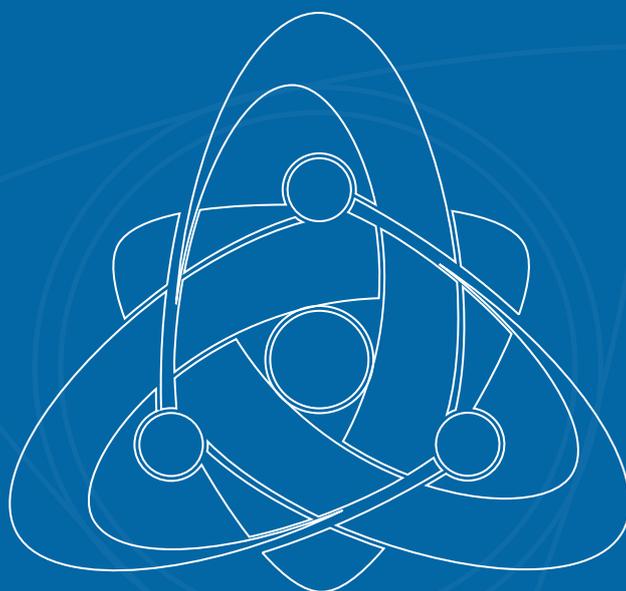


**ANNUAL  
REPORT**  
2012



**ROS  
ENERGO  
ATOM**  
ELECTRIC POWER  
DIVISION OF ROSATOM

SAFETY  
EFFICIENCY  
RESPONSIBILITY



## ANNUAL REPORT ROSENERGOATOM CONCERN OJSC 2012

### ROSENERGOATOM CONCERN OJSC IS THE MOST EFFECTIVE GENERATING COMPANY IN THE YEAR 2012

Rosenergoatom Concern OJSC has won the first place in the rating "Generating companies: effectiveness in the market" completed by the specialists of Non-commercial partnership "Market council" based on the results of activity in the 2012. The rating of the generating companies' effectiveness is calculated and published in the Automatized information system "Electricity and power markets" of Non-commercial partnership "Market council". The rating includes the information about the results of activity total of 77 generating companies in Russia.

## ROSENERGOATOM CONCERN OJSC KEY FINANCIAL AND BUSINESS INDICATORS FOR 2010–2012, MLN RUBLES

Item	2010	2011	2012
Registered capital	461,515	530,012	530,012
Revenue	210,223	201,405	200,526
Net exports revenue	90	232	324.4
Total deducted key tax amounts payable to budgets, including to:	17,092.38	18,386.04	21,094.15
· federal budget	3,893.10	7,399.33	6,254.12
· local budget and budgets of the Administrative Subjects of the Russian Federation	13,199.29	10,986.71	14,840.02
Net profit	21,744	-2,913	-1,849
Asset value	741,549	964,734	1,087,826
Net asset value	679,433	835,020	936,542
Gross profit	121,588	92,050	76,115
Total profit tax, charged and paid	7,825.76	3,083.11	6,521.93
Dividends payable	847	0	0
Charitable spending	443	491	586
Investments in equity	136,554	201,778	146,230.5

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## ABOUT THIS ANNUAL REPORT

### Description of the Report

THIS ANNUAL REPORT OF ROSENERGOATOM CONCERN OJSC (HEREINAFTER – THE “CONCERN”) FOR 2012, AND FOR FOUR PREVIOUS YEARS, IS AN INTEGRATED REPORT THAT COMBINES THE USUAL ANNUAL REPORT AND THE SUSTAINED DEVELOPMENT REPORT FILED BY THE COMPANY.

The Annual Report for Rosenergoatom Concern OJSC (hereinafter – the “Annual Report”) was prepared to meet the requirements of the following regulatory documents:

- “Corporations” Federal Act of December 26, 1995, No.208-FZ;
- “Corporate Accounting” Federal Act of December 6, 2012, No.402-FZ;
- Executive Order of the Federal Financial Markets Service (FFMS) of Russia No. 11-46/pz-n of October 04, 2011, “Approval of Regulation on information disclosure by issuers of securities”;
- Russian FCS Directive of April 4, 2002, No.421/p “Recommendation on application of the Corporate Conduct Code”;
- Russian FCS Directive of April 30, 2003, No.03-849/p “Methodological recommendations on the structure and format of Corporate Conduct Code compliance information in corporate annual reports”;
- Sustainable Development Reporting Manual published by the Global Reporting Initiative organization (GRI, version G3.1), GRI industry-oriented addendum

for electric power industry (GRI Electric Utility Sector addendum);

- AA1000 series of standards published by the International Institute of Social and Ethical Accountability;
- Recommendations from the International Integrated Reports Council (IIRC);
- Recommendations of the Russian Union of Industrialists and Entrepreneurs (RSPP) on managerial practices and corporate non-financial reports (Key Performance Indicators);
- Rosatom Nuclear Energy State Corporation’s Public Accountability Policy;
- Public Annual reports Standard of Rosenergoatom Concern OJSC;
- Rosenergoatom Concern OJSC Ethics Code.

