,898,168</b>

Short-term operating liabilities to suppliers amount to EUR 8,452,528 and refer to liabilities not yet due for payment for the supply of fixed and operating assets and for nonvoiced supply of goods and services.

Short-term operating liabilities to others refer to liabilities to employees for salary and other labour costs for December 2021 (EUR 3,243,018), liabilities to the state and other institutions (EUR 2,648,767), liabilities for interests from loans and deposits (EUR 112,804) and other smaller liabilities in the amount of EUR 122,717.

### Short-term Accrued Costs and Deferred Revenue

Accrued costs and deferred revenue as at 31.12.2021 amount to EUR 6,719,223 (2020: EUR 8,695,766). The amount of EUR 5,541,304 refers to short-term deferred expenses for outage services in a three-year period. The amount of EUR 879,321 (2020: EUR 800,375) refers to deferred expenses for unused annual leave in 2021, and the amount of EUR 298,598 (2020: EUR 348,994) refers to other deferred labour costs for rewards to the board and executive directors, together with contributions.

### Conditional Assets and Liabilities

We do not have any conditional assets and liabilities.

## 6.3.2 NOTES TO THE INCOME STATEMENT

### Revenue

Revenue is divided into operating and financial revenue.

Net revenue from sales, in the amount of EUR 176,734,714 (2020: EUR 196,969,582) refers to revenue from electrical energy supplied; half realised in Slovenia and half in Croatia. Other operating revenue, in the amount of EUR 2,732,711 (2020: EUR 3,802,769) shows revenue from supplemental activities and other operating revenue. Operating revenue from supplemental activities was in the total amount of EUR 1,608,963 (2020: EUR 1,200,089) and refers to the revenue generated by providing meals to workers – EUR 1,404,291 (2020: EUR 1,028,120) and to the revenue generated from renting holiday and business apartments – EUR 204,672 (2020: EUR 171,969). Other operating revenue, in the amount of EUR 1,123,748 (2020: EUR 2,602,680) refers to refunded sick leave – EUR 623,787 (2020: EUR 450,473, and to refund for compensation

to employees posted to work abroad – EUR 307,300, to income for received compensation under contractual penalty – EUR 132,100 and to removal of reservations for assets received from the Republic of Slovenia budget and to revenue from the sale of waste material – EUR 60,561 (2020: EUR 70,284). For 2020 we also show revenue for EUR 799,999 from state aid under the Act Determining the Intervention Measures to Contain the COVID-19 Epidemic and Mitigate its Consequences for Citizens and the Economy (ZIUZEOP) and EUR 1,281,654 from HESS in accordance with the Exploitation of the Energy Potential of the Lower Sava River Act (ZPKEPS-1).

Financial revenue from operating receivables and liabilities arose from currency differences on the basis of revaluation and amount to EUR 28,606 (2020: EUR 322,034); exchange rate differences were not relevant in 2021.

### Expenses

NPP does not have stock of finished or unfinished production. All expenses are treated as operating expenses and affect the result for the accounting period.

Operating expenses amount to EUR 178,724,298 and include all costs for operations which are categorised by their type and functional groups.

TABLE:  
COSTS BY THEIR TYPE  
AND FUNCTIONAL GROUPS

in EUR	2021	2020
<b>COSTS BY THEIR TYPE</b>	<b>178,724,298</b>	<b>200,354,270</b>
<b>Costs for material and services</b>	<b>78,795,647</b>	<b>80,523,829</b>
<b>Costs for spent material</b>	<b>38,115,473</b>	<b>41,450,683</b>
Costs for energy	30,528,985	34,883,885
Costs for spare parts	2,978,105	3,902,529
Costs for other material	4,608,383	2,664,269
<b>Costs for services</b>	<b>40,680,174</b>	<b>39,073,146</b>
Costs for fixed assets maintenance	18,339,562	19,479,552
Costs for transactions and insurance premia	2,442,960	2,448,162
Costs for services for product manufacture	14,775,763	12,359,842
Costs for other services	5,121,889	4,785,590
<b>Costs for labour</b>	<b>43,324,263</b>	<b>41,331,719</b>
Costs for salaries	29,528,907	28,703,394
Costs for social insurance	6,740,791	6,475,486
Costs for supplementary pension insurance	1,340,673	1,276,358
Other costs for labour	5,713,892	4,876,481
<b>Write-offs</b>	<b>44,647,551</b>	<b>66,070,220</b>
Depreciation	41,382,941	63,476,411
Revalued operating expenses	3,264,610	2,593,809
<b>Other operating expenses</b>	<b>11,956,837</b>	<b>12,428,502</b>
<b>COSTS BY FUNCTIONAL GROUPS</b>	<b>178,724,298</b>	<b>200,354,270</b>
<b>Production costs for sold quantities</b>	<b>171,214,985</b>	<b>194,163,607</b>
<b>Costs of general activity</b>	<b>7,509,313</b>	<b>6,190,663</b>

