



ROSENERGOATOM

ROSATOM



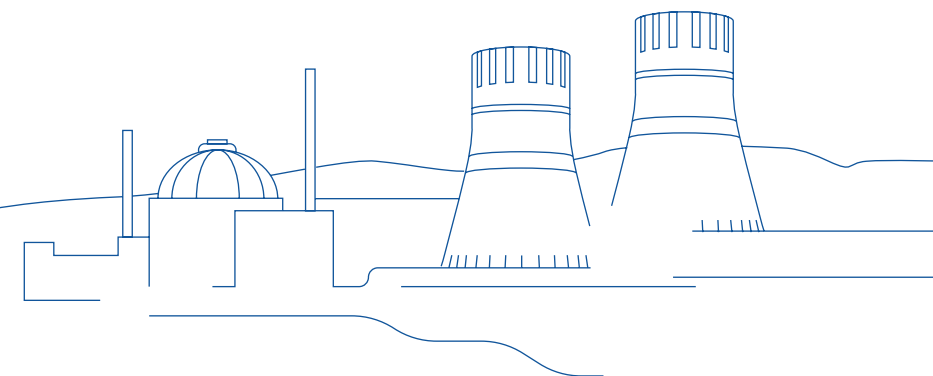
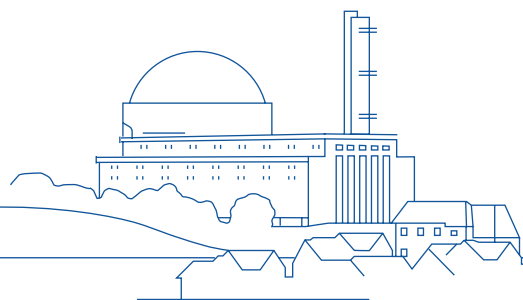
PERFORMANCE
OF THE POWER ENGINEERING DIVISION



ROSENERGOATOM
ROSATOM

2022

PERFORMANCE OF THE POWER ENGINEERING DIVISION IN 2022



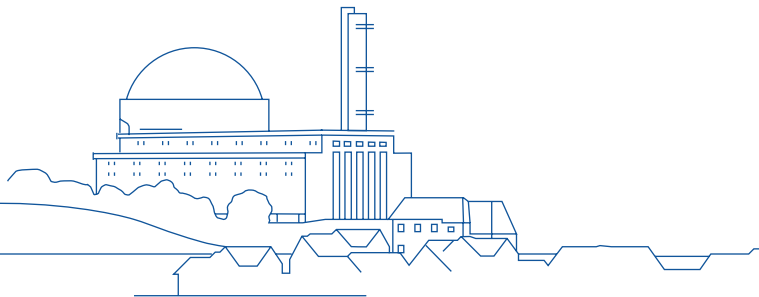
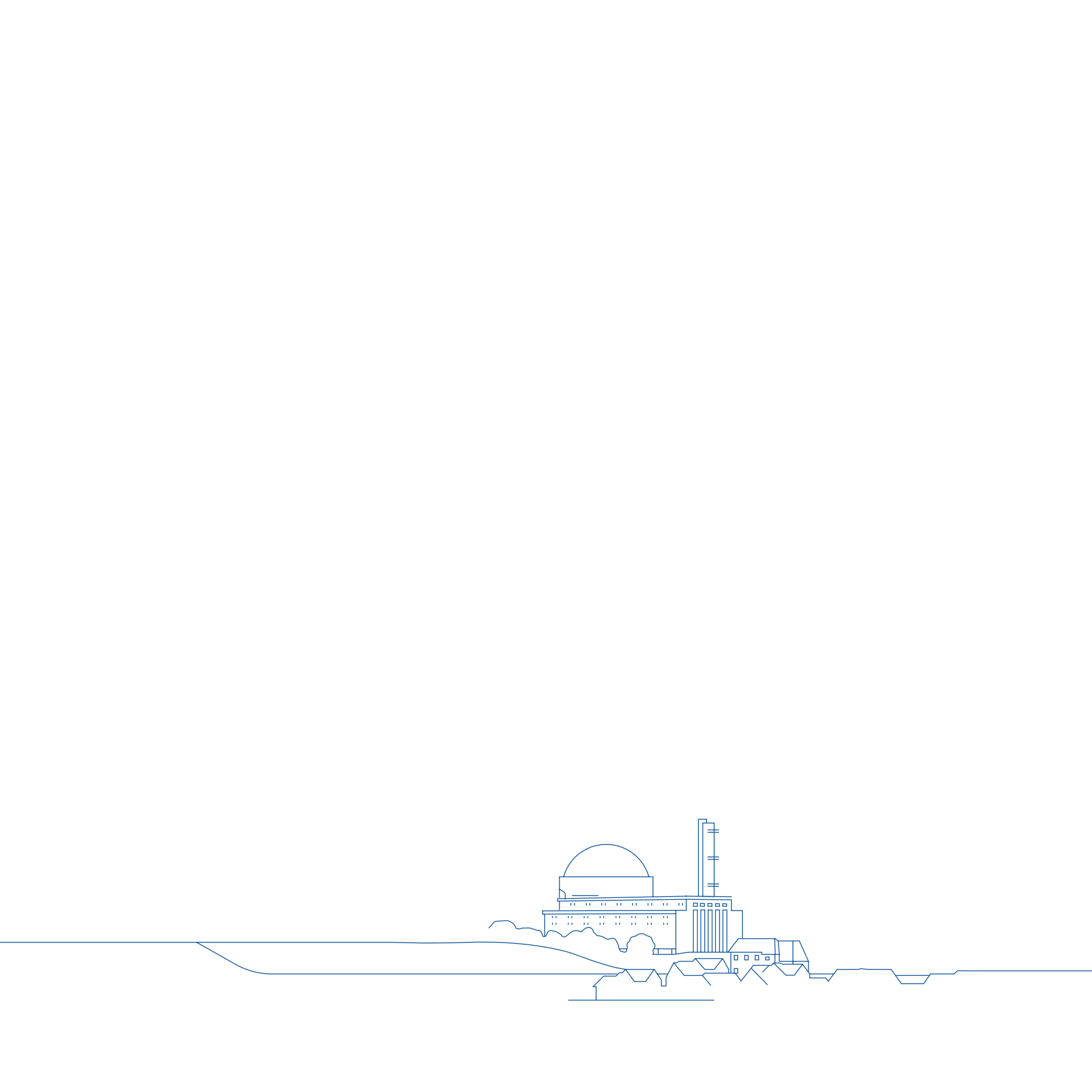


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GRI 2-22 MESSAGE FROM THE HEAD OF THE DIVISION

Dear colleagues,

The year of 2022 happened to be a challenging one for both the entire country and the team of the ROSATOM’s power engineering division (hereinafter, Division). Nonetheless in the face of complicated conditions, we achieved all our planned goals, built up key performance indicators (KPI), and ensured high financial-and-economic outcomes.

One our large production success is that for the entire history of Rosenergoatom, JSC (hereinafter, Rosenergoatom) we generated absolutely maximum power of 223.372 billion kWh exceeding the previous year by 0.93 billion kWh. The mandatory power generation as required by the Federal Antimonopoly Service of the Russian Federation (RF) totaled 102.5%. Optimization of the repair campaign for power units played a key role in achieving these indicators.

In the year gone by, preliminary-front end engineering and design was started to construct Kola

nuclear power plant (NPP) 2 and Unit 5 at Beloyarsk NPP. Design documentation to construct Unit 3 and 4 at Leningrad NPP 2 was developed and sent to the federal autonomous institution ‘Main Department of State Expertise’. A set of documents to obtain a license for siting small NPPs fitted with the RITM-200N type reactor plants (RP) in Yakutia was sent to the Federal Service for Environmental, Technological and Nuclear Supervision (Rostekhnadzor).

As per the resolution of the RF Government, a general layout of power facilities location up to 2035 took effect. According to this layout, twelve power units are to be constructed up to 2035, eight of which are of a medium size. Up to 2035, the strategic goal is 20% of nuclear generation in the country’s power balance. This goal is important not only viewed from a production perspective but also from a political, publicly significant perspective, for which we will be striving for.



TOTALED MANDATORY POWER GENERATION AS REQUIRED BY THE FEDERAL ANTIMONOPOLY SERVICE OF THE RUSSIAN FEDERATION

Our absolute priority is ensuring safety of the nuclear power facilities. In assuring this, we participate in a program aimed at developing nuclear generation both inside Russia and outside. The Division actively takes part in such non-Russian ROSATOM’s projects as Rooppur NPP in Bangladesh and Akkuyu in Turkey. Soon, an affiliate of Rosenergoatom will be established in Egypt. There is an acting affiliate in Hungary.

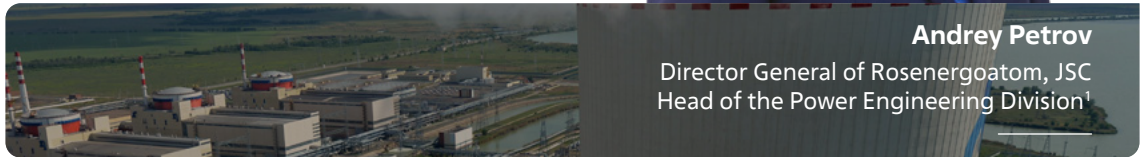
The Division plays an important role in ensuring qualified personnel, skills, and experience for the industry and promotes Russian technologies and services based on them at international markets. In 2022, we were successful in confirming our leadership in the industry, in innovative products and services and assured their share of more than 25% in the total volume of our products and services. The Division’s share in the total revenue of ROSATOM from the sales of innovative products is approximately 59%.

The fact that our activities are highly effective was confirmed by the Award given by the RF Government for achieving significant results in the area of quality of products and services and for assuring their safety, as well as for introducing highly effective quality management methods.

Being a low-carbon power source during the entire life cycle and a means to achieve carbon neutrality, Russian nuclear power industry significantly contributes to combating a climate change at the

world’s scale and to achieving the United Nations’ (UN) Sustainable Development Goals. In 2022, at all Russian NPPs radioactive gas aerosol emissions and liquid effluents were within the allowable limits. For the recent years, Russian NPPs witnessed no safety related events classified above level 1 (incident) by the International Nuclear Event Scale (INES).

I express my gratitude to the Division’s team for successful results in 2022, qualified work, commitment to results, and adherence to the common goal. I am sure that employees will clearly and effectively complete ambitious tasks set by the State and ROSATOM and thanks to this we will be able to ensure sustainable development for the Division in the long term.



1. As of 2022.



1

KEY RESULTS AND EVENTS
IN THE REPORTING YEAR

2

OVERVIEW OF THE DIVISION

223.4
BILLION KWH
POWER GENERATION BY NPPs



1

KEY RESULTS AND EVENTS IN THE REPORTING YEAR

GRI 2-4
GRI 2-7

Key Results in 2022

Operating performance	2020	2021	2022	Comments
Revenue, RUB billion	592.7	735.1	793.2	No significant deviations
Revenue from sales of innovative products, RUB billion	147.3	197.6	199.7	An increase due to commission of Unit 2 at Leningrad NPP 2 in 2021
Tax payment of the Division ¹ , RUB million	75,953	87,552	95,421	Excluding income tax for the consolidated group of tax payers; including VAT, water tax, property tax, land tax, transportation tax, personal income tax, income tax
Power generation by NPPs, billion kWh	215.7	222.4	223.4	As compared with 2012, power generation increased by +0.4% (+0.935 billion kWh) due to optimizing a repair campaign for plant units.
Average headcount, persons ²	56,968.13	57,278.37	63,551.64	Indicator increased due to personnel growth of TITAN2 IC İ3TAŞ caused by adding to the subcontractor.
Portfolio of orders for new products, RUB billion	264	319	361	An increase is caused by scaling up the marketing business and making large contracts at adjacent markets in the RF and by developing the full-cycle engineering and power service area.

1. Tax payments of the Division (taxes transferred to all-level budgets)
2. In 2022, the Division's personnel number was recalculated due to specifying data about TITAN2 IC İ3TAŞ personnel.

Key Events in 2022

- An award was given by the RF government in the area of quality.
- It was ensured that state-level decisions are fulfilled related to lifetime extension for current units.
- The BN-800 reactor fuel was changed to MOX fuel by 93%.
- At Kursk NPP 2, a reactor pressure vessel for Unit 1 was installed into its design position; and the floor for the main circulation pump in Unit 2 was poured with concrete.
- Rosenergoatom's revenue from sales of the innovative products totaled RUB 199.7 billion.
- The performance indicator for the investment program totaled 108.3%.
- The share in the power balance of Russia totaled 19.9% in the unified energy system (UES) of Russia.
- A new historical maximum power generation of 223.372 billion kWh was reached.
- A total of 46 repairs was made with the actual duration of 1,848 days vs. planned duration of 2,000 days.
- A robotics engineering complex was among TOP-5 ROSATOM's nominees and took an award entitled *Technological Breakthrough 2022*.

>109 MLN TONNES

CO₂-EQUIVALENT GREENHOUSE GAS EMISSIONS SAVED
BY NPPS OF RUSSIA



2 | OVERVIEW OF THE DIVISION

GRI 2-1
GRI 2-3

2.1.GENERAL OVERVIEW OF ACTIVITIES. INFORMATION ABOUT THE HOLDING COMPANY

The Division governed by Rosenergoatom, JSC¹ (hereinafter, Rosenergoatom) is the sole NPP operator in Russia and one largest player at the Russian power market. The Division is No. 1 in terms of total power generated in Russia among largest generating companies and No. 2 in terms of NPP installed capacity in the world.

It significantly impacts the social-and-economic well-being of society and environmental protection at the level of territories of operation — in regions where NPPs are located and business is done — and at the world’s level.

Structure of the Division

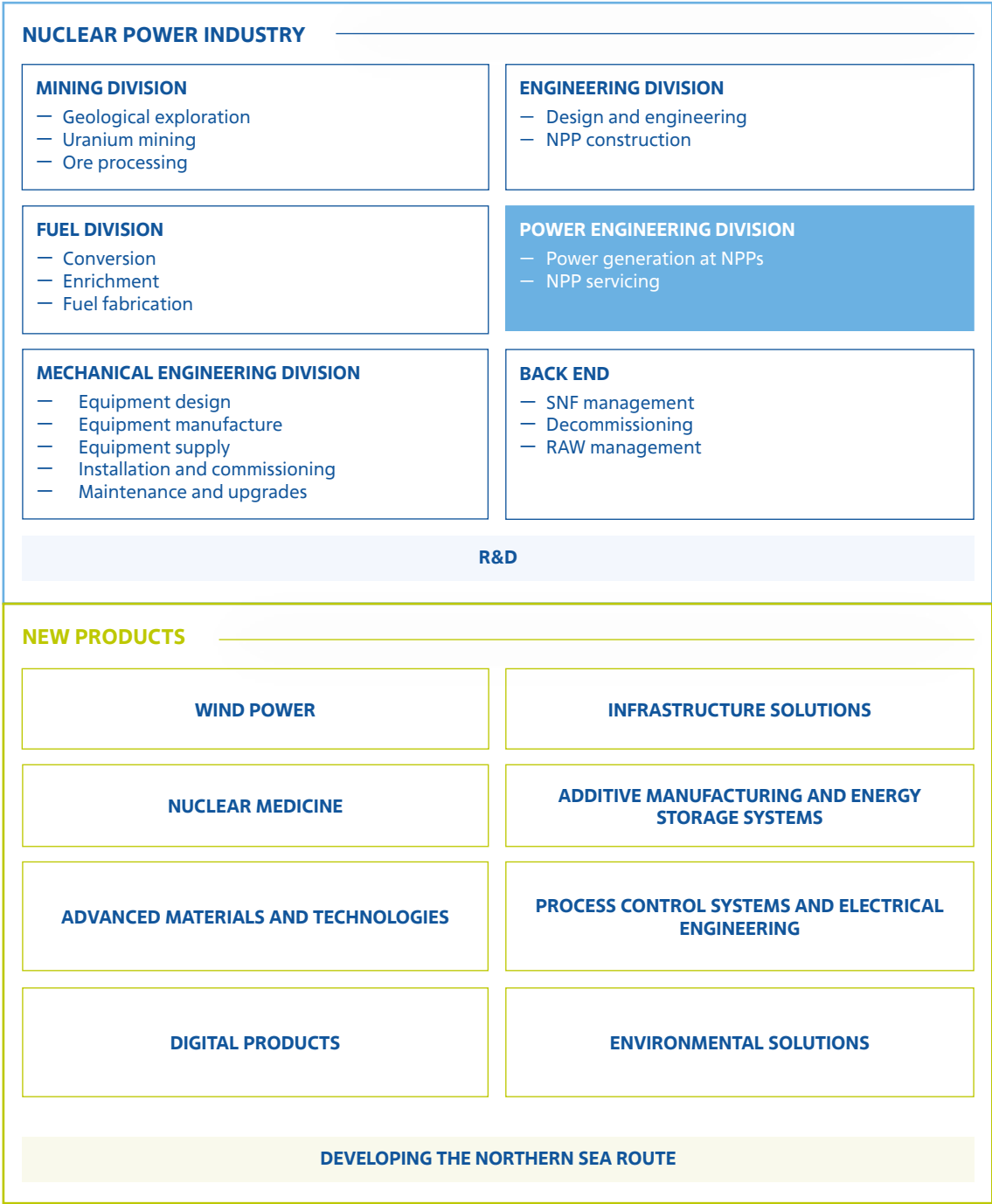
GRI 2-6

The Division includes Rosenergoatom comprised of a Central Administration and such subsidiaries as 10 NPPs, a floating thermal nuclear power plant (FTNPP), Directorates of NPPs under construction, a Capital Projects Implementation Branch Office, an Akkuyu Engineering Center, affiliates located in Bangladesh and in Hungary, a Technology Branch Office, Pilot and Demonstration Engineering Centers for Decommissioning of pressurized water reactors of Russian design (VVER) and high-power channel-type reactors (RBMK). It also includes 21 affiliates and more than 20 controlled entities, including Atomenergoremont, JSC, Atomtechen-ergo, JSC, VNIIAES, JSC, Energoatominvest, JSC, CONSIST-OS, JSC, ATOMDATA-center, JSC, JSC CONCERN TITAN-2 and other companies.