This Annual Report discloses key performance indicators of business activities for the period between January 1 and December 31, 2012, and describes the Concern’s outlooks for growth aimed at efficient achievement of strategic goals and building a basis for long-term sustainable growth. There have been no substantial changes from previous reporting periods in terms of the scope, boundaries, and methods adopted for the Annual Report.

The structure of this Annual Report includes information on performance of the Concern and its branch companies (NPP). The Annual Report comprehensively discloses financial, economic, and production-related information on the Concern’s key activities, as well as their economic, environmental, and social impacts.

### Report Building Process

Before this report was prepared, the context of the Concern’s operations in 2012 was subject to examination. Just as before, the safety of NPP operation remained one



of the key issues on the international scale. Considering the context, "Safety of the Russian nuclear power industry" was selected to be the priority topic of this report.

The Annual Report was prepared to meet the requirements of the guidance on sustainable growth reports by the Global Reporting Initiative international organization (GRI, version G3.1), and the technical protocol. To ensure that the topic is relevant, the report realized the principle of stakeholder interaction. Stakeholder representatives were invited to discuss the report through dialogs, public consultations and public affirmation. Interaction with stakeholders was arranged as recommended in the Stakeholder Interaction Standard AA1000SES.

**Level of compliance of this Annual Report with the GRI Manual (G3.1) – A+**



Disclosure of information in the Annual Report corresponds to level A+, as confirmed by an independent third party audit conducted by PricewaterhouseCoopers.

**Differences from the 2011 Annual report**

The main difference between the 2012 Annual Report and that of the previous year is a greater number of disclosed GRI indicators: this Annual Report presents 99 indica-

tors (compared to 56 indicators in the 2011 Report). The GRI compliance level is A+, while the 2011 Report was level B+. More disclosed indicators and a higher compliance level were possible thanks to improvements of the consolidated data gathering system and the public reporting system in the Concern.

**Disclaimer**

Information included in this Annual Report contains, among other things, estimates and other forecast figures as an attempt to describe future events or future financial activities of the Concern. Such statements are speculative by their nature, and may ultimately differ from real-life events or results. Forecast information is disclosed before the respective reporting period begins. Many existing factors may cause actual results to significantly depart from those stated in our assumptions or estimates. This includes general economic conditions, competitive environment, risks related to the operations inside and outside Russia, changes in technologies and the market situation in the nuclear power industry, and other factors relevant to the Concern's business.

For additional updates on the activities, please visit <http://www.rosenergoatom.ru>

GRI Application Level		C	C+	B	B+	A	A+
Mandatory	Self-declaration						●
Optional	Third-party checked						●
	GRI checked						●



## Statement GRI Application Level Check

GRI hereby states that **OJSC Concern Rosenergoatom** has presented its report "OJSC Concern Rosenergoatom Annual Report" (2013) to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A+.

GRI Application Levels communicate the extent to which the content of the G3.1 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3.1 Guidelines. For methodology, see [www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf](http://www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf)