Costs for spent material, in the amount of EUR 38,115,473, are mostly costs for nuclear fuel, in the sum of EUR 30,090,389. Costs for services, in the amount of EUR 40,680,174, are mostly maintenance costs (EUR 18,339,562). Costs for labour, in the amount of EUR 43,324,263, are costs for salaries, and for contributions in the amount of EUR 37,610,371. Other costs for labour, in the amount of EUR 5,713,892, refer to a reward for exceptionally prepared, timely and fully completed outage in 2021, to a reward for 40-year anniversary since the first synchronisation, for transport costs to and from work, meals during work, holiday money, additionally created long-term reserves for jubilee awards and severance pay, and other costs of labour.

The structure and number of employees by education is shown in the business report. On 31.12.2021, there were 644 employees in NPP (at the end of 2020, there were 630). The average number of employees in 2021 was 624.



The majority of write-offs are for depreciation, calculated in accordance with the AA and amounts to EUR 41,382,941. Revaluated operating expenses which refer to the correction of value for non-current spare parts amounting to EUR 3,215,572 were created according to the accounting directions. In the business year we showed revalued operating expenses in the amount of EUR 49,039 for inventory write-offs according to the inventory count amounting to EUR 21,289.

Other operating expenses refer to duties and compensations for restricted use of area and planning intervention measures within the nuclear facility and for the use of building land (EUR 6,317,596), for water refund for use of technological water (EUR 5,111,478), and others (EUR 527,763).

Financial expenses, in the amount of EUR 647,562, refer to financial expenses for interest revaluation for receivables and debt, and for interests on provisions for jubilee awards and severance pay.

## Corporate Income Tax

The company is a taxable entity under the ZDDPO-2 and the Rules on corporate income tax returns.

TABLE:  
CALCULATION OF NPP  
CORPORATE INCOME TAX

in EUR	2021	2020
Revenue	179,497,646	201,097,977
Revenue increase to tax recognised level	0	0
Revenue decrease to tax recognised level	0	0
<b>Tax recognised revenue</b>	<b>179,497,646</b>	<b>201,097,977</b>
Expenses	179,371,861	200,963,260
Expenses increase to tax recognised level	250,589	357,933
Expenses decrease to tax recognised level	-1,914,064	-2,139,530
<b>Tax recognised expenses</b>	<b>177,708,386</b>	<b>199,181,663</b>
Tax base 1	1,789,260	1,916,314
Tax relief	1,127,234	1,207,278
Tax base 2	662,026	709,036
Tax rate	19%	19%
Corporate income tax	125,785	134,717

On the basis of the ZDDPO-2R, from 01.01.2020, when determining tax base, it is no longer possible to recognise the reduced base on the total investment value. Tax base – as a difference between tax recognised expenses and revenue – amount to EUR 662,026, on which 19% corporate income tax applies and amounts to EUR 125,785. We could seek tax relief (including for past years) in the amount of EUR 124,172,127, but it can be claimed only at 63% of the tax base. Unused tax relief can be claimed in the next five years.

## Net Profit

According to the ZGD-1, net profit is a legally defined category and is a sum of net profit or loss, profit or loss brought forward and any increase due to reduced reserves from profit or reductions for creating reserves from profits. Shareholders' general meeting decides on the use of net profit, upon the recommendation of the management and supervisory boards of NPP. In 2021, NPP does not show net profit; however, it does show net loss for 2017.

## Net Operating Profit or Loss for the Period

Operating profit or loss for 2021 amounts to EUR 125,785; after taxation, net operating profit or loss for the period is zero. The item 'other elements of comprehensive income' for 2021 shows actuary shortfall in the amount of EUR 226,817.

## 6.3.3 NOTES TO CASH FLOW STATEMENT

The Cash Flow Statement shows events concerning solvency. This Statement is drawn up according to the direct method. Individual types of cash flow are compared to realised cash flow in the Cash Flow Statement for 2021, with those realised in 2020. Revenue for 2021 was in the amount of EUR 232,034,824 and expenses in the amount of EUR 230,259,659. Revenue was higher than expenses by EUR 1,775,165.