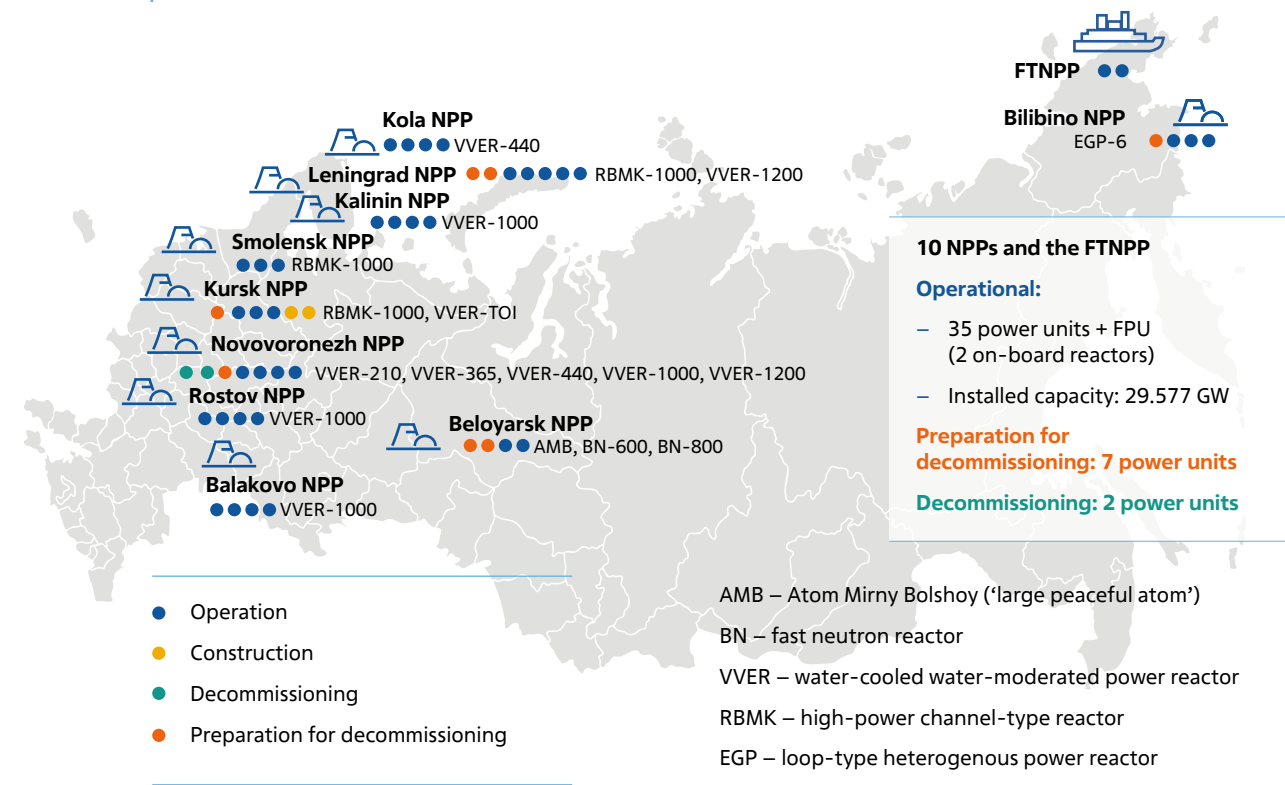
Rosenergoatom participates in more than 20 industrial and outside non-profit organizations/unions.

1. Rosenergoatom is a Joint Stock Company located at 25 Ferganskaya Street, 109507, Moscow, Russian Federation with the 12267 code as per the Russian National Classifier of Forms of Incorporation. The primary State Registration Number is 5087746119951, the company was registered by Inter-district Inspectorate of Federal Tax Service No. 46 in Moscow on September 17, 2008. The taxpayer identification number and industrial enterprise classification code are 7721632827 and 772101001, respectively.

2.2. ROLE OF THE DIVISION IN THE STRUCTURE OF NUCLEAR INDUSTRY



The Regions of Operation



Businesses and Products that Create Total Revenue

The main business of Rosenergoatom is generation of electric and thermal power, supply of power by NPPs, and operation of nuclear facilities, radiation sources, nuclear materials and radioactive substance depositories at NPPs as per the procedure set by the RF legislature.

New and international businesses are also significant activities, including a wide range of services both for nuclear and non-nuclear market inside and outside of Russia ([details are available in the Contribution to Technological Sovereignty. New Products and Businesses section](#)).

The Division carries out activities based on business priorities and strategic goals of ROSATOM.

To prioritize safety, a decision of the Rosenergoatom’s Board of Directors expanded the above goals like this:

- low probability of accidents accompanied with reactor core damage in the summarized fleet of nuclear reactors;
- no fatalities at NPPs related to the production process;
- no plant violations with personnel exposure above the reference level;
- no plant violations with radioactive emissions and effluents to the atmosphere above the allowed levels.

Strategic goals



Tasks for the Division are as follows:

- ensure stable operation of current units and implement plans for step-by-step transition to the plant share of 25% by 2045 in the RF power balance via fulfillment of the production program and construction of units in the RF in accordance with the general layout of power facilities up to 2035;
- build up competence in the area of plant decommissioning;
- participate in construction of units outside of Russia;
- develop such new businesses as servicing NPPs outside of Russia, retailing electricity, creating data processing centers and digital products, developing engineering, rendering power services, etc.;
- ensure input to accelerated scientific-and-technological development, i.e. participate in development of such new reactor technologies as VVER, fast reactors, widen the power range, develop nuclear-and-hydrogen power.



3

GOVERNANCE SYSTEM

4

**INNOVATION AND DEVELOPMENT
OF SCIENCE**

RUB 199.7 BILLION
**REVENUE FROM SALES
OF INNOVATIVE PRODUCTS**



3 | GOVERNANCE SYSTEM

Rosenergoatom manages the Division under ROSATOM’s order No. 1/218-P dated March 4, 2013 *About Approval of the Provision on the Management Model of the Civil Segment of the Industry*. The Division is an organizational entity with activities aimed at implementing ROSATOM’s strategic business goals and includes controlled organizations of the holding company.

One main objective within the current management model is to optimize horizontal management of interactions between ROSATOM’s departments and vertical interactions between ROSATOM and affiliates related to groups of processes.

The Division is an organizational entity and combines ROSATOM’s organizations by certain types of activities and business areas.

3.1. CORPORATE GOVERNANCE SYSTEM

GRI 2-9 The Rosenergoatom’s corporate governance system is based on Russian legislature and aims to ensure effective management, information transparency and availability, rights of stakeholders and other interested parties.

Main documents that regulate rights of Rosenergoatom’s stakeholders are a Charter¹, regulation for the general shareholders’ meeting², and a provision on the Board of Directors³.

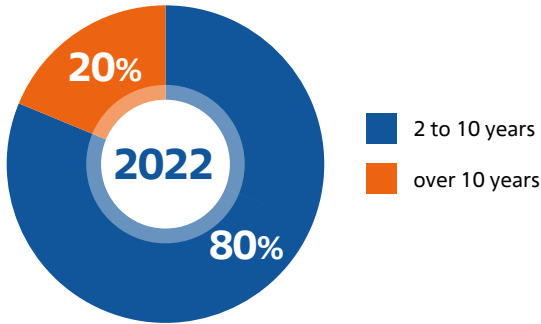
3.1.1. Governing Bodies

GRI 2-10 A Board of Directors is a collegial governing body that provides general guidance for Rosenergoatom being responsible for development of a strategy and monitoring of executive organs thus ensuring observance of stakeholders’ rights and legitimate interests.

The current Board of Directors was elected at the annual general meeting of stakeholders on June 24, 2022.

1. It was approved by the resolution of the General Meeting of Rosenergoatom’s stakeholders (Minutes No. 33 dated May 18, 2021).
2. As approved by the general meeting of Rosenergoatom’s stakeholders dated August 08, 2019 (Minutes No. 29).
3. As approved by the general meeting of Rosenergoatom’s stakeholders dated November 30, 2016 (Minutes No. 19).

Period of Occupying a Position in the Board of Directors



GRI 2-11 Gender composition: the Board of Directors is made up of men by 100%.

The Chair of the Board of Directors is elected by its members from its members by the majority of votes. The Board of Directors has the right to reelect the Chair by the same procedure.

At least 2/3 of the members of the Board of Directors must have the total of at least 15 years of work as managers in the area of nuclear power usage.

At least ½ of the members of the Board of Directors must have the total of at least 3 years of work as managers in the area of plant safe operation and/or a total years of at least of 15 of work in the area of nuclear power usage.

GRI 2-19 Members of the Board of Directors have no interest in the Charter capital, have no equity shares, and do not participate in acquisition of shares. The Board of Directors has no committees.
GRI 2-21

In 2022, members of the Board of Directors did not receive remuneration for participation in activities of this board.

The same year, 26 meetings were held with considering 35 issues.

3.1.2. Ownership Structure

The ROSATOM’s Charter Capital is RUB 830,285,973,67, and it is divided into 830,285,973,674 equity shares of the nominal value of RUB 1.

As of December 31, 2022, Rosenergoatom’s stakeholders are:

Stakeholder	Equity share
Joint Stock Company Atomic Energy Power Corporation	99.99999999988%
State Atomic Energy Corporation Rosatom	0.00000000012%

In 2022, one general meeting of stakeholders was held with considering the following issues:

- distribution of Rosenergoatom’s profit and losses for 2021;
- election of members for the Rosenergoatom’s Board of Directors.

In 2022, in the area of corporate governance the following main events happened.

- A total of 38 meetings of the Rosenergoatom’s corporate governance committee was held.
- Authorized capital was raised for Rosenergoatom’s organizations by the sum of more than RUB 8,9 billion.
- A Competence Center for the set of products at the state unified cloud platform was made with establishing a new legal entity entitled Joint Stock Company ATOMDATA-Integration.
- In October 2022, Rosenergoatom became a stakeholder of RIAR JSC with the overall volume of funding totaling to RUB 7.8 billion.

Sole Executive Body

On October 7, 2015, by the resolution of the Extraordinary General Meeting of Shareholders of Rosenergoatom (Minutes No. 32 dated October 06, 2020) Andrey Petrov was elected as the Director General of Rosenergoatom for five years¹.


The Director General has no interest in the Rosenergoatom’s Charter capital, has no equity shares, and does not participate in acquisition of shares.

Participation in Russian Nonprofit Organizations

A list of nonprofit organizations with participation of Rosenergoatom is given in Appendix 5.

3.2. COMMITMENT TO SUSTAINABLE DEVELOPMENT PRINCIPLES

GRI 2-22 The Division shares ROSATOM’s commitment to sustainable development with a priority to environmental, social, and managerial issues in the course of activities. The Division contributes to achievement of the following UN sustainable development goals: GRI 2-23 GRI 2-24 GRI 3-3

SDG UN	Contribution
	In 2022, generation of low-carbon energy by plants totaled 223.372 billion kWh, which is 19.9% of all electricity generated by the UES of Russia.

1. Andrey Petrov occupied the position of the Director General in 2022.

SDG UN	Contribution
	Rosenergoatom conducts operation activities in 11 regions of Russia. In 2022, an average income of personnel taking account of all payments totaled RUB 113,540 in comparison to RUB 106,231 in 2021. So, an increase amounts to 6.88% as compared to the previous period. A total of 100% of personnel use voluntary health insurance (VHI) and a benefits package. <i>For more details, see 8. Developing the Human Capital section.</i>
	Rosenergoatom is an acknowledged leader in production of innovative products in the industry, and in 2022 the share of these products and services in the total volume of its products and services totaled 25%. The key focus is on innovative development through technologies and competence, which are mostly created as part of research and development (R&D) by orders of Rosenergoatom. In 2022, operation of the first-of-a-kind-in-the-world FTNPP was continued with the generating equipment of the installed electric power of 70 MW, which was commissioned in May 2020. An advanced high-temperature gas-cooled reactor is being developed with chemical-and-technological equipment to produce hydrogen. At Kola NPP, a project is underway to produce hydrogen by electrolysis. It is planned to start hydrogen production in December 2025. <i>The details are available in the 4. Innovative Activities and Science Development section.</i>
	The Division takes part in the <i>Breakthrough</i> project to close the nuclear fuel cycle. To this end, the Russian BN-800 fast sodium-cooled reactor was developed, which is being operated at Unit 4 of Beloyarsk NPP. In 2022, the BN-800 reactor fuel was changed to MOX fuel by 93%.
	In 2022, NPPs of Russia made it possible to save more than 109 million tonnes of CO ₂ -equivalent greenhouse gas emissions that is approximately 7% of all greenhouse gas emissions in Russia and that contributes to achieving the climatic goals of Russia.
	Rosenergoatom is category 1 member of the international industry-wide organization, that is a World Association of Nuclear Operators (WANO) with attribution to the WANO Moscow Center (MC). Rosenergoatom takes an active part in WANO program activities. Rosenergoatom’s specialists are involved in WANO activities at sites of other members within regional centers. Since 2019, Rosenergoatom has been participating in the WANO industry-wide <i>Action for Excellence</i> to improve performance indicators of Russian NPPs.

Key Documents and Sustainable Development Management

The Division uses the following approved documents in the area of sustainable development:

- Unified industry-wide sustainable development policy of ROSATOM and its organizations;
- Unified industry-wide methodological sustainable development guidelines of ROSATOM and its organizations (approved and adopted by an order);
- Unified industry-wide environmental policy of ROSATOM and its organizations;
- Unified industry-wide methodological environmental policy guidelines of ROSATOM and its organizations;
- Unified industry-wide social policy of ROSATOM and its organizations;
- Unified industry-wide human rights policy of ROSATOM and its organizations.

An integrated power saving plan was adopted by Rosenergoatom’s order *About Approval and Putting into Force an Overall Program for Power Saving and Power Efficiency Improvement for Rosenergoatom Affiliates — NPPs in Operation for 2022-2026*.

Policy statements in the following areas were put into force by Rosenergoatom’s order *About Putting Policy Statements of Rosenergoatom into Force*:

- safety culture (SC);
- occupational safety;
- plant safety assurance;
- industrial safety and environmental safety;
- human resources.

Sustainable Development Rating

In 2022, the Division took part in obtaining sustainable development rating by ROSATOM. A survey and assessment were done by the ACRA rating agency.

By the results of rating, the following positive modifiers were noted for the Division:

- favorable environmental indicators (minimal emissions to the atmosphere, usage of turnaround water consumption), availability of automated systems for environmental monitoring and control;
- volume of social investments;
- degree of information transparency stipulated by a high level of disclosure of non-financial information.

Green Products

In 2022 by the results of passing the internal procedure for industry-wide sustainability qualification, it was concluded that Rosenergoatom had reached a stable maturity level for the main activity, i.e. production of electrical and thermal power at NPPs, as well as for the new business, i.e. sales of electricity in the RF. These activities are included into a list of stable green businesses of ROSATOM and its organizations.

Environment

Operation of Division’s NPPs complies with current Russian and international requirements and recommendations for nuclear and radiation safety.

Production of thermal and electrical power is included into registers of such green/stable activities as the following ones:

- Resolution of the RF government No. 1587 dated September 21, 2021 *About Approval of Criteria for Projects, including green ones, of Sustainable Development in the Russian Federation and Requirements for the Verification System for Sustainable Development Projects in the Russian Federation*;
- catalog of approved projects to issue green bonds of China (2015, version of 2021);
- taxonomy of European Union stable funding (2020, updates of 2022).

At the end of 2022, the South Korea published a national taxonomy with including nuclear power into a list of green areas under condition of compliance with some criteria. In addition in January 2023, a taxonomy of the Eurasian Economic Union was published with including nuclear power into a list of green areas under the same condition of compliance with base sustainable development criteria.

The Division carries out business with preventing a significant damage to the environment. A possible negative impact upon environment during plant operation is minimized by implementing defense-in-depth and diverse active and passive safety systems and by observing principles, rules and regulations of plant safe operation. In so doing, standards and requirements of such international organizations as International Atomic Energy Agency (IAEA), European Utility Requirements for light water reactor nuclear power plants, as well as post-Fukushima requirements of the Western European Nuclear Regulators Association are observed. [Details are available in the 6.1. Policy and Fundamental Principles underlying NPP Safe Operation and Initiatives taken to Reduce a Negative Impact upon the Environment sections.](#)

The Division handled production and consumption waste in compliance with the RF environmental legislation. [Details are available in the Handling Production and Consumption Waste by Classes of Hazard section.](#)

The fact that Rosenergoatom has certificates of conformity in the area of environmental protection, power efficiency, and Quality Management System (QMS) confirms compliance with international standards, actions for excellence, and high responsibility level of the company. [Details are available in the Water Consumption section.](#)

NPPs produce electricity with extremely low indicators of greenhouse gas emissions. According to the survey by the Intergovernmental Panel on Climate Change, the volume of greenhouse gas emissions for the entire nuclear fuel cycle of 12 gCO₂eqv./kWh exceeds only the overall emissions of 11 gCO₂eqv./kWh for the wind power cycle. If compared with other industries, greenhouse gas emissions as a result of hydro generation are 24 gCO₂eqv./kWh; of solar generation, 48 gCO₂eqv./kWh; of gas generation, 490 gCO₂eqv./kWh; of coal generation, 820 gCO₂eqv./kWh.

As for assessing greenhouse gas emissions in 2022, the Division took part in an industry-wide pilot calculation of greenhouse gas emissions in compliance with international procedures of Scope 1 and Scope 2, which were used by ROSATOM. Summarized results of calculations are given in the 1.2. Sustainable Development Management section of ROSATOM’s Public Report for 2022. Starting from 2023, it is planned to represent the results of calculations by divisions as soon as an industry-wide system for management of greenhouse gas emissions has been shaped. *Details are available in the Atmospheric Emissions section.*

Social Security

Human resources are very important to the Division; that is why a lot of attention is paid to the social policy in the company. The Division strictly observes the rights of its employees, which are regulated both by the Russian legislature and local regulations of Rosenergoatom *Details are available in the Employment Entitlement section.*

To ensure attractiveness of the company, every year Rosenergoatom monitors the Division’s position at the labor market in regions of operation, and, as a result, the average salary of Rosenergoatom’s employees exceeds that of power companies in the RF constituents.

Every year, characteristics of Division’s personnel are collected and analyzed accounting for the gender balance. Based on IAEA data, the share of women in nuclear industry in the entire world is 22.4 % and in the Division, 24.5%. *Details are available in Appendix 1.*

During professional training of the Division’s employees, a great attention is paid to the quality of training. *Details are available in the 8. Developing the Human Capital section, the Training subsection.*

In 2022, 7 employees of Rosenergoatom passed training in sustainable development at the ROSATOM’s Corporate Academy. In addition, 29,842 employees passed it on-line on the remote RECORD-MOBILE platform.

Rosenergoatom applies the Code of Conduct approved and put into force by order of Rosenergoatom No. 9/1004-P dated September 04, 2015, which determines rules for ethical conduct of all personnel. A system is set to process anonymous reports from personnel concerning violation of rights. Every report is considered in due time by the Ethics Ambassador with resolving all the issues *Details are available in the 8. Developing the Human Capital section, Considering the Personnel Inquiries subsection.*

Every year, Rosenergoatom being the socially responsible organization provides financial and charity support for municipal entities in the area of NPP location related to projects on social infrastructure, healthcare, sports, social initiatives of citizens and on support for low-income population. *Details are available in the 9. Developing the Regions of Operation section.*

3.3. STAKEHOLDER INTERACTION APPROACH

GRI 2-29 Categories of Stakeholders

The main categories of stakeholders related to activities of the Division are as follows:

- at a state’s level, RF public authorities, public oversight and monitoring authorities, regional authorities, local authorities at the territories of operation, non-Russian public authorities, international organizations;
- at a ROSATOM’s level, Division’s personnel, business partners, scientific organizations and educational institutions;
- at a public level, consumers of products, mass media, public and environmental organizations, local communities.

Interactions at the State Level

The Division interacts with stakeholders based on maximum transparency and openness. Data about plant operation and a radiation situation in towns of operation is available on the official Rosenergoatom’s website www.rosenergoatom.ru, where you can find press releases and information messages. Over 1,500 press releases are issued on the website.

In addition, on-line information about radiation monitoring of Russian NPPs is available on the website www.russianatom.ru.