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 31 July 2013



Nelmara Arbex  
Deputy Chief Executive  
Global Reporting Initiative

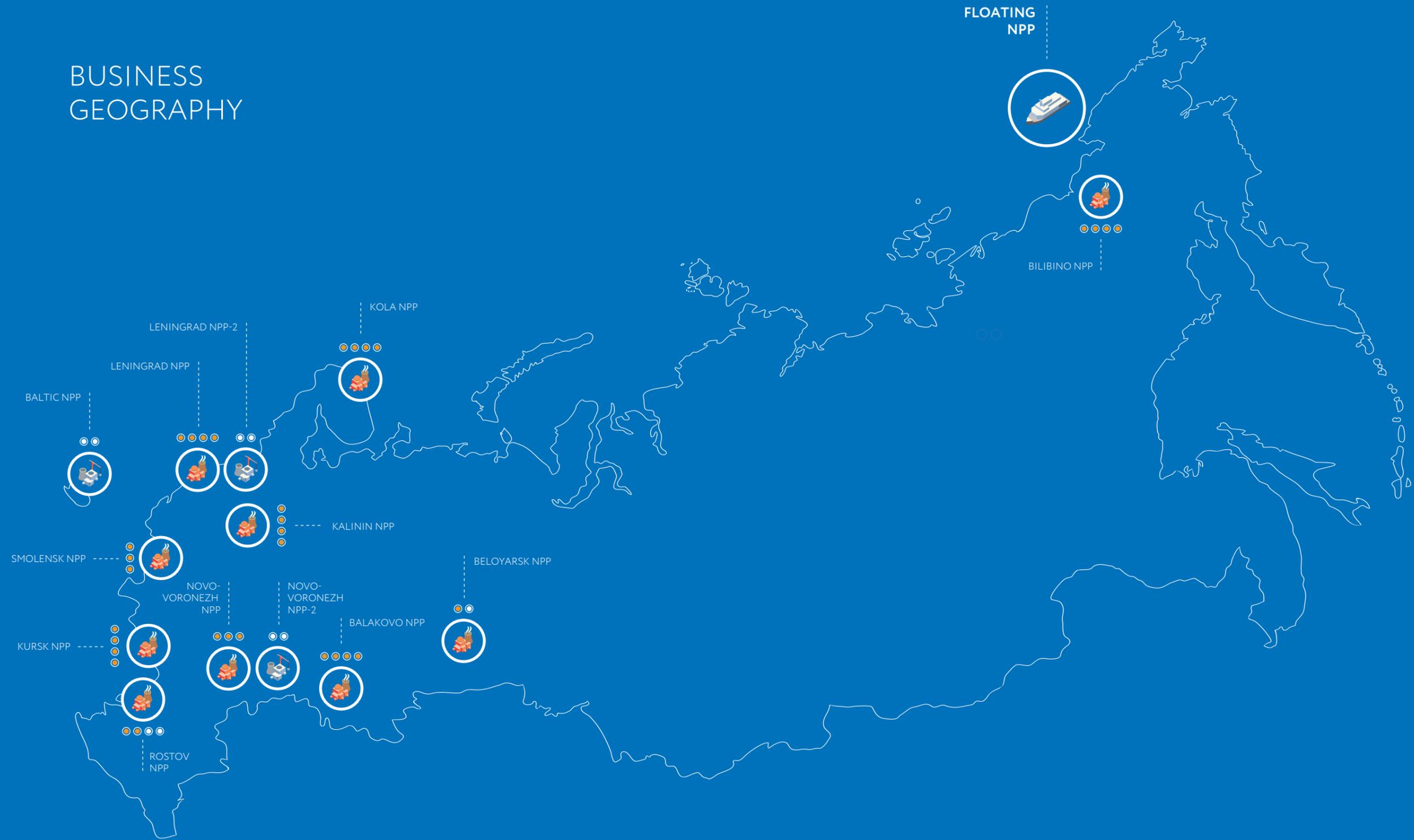


The "+" has been added to this Application Level because OJSC Concern Rosenergoatom has submitted (part of) this report for external assurance. GRI accepts the reporter's own criteria for choosing the relevant assurance provider.

The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. [www.globalreporting.org](http://www.globalreporting.org)

**Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 30 June 2013. GRI explicitly excludes the statement being applied to any later changes to such material.

# BUSINESS GEOGRAPHY



-  — NUCLEAR PLANTS IN OPERATION
-  — NUCLEAR PLANTS UNDER CONSTRUCTION
-  — POWER UNITS IN OPERATION
-  — POWER UNITS UNDER CONSTRUCTION

In 2012  
**177.3**  
billion kWh  
of electric power generated

Installed capacity  
**25.2**  
GW

## ADDRESS OF THE CHAIRMAN OF THE BOARD OF DIRECTORS



Dear Colleagues and Friends,

You are reading the 2012 Annual Report of Rosenergoatom Concern OJSC – the generating company of Rosatom State Corporation.

We present for your examination information about operations of the largest business in the electric generation division in the nuclear power sector, and Russia's biggest generating company, which celebrated its 20th anniversary in the reporting year. The Concern's share of Russia's total electrical generation is 16.8%, making the company a key player in guaranteeing the national power security.

We regard the Concern's performance as part of the national development strategy for the entire nuclear power industry. Under the strategy, the Concern sees its priorities as increasing the share and raising the efficiency of nuclear generation in Russia, closing the nuclear fuel cycle, and international expansion, which includes maintenance of VVER power units outside of Russia.

As is obvious from 2012 results, the Concern successfully handled its key tasks assigned by the industry's executive management, and demonstrated considerable potential for further growth.

For example, the installed capacity use factor (ICUF) of our power units was 80.9%: this coefficient rose by 10% during 2001-2012 due to targeted efforts to increase the efficiency of active power units. The entire programme underway to increase electrical generation by active power units, with adjustment for changes, is expected to ensure generation of an additional 87.6 billion kWh during the period 2007–2015.

In 2012, the Concern continued implementation of its vital programme to upgrade active power units and thus extend their service life. Large-scale work secured a Rostekhnadzor license for extended operation of power unit No.1 at Smolensk NPP. Documents were prepared to enable Rostekhnadzor in their decision as regards service life extension for power unit No.4 of Novovoronezh NPP. As planned for 2012, the programme to extend the service life of power unit No.3 at Kursk NPP was accomplished.