TABLE:  
RECAPITULATION  
OF REVENUE AND EXPENSES  
BY TYPES OF CASH FLOW

in EUR	2021	2020
<b>Cash flows from operating activities</b>	<b>68,871,961</b>	<b>66,158,368</b>
Cash receipts from operating activities	200,534,776	217,372,667
Cash disbursements from operating activities	131,662,815	151,214,299
<b>Cash flows from investments</b>	<b>-72,178,585</b>	<b>-78,000,858</b>
Cash receipts from investments	26,000,048	27,751,785
Cash disbursements from investments	98,178,633	105,752,643
<b>Cash flow from financing activities</b>	<b>5,081,789</b>	<b>35,979,370</b>
Cash receipts from financing activities	5,500,000	36,350,000
Cash disbursements from financing activities	418,211	370,630
<b>Total/Net cash flow</b>	<b>1,775,165</b>	<b>24,136,880</b>

6.3.4  
NOTES TO THE  
EQUITY CHANGES  
STATEMENT

Value changes of different capital items are shown in the Equity Changes Statement, point 4.5. The amount of called-up capital as set in the IA is EUR 353,544,826, which is also the sum registered in the court register. Capital increased in 2021 for capital reserves by the sum of EUR 5,500,000 which arose from subsequent contributions by shareholders for investments to cover expenses associated with investments into safety upgrade, and for EUR 226,817 reserve excess due to valuation at fair value. These are shown on the basis of actuary calculation and are related to the changes of financial assumed values for provisions for severance pay upon retirement.



6.4  
Additional  
Explanations

6.4.1  
INFORMATION ON  
GROUPS OF PEOPLE

Information on groups of people shows receipts, separately for the following groups: management board, employees under individual contracts, supervisory board of NPP.

TABLE:  
RECEIPT BY INDIVIDUAL  
GROUPS OF PEOPLE IN 2021

in EUR	Number of receipts	Receipts from employment relationship	Other receipts	Total
Board members	2	426,762	-	426,762
Employees under individual contracts	23	2,895,892	-	2,895,892
Members of NPP Supervisory Board	6	-	85,281	85,281
<b>Total</b>	<b>31</b>	<b>3,322,654</b>	<b>85,281</b>	<b>3,407,935</b>

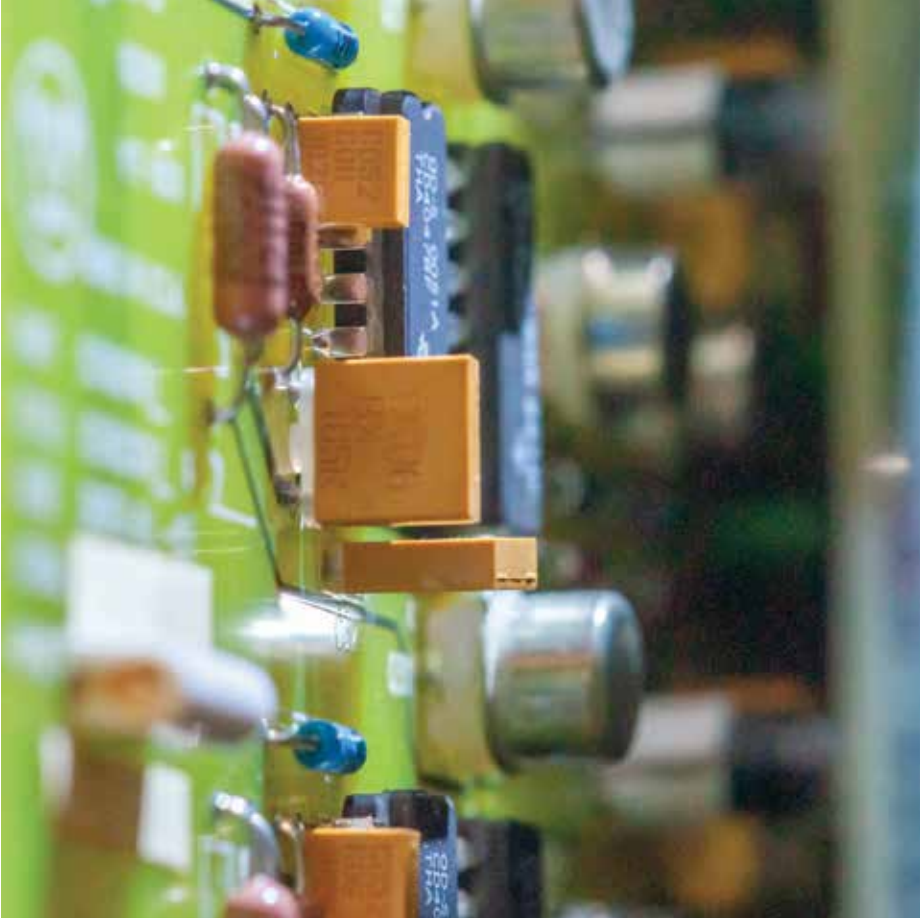
Receipts include salaries, holiday money and other receipts from the employment relationship. Other receipts include payments for performing a function in the supervisory board and payments for attending meetings.

No receivables from the management board members, employees under individual contracts or the supervisory board members for loans, advances or sureties are shown.