As of December 31, 2022, subscribers to Rosenergoatom in social networks, not accounting for current affiliates, totaled 22,874 persons that is by 28.78% higher than on December 31, 2021 when it totaled 17,762. As of December 31, 2022, subscribers to the Division in social networks, accounting for current affiliates, totaled 139,124 persons that is by 41.84% higher than on December 31, 2021 when it totaled 98,087.

When the Division is planning activities that can significantly affect the environment and local population, it initiates public hearings.

In 2022, 12 public hearings were held related to the facilities under state environmental oversight, including preliminary assessments of an environmental impact.

An expert round table was held to consider whether a project to create additional maps at the non-radioactive production and construction waste site of the Smolensk NPP is safe for the environment and population.

During one year, the Division provided methodological assistance to ROSATOM’s organizations related to 11 public hearings on development projects.

At sites of all NPPs, apart from Pevek, reception offices of the ROSATOM’s Public Council were organized with assistance of the Division.

At the state level, the Division participates in developing the regions of operation. *Details are available in the 9. Developing the Regions of Operation section.*

Every year, Rosenergoatom and its organizations survey the population’s attitude to nuclear power development thus building communication with stakeholders.

By outcomes of 2022, support of nuclear industry in the regions of Rosenergoatom operation totaled 83.6%.

Interactions at the ROSATOM’s Level

- To inform employees about Division’s news and milestones, 3,000 copies of a monthly REA: Energetic People magazine are issued at all controlled organizations.
- A total of 59,000 inserts to the industry-wide ROSATOM’s *Country: Energetic People* is weekly issued at all Russian nuclear power organizations.
- There is a *Telegram* channel for the personnel with 500 subscribers.
- There is an *Energetic People* mobile application with 7,500 users.

Interactions at the Public Level¹

The Division actively interacts with stakeholders at the public level on the Internet.

- An official group was created in the *Vkontakte* social network with 18,981 subscribers.
- There is an official channel at YouTube with 3,300 subscribers.
- An official group was created in the *Odnoklassniki* social network with 563 subscribers.
- There is a channel in the *Telegram* application with 1,600 subscribers.
- An official website is available at www.rosenergoatom.ru.

3.4. COMPLIANCE WITH AND INTRODUCTION OF THE QUALITY MANAGEMENT AND CONTROL SYSTEMS IN THE DIVISION

GRI 3-3 The Division introduced the QMS in compliance with the ISO 9001:2015 Quality Management Systems — Requirements certified by JSC SSU DEKUES, which is the Russian representative office of the German DQS Certification Body. Such areas were certified as management of design and construction of nuclear power in-stallations, management of production and supply of electrical power, production and supply of electrical power, and management of decommissioning and decommissioning of nuclear power installations.

The power management system of the Division was certified by the Russian Register certification association.

The environment management system of Rosenergoatom was certified by DQS for compliance with an inter-national ISO 14001:2015 standard and Russian GOST R ISO 14001-2016 standard.

1. As of December 31, 2022.

The following controlled organizations have certified systems:

ENIC JSC	ISO 9001:2015 and GOST R ISO 9001-2015
CONSYST-OS JSC	ISO 9001:2015, ISO/IEC 20000-1:2018, and ISO 45001:2018
VNIIAES JSC	ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018
Rosatom Technical Academy	ISO 9001:2015 and ISO 21001:2018
JSC VPO ZAES	ISO 9001:2015
C-PLUS JSC	ISO 9001:2015 and GOST R ISO 9001-2015
ATOMENERGOREMONT JSC	ISO 9001:2015, GOST R ISO 9001-2015, ISO 14001:2015, and GOST R ISO 14001-2016
ATES JSC	GOST R ISO 9001-2015
JSC "Atomtechenergo"	ISO 9001:2015, GOST R ISO 9001-2015, and ISO 14001:2015

4 | INNOVATION AND DEVELOPMENT OF SCIENCE

GRI 3-3 4.1. APPROACHES AND PRINCIPLES TO MANAGE INNOVATION AND SCIENCE

In innovative activities, the Division strives to achieve the goal set by the government that is to strengthen the innovative potential of Russian nuclear technologies and extend the scope of their application. Innovative development is a prerequisite for maintaining the technological leadership of both Rosenergoatom and the national nuclear industry.

The main innovation management tool is the ROSATOM's *Innovative Development and Technological Modernization Program until 2020 (in the civilian sector)*. The development of new technologies is planned on the basis of an analysis of scientific and technological development priorities of ROSATOM and its competitors, business objectives, a search for technology ideas, expert support, as well as a patent search allowing the assessment of a rationale and risks of creating new technologies.

4.2. TECHNOLOGIES: TASKS AND RESULTS

Rosenergoatom is an acknowledged leader in production of innovative products in the nuclear industry, and in 2022 ensured a specific weight of innovative products and services in the total volume of its products and services of more than 25%.

Rosenergoatom and its affiliates conduct business using different forms of implementing innovations. The main focus is on innovative development through technologies and competence created, first of all, as part of R&D requested by Rosenergoatom. R&D plans are pursued under an investment program.

In 2022, RUB 11,069.9 million was funded for R&Ds under the investment program. All key R&Ds were completed to the full.

A portfolio of Rosenergoatom's technologies includes the following among other things:

- improvement of design solutions under a conventional VVER technology;
- development of new VVER technologies, i.e. pressurized water reactor of Russian design with spectral control (VVER-S) and supercritical water-cooled reactor (VVER-SKD);
- justification of a possibility that VVER can operate using mixed oxide fuel (MOX) and mixed recycled uranium and plutonium (REMIX) fuel, i.e. in the VVER-SKD;
- development of small and medium NPPs;
- implementation of a two-component nuclear power system based on thermal-neutron reactors and fast-neutron reactors with the centralized closed nuclear fuel cycle.

In 2022, the following was done to continue making of a portfolio of Rosenergoatom's rights for intellectual property in the RF:

- Data about 10 intellectual property works in a scientific-and-technical area were finalized as Rosenergoatom's know-hows.
- Sixteen patents were obtained for inventions in the RF.
- Twenty two state registration certificates were obtained for computer programs and databases.

In 2022, Rosenergoatom obtained 15 patents of such non-Russian countries and organizations as Argentina, Armenia, Eurasia, European Commission, Indonesia, Korea, USA, Japan and others. Under a contract on patent cooperation, 43 earlier submitted international applications for the reactor core condition and accident localization were transferred to the national phase in non-Russian countries.

4.3. PROJECTS AND RESULTS OF IMPORT SUBSTITUTION AND RESOURCE SAVING

The tasks for development of new nuclear generation technologies are implemented in practice under the federal *New Nuclear Power, including Small Reactors for Remote Areas* project, which is carried out as part of the integrated *Development of Machinery, Technology, and Scientific Studies in the area of Nuclear Power Application in the RF up to 2024* program (hereinafter, a Federal Project and an Integrated Program, respectively)¹.

One objective of the Integrated Program is to ensure clean and available energy for RF remote areas, reach growing international markets of technologies and fuel for the closed nuclear fuel cycle, as well as markets of small and medium NPPs.

In 2022, activities were ongoing under the *Improvement of Design Solutions under a Conventional VVER Technology* program (hereinafter, a Program)².

The Program includes R&D in the areas related to safety improvement and optimization of NPPs based on the VVER technology, i.e. for VVER-1000, VVER-1200, and VVER-TOI. It is assumed that results of R&D will be implemented in current and newly built VVER units³.

The Program can make it possible to totally save over RUB 2.2 billion for unit construction thanks to new technologies and solutions related to construction and thanks to a reduced cost of equipment. In addition, it reduces construction duration by at least 6.5 months.

To develop activities under the Program, an integrated program was developed and approved entitled *Optimization of Design Solutions to Enhance Efficiency of the Turbine Island of the VVER Units*⁴. The completion of activities under the Program is 2025, the cost of activities is RUB 774.1 million. Technical proposals are being developed to ensure increased efficiency of power units that will make it possible to obtain the following power increments:

- 20.8 MW at current VVER-1200 units;
- 28.1 MW at advanced VVER-1200 units;
- 42.1 MW at advanced VVER-TOI units with a high speed turbine.

1. It was prolonged until 2030 by Decree of the RF President No. 202 dated April 14, 2022 About Extending the Validity of the Integrated Program entitled Development of Machinery, Technology, and Scientific Research in the area of Nuclear Power in the Russian Federation.
 2. It is being implemented by the ROSATOM's resolution No. 1-8/124-P dated February 25, 2019.
 3. It is planned that Program will be completed by 2024.
 4. ROSATOM's resolution No. 1-8/142 dated February 27, 2020.

VVER-S Spectral Reactivity Control Technology

New technologies for nuclear generation are implemented in practice in compliance with the initiative for social-end-economic development entitled *New Nuclear Power, including Small Nuclear Reactors for Remote Areas*¹. The objective is to reach a new level of availability and cleanliness of nuclear power without limitations of resources with account of assuring technology self-sufficiency. Activities under this initiative are consolidated into milestones of the federal project entitled *New Nuclear Power, including Small NPPs for Remote Areas* as part of the integrated program for development of machinery, technologies, and scientific studies in the area of RF nuclear power.

In 2022, two Division’s projects were nominated as Technological Breakthrough.

Under this federal project, a two-unit NPP is being developed with the VVER-type reactor of a medium size using the spectral control technology. Potential advantages of the project are a possibility that the core can be fully loaded with MOX fuel assuming reduced consumption of natural uranium, a possibility of boron control exclusion at power operation, and a reduced volume of radioactive waste.

It is planned to construct two-unit NPPs of an average size at the site of Kalinin NPP 2 with commissioning Unit 1 in 2035 and replicating these units at new sites.

VVER-SKD Supercritical Water-Cooled Reactor Technology

The R&D program is being implemented entitled *Development of the VVER-SKD Vessel-Type Supercritical Power Reactor for 2019-2028*. The objects of studies are VVER-SKD pressurized water reactors with a supercritical light water coolant needed to create new generation RPs in compliance with requirements for sustainable development of nuclear power with lower specific capital costs and high fuel breeding at operation in the closed nuclear fuel cycle.

Fast Neutron Reactor Technology

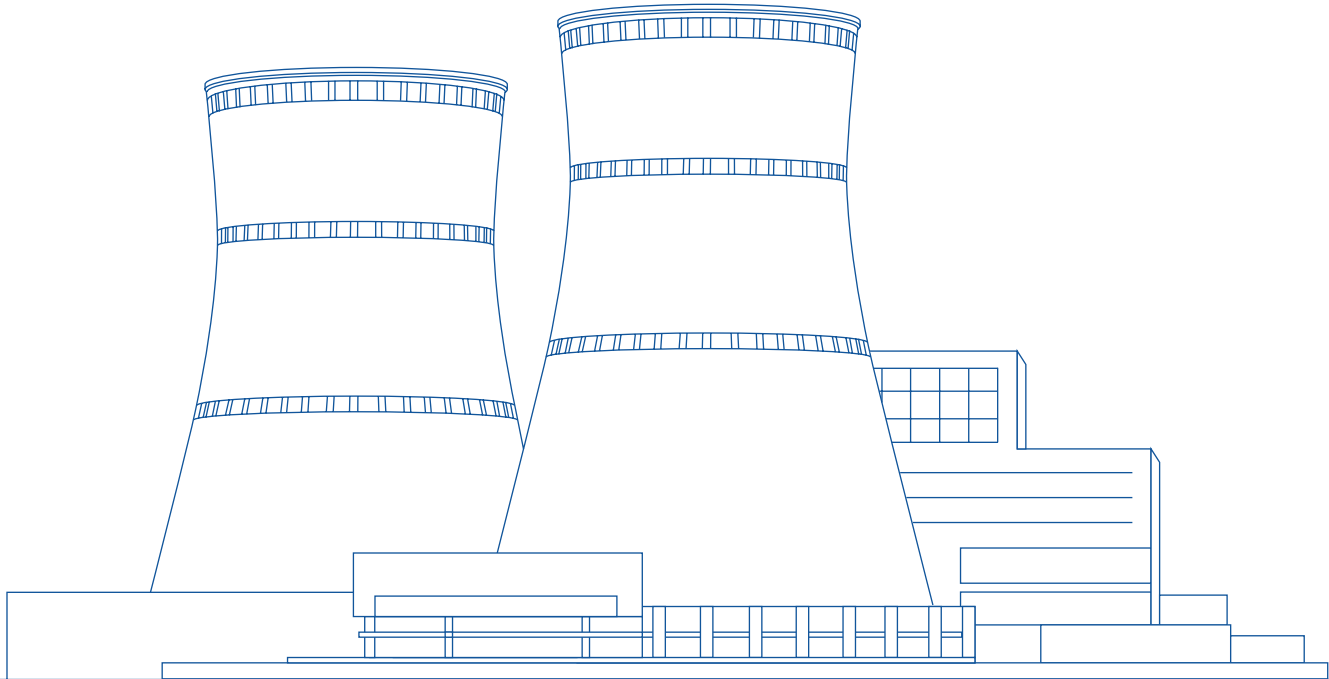
It is planned to construct an innovative unit with the BN-1200M reactor at Beloyarsk NPP with commissioning it in 2035². The project assumes optimized design solutions and a closed fuel cycle.

1. It was approved by the resolution of the RF government No. 2816-r dated October 06, 2021.
2. According to the updated general layout of power installations up to 2035 approved by resolution of RF government No. 4384-P dated December 30, 2022.

4.4. PLANS FOR 2023

The following has been planned:

- continue construction of the NPP with two medium-sized units at Kola NPP 2 with commissioning Unit 1 in 2035;
- continue the R&D program entitled VVER-SKD Vessel-Type Supercritical Power Reactor for 2019-2028;
- continue activities under the program entitled Improvement of Design Solutions under Conventional VVER Technology;
- upscale hydrogen production from natural gas using nuclear power and develop Russian low-carbon hydrogen production technologies by such methods as methane conversion, pyrolysis, electrolysis and others;
- fulfill milestones in the R&D investment program of the Innovative Development Department as per order of ROSATOM entitled About Approval of Financial-and-Economic Indicators for the Rosenergoatom’s Investment Program for 2023;
- reach loading of the reactor core in Unit 4 of Beloyarsk NPP with MOX fuel by 100%.





5

CONTRIBUTION TO THE
TECHNOLOGICAL SOVEREIGNTY.
NEW PRODUCTS AND BUSINESSES

6

SAFETY OF OPERATIONS

RUB 361 BILLION
PORTFOLIO OF ORDERS
FOR NEW PRODUCTS



5

CONTRIBUTION TO THE TECHNOLOGICAL SOVEREIGNTY. NEW PRODUCTS AND BUSINESSES

GRI 2-6 GRI 3-3 5.1. DEVELOPMENT AND CREATION OF PRODUCTS

Development of new products, an increase in the international market share, and global leadership are strategic goals of ROSATOM. In 2022, the Division increased overseas revenue up to RUB 128 billion, a portfolio of orders for new businesses exceeded RUB 360 billion, and a share of new and international businesses in the total revenue reached 20%.

From 2022, possible merges and acquisitions (M&A) are actively investigated by Division's organizations to ensure unlimited growth of new businesses, acquiring additional competence, outreach of new non-nuclear markets for, among other things, assuring technology independence.

5.2. PROJECTS DESCRIPTION

The Division develops a wide range of new businesses thus diversifying and strengthening stability of business indicators and creating an additional synergy effect by generating integrated and closed service supply chains. To date, a portfolio of Division's possibilities includes selling electricity, engineering, and energy service, including retail generation services, selling low-carbon electricity using green tools, creation and development of a geographically distributed network of data processing centers and cloud services, digital services, products and services related to digital modeling, projects to generate electricity from biological gas, construction of simulators, projects to create electric charging stations, production and supply of non-organic sorbing agents, development of isotope business and others.

International Business

GRI 2-6 The Division provides a wide range of services based on best experience and competence gained during operation of Russian NPPs, including development of a national nuclear infrastructure, training of personnel, and fitting the training centers, integrated commissioning, testing of equipment, servicing and technical support of NPP operation, supply of spare parts and equipment, NPP lifetime extension and upgrade, digital products, predictive analytics, modeling and creating of simulators, R&D, and scientific-and-technical support.

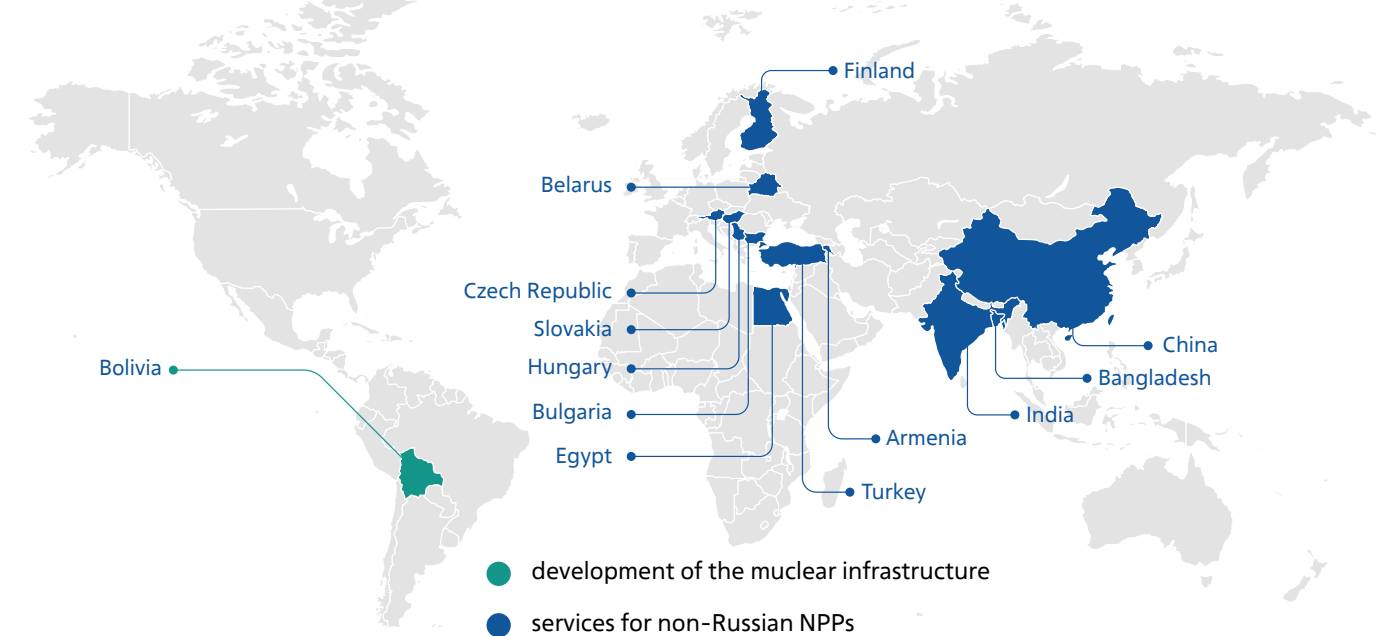
The Division implements projects in 48 power units in operation and under construction in such 12 countries as Armenia, Bangladesh, Belarus, Bulgaria, Hungary, Egypt, India, China, Slovakia, Turkey, Finland, and Czech Republic.

GRI 2-1 | Geography of New Businesses of the Division in 2022

International businesses

13 countries

48 units



International business is not limited to rendering services for nuclear projects and engineering services for conventional power installations. Export proposals are being actively developed for digital and infrastructural decisions that accompany NPP construction that make it possible to obtain a synergistic effect in adjacent areas.