Since its launch, the programme has involved 18 power units. As of January 1, 2013, the total installed capacity made available by our efforts to extend the service life of these facilities was 10,848 MW. These activities considerably improved the safety of the power units.

The largest post-Soviet programme to build new generating capacity for NPP is currently underway. In September 2012,

power unit No.4 of the Kalinin NPP was officially commissioned for operation – the first of the post-Soviet era, built from scratch with considerable economy of government funds. Meanwhile, the construction of nine new power units is now underway, while construction of the world's first floating nuclear thermal plant that will supply power to remote areas in Siberia and the Russian Far East remains a unique project.

Based on declarations of intent, the company began developing materials in 2012 to plan investments for the construction project of Kursk NPP-2 and Smolensk NPP-2, both using VVER-TOI reactors – another step forward in the evolution of NPP-2006 design.

Having evaluated in a balanced and serious manner the consequences of the Fukushima NPP disaster in Japan, the Concern took a whole series of extra steps to ensure safety in emergencies, including purchasing additional equipment. Peer audits of the Belyarsk and Kola nuclear plants by WANO in 2012 confirmed again that such measures were efficient and that Russian nuclear plants meet the most stringent international safety standards.

One cannot overlook the Concern's ever-growing role as a company that addresses vital the social functions of a major employer, creating new jobs for skilled workers and considerably influencing the level of average wages in the Russian regions. The nuclear sector has become truly invaluable in establishing a new and objectively higher standard of living for Russian citizens.

Rosatom State Corporation's 2030 action strategy envisages further growth of nuclear generation's contribution to Russia's total power production. I am confident that Rosenergoatom Concern will continue its progress into the future, with absolutely safe and reliable operation of its nuclear plants. The unique potential created over decades of the nuclear sector's existence, the high professionalism, and modern, safe and robust equipment offer ample opportunities to implement new large-scale projects that will benefit the entire nation.

**Alexander Lokshin**  
Chairman of the Board of Directors,  
Rosenergoatom Concern OJSC,  
First Deputy General Director  
for Operation Management,  
Rosatom State Nuclear  
Energy Corporation

## ADDRESS OF THE GENERAL DIRECTOR



Dear Colleagues and Partners,

Offered for your perusal is the 2012 Annual Report of Rosenergoatom Concern OJSC.

During the reporting year, our company celebrated its 20th year in business. When it was created, the Concern consolidated nuclear specialists' efforts to preserve the industry and build a basis for a power breakthrough into the future. Today, the Concern has secured strong positions both in Russia and worldwide as a dynamic power generating company.

Ensuring safety in the Russian nuclear power industry is the priority topic of the 2012 Annual Report. The information in the report clearly demonstrates how Rosenergoatom Concern OJSC as plant operator ensures the safe, efficient and reliable operation of active nuclear power plants.

In 2012, the Russian nuclear power sector continued showing high growth rates in key performance indicators. Our nuclear

plants generated 177.3 billion kWh of electric power, or 2.7% more than the 2011 figure. This is a new record in the history of both the Concern and the Russian nuclear power industry.

The repairs campaign of 2012 was completed as planned. Total repair time was down by 107 days, resulting in the additional generation of 1.5 billion kWh of electric power.

Just as in previous years, in 2012 the company ensured the safe and reliable operation of its nuclear plants as part of the nation's United Power Grid. No incidents were registered that would have such consequences as radiation hazards or loss of nuclear materials and substances; just as we had no cases of exposure of personnel to above-standard radiation levels (18 mSv/year). In the past 14 years, none of Russia's nuclear plants has had an event that qualified above Level 1 on the International Nuclear Event Scale (INES).

Following the Fukushima events, the Concern has made further progress in safety. Among other things, WANO supported the Concern's initiative to create regional crisis centres. In February 2013, experimental operation of a WANO regional crisis center began at the Concern's crisis centre. The centre is going to provide technical assistance to foreign NPP in emergencies.

We have purchased equipment for all active nuclear plants that ensures safe shutdown and aftercooling of their power units in the absence of external power and water supply. According to international experts, the

design of all power units now under construction meet the world's most stringent safety standards.

Trusted with the critical national role of supporting the nation's power security, we continue to build and upgrading active power units. As the most momentous event of the year, power unit 4 at the Kalinin NPP was commissioned for commercial operation, on time and with a savings of 7 billion rubles.

As a company that seeks the status of a global player and technology leader on global power markets, innovative breakthroughs are of great importance to us. Today we are ready to offer R&D centres for the sector specific orders for new technologies in the nuclear power industry. This work is coordinated by our science and engineering centre, created within the Concern in 2012.