EVENTS  
AFTER  
BALANCE  
SHEET DATE

We assess there were no business events after the balance sheet date until the Annual Report was drawn up which would significantly affect the company’s financial statements for 2021.



6.4.2  
INFORMATION  
ON AFFILIATED COMPANIES

All transactions with affiliated companies are shown in the Report on relationships with affiliated companies for 2021.

TABLE:  
INFORMATION ON  
AFFILIATED COMPANIES

in EUR	Revenue	Expenses	Receivables	Liabilities
GEN energija, d. o. o.	88,367,357	176,247	9,244,675	0
HEP, d. d.	88,367,357	168,555	7,577,602	0
GEN-I, d. o. o.	-	26,086	-	1,552
HEP ELEKTRA, d. o. o.	-	4,141	-	351
<b>Total</b>	<b>176,734,714</b>	<b>375,029</b>	<b>16,822,277</b>	<b>1,903</b>

In the business year 2021, there were no legal transactions or omission of transactions or other acts which we committed or omitted on the basis of interests or initiatives of the companies GEN or HEP and which would constitute a depreciation within the meaning of Article 545 of the ZGD-1.

6.4.3  
OTHER  
DISCLOSURES

Other disclosures refer to costs for auditing services which are shown separately by types of services. In 2021, the costs for auditing the Annual Report were EUR 18,850; other costs were in the sum of EUR 1,040. We did not engage any tax advisers or other non-auditing service providers.

## LIST OF ACRONYMS

AA	Articles of Association
ACDR	Accrued costs and deferred revenue
AFI	Area for Improvement
AMSAC	Anticipated Transient Without Scram Mitigation Signal Actuation Circuitry
ARAO	Radioactive Waste Agency
ARSO	Slovenian Environmental Agency
BB	Bunkered Building
CDP	Core Damage Probability
CHUG	Checworks Users Group
CPR	Corporate Peer Review
DBO	Defined Benefit Obligation
ECT	Eddy Current Testing
ENISS	European Nuclear Industry Safety Standards
EPRI	Electrical Power Research Institute
EU	European Union
FORATOM	European Atomic Forum
GEN	GEN energija, d. o. o.
GET	General Employee Training
HEP	Hrvatska elektroprivreda, d. d., Zagreb
HUPX	Hungarian Power Exchange
IA	Intergovernmental Agreement
IAEA	International Atomic Energy Agency
IJS	Jožef Stefan Institute
INPO	Institute for Nuclear Power Operations
I&C	Instrumentation and Control
ISEG	Independent Safety Engineering Group
ISO	International Organisation for Standardization
JRC	Joint Research Centre

LCO	Limiting Condition for Operation
LILW	Low- and Intermediate-Level Radioactive Waste
MAAP	Modular Accident Analysis Program User Group
MCR	Main Control Room
MSIP	Mechanical Stress Improvement Process
NDE	Non-Destructive Examination
NEK/NPP	Nuklearna elektrarna Krško / <i>Krško Nuclear Power Plant</i> /
NMAC	Nuclear Maintenance Application Centre
NRC	Nuclear Regulatory Commission
NUPIC	Nuclear Procurement Issues Committee
NZIR	Protection and Rescue Plan
OG RS	Official Gazette of the RS
OSART	Operational Safety and Review Team
OTJE	Fundamentals of Nuclear Plant Technology
PARMS	Post Accident Radiation Monitoring Systems
PRFU	Peer Review Follow-up
PSE	Plant Support Engineering
PSR	Periodic Safety Review
PWR	Pressurized Water Reactor
PWROG	Pressurized Water Reactor Owners Group
QA	Quality Assurance
RB	Reactor Building
RC	Reactor Coolant
RCCA	Rod Cluster Control Assembly
RCS	Reactor Coolant System
RO	Reactor Operator
RW	Radioactive Waste
SALTO	Safety Aspects of Long-Term Operation
SB	Supervisory Board
SRS	Slovenian Accounting Standards
SUP	Safety Upgrade Program
URSJV	Slovenian Nuclear Safety Administration
VAT	Value Added Tax
WANO	World Association of Nuclear Operators
ZDDPO-2	Corporate Income Tax Act
ZGD-1	Companies Act
ZIUZEOP	Act Determining the Intervention Measures to Contain the COVID-19 Epidemic and Mitigate Its Consequences for Citizens and the Economy
ZJN-3	Public Procurement Act





KRŠKO  
NUCLEAR  
POWER  
PLANT

Vrbina 12  
SI-8270 Krško  
Telephone: +386 7 48 02 000  
Telefax: +386 7 49 21 006  
E-mail: [nek@nek.si](mailto:nek@nek.si)  
**[www.nek.si](http://www.nek.si)**