The Division produces and supplies globally over 20% of cobalt-60.

5.3. KEY RESULTS

GRI 2-6 A positive dynamics is continued in the selling business of the Division as a guaranteed supplier of electricity in the regions of operation. In Khakassia, a status of a guaranteed supplier was reached.

Large-scale engineering projects are being implemented throughout Russia, including construction of 7 production-and-technical complexes to process waste of hazard I and II under the national project entitled *Environment*, construction of a Siberian ring source of photons under a national project entitled *Science and Universities*, construction of medical centers, etc.

Active ramp-up is continued, and competence is perfected in the area of construction-and-installation activities and design-and-survey activities by JSC CONCERN TITAN-2 and TITAN2 IC.

A range of import substitution projects is being actively studied.

A product strategy was approved for a new business entitled *Selling Low-Carbon Electricity/Certificates of Origin of NPP Electricity*.

The project entitled *Search for and Creation of New Products 'Business Laboratory'* was continued in a format of involving Division's employees into entrepreneurship inside ROSATOM. In 2022, all NPPs and some Rosenergoatom's affiliates participated in this project. Over 20 business initiatives of Division's employees were selected and now are being studied, prototyped, and/or implemented.

In the Republic of Turkey, a range of milestones was completed under an Akkuyu NPP construction project at all four VVER-1200 units under construction, including launching construction of Unit 4.

A sub-contract was signed for activities at the main stage of Paks NPP construction in Hungary.

In Bangladesh, a training center was opened at the site of the first in the country Rooppur NPP; training of personnel started.

A set of startup-and-adjustment activities was performed to commission Unit 1 at Belarusian NPP and Unit 2 at Rooppur NPP to the scope of 2022.

In 2022, over 900 operation specialists were trained at Russian-design NPPs in Egypt, Bangladesh, Turkey, and Hungary.

Activities were done to support and perform preventive maintenance in India, China, Bulgaria, Belarus, and Armenia.

Activities were started to generate components of a digital operation template for Akkuyu NPP.

5.4. PLANS FOR 2023

The following has been planned for 2023:

- implement import substitution projects;
- increase presence at the Russian non-nuclear market, including initiation and implementation of M&A;
- under the pilot stage of the project, commission 89 charging stations for electrical cars and launch the control platform; for project needs, create its own production of charging stations for production facilities of ROSATOM's organizations;
- carry out preventive maintenance of non-Russian units, including supply of necessary equipment, technical support by Russian plant specialists to non-Russian customers in Armenia, Republic of Belarus, Bulgaria, India, and China;
- perform milestones for construction of Akkuyu NPP and El Dabaa NPP;
- continue activities to commission Unit 2 of Belarusian NPP and Unit 1 of Rooppur NPP;
- implement a set of activities to start repeated life extension for Unit 2 of Armenian NPP;
- do first shipments of cobalt-60 generated at Smolensk and Kursk NPPs;
- reach the share of up to 30% for the Division at the global market of sterilization cobalt-60.

6

SAFETY OF OPERATIONS

GRI 3-3 In the course of its activities, the Division consequentially and persistently fulfills obligations under a Convention on Nuclear Safety, takes into account IAEA recommendations from safety provisions and guidelines, as well as provisions and principles from documents of the International Nuclear Safety Advisory Group stated in such documents as *NPP Safety Fundamentals and Safety Culture*.

GRI 2-23

Implementing Measures to Ensure Safe and Stable Operation of Current NPP Units

One main area of activities is to upgrade current NPP units, which will make it possible not only to preserve capacity of NPPs but also to enhance their safety and improve performance of units.

Control over NPP upgrades is based on the industry-wide regulatory documentation and procedures for long-term, mid-term, and annual/current work planning.

In 2022, the planned scope of NPP upgrades was done in the following main areas:

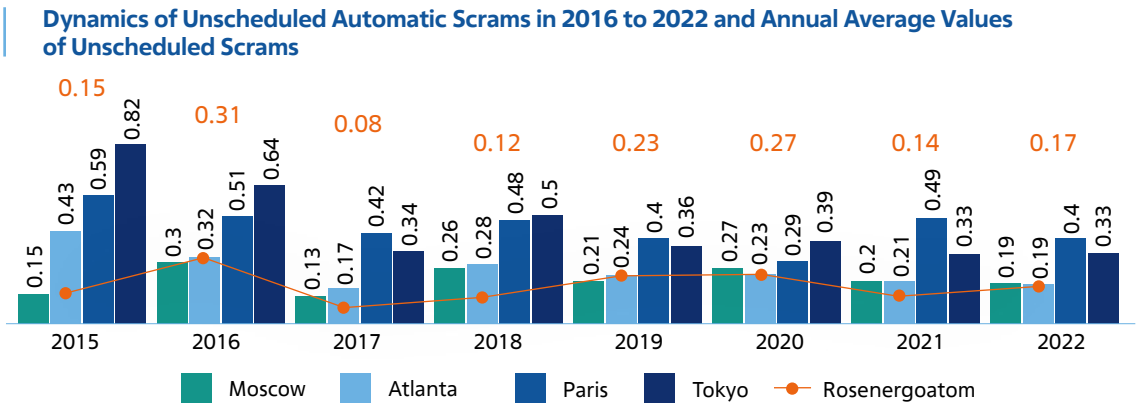
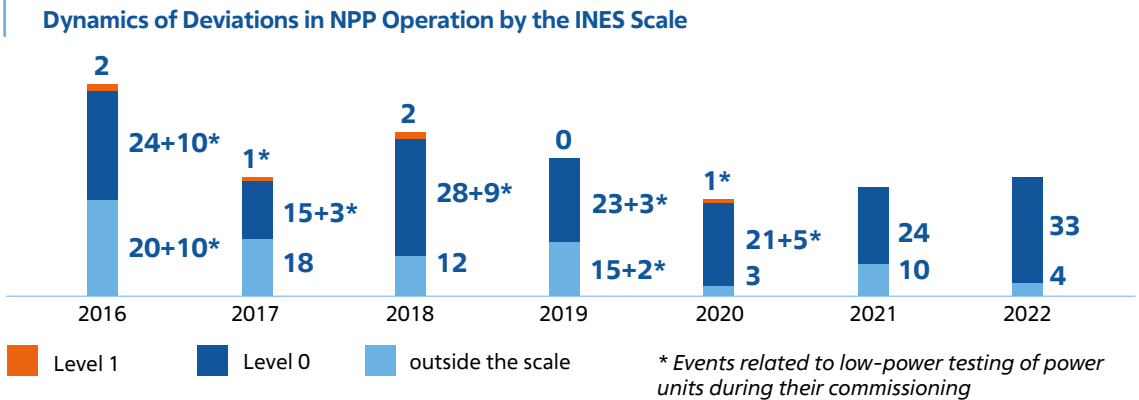
- maintenance of safety for NPP units in compliance with rules and regulations in the areas of nuclear power application;
- fulfillment of license conditions for NPP unit operation;
- meeting post-Fukushima safety assurance requirements;
- implementing industry-wide programs to enhance NPP safety, including due to upgrades of main reactor-and-turbine equipment, electrical equipment, control-and-measuring instrumentation, process systems, control and protection systems, communication means, etc.;
- replacement of obsolete equipment, of which a service life expired, with state-of-the-art one to enhance reliability and increase intervals between repairs;
- enhancement of operation safety and reliability for systems and equipment that handle spent nuclear fuel and radioactive waste at operating NPPs;
- introduction of systems to trouble-shoot and monitor the operation status of main thermal-and-mechanical and electrical equipment at NPPs;
- upgrading of equipment to increase the installed capacity and electricity generation at operating NPPs;
- introduction of state-of-the-art power saving technologies and equipment;
- optimization of production processes to increase operation power efficiency of NPP units;
- introduction of automated power efficiency control systems for NPPs.

6.1. SAFETY OF NUCLEAR TECHNOLOGIES AND PRODUCTS

In 2022, Rosenergoatom ensured stable and safe operation of NPPs in Russia. No incidents rated above Level 1 on the International Nuclear and Radiological Event Sale (INES) were recorded at Russian NPPs.

Deviations		Unscheduled automatic shutdowns		Accidents		Fires	
2021	2022	2021	2022	2021	2022	2021	2022
34	37	6	7	3	7	0	2

In 2022, there were no incidents rated at Level 1 on the INES scale.



Based on the findings of analysis of NPP safety performance and trends, the safety performance of operating NPP was acceptable; however, it was considered advisable to implement corrective measures in a number of functional areas both at separate NPPs and at the corporate level.

GRI 3-3 In response to events in Japan which led to the Fukushima Daiichi nuclear disaster, Rosenergoatom analyzed scenarios of how accidents may happen at Russian NPPs under extreme external impacts and identified measures to mitigate the impact on local communities and the environment.

GRI 2-23 Measures to improve resilience of NPPs to the impact of natural and man-made disasters are implemented in three stages:

1. Short term (2011–2012)	2. Mid term (2012–2014)	3. Long term (2014–2024)
COMPLETED	COMPLETED	IN PROGRESS
Minimize man-made hazards	Support significant NPP functions	Additional design solutions were implemented at NPPs; amendments to accident prevention documentation were introduced.
All NPPs were supplied with additional portable emergency response equipment; backup (additional) process water sources were identified; technical specifications were drafted for additional design solutions.	Design documentation, calculations, analysis and feasibility studies were prepared; additional equipment and materials were delivered meeting design specifications.	

All measures scheduled for 2021 were implemented.

Industrial Safety

In accordance with requirements of regulatory documentation, industrial safety declarations were developed for hazard class I and II of hazardous production facilities (HPF).

The Division’s employees involved in HPF operation undergo training and certification in industrial safety carried out by the relevant committees of Rostekhnadzor, Rosenergoatom’s Central Administration, and NPPs.

Validity of current local documents was analyzed, and their revision was organized to improve efficiency of the industrial safety management system, which was updated with account of updated requirements in the area of industrial safety.

As of December 31, 2022, it was ensured that 73 HPFs¹, including 11 facilities of Level II hazard were identified and registered in the industry-wide section of the state register. Insurance of all HPFs² registered was organized.

Throughout 2022, no accidents or incidents were registered at Rosenergoatom’s NPPs.

Fire Safety

In 2022, no safety-hazardous fires were registered at NPPs and at sites under construction. At the same time in August 2022, there was a fire at areas of Beloyarsk NPP rented by Atomenergoremont, JSC. The fire was caused by emergency operation of equipment. No damage to property was incurred.

1. In compliance with federal law No. 116-FZ dated July 21, 1997 About Industrial Safety at HPFs.
2. In compliance with federal law No 225-FZ dated July 27, 2020 About Mandatory Civil Liability Insurance of Hazardous Facility Owner for Damage Incurred as a Result of Accidents at Hazardous Facilities.

In December 2022, an explosion occurred at Rostov NPP accompanied with oil burning caused by electrical damage at the main transformer. Based on the findings of the analysis and investigation of causes of these fires, preventive measures were taken to exclude similar events at NPPs.

Based on findings of special inspections of a fire status of facilities in Rosenergoatom’s affiliates and organizations, a set of respective fire measures was developed aimed at enhancement of fire safety for units, buildings, compartments, structures of different purpose.

A program for enhancing fire safety and upgrading fire protection systems at NPPs for 2023-2027 was developed and put into force.

In 2022, centralized supply of innovative, most efficient, and safe air emulsion and halon fire extinguishers to the amount of 3,172 pieces was arranged.

In 2022 by the results of implementing a road map for fitting special departments of the Federal Fire Services located at operating NPPs with small-sized robotized fire-fighting systems¹, Rosenergoatom made a contract with LLC Special Design and Technology Bureau of Applied Robotics (SKTB PR) to manufacture and supply in 2023 small-sized robotized fire-fighting systems to Novovoronezh and Kalinin NPPs.

Emergency Response Readiness, Nuclear and Radiation Safety

At Rosenergoatom’s NPPs, it is ensured that safety is at the acceptable level in compliance with RF current rules and regulations in the area of nuclear power usage and with international standards and regulations.

Integrated and special safety inspections carried out by utility’s departments are part of safety control by Rosenergoatom at NPPs. In case plant safe indicators become worse, equipment failures rise or plant operational violations increase, targeted inspections are carried out aimed at in-depth studying of the reasons of safety status worsening and taking necessary corrective measures to eliminate them.

Based on the results of inspections, improvement measures were developed with controlling their completion status; efficiency of these measures was monitored.

In 2022, the Division’s organizations ensured stable and safe operation. No radiation incidents were registered. There was no over-exposure of personnel.

To master practical skills and to ensure readiness of control elements, facilities and means for mitigation of possible accidents, drills and training are conducted.

From April 12 to 14, 2022, Rosenergoatom and its affiliated NPPs took part in a command post exercise conducted by the Ministry of Emergency Situations (EMERCOM) of Russia together with control bodies and means of the unified state system for prevention and elimination of incidents. The purpose was to train mitigation of incidents induced by natural fires, protection of populated areas, economic structures, and social structures from forest fires, as well as accident-free high water pass in 2022.

Throughout 2022, a nuclear power plant emergency response group assisted by the technical support centers participated in 10 emergency drills together with Rosenergoatom’s NPPs.

In 2022, a Rosenergoatom’s industry-wide commission for certification of extraordinary rescue teams and rescuers (OAK No. 1/2) conducted a periodic certification of extraordinary rescue teams from Beloyarsk, Smolensk, and Novovoronezh NPPs and of an extraordinary control and communication team of the Central Administration.

1. Under fulfillment of it, 4.2 from minutes of the brief meeting of the RF Security Council dated September 09, 2020.

The teams certified were given qualification certificates for the right to conduct emergency rescue activities.

In 2022, readiness of Balakovo and Smolensk NPPs to localize and mitigate natural and man-made emergencies was checked. These NPPs confirmed their readiness to perform tasks in the area of civil defence and emergency situations.

6.2. ENVIRONMENTAL SAFETY

GRI 2-23 In 2022, certified environmental monitoring systems of the Rosenergoatom’s Central Administration and
GRI 2-24 NPPs in operation successfully passed inspection and/or re-certification audits that confirmed efficiency
GRI 301-1 and constant improvement of the environmental monitoring system and full compliance with environmental
GRI 301-2 standards.

GRI 301-3 As for ensuring environmental safety, measures of 2022 were completed from the Integrated Plan for
GRI 301-4 Implementing Environmental Policy of ROSATOM and its Organizations in 2022-2024, Plan of Measures to
GRI 301-5 Minimize a Negative Impact of ROSATOM upon the Environment up to 2025 as related to Rosenergoatom,
as well as from a Program of Measures to to Eliminate Issues and Improve Rosenergoatom’s Activities in the
area of Waste Handling in 2020-2022.

In 2022, current operating costs of the Division for environmental protection totaled RUB 4.919 billion. The most share of funding totaling RUB 2.168 billion was spent for radiation safety assurance.

The costs of the Division for overhaul of key assets in environmental protection totaled RUB 0.907 billion.

Almost all water of 4,640.3 billion m³ taken from water bodies by over 99% was used to cool process media in turbine condensers and heat exchanges and was recirculated to water bodies without additional pollution. Water was consumed in compliance with an allowable scope of water withdrawal and removal.

In 2022, NPP water removal complied with the water balance and the amount of electricity generated totaling 4,218.2 million m³, i.e. 90.1% of consumed water of 4,682.0 million m3. The share of polluted discharge water is 0.046%, i.e. 1.9 million m3.

In 2022, the Division’s organizations consumed 4.4 million m3 of water, of which 2.6 million m³ were used for drinking and household and practical needs; 1,7 million m3, for production needs; 0.1 million m³, for other needs.

In total for 2022, the summarized indicator of compliance with the established standard for allowed water discharges totaled 0.238%.

The scope of polluted discharge water is gradually reduced due to step-by-step implementation by NPPs of measures for upgrading and retrofitting discharge water purification systems.

The NPP implemented a set of measures to maintain and preserve biological diversity of fish fauna in cooling heat sink waters.

They are given in the below table.

Affiliate	Measure
Balakovo NPP	The Saratov reservoir was stocked with juvenile bighead carp to the quantity of 78,795 pieces of at least 25 grams each, grass carp to the quantity of 78,795 pieces of at least 25 grams each, common carp to the quantity of 158,914 pieces of at least 20 grams each, sterlet to the quantity of 73,678 pieces of at least 3 grams each.
Beloyarsk NPP	The Beloyarsk reservoir was stocked with juvenile bighead carp to the quantity of 269,000 pieces.
Kalinin NPP	The cooling pond of Kalinin NPP, Udomlya reservoir, was stocked with 82,000 pieces of black carp to the total weight of 1,038 tonnes.
Kursk NPP	The water reservoir was stocked with plant-eating fishes of bighead card, grass carp to the quantity of 40,000 pieces of at 50-250 grams each, as well as with senior bighead carp fishes to the quantity of 50 pieces to the total weight of 320 kilograms.
Novovoronezh NPP	The cooling pond of Unit 3 was stocked with plant-eating fishes of bighead card to the quantity of 6,000 kilograms.
Rostov NPP	The cooling pond was stocked with juvenile grass carp to the quantity of 418,807 pieces, juvenile common carp to the quantity of 856,128 pieces, juvenile sterlet to the quantity of 34,030 pieces.
Smolensk NPP	The Desnogorsk reservoir was stocked with black carp to the quantity of 41,210 pieces of at an average 25 grams each, silver carp to the quantity of 333,000 pieces, and grass carp to the quantity of 276,000 pieces.

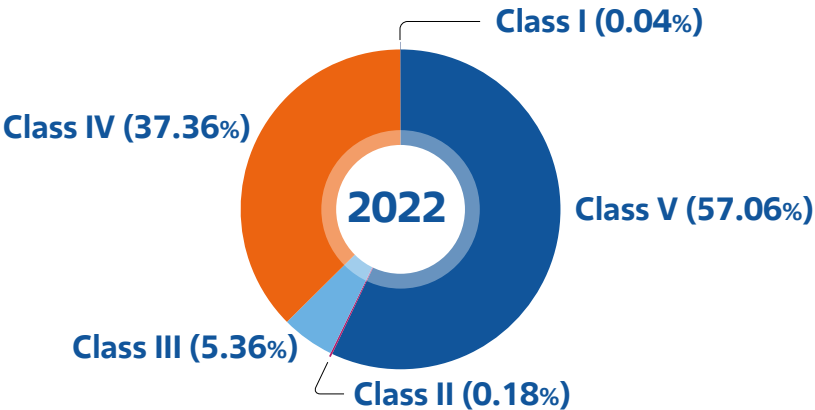
Handling Production and Consumption Waste by Hazard Classes

In 2022, production and consumption waste was handled in compliance with environmental legislature. Production processes or environmental aspects that generate waste are maintenance and repair of buildings, structures, equipment, machinery, other devices and mechanisms, water preparation for production and process needs, production of steam and hot water for plant heating and other needs, servicing plant employees, purification of discharge water, treatment of metal and wood, cleaning of tanks from oil products, purification and regeneration of oils, replacement of lamps, and others.