This Annual Report will also describe the social policy that the Concern pursues regarding its employees, as well as our policy on developing our areas of presence. Interaction with our employees, higher quality of work, and better social guarantees are no less important to us than our efforts to increase business efficiency.

The 2012 results confirm that the Concern has made serious progress. We seek good performance and we achieve it with knowledge, a responsible attitude, professionalism, and high discipline in production. This makes me confident that we are able to overcome the most challenging problems in our sector, working to build up our competi-

tive edge on the power markets in Russia and worldwide.

**Yevgeny Romanov**  
General Director,  
Rosenergoatom Concern OJSC

## 2012 CALENDAR OF KEY CORPORATE EVENTS

January

24.01

On January 24, in Moscow, the Council of Managers of WANO Moscow Centre held its 55th meeting. Vladimir Asmolov, WANO President and First Deputy General Director of Rosenergoatom Concern, stated that the post-Fukushima panel had proposed vital changes for dramatic reform of the WANO. Yevgeny Romanov, member of the WANO Global Council of Managers and General Director of Rosenergoatom Concern, also attended the meeting.

23–27.01

January 23 to 27, Russia received the delegation of the Atomic Energy Agency (AEA) OSART with a technical mission under General Director Luis Echavarri, attended by Vladimir Asmolov, First Deputy General Director of Rosenergoatom Concern OJSC. International experts visited Russia to examine various aspects of Russian activities in the nuclear sector in response to Russia's request for membership in AEA OSART filed in October 2011.

February

24.02

On February 24, concreting of foundation slabs began on the construction site of Baltic NPP to build the "nuclear core" of the plant.

March

—

After a successful procedure of quality management system (QMS) certification the Concern received certificate No. POCC RU.0001.01AЭ00.77.11.0030 valid for three years. This is official confirmation that as an operator, Rosenergoatom Concern OJSC meets all conditions needed for safe and efficient operation.

Rosenergoatom Concern OJSC created a branch company "Facilities Construction Management" to assume the functions of construction client for building NPP power units.

April

14–20.04

April 14 to 20, independent specialists representing the nuclear plants of Zaporozhye, Khmelnytskyi, Baltic, South Ukraine, Rostov and Kola visited the Kalinin NPP for a follow-up peer audit by the WANO to evaluate correction construction offered by the WANO experts after the peer audit in 2010.

21.04

On April 21, Baltic NPP began construction of a reactor building for power unit No.1. Work is done by Titan-2 Co. supervised by Rosenergoatom Concern OJSC branch company "Directorate of Baltic NPP Construction Project" and NIAEP as general contractor. Concreting of the foundation slab for the reactor building was done professionally and on time.

23–27.04

April 23 to 27, Rostov NPP welcomed a follow-up peer audit by the WANO to evaluate areas recommended for improvements after a comprehensive peer audit in March 2010. At the final meeting the parties spoke of good progress of activities to meet the recommendations of the previous audit at Rostov NPP.

23.05

On May 23, the 8th regular International science and technology conference "Safety, efficiency and economics of the nuclear power industry" (MNTK-2012) opened in Moscow, hosted by Rosenergoatom Concern OJSC. The conference addressed the most relevant tasks such as ensuring and improving safety of nuclear plant operation, increasing the installed capacity use factor (ICUF), extending service life, and decommissioning of power units, increasing business efficiency and determining optimized ways to develop the nuclear power sector. MNTK-2012 was attended by more than 700 participants, who represented Rosatom State Corporation, Rosenergoatom Concern OJSC, IAEA, WANO, major Russian and international organizations and businesses.

Following successful certification of its quality management system (QMS), Rosenergoatom Concern OJSC received a three-year certificate of May 23, 2012, TIC 15 100 128018 issued by TÜV Thüringen e. V. – a body for certification of systems and personnel.

It was thus officially confirmed that Rosenergoatom Concern OJSC has established a system of electric power generation compliant under the globally accepted standard ISO 9001:2008.

15.06

On June 15, unit No.4 of Kalinin NPP raised its capacity to 90% of the rated level. The capacity of power unit No.4 was raised to the rated level gradually during the experimental-production operation stage. On June 20, at 12:45, power unit No.4 of Kalinin NPP achieved 100% of its rated capacity.

Balakovo and Rostov nuclear plants were declared winners in the contest "Best Nuclear Plants of 2011", with Kalinin and Smolensk nuclear plants ranked second.

20.06

On June 20, general contractor NIAEP began works on the construction site of Baltic NPP to excavate the pit for the main buildings of the power unit No.2 construction project.

May

June

July

Rosenergoatom Concern OJSC created a branch company Science and Engineering Centre expected to become the basis for development of competencies as a fully-fledged client for nuclear fuel of the next generation. The director of the branch company is Stanislav Antipov, who held the office of General Director of FGUP Rosenergoatom Concern OJSC in 2005–2006.

Rosenergoatom Concern OJSC finished installing additional equipment at its nuclear plants, for total value of 2.6 billion rubles; this is part of an action plan to mitigate consequences of hypothetical unforeseen emergencies. The supply of additional equipment was part of special activities, planned in the spring of 2011 on the instructions of the Russian Federal Government following the Fukushima nuclear plant events in Japan.

27.07

On July 27, General Director of Rosatom State Corporation approved the Declaration of intent to make investments into the construction of power units No.1 and 2 of Smolensk NPP-2.

August

05.08

On August 5, comprehensive testing of Kalinin NPP power unit No. 4 began as part of experimental-production operation.

16.08

On August 16, the Multimedia Art Museum in Moscow opened a photo exhibition “Nuclear Civilization”, organized jointly by Rosenergoatom Concern OJSC and the Moscow House of Photography as part of a programme of events to commemorate the company’s 20th anniversary.

As assistance to the Turkey Nuclear Energy Agency (TAEK), IAEA representatives in August visited the site of Akkuyu NPP (a branch company of Rosenergoatom Concern OJSC, with Atomenergoprojekt as general designer); their objectives were to give an expert evaluation of the nuclear plant’s layout and to examine the engineering survey in progress. After the visit, IAEA experts praised the organization and technical level of engineering survey at the site of Akkuyu NPP, emphasizing their compliance under guiding documents and IAEA standards.

September

07.09

On September 7, Rosenergoatom Concern OJSC celebrated its 20th anniversary. The Concern was created by Presidential Decree on September 7, 1992. According to Yevgeny Romanov, General Director of Rosenergoatom Concern OJSC, creation of the Concern in 1992 consolidated efforts of specialists to preserve the sector and became premises for a breakthrough into the future.

31.08–15.09

August 31 to September 15, Beloyarsk NPP welcomed a peer audit of the WANO, with experts from the USA, Germany, Ukraine, India, Slovakia, Bulgaria, Armenia, and Russia. The experts emphasized the vast experience accumulated during operation of the unique advanced type of fast neutron reactor unit at Beloyarsk NPP. This was the third comprehensive peer audit at Beloyarsk NPP, the previous ones came in 2001 and 2006.

25.09

On September 25, at an official ceremony, the parties signed an acceptance statement for power unit No.4 of Kalinin NPP commissioned for commercial operation. Sergey Kirienko, General Director of Rosatom State Corporation, stated that completed construction of the fourth power unit at Kalinin NPP was an important link in the chain of succession in construction of power facilities. “This means that now we are back to serial construction of nuclear plants. Power unit No.4 of Kalinin NPP is highly important: this is the first unit built virtually from point zero in the post-Soviet era”, said the CEO of the State Corporation. “Construction of the power unit was completed ahead of schedule with savings of government funds: We saved 7 billion rubles on the unit worth 76 billion”.

03–05.10

October 3–5, Rosenergoatom Concern OJSC launched a comprehensive emergency drill (CED-2012) at Kursk NPP.

October

The event was the first of large-scale drills to use mobile emergency-response equipment that Rosenergoatom Concern OJSC purchased after the Fukushima disaster to make its nuclear plants more resilient to extreme impacts. CED-2012 demonstrated that the quantity and capacity of mobile equipment in the Concern is sufficient to respond to any natural or industrial impact and maintain power units’ stability for an indefinite duration of emergency.

12–26.10

October 12 to 26, Kola NPP welcomed a WANO peer audit, with representatives of Ukraine, Pakistan, the USA, the UK, the Czech Republic, Slovakia and Hungary. For the first time, a peer audit involved experts from the WANO Atlanta Centre to examine the results of post-Fukushima measures taken by Kola NPP. After the audit, the experts published a report that named areas for improvement at the nuclear plant.

13.11

On November 13, the nuclear plant rapid rescue (NPRR) team celebrated its 25th anniversary. Instructions to “form an inter-departmental team for NPRR” were issued following analysis of the Chernobyl events. In 25 years, the NPRR team has participated in: 23 comprehensive drills, over 600 exercises, and three anti-terror drills.

November

05.12

On December 5, Rosenergoatom Concern OJSC and the French Electricite de France (EDF) in Moscow signed an Agreement that made the Concern a full member of the Material Aging Institute (MAI) – an international organization engaged in research of aging processes in materials used in power units.

December



# 01 OVERVIEW



- General Information
- History
- Corporate Structure
- Subsidiaries

## 1.1. GENERAL INFORMATION

ROSENERGOATOM CONCERN OJSC IS ONE OF THE LARGEST ELECTRICAL GENERATION COMPANIES IN RUSSIA, AND RUSSIA'S ONLY ENTITY THAT FUNCTIONS AS A NUCLEAR PLANT OPERATOR.