Production and Consumption Waste by Classes, tonnes

Class of waste	2020	2021	2022
Class I	51	30	14
Class II	84	68	61
Class III	2,127	1,671	1,793
Class IV	16,558	12,433	12,504
Class V	19,407	21,268	19,096
TOTAL	38,227	35,470	33,468

Distribution of Waste by Classes of Hazards



At the beginning of 2022, 27,095 tonnes of waste were available; at the end of 2022, 29,272 tonnes.

Transferred to other organizations for the purpose of, in tonnes	
disposal	11,602
burial	10,331
decontamination	1,856
treatment	1,640

A total of 4,722 tonnes of solid household waste was transferred to regional operators. All production and consumption waste is placed at designated sites, in special storage facilities, and their disposal is monitored by plant environmental services.

In the reporting year, such affiliates as Directorate of Baltic NPP under Construction, Directorate of Voronezh Nuclear heating Plant under Construction and Pilot-and-Demonstration Engineering Center for Decommissioning generated 6,905 tonnes of Class IV–V waste.

All waste generated was transferred to other organizations for the purposes of, in tonnes:

disposal	6,711
burial	153

A total of 41 tonne of solid household waste was transferred to regional operators.

In 2022, Rosenergoatom’s organizations generated 21,034.6 tonnes of waste, including:

Class of waste	Quantity, tonnes
I	0.6
II	6.8
III	67.5
IV	6,365.6
V	14,594.1

In 2022, Rosenergoatom’s organizations transferred waste to other organizations for the purposes of, in tonnes:

Purpose	Quantity, tonnes
disposal	2,299
burial	15,564
decontamination	111
treatment	51
storage	8

A total of 3,012 tonnes of solid household waste was transferred to regional operators.

Atmospheric Emissions

GRI 3-3
GRI 305-1
GRI 305-2
GRI 305-3
GRI 305-4
GRI 305-5
GRI 305-6
GRI 305-7
Pollutants emissions to the atmosphere are within allowable values and are much below the limits set by environmental bodies.

At all NPPs, gross emissions of pollutants to the atmosphere were below the specified standards. In 2022, 1,074.2 tonnes of pollutants were discharged to the atmosphere that totaled 16.7% of the allowed quantity in the reporting year of 6,435.7 tonnes, including 228.8 tonnes of solid pollutants and 845.4 tonnes of gaseous and liquid pollutants.

For many years, NPPs discharge less than 0.01% of pollutants to the atmosphere compared to all RF companies.

A total of 41.626 tonnes of pollutants went to gas-purifying and particle facilities, of which 39.789 tonnes were captured and purified, i.e. capture efficiency is 95.6%.

Despite the positive results achieved, NPPs continue to gradually implement measures aimed at reducing man-made burden upon the atmosphere by enhancing technologies to increase efficiency of fuel burning at facilities in use, by utilizing black oil fuel of better quality with less sulfur, by improving painting technologies, and by introducing efficient gas-purifying and particle removal facilities.

NO_x, SO₂ and other Crucial Environmental Emissions by NPPs, in tonnes

Pollutant	2020	2021	2022
SO ₂	261.6	481.5	389.8
CO	95.6	111.4	105.4
Nitrogen oxides (NO2 equivalent)	134.1	165.7	168.5
Hydrocarbons without volatile organic compounds (VOCs), including:	95.4	63.2	73.4
– methane	95.4	63.1	73.4
– others	0.0	0.1	0.0
VOCs	74.0	94.5	93.6
Other gaseous and liquid compounds	14.3	13.8	14.7

Rosenergoatom’s Pilot-and-Demonstration Engineering Center for Decommissioning emitted 0.727 tonnes of pollutants to the atmosphere with the allowed limit of 0.868 tonnes.

Rosenergoatom’s organizations emitted 664.4 tonnes of pollutants to the atmosphere with the allowed limit of 2,114.1 tonnes, including 6.9 tonnes of solid pollutants and 657.5 tonnes of gaseous and liquid pollutants.

NPP Emissions of Gaseous and Liquid Pollutants to the Atmosphere, in tonnes

Pollutant	2021	2022
SO ₂	7.4	18.9
CO	39.6	55.2
Nitrogen oxides (NO ₂ equivalent)	11.7	26.5
Hydrocarbons without VOCs	503.5	503.3
VOCs	46.9	46.7
Other gaseous and liquid compounds	7.0	6.9

A total of 5.618 tonnes of pollutants went to gas-purifying and particle facilities, of which 5.218 tonnes were captured and purified. The capture efficiency was 95.6%.

Initiatives to Reduce a Negative Impact upon the Environment

Affiliate	Measure	Environmental effect
Reduction of the Negative Impact upon the Atmosphere		
Kola NPP	Ammonia intake, storage and supply was upgraded as related to replacement of some BA-1 and BA-2 ammonia intake, storage, and supply tanks.	Ammonia emissions to the atmosphere reduced by 50%.
Kola NPP	An agent uploading pipeline was fitted with an automatic stop valve that is actuated by a gas analyzer of the water purification plant in case the maximum permissible concentration of NO ₂ and SO ₂ is exceeded in the air of the working area.	Environmental risks are reduced and prevented.
Reduction of a Negative Impact of Waste upon the Environment		
Kalinin NPP	A production process was fitted with the hydraulic press machine to press paper waste, plastic waste, and foam plastic.	The volume of waste corrugated fiberboard, waste paper, polyethylene waste, foam plastic waste, and polyethylene bottles reduced by 60%.
Kola NPP	Solid radioactive waste is reprocessed at a pressing and chopping plant with placing into a primary package followed by transfer to a specialized organization for conditioning.	The volume of solid radioactive waste transferred for storage reduced by 3.7 times.
Leningrad NPP	A site was arranged to store production and consumption waste.	A safety level of accumulating production and consumption waste was increased; a risk of pollutants emissions to the atmosphere reduced.
Smolensk NPP	Selective accumulation of solid household waste, paper, and paperboard was arranged.	A quantity of solid household waste taken for disposal reduced. Waste is transferred for reprocessing.

Affiliate	Measure	Environmental effect
Balakovo NPP	A production process was fitted with a shredder to chop wood waste in the form of tree trunks/ branches and nonconforming package/ containers to the state of chipped wood for digestion purposes in landscaping or for waste volume reduction purposes in case of taking to the disposal site.	A negative impact upon the environment reduced, and a volume of wood waste decreased.
Balakovo NPP	Thermal insulation supplied to the site for disposal of plant waste containing allowed quantities of radio nuclides was pressed.	A total of 1,815 m³ of thermal insulation was pressed that made it possible to reduce the initial volume of waste by 2-3 times.
Rostov NPP, Smolensk NPP	Luminescent/mercury-containing lamps were replaced with LED ones.	A volume of waste of Class of Hazard I reduced, and power efficiency increased.
Reduction of a Negative Impact upon Water Bodies		
Balakovo NPP	In plant buildings, service and drinking water pipelines were replaced with polymeric ones.	Losses of consumed water reduced by 10%, waste generation reduced due to service time extension for pipelines by 2 times; corrosion processes were stopped, and, respectively, harmful chemical substances are no longer discharged to the sewer line.
Reduction of a Negative Impact upon the Soil, Land Resources, and Underground Reserves		
Rostov NPP	3SU21 and 22W01 oil coolers were upgraded by replacing tube sheets and heat-exchange tubes with stainless steel ones.	A potential risk of oil products coming into a cooling pond was prevented.
Smolensk NPP	Oil tanks in the open oil storage were upgraded.	Leaks of oil products to soil, surface, and underground waters were excluded.
Control and Monitoring of an Impact upon Environmental Components		
Beloyarsk NPP	A system for monitoring environmental components, i.e. laboratory equipment of the chemical department was upgraded.	Quality was increased for the control of discharge and surface water composition and water quality in water bodies.

6.3. SAFETY OF PRODUCTION OPERATIONS

GRI 3-3 The strategic goal of the Division¹ – is absence of fatalities at NPPs related to the production process.

GRI 2-23 The Division’s occupational safety and health policy is aimed at:

- GRI 2-24
- prioritized protection of employee’s health and life at work places;
 - consistent and continuous implementation of measures to prevent accidents, work place injuries and occupational diseases through occupational safety and health procedures;
 - planning and funding measures that reduce rates of injuries and occupational diseases;

- ensuring cooperation with contractors in occupational safety and health and promotion of social partnership to provide necessary working conditions;
- assuring employees’ ability to speak openly (with management) about the issues they discover in occupational health and safety and to make suggestions for improving occupational health and safety performance;
- assuring that employees are motivated to promptly inform management of the problems identified and the proposals on occupational health and safety issues;
- determining the causes of detected health and safety violations to take measures to eliminate them and prevent their recurrence.

Feedback, Measures Taken

Division’s organizations inform employees about the causes and circumstances of incidents happened in industry’s organizations.

In case of injury risks or occupational safety violations, employees can use a special safety help line, answer boxes or e-mail for taking operational measures.

Injury Rates

In 2022, there were two minor industrial accidents at Smolensk NPP, two minor industrial accidents at Balakovo NPP, Kursk NPP, two minor industrial accidents at Beloyarsk NPP, and one group accident at Rostov NPP caused by a thermal impact of transformer ignition, which involved one fatality and one severe damage to personnel. There were no accidents at plant units under construction.

There were four accidents involving contractor’s employees – one fatal one at Smolensk NPP (a load fell on the injured), minor one at Beloyarsk NPP (foreign object run into an eye), a fatal one at Rostov NPP (hypoxia of the injured during work inside a low-oxygen hydro tank of the emergency core cooling system), and one minor one at Rostov NPP (a gate fell upon the injured). There were no accidents involving contractors at NPP units under construction.

During activities outside the sites, there were four accidents in Rosenergoatom’s organizations:

- a minor accident with the employee of VNIIAES, JSC with falling from the ladder;
- a minor accident with the employee of Smolensk NPP-Servis, JSC with falling to the floor;
- with the employees of Atomenergoremont, JSC - a fatality with throwing off by a vehicle at the pedestrian crossing and a minor one when during cargo lifting a man’s finger was pinched off.

In 2022, key causes of the accidents were the following ones:

- deficiencies in work performance plans;
- violations of permit-to-work system;
- deficiencies in injury risk assessment and risk management measures;
- poor control by responsible persons.

Checks were carried out in the Division’s organizations to determine irregularities/deficiencies, circumstances and causes of the accidents occurred. Based on that, a set of measures was taken to prevent injuries.

1. Appendix No. 3 to Rosenergoatom’s order No. 9/01/840-P dated June 15, 2020 About Introduction of Changes into Rosenergoatom’s order No. 9/808-P dated 02.07.2018.

Number of Accidents involving NPP Personnel at Operating NPPs

NPP	2020	2021	2022
Balakovo NPP	–	–	2m*
Beloyarsk NPP	–	–	2m
Bilibino NPP	–	–	–
Kalinin NPP	–	–	–
Kola NPP	1s**	–	–
Kursk NPP	–	–	1m
Leningrad NPP	–	–	–
Novovoronezh NPP	–	–	–
Rostov NPP	–	–	1gr**** (1f, 1s)
Smolensk NPP	–	1f***	1m
FTNPP	–	–	–
Total	1s	1f	6m, 1gr (1s, 1f)

* m is a minor accident, ** s is a severe accident, *** f is a fatal accident, **** gr is a group accident.

Statistics of Injury Rates among Contractor Personnel at NPP facilities

NPP	Total number of accidents		
	2020	2021	2022
At Rosenergoatom’s NPPs in operation			
Balakovo NPP	1f	–	–
Beloyarsk NPP	–	–	1m
Bilibino NPP	–	–	–
Kalinin NPP	–	1s	–
Kola NPP	–	–	–
Kursk NPP	–	1f	–
Leningrad NPP	–	–	–
Rostov NPP	–	–	1f, 1m
Smolensk NPP	–	–	1f
FTNPP	–	–	–
Total	1f	2 (1s, 1f)	4 (2f, 2m)
At Rosenergoatom’s NPP sites under construction			
Kursk NPP 2	1f	–	–
Total	1f	–	–
GRAND TOTAL	2f	2 (1s+1f)	4 (2f, 2m)

* m is a minor accident, ** s is a severe accident, *** f is a fatal accident, **** gr is a group accident.

A Lost Time Injury Frequency Rate (LTIFR) in the Division stood at 0.12 in 2022 and 0.04 in 2021 against a KPI limit of 0.15.

The Division is proactive in injures prevention.

A proactive approach means detection of all minor injuries, hazardous behaviors, and minor accidents to take measures to prevent injuries with more severe consequences.

The LTIFR in 2022 increased as two minor accidents were registered in the Division (NPP personnel + contractor + ROSATOM-controlled organizations) in 2022; and in 2021, eleven ones.

In 2022, there were no employees newly diagnosed with occupational diseases in Rosenergoatom and contractor organizations.

Occupational Safety Measures

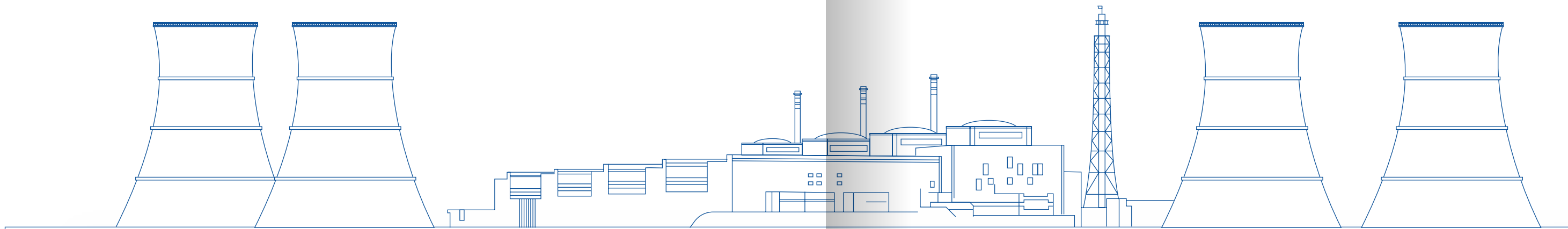
In 2022, Rosenergoatom’s occupational health and safety costs totaled RUB 6.262 billion.

In 2022, main results in the area of occupational safety were the following ones.

- An increased-focus monitoring plan entitled *Safe Management of Works — Usage of Professional Risk Control Methods by Persons Responsible for Arranging and Conduction of Activities under Work Permits* was implemented.
- An information campaign entitled *It is Worth to Reveal* was conducted in Division’s organizations.
- A plan of interaction was implemented with ROSATOM-controlled non-contracting organizations that have production facilities to improve procedures for assurance of safety control and occupational safety.
- A project was implemented to develop and implement the Seven Golden Rules under the Vision Zero Program.
- A program for achieving Rosenergoatom’s strategic goal *No Production Fatalities* was put into force for 2023-2025.
- A set of measures was implemented to prevent and reduce accident severity, i.e. an integrated plan of measures to reduce accident severity for 2022-2023 and a plan of measures to improve job-order/ permit-to-work system.
- Verification checks were conducted for actually fulfilled accident prevention measures.

Key Objectives for 2023

- to reproduce the Seven Golden Rules under the Vision Zero Program, which were tested at pilot NPP sites;
- to implement the program for achieving Rosenergoatom’s strategic goal *No Production Fatalities* was put into force for 2023-2025;
- to implement the industry-wide integrated program of measures aimed at preventing production injuries;
- to establish a methodological center of competence in the area of Rosenergoatom’s SC and occupational safety;
- to open and implement a project for making psychological requisites of unsafe human behaviors and defining the reasons for losing the sense of danger;
- to conduct on-the-job training in occupational safety for plant managers and Chief Engineers;
- to implement an increased-focus monitoring plan entitled *Ensuring Assessment of Professional Risks and Taking Measures to Arrange and Conduct Activities under Work Orders*.





7 DIGITIZATION

8 DEVELOPING THE HUMAN
CAPITAL

63,552 PERSONS
AVERAGE HEADCOUNT

7.1. TASKS AND SYSTEM/PRINCIPLES FOR DIGITIZATION MANAGEMENT

Over 100 digital projects of the Division are aimed at increasing internal efficiency, reliability and safety, as well as at developing new businesses. These include such large-scale technological projects as development of the unified platform combining NPP operation, maintenance, repairs and engineering support, creation of an automated system for management of resources and production processes at NPPs, development of a construction cost and schedule management system to create a single loop of digital data exchange from the general contractor to the customer and the investor in NPP construction projects, and creation of a geographically distributed and disaster-proof network of ROSATOM's data processing centers.

7.2. DIGITIZATION PROJECTS AND PRODUCTS

Import Substitution Solution to Exchange Technology Information with the Automated System of the System Operator

In 2022, a pilot import substitution project was implemented for a system to exchange technology information with an automated system of the system operator. The system collects and transfers on-line technology information about electrical NPP operation parameters to the UES of Russia.

Under the project, import substitution software was tested at a new technological nesting store with all the earlier functionality; in addition, requirements were developed for implementing the import substitution project at all NPPs. An information model was developed in the CIM notation as per State Standard GOST 58651 and standard IEC 61970 that will make it possible to fulfill the requirements of the RF Ministry of Energy for transferring the exchange of non-essential technological information to the CIM format as per GOST 58651.

From 2020, in partnership with Rusatom Smart Utilities, JSC an industry-wide project *Smart Towns of ROSATOM* is implemented in NPP towns. To date, base versions of a *Smart Town* platform are deployed in Balakovo, Desnogorsk, Zarechny, Novovoronezh, Polyarnye Zori, and Yudomlya.

In Volgodonsk and Kurchatov, extended versions of the digital municipal control program are introduced, including video surveillance modules with a possibility of remote centralized work with archived video recordings and single integration of all cameras in the town and a system for intellectual accounting and control of consumed power resources in municipal organizations, a possibility of placing smart traffic guide lights and bus stops, as well as equipment for the situational town center.

A Program for Creation of a Geographically Distributed and Disaster-Proof Network of ROSATOM's Data Processing Centers

Under the program, a Kalinin data processing center at Kalinin NPP, Xelent data processing center in Saint Petersburg, and StoreData in Moscow, which were established or procured, are operated and further

developed. In 2022, construction of the first phase of the Innopolis data processing center in Innopolis of the Republic of Tatarstan was started; in addition, a decision was taken to implement a project of creating a modular Arctic data processing center at Kola NPP.

Using an Astra Linux Operating System at Working Stations to Phase out non-Russian Software

A Rosenergoatom's project to transfer to the Astra Linux operating system was initiated in 2020 under the program of the RF government for import substitution. The objective of the project is to ensure uninterrupted working processes at Division's organizations, including with account of current limitations for usage of non-Russian software. *In 2022, the project won two national awards, i.e. TAdviser IT Prize and ComNews Awards 2022.*

Using the Russian Software Platform for an Automated Technical Documentation Control System

The automated technical documentation control system is intended to control creation, maintenance, storage, and submittal of current technical documentation through the entire circulation life of documents. Approximately 32 thousand employees in 14 Rosenergoatom's organizations work in a new import substitution automated technical documentation control system. The system is included into a register of Russian software. In 2022, the project won the largest Russian contest in the area of information technologies entitled the *GlobalCIO Project of the Year 2022*.

Substitution of the Non-Russian ARIS Business Process Modeling System with Russian Software

A system for modeling a corporate architecture is a package that ensures modeling and analysis of Rosenergoatom's business processes and information technology (IT) architecture, automation of models and data processing to generate regulatory documentation and reports for management decisions.

During development and introduction of the corporate architecture modeling system, all objectives of software import substitution were achieved, and all historical data were successfully saved; in addition, all ARIS system models and objects were transferred to the Russian SILA Union system. The system also has developed internal automated tools for data processing, including generation of analytical reports and regulatory documents.

7.3. KEY RESULTS

In 2022, under the import substitution program over 30 thousand automated working stations were transferred to AstraLinux software instead of Microsoft. The share of purchases of software, of which information is included into a unified register of Russian software or/and unified register of Eurasian software, exceeded 84%. Testing of a new Russian software-and-hardware package was completed to ensure a high level of information safety.

In 2023, it is planned to put import independent software-and-hardware solution jointly created by leading Russian companies in the area of cyber security (Positive Technologies) and IT equipment manufacture (Delta Computers) into commercial operation upon an order of the largest generating company of the country. The solution includes a MaxPatrol SIEM information security events monitoring and incident detection system, PT NetworkAttack Discovery (PT NAD) network traffic behavioral analysis system, PT Sandbox product for protection from targeted and mass attacks using malware, and Argut storage modules based on NVMe-disks.



In 2022, Rosenergoatom procured a first batch of Bober computers based on the Baikal processors and currently is making preparations for embedding them into the Rosenergoatom’s infrastructure.

A total of ten applications were filed to obtain RF patents for inventions, twenty two applications were filed for state registration of programs for computers and databases, ten know-hows were finalized, sixteen RF invention patents were obtained, twenty two certificates for state registration of programs for computers and database were obtained, and fifteen patents were obtained from non-Russian countries.

A fully Russian software-and-hardware package was put into commercial operation to ensure operation of the video device interface for the users. Kalinin NPP and a Kalinin data processing center were combined using protected communication channels of a high throughput. The Kalinin data processing center created a private Rosenergoatom’s cloud for a centralized system based on Russian components; the project of the Innopolis data processing center in Kazan was finished, and its construction began.

A protected channel was created to transfer across the borders technological operation parameters of Belarusian NPP units to the Regional Crisis Center of the WANO MC.

In 2022, Kurchatov won the second prize of RUB 36 million and Volgodonsk, the fourth prize of RUB 9 million in the All-Russia contest entitled *Best Municipal Practice of the Ministry of Construction of Russia under nomination Smart Town*.

Corporate Governance

In 2022 for the purposes of digitization of corporate structures in the Division’s organizations, introduction of an on-line electronic poll system for the meetings of the organizations’ Board of Directors was continued. In 2022, 140 meetings of the organizations’ Board of Directors were conducted using the system.

Activities were done in 14 organizations to introduce electronic confirmation for solutions of the Sole Shareholder.

7.4. PLANS FOR 2023

In 2023, large-scope projects will be launched for import substitution of IBM Maximo, replacement of the Osisoft technological data transfer bus, replacement of the AVEVA PRISM predictive analytics system, replacement of the SAP, Oracle data, and replacement of NPP local systems.

In 2023, it is planned to additionally increase the share of Russian software and begin the pilot use of fully Russian computers and office appliances, i.e. a project was launched to transfer automated working stations to Russian Baikal-processor-based hardware under the cross-cutting project implemented together with manufacturers of software and hardware.

In 2023, information systems will be certified for compliance with requirements for information protection in Rosenergoatom and its affiliates. This is necessary to ensure safe operation of Rosenergoatom’s and NPPs’ IT structure and to access ROSATOM’s corporate information resources and systems.

In 2023, it is planned to put into operation an Innopolis data processing center in the Republic of Tatarstan of 1,000 racks, begin designing the second phase of the Xelent data processing center in Saint Petersburg of 2100 racks, procure a data processing center of 4,000 racks in Moscow, and start designing the Arctic data processing center in the Murmansk region.



8 | DEVELOPING THE HUMAN CAPITAL

GRI 2-6
GRI 2-7
GRI 2-8
GRI 2-23
GRI 2-24
GRI 3-3 Policies and Other Regulatory Documents

A social policy complies with the Division’s strategy and ROSATOM’s unified industry-wide social policy to increase employer’s attractiveness at the labor market and employees’ loyalty, as well as to attract and retain specialists, preserve and maintain employees’ health, enhance their well being and quality of life.

Basic Personnel Characteristics (details are available in Appendix No. 2)

Indicator	2020	2021	2022
Turnover, %	11.56	10.76	10.81
Average number, persons	56,951.77	57,278.57	63,551.66
Share of women in the total number, %	25.89	26.39	24.59

Remuneration Plan

Indicator	2020	2021	2022
Monthly average income with account of all payments, RUB	96,538	106,231	113,540
Share of employees, salaries of whom were indexed or revised	100%	100%	100%
Share of impermanent payments in employees’ salary, not including the Plant Manager, Deputies, Chief Accountant, Deputies, Heads of Affiliates, representative offices and other independent structural departments in compliance with an industry-wide agreement	22.38%	24.7%	22.41%

Personnel Training

Professional training of Division’s personnel is carried out in compliance with requirements of legislative and regulatory-and-legal enactments of federal executive bodies, local regulatory enactments of ROSATOM and the Division.

Indicator	Quantity of training hours, thousand hours	Per employee, hours
Total hours of training, including:	4,889,8	76.9
Managers	1,052.1	111.7
Specialists and white-collar workers	1,933.5	73.2
Blue-collar workers	1,904.2	68.72

Share of Personnel Trained in 2022

Categories of employees	Share, %
Managers	85.2
Specialists and white-collar workers	95.5
Blue-collar workers	79.9
Sex	
Male	94.6
Female	74.2
Total for the Division	83.77

In 2022, 377 employees were trained under an industry-wide executive talent pool development program; over 2,000 employees completed the Leadership E-School program.

Personnel development training was also conducted as part of such industry-wide programs as *Leadership Development Program, Global Professionals, New Products, HR-School, Project Management School* and other programs aimed at development of corporate values and observance of human rights.

In 2022 to maintain industry-wide talent capacity, 624 Division’s employees were assessed for targeted executive positions, including 184 employees for positions of TOP-1000 executives.

In 2022, activities were held to develop line managers with over 600 Division’s employees attending the Second Industry-Wide Conference for Development of Line Managers and 2,026 line managers participated in the managerial dictation.

A total of 17.8 thousand employees of NPPs passed psychological training to the volume of 53.6 hours.

A total of 1,842 employees obtained Rostechnadzor licenses.

In 2022, 3,500 training-and-methodology materials, 3,354 position-specific training programs, 98 computer educational materials were developed and revised, import substitution was done for two multimedia all-purpose reference systems for technological systems and equipment of Leningrad and Smolensk NPP, a virtual reality simulator entitled *Software-and-Hardware Visualization Package for the Main Steam Valve Unit* was put into commercial operation at Leningrad NPP, large-scale simulators of Kalinin, Rostov, Smolensk NPPs and FTNPP were upgraded.

In 2022, costs for training, assessment and development of the Division’s personnel totaled RUB 630,379 thousand that at an average is RUB 9.9 thousand per a person a year.

Interaction with Educational Institutions and Youth

In 2022, 733 graduates with higher education were hired by Rosenergoatom’s organizations, of which 294 graduates were educated in nuclear area.

Rosenergoatom’s organizations took part in industry-wide career and university events.

To attract graduates, Rosenergoatom held meetings of Rosenergoatom’s organizations with students of all key universities, i.e. National Research Nuclear University MEPhI’s Obninsk Institute for Nuclear Power Engineering, NRNU MEPhI’s Volgodonsk Engineering and Technical Institute, Ivanovo State Power Engineering University, Ural Federal University, Tomsk Polytechnical University, and others. The total number of students who took part in these events is over 12 thousand persons.

A road map for co-operation with the Ivanovo State Power Engineering University starting from 2026 was signed.

Activities are continued under a project of development of the National Research Nuclear University MEPhI’s Obninsk Institute for Nuclear Power Engineering. A decision was taken to reorganize National Research Nuclear University MEPhI’s Novovoronezh Polytechnical College to National Research Nuclear University MEPhI’s Novovoronezh Polytechnical University, where starting from 2023 students will be trained in programs of higher education.

In 2022, 2,335 students of secondary and higher education completed internships in Rosenergoatom’s organizations that is by 600 more than in 2021.

A total of 183 students went to universities under employer-sponsored educational programs with 388 students covered by Rosenergoatom’s employer-sponsored contracts.

A regular contest was held to award scholarships to students and grants to universities’ professors. In total, 47 grants worth RUB 200 thousand each and 82 scholarships worth RUB 100 thousand each were given.

The Division pays special attention to youth’s activities. A set of activities was held to unite young Division’s specialists, to create production, social-and-economic and psychological conditions that strongly contribute to professional and social starting-up. The main priority is to comprehensively expand an intellectual potential and increase qualification of young employees for their effective participation in management and development of the company in main strategic areas. To that end, the Division has 24 youth communities at every NPP and in most affiliates.

Social support measures for Rosenergoatom’s young employees and specialists are taken in compliance with the unified industry-wide social policy of ROSATOM and its organizations. Throughout the year, 2,654 young specialists took part in local, divisional, industry-wide, federal, and international events, including the following:

- Divisional Youth Convention IV;
- Industry-Wide Convention of Youth Communities’ Leaders;
- ROSATOM Congress for Leaders in Changes;
- Open Contest for the Best Scientific and Technical Report;
- Anatoly Alexandrov Corporate Social Responsibility and Volunteering Competition;
- events as part of the WorldSkills championship movement, i.e. REASkills divisional championship, AtomSkills industry-wide championship, Hi-Tech national championship;
- Energy of Youth contest;
- AtomProfi Young Professionals Forum;
- IYNC-2022 International Nuclear Youth Congress.

To retain and multiply talent capacity, a special attention is paid to activities with schools and teachers aimed at rising the status of physics and motivating students to select physics for the uniform state exam. To that end in 2022, Rosenergoatom launched a large-scale project *Physics Now*. Under the project, teachers from such key Rosenergoatom’s universities as National Research Nuclear University MEPhI’s Obninsk Institute for Nuclear Power Engineering, Ivanovo State Power Engineering University, and Tomsk Polytechnical University carried out 252 lessons in physics and career guidance activities for over 2,220 9-11th grade students in 50 schools of 9 towns where Rosenergoatom operates. Two focus groups were organized for students, teachers, parents, and school headmasters devoted to passing the uniform state exam in physics. As an outcome of the project, 50 most active students in the towns of Rosenergoatom operation were awarded a unique possibility of free training for the uniform state exam in physics by best physics teachers from field-specific universities and universities that cooperate with Rosenergoatom.

In October 2022, Rosenergoatom in cooperation with the MASHUK knowledge center organized a strategic session for physics teachers with the aim to develop sections of an educational program for physics teachers to attract school students to physics as a key subject for professional orientation.

Implementation of the Social Policy

The Division is a socially oriented company with paying attention to social well being of its employees.

Social Expenditure of the Division in 2019-2022, RUB thousand

Indicator	2020	2021	2022
Expenses per employee	64.99	72.55	87.53
Total expenditure on the implementation of the social policy, including main programs:	3,693.386	4,151.847	5,564.667
– Healthcare programs (VHI+accident insurance)	667,308	814,132	829,440
– Private pension plans	152,545	194,270	365,536
– Health resort treatment and wellness	292,599	517,907	714,593
– Support for retirees	406,993	423,842	594,814
– Providing better living conditions for employees	399,612	337,170	327,012
– Cultural and sports events*	743,120*	679,735*	775,868

* including mass anti-pandemic events

Voluntary Health Insurance

The Division provides VHI to its employees. Employees’ VHI ensures available qualified healthcare support irrespective of the region of operation. To ensure availability of healthcare support, a contract is made with medical institutions of the Russia’s Federal Medico-Biological Agency for VHI services. Every employee is provided with VHI.

VHI includes the following package of medial assistance:

- outpatient care, including at home;
- emergency care;
- in-patient care;
- dental care;
- rehabilitation treatment, including after severe disease;
- some types of expensive medical care;
- emergency medical care during business trips within the RF.

Under VHI, employees and relatives can receive qualified medical treatment not only in the regional medical institutions, but also in those of Moscow and Saint Petersburg.

In addition, employees have a possibility of procuring VHI certificates for all members of their families by special prices that assume the same treatment under insurance programs and attachment to the same medical institutions as for the insured employees.

Voluntary accident and illness insurance means additional insurance for all division’s production employees. All Division’s organizations strive for Vision Zero in their activities. Nonetheless, in case of workplace accidents employees are entitled to necessary healthcare and guaranteed compensations.

Personnel Rehabilitation

Health resort treatment for employees and their children means keeping up of their professional health and prevention of professional illnesses. To keep up health based on medical evidence and periodic health examination, every year employees are provided with vouchers for health resort treatment and rehabilitation in the local healthcare center. Most division’s employees have critically important knowledge and ensure continuous plant operation. Employees of the following categories are obligatorily awarded with vouchers for health resort treatment and local healthcare treatment:

- employees with prescriptions for health resort treatment based on periodic medical examination;
- employees who have suffered a virulent or chronic form of the professional illness;
- employees who work under dangerous or hazardous conditions;
- employees who for many years work under dangerous or hazardous conditions.

In addition, children of Rosenergoatom’s employees and retirees, former employees can receive vouchers for health resort treatment based on medical evidence.

Every year, the Division conducts rehabilitation of personnel in subordinate health treatment centers and health resort centers of the RF.

In 2022, a share of employees who received vouchers for health treatment centers and health resort centers of the total number of employees who are prescribed a medical treatment by periodic medical examination totaled 93%.

In 2022, 6,660 people were treated in 10 health treatment centers of NPPs. A total of 8,602 employees was treated in 34 health resort centers at the Black Sea, Caucasian Spas, and in central Russia.

Providing Better Living Conditions for Employees

The provision of housing for Division’s employees is a very important prerequisite for attracting skilled personnel accounting for the construction volume of new units. There is a corporate program for employees to improve living conditions, which is a part of unified industry-wide social policy of ROSATOM and its organizations. Under this program in 2022, employees were provided assistance in procuring permanent apartments and in renting temporary ones.

In 2022, 220 employees were given interest-free loans to make a down-payment on mortgages; 3,052 employees received compensation for interest on mortgage loans, and 1,562 employees were provided with an assistance for renting temporary compartments, of which 1,117 people are young specialists under 35.

Cultural and Sports Events

Mass sports activities are one most available means to develop mass sports in the Division and to motivate a competitive spirit inside ROSATOM that increases a level of personnel engagement.

Activities to rise a cultural-and-educational level of employees are planned with account of findings of survey for revealing needs and interests of employees.

Arrangement of children’s holidays and events aimed at developing an interest to the history and traditions of nuclear industry and to professions of their parents is a priority area in cultural activities.

In 2022, the Division’s employees took part in industry-wide sports events. The most significant among them are the following ones:

- XI winter Spartakiad for Employees of Nuclear Power, Industry and Science entitled Atomiada 2022 with 49 participants as part of the Division’s team;
- Nuclear Towns’ Run with over 2.500 employees and members of their families taking part in it;
- Efim Slavsky mini-football tournament;
- 3×3 basketball tournament entitled *Orange Atom*.

In 2022, the Division continued the following sports projects:

- integrated program of the social-and-sports project entitled *Nuclear Sports Power* for 2021–2023;
- integrated program of the social-and-sports project entitled *Nuclear Puck* for 2020–2022.

State-of-the-art multi-purpose sports grounds were built and upgraded in many Division’s towns.

Private Pension Plans

Rosenergoatom offers private pension plans through Atomgarant industry-wide Non-State Pension Fund (hereinafter, the Fund) in accordance with the Program on Non-State Pension Plans for Rosenergoatom’s employees and pension agreements concluded between the Company and the Fund. Pension obligations are covered in full using Rosenergoatom’s shared resources under a retirement benefit scheme; the value of obligations in 2022 was estimated at RUB 322 million as compared to RUB 166 million in 2021. Upon retirement of an employee of Rosenergoatom, the scope of his/her participation in the pension plan is determined based on the length of employment in the nuclear power industry, which must total at least 15 years at the time of reaching a retirement age.

Indicator	2021	2022
Total number of Rosenergoatom’s retirees who receive a private pension through the Atomgarant Non-State Pension Fund, persons	12,903	12,483
Average non-state pension, RUB	2,274	2,303
Funds paid by the Atomgarant Non-State Pension Fund as non-state pensions, RUB million	275.4	272.0

In 2022, the number of members of co-funding pension funds totaled 7,506 persons compared to 7,282 persons in 2021.

Veteran’s Movement

Care for veterans is one of the most important areas of the social policy. Interaction with the Inter-Regional Public Organization of Rosenergoatom’s Veteran Employees (IRPORVE) is based on the Cooperation Agreement between Rosenergoatom and IRPORVE in accordance with the Corporate Social Support Program for Non-Working Retirees, which is an integral part of the Uniform Industry-Wide Social Policy of ROSATOM and its organizations and the Social Support Program for Non-Working Retirees of Rosenergoatom.

As part of the cooperation, Rosenergoatom provides organizational assistance for social adaptation and rehabilitation of its employees upon their retirement, takes social measures to support non-working retirees, and conducts activities to protect economic, social, labor, and other rights and legitimate interests of non-working retirees of Rosenergoatom.

To support IRPORVE’s activities on protection of social, labor, and other rights of non-working retirees of Rosenergoatom, as well as to develop social partnership for the implementation of the coordinated social policy, assistance and rehabilitation of former Rosenergoatom’s employees after their retirement, and to enhance their social protection, Rosenergoatom annually provides IRPORVE with financial assistance in the form of donations.

In 2022, the actual number of retirees participating in IRPORVE totaled 18,072 persons compared to 18,142 persons in 2021. Using funds allocated by Rosenergoatom under the Charitable Contribution Agreement, IRPORVE provided retirees in need with financial assistance totaling RUB 90.1 million compared to RUB 83.0 million in 2021 and funding for health resort treatment and rehabilitation totaling RUB 92.5 million compared to RUB 75.6 million in 2021.

Veterans are provided with the social assistance. Financial assistance was provided to retirees in 55,882 cases compared to 42,758 cases in 2021.

Epidemiological Situation in the Division: Vaccination/Re-vaccination

In 2022, activities of the response crisis centers were continued to fight against the spread of novel corona virus infection in the Division. Packages of measures were implemented to prevent the spread of the disease and protect employees; and every day the dynamics of the epidemiological situation in the Division was monitored.

Employees and members of their families were vaccinated and re-vaccinated. When the epidemiological situation in the regions of Division operation worsened, the following measures were taken:

- Thermometry was arranged for all employees and visitors, and mask requirements and a social distance were observed; periodical testing was done.
- Sanitary inspection was ensured for working places.
- Business trips were limited, and face-to-face meetings and mass events were terminated.
- Some employees worked remotely.

Continuity of production processes in the Division was ensured under the spread of the corona virus infection. In 2022, herd protection was maintained above 80%.