As branch companies, Rosenergoatom Concern OJSC has integrated active nuclear plants, project management of nuclear plants under construction, plus Facilities Construction Management, Science and Engineering Centre, a science research center for NPP emergency response activities, a project design branch, and a technology branch company. Rosenergoatom Concern OJSC maintains a representative office in the People's Republic of China.

The core businesses of Rosenergoatom Concern OJSC are the generation of electrical and thermal energy by its nuclear plants, and operating nuclear plants, sources of radiation, and storage of nuclear and radioactive materials and waste, through procedures legally regulated in the Russian Federation.

The Concern is owned by two stockholders: Atomenergoprom (96.415%) and Rosatom State Corporation (3.585%).

## 1.2. HISTORY

State-owned enterprise Open Joint-Stock Company "Concern for Production of Electric and Thermal Energy at Nuclear Power Plants" (Rosenergoatom Concern OJSC State-Owned Enterprise) was established by Presidential Decree No. 1055 of September 07, 1992 On Operating Entity of Nuclear Plants of the Russian Federation.

The Decree ruled that Rosenergoatom Concern State-Owned Enterprise (SOE) was a state-owned enterprise that independently and through outsourcing is engaged in all stages of the life cycle of nuclear plants, as regards selection of construction sites, project design, construction, commissioning, operation, decommissioning, and other operating functions.

The same Decree ruled that the assets of nuclear plants currently in operation, under construction, project design, or abandoned, are owned by the Federal Government and assigned to Rosenergoatom Concern SOE who is fully in charge and control of them. The idea was to use Rosenergoatom Concern SOE as a platform to integrate all nuclear plants, which under the decree had received the exclusive rights of self-governed business units.

During the 1990s, the nation as a whole was in dire straights: recession, defaulting debtors, note-based shady deals with payments, barter exchange, etc. Therefore, one of the main tasks facing Rosenergoatom Concern SOE during the period was to overcome the transition difficulties, and resolve the problem of non-payments.



In accordance with the Federal Government's Directive No. 1207-r of September 08, 2001, starting on April 01, 2002, with the intention to improve operating efficiency at nuclear plants, Rosenergoatom Concern SOE was reorganized into a generating company (Federal State Unitary Enterprise Rosenergoatom Concern) by merging with all nuclear plants, both in operation and under construction, and business entities for operation support and science research.

Apart from the functions of an operator, this entity was now able to act independently on the power market, and sell power generated by the nuclear plants to solvent users.

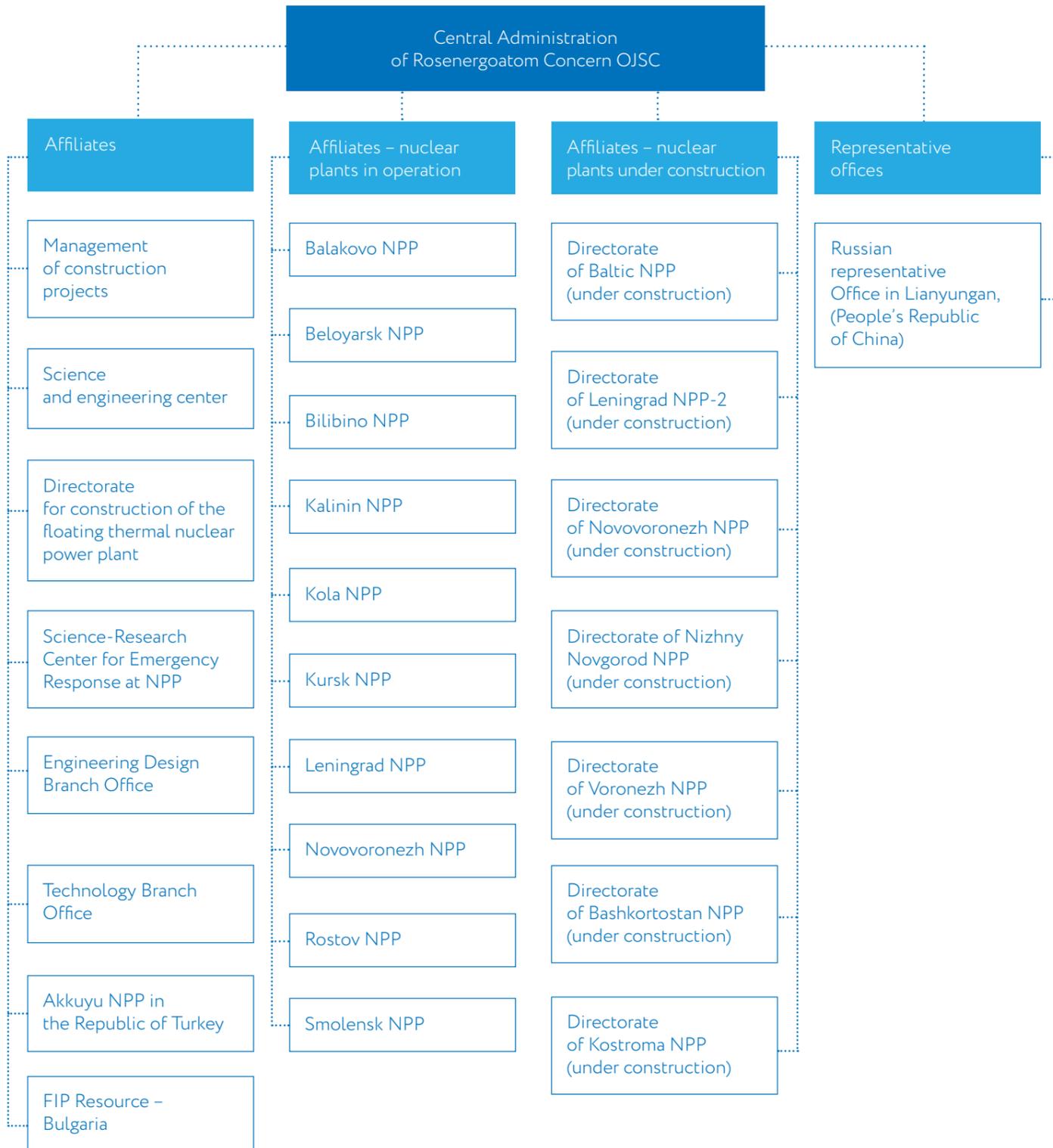
To assist further development of the nuclear power industry and to restructure the nuclear power complex in the Russian Federation, as instructed by Presidential Decree No. 556 of April 27, 2007, the Federal Government issued Resolution No. 319 of May 26, 2007, under which Atomenergoprom OJSC was incorporated in July 2007, of which Rosatom State Corporation is the sole stockholder.