Share of employees who worked remotely

No.	Region	Organization	Number of employees, persons	% of union members
1.	Saratov region	Balakovo NPP	3,276	100%
2.	Sverdlovsk region	Beloyarsk NPP	2,504	64%
3.	Chukotka autonomous region	Bilibino NPP, FTNPP	603+487	62%
4.	Tver region	Kalinin NPP	3,288	70%
5.	Murmansk region	Kola NPP	2,124	63%
6.	Kursk region	Kursk NPP	4,733	99%
7.	Leningrad region	Leningrad NPP	5,345	63%
8.	Voronezh region	Novovoronezh NPP	4,014	97%
9.	Rostov region	Rostov NPP	3,172	78%
10.	Smolensk region	Smolensk NPP	3,695	48%
11.	Moscow	Central Administration	1,378	25%

GRI 3-3 Results of the Anatoly Alexandrov Corporate Social Responsibility and Volunteering Competition

In 2022, the results of the Anatoly Alexandrov Corporate Social Responsibility and Volunteering Competition were summarized. A total of 87 out of 200 applications was filed. Rosenergoatom’s employees won in all nominations with most of the prizes, i.e. 7 out of 15.

The following projects got to the finals:

Nomination	Prize I	Prize II	Prize III
Best Corporate Social Responsibility Project	Project: Clean Town: A consolidated application for environmentalization of towns’ spaces from Central Administration, Rostov NPP, Leningrad NPP, Beloyarsk NPP, Smolensk NPP, and Novovoronezh NPP	-	-
Best Volunteering Project	Project: Safe Traffic Culture Beloyarsk NPP	-	-

Nomination	Prize I	Prize II	Prize III
Best Corporate Social Responsibility Project	-	Project: Development of Talent Capacity in Balakovo Affiliate of Atomenergoremont, Balakovoatomenergoremont	Project: Involving Veterans to Production Activities Leningrad NPP
Best Idea for a Social or an Environmental Project	-	Project: Sports and Tourist Park in Koporie Settlement Leningrad NPP	-
Best Corporate Social Responsibility Program	-	Project: #Wearetogether: Corporate Social Responsibility Program of Smolensk NPP	Project: Implementing Social Projects at the territory of Kola NPP Operation Kola NPP

Employment Entitlement

To avoid employment disputes, Rosenergoatom abides by employment legislation. Separate Rosenergoatom’s regulations attach the main duties and obligations of employees, liability of the parties, labor routine and time off, rewards and sanctions for employees, and other issues of labor management relations, including improvement of employees’ performance and motivation to achieve specific work results and ensure mutually advantageous cooperation of the organization and employees.

In addition, the following activities are conducted:

- Rosenergoatom’s and its projects media space in mass media and internet is monitored every day, and a balance between positive and negative publications in mass media is analyzed and monitored every week.
- Negative messages appearing in mass media are responded immediately, and up-to-date information is promptly disseminated.
- Plans of compensation measures are developed in case of information attacks and destructive information campaigns to minimize potential negative consequences.
- Communication campaigns are held at internal and external resources and in corporate mass media concerning such topics as *Rosenergoatom as the Best Employer and Social Support of Personnel*.

GRI 2-26 Inquiries Collection, Statistics and Analysis, Resolutions

Rosenergoatom actively considers inquires by employees. Inquiries are received using the ROSATOM hot line, e-mail at info@rosenergoatom.ru and info@rosatom.ru or in official letters to the address of Rosenergoatom. Every inquiry is registered by a Rosenergoatom’s documentation circulation department in accordance with the methodical procedure for considering employees inquiries. A maximum duration of inquiries consideration is 30 days. Every inquiry is analyzed, considered, and resolutions are carried out in cooperation with departments involved.

In 2022, 282 inquiries were sent to Rosenergoatom using a unified industry-wide contact line, i.e. by e-mail to info@rosatom.ru, info@rosenergoatom.ru or by official letters. Every inquiry was considered. All resolutions were prepared and sent in due times.

Popular topics of inquiries are as follows:

- enhancement of NPP operation;
- technical proposals;
- non-observance of the labor law by the employer;
- ensuring safe operation of NPPs;
- issues of guaranteed benefits and payments.

Rosenergoatom's Code of Conduct defines ethical aspects for Rosenergoatom, its controlled organizations, and all employees. It contains uniform industry-wide values of ROSATOM and ethical requirements for values-based behavior of employees. The principles from the Code of Conduct are mandatory for all employees irrespective of positions occupied. Managers personally show commitment to industry-wide values, standards, and regulations described in this document.

Inquiries received by e-mail at info@rosatom.ru and info@rosenergoatom.ru — being preliminary sent to whom it may concern in Rosenergoatom to prepare resolutions related to Division's work — and in the form of official letters to the address of the Rosenergoatom's Director General are registered in the unified industry-wide document circulation system and submitted to an Ethics Commissioner by controlled assignment of the Rosenergoatom's Director General. Inquiries sent to the e-mail address of ethics@rosenergoatom.ru are registered in the electronic inquiry register.

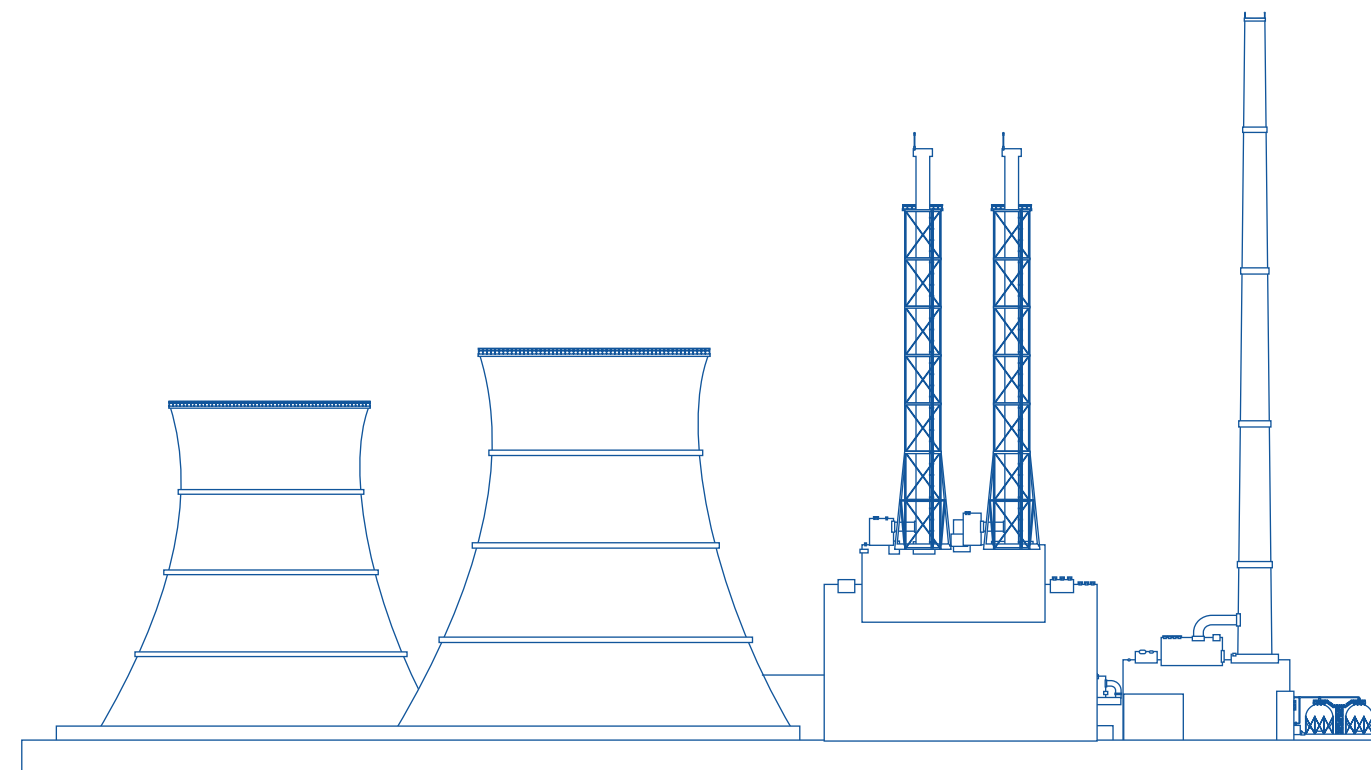
The Ethics Commissioner considers all inquiries and resolves them. All inquiries are confidential. The maximum time for consideration is 30 days¹.

No Discrimination

Organization's personnel is selected and recruited in accordance with the unified industry-wide procedure that defines interaction between organization's departments in the course of activities with personnel based on regulatory legal regulations and international practice. This ensures a full cycle of personnel selection in exact stages, excludes discrimination during searching, hunting, preliminary selection, defining compliance with corporate values and a level of professional knowledge, skills, and motivation and excludes that when selecting the final candidate for a vacancy. Vacancy notices and publications both inside and outside of the company comply strictly with the RF Labor Code and exclude discrimination in the process of selecting and recruiting employees as related to incoming requirements.

There is no forced labor in the Division's organizations.

1. Details about activities of the Council of Ethics are available at the Rosenergoatom's website <https://www.rosenergoatom.ru/partners/eticheskaya-praktika-kompanii/>.



An aerial photograph of a city, likely in Russia, showing a large residential complex with many-story apartment buildings. In the foreground, there is a green park area with a playground and a small building. To the right, a large church with a prominent golden dome and multiple smaller domes is visible. The city extends into the background with more apartment buildings under a clear blue sky.

9

**DEVELOPING THE REGIONS
OF OPERATION**

10

**SPECIFIC RISKS AND MANAGEMENT
APPROACHES**

RUB 95.421

BILLION

TAX PAYMENT OF THE DIVISION



9 | DEVELOPING THE REGIONS OF OPERATION

GRI 3-3 Infrastructure Development

Since 2012, ROSATOM has been successfully implementing cooperation agreements with regions where NPPs are located, i.e. with Voronezh region, Kursk region, Leningrad region, Murmansk region, Rostov region, Sverdlovsk region, Smolensk region, and Tver region. Thanks to this, additional funding is annually provided to municipal budgets for social-and-economic and infrastructural development measures.

In 2022, the funding from regional budgets for packages of measures in municipal entities of NPP locations — plus in Lesnoy and Novouralsk closed cities of the Sverdlovsk region — totaled RUB 3.18 milliard as compared to RUB 2.61 milliard in 2021.

Key Measures Implemented in 2022 under Agreements with Regions

Territory (NPP)	Total amount, RUB million	Activities
Volgodonsk, Rostov region (Rostov NPP)	850.7	Construction of the secondary school for 600 children in the V 9 section and of the combat center continued; overhaul of the palliative care center was completed; improvement of the Youth park continues.
Desnogorsk, Smolensk region (Smolensk NPP)	78.3	Overhaul of the N-3 highway was done.
Zarechny district, Sverdlovsk region (Beloyarsk NPP)	300.0 ¹	In Zarechny, construction of stage I and II in the municipal industrial park was completed, educational organizations and institutions were repaired and fitted; integrated activities to improve and light the town were completed; roads were constructed and repaired
Kurchatov, Kursk region (Kursk NPP)	215.1	<i>Smart Kurchatov</i> software package is being implemented; school 2 was repaired and fitted; gasification of houses in settlements of the Kurchatov region continued; public and apartment's territories were improved; roads were repaired; etc.
Novovoronezh district, Voronezh region (Novovoronezh NPP)	466.0	The territory of the town's <i>Novopark</i> park was improved; sections of water mains and sewage in the municipal entity were repaired; apartment's territories were improved in an integrated manner; roads were repaired; funds were allocated to overhaul kindergarten 15.
Polyarnye Zori, Murmansk region (Kola NPP)	351.9	Reconstruction of the <i>Northern Lights 2.0</i> boulevard and construction of a ski lodge were continued; a public territory along the Pushkin street was improved; rooms of schools and kindergartens were repaired; electricity supply activities were done for areas in section 9; apartment's and public territories were improved; etc.
Sosnovy Bor district, Leningrad region (Leningrad NPP)	189.7	Construction of the kindergarten for 240 children with a swimming pool was completed.

1. In addition, RUB 600 million as agreed were funded to Lesnoy and Novouralsk closed cities of the Sverdlovsk region.

Territory (NPP)	Total amount, RUB million	Activities
Udomlya district, Tver region (Kalinin NPP)	130.8	Roads were repaired; apartment's territories and public spaces in the town were improved; smart sports ground was fitted; municipal model library was fitted; facilities and resources of educational institutions were created/renovated; activities to provide housing for young families continued.

Since 2018, Rosenergoatom in partnership with Russia's Presidential Agency for Strategic Initiatives to Promote New Projects, Rosenergoatom has been preparing applications from host towns for participation in the Russian Ministry of Construction's annual contest *Best Projects for Creating Comfortable Space in Small Towns and Historical Settlements*. During 5 years, the Division's towns won the contest 15 times.

In 2022, the projects of winners in the Ministry of Construction's contest 2021 were completed, i.e. *Northern Lights 2.0* project in Polyarnye Zori, *Venetsianov Park 2.0* project in Udomlya, and *Novopark* project in Novovoronezh.

In 2022, the winners of the Ministry of Construction's contest were the following towns:

1. Zarechny with the *Zarechny Eco Park*;
2. Sosnovy Bor with the *Palace of Culture Square*;
3. Desnogorsk with the *Atom Park 2.0*;
4. Novovoronezh with the *Town's Embankment Improvement* project.

In 2022, the total raised federal donations totaled RUB 350 million, regional funding totaled RUB 112.8 million; Rosenergoatom's support to develop projects and ensure municipal co-funding totaled RUB 165.76 million.

In 2022 as part of the industry-wide *ROSATOM's School* project, 37 atomic classes were opened and work in host Division's towns and on territories of Rosenergoatom interest. By results of 2022, Udomlya and Novovoronezh are at a top of municipal rating for participants of the *ROSATOM's School* project.

In 2022, a program was launched to comprehensively renovate atomic classes and their centers of competence, as part of which new equipment will be procured, and rooms will be repaired. To this end, RUB 63 million was allocated. It is planned to complete all activities by September 2023.

Since 2019, in NPP host towns with Rosenergoatom's support a project has been implemented to create patriotic centers based on children's pneumatic shooting clubs. Atom club branches have been already working in Balakovo, Desnogorsk, Zarechny, Kurchatov, Novovoronezh, and Udomlya.

In addition, a *Patriot* patriotic youth industry-wide laboratory was established based on Atom patriotic clubs in Desnogorsk and Zarechny.

In 2022, the Division allocated RUB 82.5 million to implement over 55 industry-wide activities as part of the *ROSATOM's Culture Territory* in NPP host towns.

In March 2022, a creative workshop was held for winners of the *Trying on The Time* 2021 project. This ended in a gala showing of an autobiographical performance about the life and creative career of a Russian fashion designer Nadezhda Lamanova with showing 60 samples of clothing created by the sketches of young designers from NPP host towns and in a road tour of the performance to Desnogorsk, Polyarnye Zori, and Zarechny.

In 2022, a total of RUB 2.1 billion as compared to RUB 1.6 billion in 2021 and RUB 2.1 billion in 2020 was allocated by the Division for social-and-economic and infrastructural development projects, including construction, reconstruction, and upgrade of social facilities, support of population’s social initiatives, cultural and sports projects in NPP host territories.

Area	2020	2021	2022
Health care	485.05	250.59	277.4
Sports	369.46	263.02	434.87
Social infrastructure	755.87	738.03	766.84
Welfare	532.34	313.62	579.89
TOTAL	2,142.72	1,565.25	2,059.00

The Division’s NPP public projects won four prizes in the federal *KonTEKst* 2022 competition.

Interacting External Stakeholders

See It. 3.3. Approach to Interaction with Stakeholders.



10 | SPECIFIC RISKS AND MANAGEMENT APPROACHES

In 2022, Rosenergoatom experienced no significant adverse effects of risk realization.

Risks and their dynamics	Risk description	Risk management practice
Electricity market and capacity risk	Negative changes in prices for electricity and capacity	<p>Management approaches:</p> <ul style="list-style-type: none">– participate in the site prediction work group of the Market Council nonprofit partnership association;– monitor price impact factors;– monthly update price forecast. <p>Results:</p> <p>An agreement was reached with the Market Council to send an additional forecast with account of the prevailing in the region NPP sales amount, which most precisely generates an electricity price forecast day ahead market for NPPs.</p> <p>Dynamics:</p> <p>Due to the complicated economic situation, risks of reduced consumption rise, which is one key factor of generating a day ahead market price. The impact of commercially introduced wind and solar generation in the combined power system of North West and combined power system of the South cannot be fully accounted for in the forecast due to small generation statistics, but during some past periods they significantly influenced electricity prices. The possibility of these risks will increase in 2023.</p>
Risk of a decreased power generation	Equipment downtime or unavailability	<p>Management approaches:</p> <p>In 2022, to improve NPP safety, reliability, and stability, to prevent equipment failures, meet the load schedule, achieve the target for power and heat supply with observing the repair schedule established for NPP units, and to accelerate efforts to achieve key targets for power generation and fulfill governmental orders, and arrange activities for increasing personal accountability of plant managers Rosenergoatom issued the following orders:</p> <ul style="list-style-type: none">– <i>About Targets for Main Business Areas of Rosenergoatom in 2022;</i>– <i>About Results of the Repair Campaign 2021 and Tasks for 2022;</i>– <i>About Measures to Increase Quality of Arranging NPP and FTNPP Operation.</i> <p>Every year, scheduled repairs of NPP units are made in compliance with the approved repair schedule; NPP lifetime extension programs are implemented; equipment is upgraded to increase installed capacity and power generation at units in operation, including a possibility of unit operation at power above nominal one.</p> <p>Results:</p> <p>In 2022, a record power generation was achieved of 223.372 billiard kWh that is 102.5% of the balance set by the Federal Antimonopoly Service of Russia and 100.4% of the actual generation amount in 2021. In 2022, the installed capacity utilization factor was 86.21%. The share of electricity generated by Rosenergoatom’s NPPs as part of the UES of Russia was 19.9%. All cases of equipment violations and failures were investigated using the established procedure. Corrective and preventive measures were developed aimed at eliminating root causes of violations and preventing their occurrence. A package of risk management measures together with ROSATOM’s production system tools makes it possible to mitigate the impact of negative factors.</p> <p>Dynamics:</p> <p>It is predicted that risks in 2023 will not increase as compared with 2022.</p>

Risks and their dynamics	Risk description	Risk management practice
Risk of non-achieving targets of RF NPP construction investment projects	Increased costs and duration for RF NPP construction	<p>Management approaches:</p> <p>The period of and cost for construction are managed using a proprietary automated construction cost and schedule management system of the pilot project for construction of unit 1 and 2 at Kursk NPP. In this system it is possible to:</p> <ul style="list-style-type: none">– plan, monitor, and predict the cost using a base and index method and construction periods;– do thematic planning and reporting;– control working documentation and estimate limits for every construction facility;– analyze causes of deviations in a cost and period from target, etc. <p>To ensure compliance with unified industry-wide approaches to cost and period management, a task is being implemented to introduce an information total cost management nuclear construction (TCM NC) system and integrate it with the automated system for construction period management. This activity made it possible in terms of resources to estimate a full cost for construction of Kursk NPP 2 to further take account of it when generating a tariff under a power delivery contract.</p> <p>Results:</p> <p>A package of risk management tools, as well as the automated system for construction period management and TCM NC make it possible to level off negative impacts and take management decisions in time.</p> <p>Dynamics:</p> <p>It anticipated that risk assessment dynamics will improve to some degree. This can happen due to development of the following tasks in this area:</p> <ul style="list-style-type: none">– A budget for the project of Kursk NPP 2 will be generated and maintained in the TCM NC information system.– A historical database will be generated.– Management experience will be replicated using the automated system for construction period management and TCM NC at other facilities, i.e. at unit 3 and 4 of Leningrad NPP, unit 1 and 2 of Smolensk NPP, and unit 3 and 4 of Kursk NPP.
Industrial safety and environment risk	Accidents at hazardous production facilities	<p>Management approaches:</p> <p>Planned activities are conducted to maintain equipment, train personnel, and upgrade/ retrofit hazardous production facilities. A <i>Program of Measures to Reduce a Risk of Accidents at Hazardous Production Facilities for Mid Term of 2021-2023</i> is implemented. Risks are managed by transfer of responsibility, i. e. using insurance. A third party liability insurance contract is made with the owner of the hazardous facility for damage incurred as a result of an accident at hazardous facility.</p> <p>Results:</p> <p>Safe operation of ROSATOM’s organizations is ensured, including hazardous production facilities.</p> <p>Dynamics:</p> <p>It is not predicted that risk assessment will increase in 2023 as compared with 2022.</p>



APPENDICES

APPENDIX 1. INFORMATION ABOUT REPORTING MATERIAL PREPARATION PROCESS

GRI 2-2 In 2022, a contribution to RF technological sovereignty was prioritized in reporting materials. A SRS 200:
GRI 2-3 General Disclosures sustainability reporting standard (SRS) of a global reporting initiative (GRI) was used
GRI 2-29 to disclosure information.
GRI 3-1 In 2022, a key topic for disclosure of the Division’s information was assigned based on surveying of ROSATOM’s stakeholders.

A report was prepared in compliance with the following:

- ROSATOM’s unified industry-wide policy in the area of public reporting;
- unified industry-wide standard for public reporting of ROSATOM and its organizations;
- United Nations (UN) Global Compact principles;
- International <IR> Framework;
- Global reporting initiative (GRI) SRS as the main standard;
- AA1000 AccountAbility 2018 principles.

Reporting materials provide information about the ROSATOM Division’s performance from January 01, 2022 to December 31, 2022.

According to the Division’s internal regulatory documents, an annual reporting cycle was selected.

In 2022, the Division’s number of personnel was recalculated due to specification of that for TĬTAN2 IC Ĭ3TAŞ.

Draft reporting materials were agreed with stakeholders via extra-mural discussions, i.e. by discussing significant disclosure topics, sending draft reporting materials, collecting, analyzing, and accounting of comments.

List of Material Topics

Water resources GRI 301-1, GRI 301-2, GRI 301-3, GRI 301-4, and GRI 301-5	6.2 Environmental Safety, <i>Water Consumption</i> section
Emissions GRI 3-3, GRI 305-1, GRI 305-2, GRI 305-3, GRI 305-4, GRI 305-5, GRI 305-6, and GRI 305-7	6.2 Environmental Safety, Environmental Emissions section
Contribution to Technological Sovereignty GRI 3-3	5. Contribution to Technological Sovereignty: New Products and Businesses pp. 24-27
Development of Innovation Activities GRI 3-3	4. Innovation Business and Science Development
Contribution to Development of Territories of Operation GRI 3-3	9. Contribution to Development of Territories of Operation
NPP Safe Operation	6. Business Safety

GRI 2-7
GRI 2-8

APPENDIX 2. PERSONNEL PROFILE

Affiliate	Total number			Share of personnel			Regular personnel			Temporary employees			Full-time employees			Part-time employees			Female managers	Turnover of personnel
	F*	M**	Total	F	M	Total	F	M	Total	F	M	Total	F	M	Total	F	M	Total		
Balakovo NPP	732	2,544	3,276	22%	78%	100%	732	2,544	3,276	0	0	0	731	2,544	3,275	1	0	1	8.434	1.68
Beloyarsk NPP	664	1,841	2,505	27%	73%	100%	664	1,841	2,505	0	0	0	662	1,839	2,501	2	1	3	8.288	4.15
Bilibino NPP	186	417	603	31%	69%	100%	186	417	603	0	0	0	185	417	602	1	0	1	12.259	5.47
Kalinin NPP	991	2,297	3,288	30%	70%	100%	991	2,297	3,288	0	0	0	988	2,296	3,284	3	1	4	9.39	4.35
Kola NPP	419	1,705	2,124	20%	80%	100%	419	1,705	2,124	0	0	0	417	1,704	2,121	2	1	3	4.196	2.87
Kursk NPP	1,176	3,557	4,733	25%	75%	100%	1,176	3,557	4,733	1	2	3	1,174	3,557	4,731	2	0	2	8.581	3.36
Leningrad NPP	1,288	4,057	5,345	24%	76%	100%	1,288	4,057	5,345	0	0	0	1,284	4,055	5,339	5	2	7	7.594	2.99
Novovoronezh NPP	962	3,052	4,014	24%	76%	100%	962	3,052	4,014	0	0	0	960	3,049	4,009	2	3	5	9.681	2.94
Rostov NPP	911	2,261	3,172	29%	71%	100%	911	2,261	3,172	0	0	0	909	2,261	3,170	2	0	2	12.435	3.59
Smolensk NPP	1,037	2,658	3,695	28%	72%	100%	1,037	2,658	3,695	0	0	0	1,036	2,657	3,693	1	1	2	15.318	1.54
FTNPP	106	381	487	22%	78%	100%	106	381	487	0	0	0	105	382	487	1	0	1	15.62	6.16
Central Administration	456	529	985	46%	54%	100%	456	529	985	0	0	0	451	528	979	5	0	5	27.044	5.28
Technology Branch Office	60	87	147	41%	59%	100%	60	87	147	0	0	0	60	87	147	0	0	0	26.142	4.46
Capital Projects Implementation Branch Office	108	139	247	44%	56%	100%	108	139	247	0	0	0	107	139	246	1	0	1	25.009	6.79
Pilot and Demonstration Engineering Centers for Decommissioning	74	260	334	22%	78%	100%	74	260	334	0	0	0	73	259	332	1	0	1	20.77	4.8
Pilot and Demonstration Engineering Center of RBMK	38	40	78	49%	51%	100%	38	40	78	0	0	0	38	40	78	0	0	0	26.95	11.62
Atomenergoremont, JSC	1,560	7,893	9,453	17%	83%	100%	1,560	7,893	9,453	2	8	10	1,556	7,886	9,442	5	6	11	5.509	7.76
AtomEnergoSbyt, JSC	1,585	569	2,154	74%	26%	100%	1,585	569	2,154	0	0	0	1,577	567	2,144	8	1	9	49.655	10.45
CONSIST-OS, JSC	479	919	1,398	34%	66%	100%	479	919	1,398	0	0	0	479	915	1,394	1	4	5	20.83	6.22
VNI AES, JSC	206	377	583	35%	65%	100%	206	377	583	0	0	0	196	368	564	10	9	19	13.61	7.54
JSC VPO ZAES	114	237	351	32%	68%	100%	114	237	351	0	0	0	114	237	351	0	0	0	34.35	10.54

F* is female. M** is male.

APPENDIX 3. GRI CONTENT INDEX

Declaration of use	Rosenergoatom made a report in accordance with the GRI standard for a period from January 01, 2022 to December 31, 2022.
GRI 1 version	GRI 1: Foundation 2021
Industry-wide standards applicable	N/A

GRI stand-ard/other source	Disclosure	Location	Non-disclosed indicators		
			Requirement(s) omitted	Reason	Explanation/Comments
General information					
GRI 2: General Disclosures (2021)	2-1 Organizational details	2. Overview of the Division 3. Governance system Contact details			
	2-2 Entities included in the organization’s sustainability reporting	Appendix 1. Information about the reporting material preparation process			
	2-3 Reporting period, frequency and contact point	2. Overview of the Division Contact details			
	2-4 Restatements of information	1 Key results and events of the reporting year. Appendix 1. Information about the reporting material preparation process			
	2-5 External assurance				Independent external expert assurance is not conducted.
	2-6 Activities, value chain and other business relationships	2.3. The position of the Division in the industry structure. Regions of operation. Business areas. Products that create the main share in total revenue			
	2-7 Employees	8. Developing the Human Capital Appendix 2. Personnel Profile			

GRI stand-ard/other source	Disclosure	Location	Non-disclosed indicators		
			Requirement(s) omitted	Reason	Explanation/Comments
GRI 2: General Disclosures (2021)	2-8 Workers who are not employees	8. Developing the Human Capital			
	2-9 Governance structure and composition	3.1.1. Governing Bodies			
	2-10 Nomination and selection of the highest governance body	3.1.1. Governing Bodies			
	2-11 Chair of the highest governance body	3. Governance System			
	2-12 Role of the highest governance body in overseeing the management of impacts		All information for the indicator 2-12	N/A	The federal law <i>About Joint Stock Companies</i> does not entrust functions of oversight over organization’s impacts upon economics, environment, and people, as well as functions to prevent conflicts on the Board of Directors.
	2-13 Delegation of responsibility for managing impacts	3. Governance System			See the provision about the Board of Directors.
	2-14 Role of the highest governance body in sustainability reporting	3. Governance System			The Division’s report is issued as an Appendix of the ROSATOM’s public annual report, and is to be endorsed by the ROSATOM’s Director General.
	2-15 Conflicts of interest	3. Governance System			Issues related to resolving conflicts of interests are regulated by the provision about the Commission for regulating conflicts of interests in the Rosenergoatom’s Central Administration, methodical guidelines for taking by Rosenergoatom’s employees of measures to prevent any possibility of conflicts of interests, for notifying about conflicts of interests and considering such notifications.

GRI stand-ard/other source	Disclosure	Location	Non-disclosed indicators		
			Requirement(s) omitted	Reason	Explanation/Comments
GRI 2: General Disclosures (2021)	2-16 Communication of critical concerns	3. Governance System			The federal law <i>About Joint Stock Companies</i> does not entrust functions of oversight over organization’s impacts upon economics, environment, and people, as well as functions to prevent conflicts on the Board of Directors. In 2022, there were no significant issues related to impacts upon economics, environment, social sphere, including complaints from stakeholders to the Division.
	2-17 Collective knowledge of the highest governance body	3. Governance System			
	2-18 Evaluation of the performance of the highest governance body	3. Governance System			Activities of the Board of Directors are not assessed by the Division.
	2-19 Remuneration policies	3. Governance System			Throughout 2022, no decisions were taken to remunerate members of the Board of Directors and/or compensate their expenses; there were no remunerations and expenses compensations.
	2-20 Process to determine remuneration	3. Governance System			In compliance with the requirements of unified industry-wire remuneration system and unified industry-wide performance management policy, the amount of an annual bonus depends on fulfillment of target KPIs and reflects achievement of main performance indicators by its organizations. KPIs of managers are generated based on strategic objectives, priorities, and main performance indicators, and strategic objectives set for organizations are transformed to KPI charts for managers and cascaded down to structural departments and employees.

GRI stand-ard/other source	Disclosure	Location	Non-disclosed indicators		
			Requirement(s) omitted	Reason	Explanation/Comments
GRI 2: General Disclosures (2021)	2-21 Annual total compensation ratio	3. Governance System			See Note to indicator 2-20.
	2-22 Statement on sustainable development strategy	3.2. Commitment to Sustainable Development Principles			
	2-23 Policy commitments	3.2. Commitment to Sustainable Development Principles 6.2. Environmental Safety 6.3. Safety of Production Operations 8. Developing the Human Capital			
	2-24 Embedding policy commitments	3.2. Commitment to Sustainable Development Principles 6.2. Environmental Safety 6.3. SSafety of Production Operations 8. Developing the Human Capital			Policies are downloaded to an official Rosenergoatom’s website in the Statement of Policies section at https://www.rosenergoatom.ru/about/zayavleniya-o-politikakh/ and are available for all stakeholders. Policies can also be sent upon a request to any stakeholder.
	2-25 Processes to remediate negative impacts	8. Developing the Human Capital, Section <i>Inquiries Collection, Statistics and Analysis, Resolutions</i>			
	2-26 Mechanisms for seeking advice and raising concerns	3.3. Stakeholder Interaction Approach 8. Developing the Human Capital			
	2-27 Compliance with laws and regulations	3. Governance System			In 2022, there were no substantial breaches of law and regulatory requirements under main business, which resulted in fines from authorized bodies.

GRI stand-ard/other source	Disclosure	Location	Non-disclosed indicators		
			Requirement(s) omitted	Reason	Explanation/Comments
GRI 2: General Disclosures (2021)	2-28 Membership associations	3. Governance System			
	2-29 Approach to stakeholder engagement	3.3 Stakeholder Interaction Approach Appendix 1. Information about Preparation of Reporting Materials			
	2-30 Collective bargaining agreements	8. Developing the Human Capital			
Material Topics					
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Appendix 1. Information about the Reporting Material Preparation Process			
	3-2 List of material topics	Appendix 1. Information about the Reporting Material Preparation Process			
Impact upon Water Resources, including Water Intake, Consumption, and Discharge					
GRI 303: Water and Discharges (2018)	303-1 Interaction with Water as a General Resource	6.2 Environmental Safety, the <i>Water Consumption</i> section			
	303-2 Management of water discharge-related impacts	6.2 Environmental Safety, the <i>Water Consumption</i> section			
	303-3 Water withdrawal	6.2 Environmental Safety, the <i>Water Consumption</i> section			
	303-4 Water Discharge	6.2 Environmental Safety, the <i>Water Consumption</i> section			
Emissions					
GRI 3: Material Topics 2021	3-3 Management of material topics	6.2. Environmental Safety			

GRI stand-ard/other source	Disclosure	Location	Non-disclosed indicators		
			Requirement(s) omitted	Reason	Explanation/Comments
GRI 305 Emissions (2016) 2016	305-1 Direct (Scope 1) GHG emissions	6.2. Environmental Safety			
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	6.2. Environmental Safety			
Waste					
GRI 3: Material Topics 2021	3-3 Management of material topics	6.2. Environmental Safety			
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	6.2. Environmental Safety			
	306-2 Management of significant waste-related impacts	6.2. Environmental Safety			
	306-3 Waste generated	6.2. Environmental Safety			
Contribution to the RF Technological Sovereignty					
GRI 3: Material Topics 2021	3-3 Management of material topics	5. Contribution to Technological Sovereignty. New Products and Businesses			
Innovation Business and Science Development					
GRI 3: Material Topics 2021	3-3 Management of material topics	4. Innovation Business and Development of Science			
Contribution to Development of Territories of Operation					
GRI 3: Material Topics 2021	3-3 Management of material topics	9. Developing the regions of operation			
Safety					
GRI 3: Material Topics 2021	3-3 Management of material topics	6. Safety of Operations			

APPENDIX 4. INITIALISMS AND ACRONYMS

Initialism/ Acronym	Definition
EMERCOM	Ministry of Emergency Situations
FTNPP	Floating Thermal Nuclear Power Plant
GRI	Global Reporting Initiative
HPF	Hazardous Production Facility
INES	International Nuclear Event Scale
IRPORVE	Inter-Regional Public Organization of Rosenergoatom’s Veteran Employees
IT	Information Technology
KPI	Key Performance Indicator
LTIFR	Lost Time Injury Frequency Rate
M&A	merges and acquisitions
MC	Moscow Center
MOX	mixed oxide
NPP	Nuclear Power Plant
QMS	Quality Management System
RBMK	High-Power Channel-Type Reactor
REMIX	Mixed Recycled Uranium and Plutonium
RF	Russian Federation
RP	Reactor Plant
R&D	Research and Development
SC	Safety Culture
SRS	Sustainability Reporting Standard
TCM NC	Total Cost Management Nuclear Construction
UES	Unified Energy System
UN	United Nations
VHI	voluntary health insurance
VOC	volatile organic compound
VVER	Pressurized Water Reactor of Russian design
VVER-S	Pressurized Water Reactor of Russian design with spectral control
VVER-SKD	Supercritical Water-Cooled Reactor
VVER-TOI	Universal Optimized Digital Pressurized Water Reactor
WANO	World Association of Nuclear Operators

Terms Used in the Reporting Materials

Consolidated revenue	total revenue of companies within the circuit of consolidated bookkeeping accounting in compliance with the procedure approved by the company deducting revenue from the intra-company balance and other adjustments
Division	ROSATOM’s power engineering division
ROSATOM	State Atomic Energy Corporation
Rostekhnadzor	Federal Service for Environmental, Technological and Nuclear Supervision
Significant regions of operation	regions where production facilities and key personnel are located
Material topic	reflects a significant business area of the company or impacts stakeholders
Stakeholder	a natural person, group of persons or an organization impacted by the company and/or that can influence it
Top management	employees of the company who take decisions that significantly impact the enterprise business as a whole, i.e. from the level of directors for functional areas up to the Director General

APPENDIX 5. PARTICIPATION IN NON-PROFIT ORGANIZATIONS

Russian Organizations are as follows:

1. Rosatom Technical Academy for continuing professional education
2. Association 'National Nuclear Innovation Consortium'
3. Fund 'ATR AES' for development of municipal territories
4. Non-profit Organization 'Fund for Development of Labor Resources for Rosenergoatom, JSC'
5. Autonomous Non-profit Organization 'Center for Pshychological-and-Pedagogical, Medical, and Social Support 'Dobrynya'
6. All-Russia Industry-Wide Employers' Association 'Union of Employers in Nuclear Industry, Power Industry, and Science of the Russian Federation'
7. Autonomous Non-profit Organization for Sports and Health Activities 'Atom-Sport'
8. Union of Nuclear Organizations 'Nuclear Towns'
9. Self-Regulating Organization, Association 'Union of Organizations that Carry out Construction, Reconstruction, and Overhaul of Nuclear Facilities'
10. Self-regulating Organization, Association 'Union of Organizations that Carry out Architectural and Civil Engineering of Nuclear Facilities'
11. Self-regulating Organization, Association 'Union of Organizations that Carry out Engineering Investigations before Architectural and Civil Engineering, Construction, Reconstruction, and Overhaul of Nuclear Facilities'
12. National Association of Construction Consulting Engineers
13. Association 'Non-profit Partnership, Market Council for Organizing an Effective System of Wholesale and Retail Trade of Electricity and Power'
14. Association 'Council of Electricity Manufacturers and Electric Power Investors'
15. Union 'Non-profit Partnership of Manufacturers and Entrepreneurs of the Murmansk Region'
16. Autonomous Non-profit Organization 'Strategic Partnership for Economic and Social Development of the North-West Federal District'
17. Non-profit Partnership 'Scientific and Technical Council of the UES'
18. Association of Data Center Industry Participants
19. Association of Industry Digital Development Organizations 'Digital Power Industry'

International Organizations are as follows:

1. International Atomic Energy Agency (IAEA)
2. World Association of Nuclear Operators (WANO)
3. EDF Material Aging Institute
4. European Utility Requirements Organization
5. Nuclear Energy Agency of the Organization for Economic Cooperation and Development
6. International Veteran Union of Nuclear Generation and Production Industry
7. Association of 'Russian National Committee of the International Council for Large High-Voltage Electrical Systems'

GRI 2-1
GRI 2-3

Contact Details

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Official group in the Vkontakte social network: <https://vk.com/rearu>

Official Telegram channel: t.me/rosenergoatom

Official Odnoklassniki group: <https://ok.ru/group/64297107128563>



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