By Directive No. 1235-r of the Federal Agency for State Property Management of August 11, 2008, Federal State Unitary Enterprise Rosenergoatom Concern was reorganized to Energoatom Concern OJSC, which surrendered 100% of its stock to Atomenergoprom OJSC.

By Federal Government Resolution No. 1307-r of September 14, 2009, the Concern is entitled to use the word "Russian" in its corporate name. In November 2009, the sole stockholder of Energoatom Concern OJSC decided to add modifications into the Concern's Articles of Incorporation, related to its new name: Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants (Rosenergoatom Concern OJSC).

In 2011, Rosatom State Corporation became another stockholder of Rosenergoatom Concern OJSC, together with Atomenergoprom OJSC.

### 1.3. CORPORATE STRUCTURE\*



\* As of December 31, 2012.

### 1.4. SUBSIDIARIES

Entity	Declared corporate goal
AKKUYU NGS ELEKTRIK URETIM ANONIM SIRKETI	Generation and sale of electrical power from Akkuyu NPP (not currently in process as the NPP has not yet been opened)
Atomtekhexport CJSC	Provider of engineering services for construction, commissioning, and operation of facilities for thermal and nuclear power industry inside and outside of Russia
IKAO CJSC	Civil construction, including buildings and structures of Responsibility Levels I and II under National Standard; functions of construction client
CONSIST-OS OJSC	Design, manufacturing, installation, deployment, and maintenance of systems for control, monitoring, and diagnostics, to assist technology-based processes of industrial facilities, including NPP, wire and satellite communication systems
Rusatom Service CJSC	Central and systematic promotion of maintenance services for NPPs, through a Comprehensive Service Offer; promotion of Russian innovative developments for NPPs on international markets.
FINPROMATOM CJCS	Purchase of main production equipment for NPP power units; data gathering and analysis on power conservation at NPPs.
Atomenergoremont LLC	Ensuring operating ability of NPPs, primarily through works and services to the operator during repair, retrofitting, and upgrade of NPP.
Atomenergobit OJSC	Supporting and ensuring reliable supply of electrical power (capacity) to enterprises of the nuclear sector, and to partner enterprises
Baltic NPP OJSC	Incorporated to raise investment, including internationally, and finance the construction of Baltic NPP
Beloyarsk NPP-2 OJSC	Investments in construction, machines, and mechanisms used to build Beloyarsk NPP Power Unit No. 4; concrete mix transportation and pouring.
All-Russian Research Institute for NPP Operation (VNIIAES) OJSC	Addresses issues of NPP operation, higher reliability, longer service life, safety and economy of NPP, writing specifications requirements, concepts for new NPPs with VVER reactors
Elektrogorsk Science Research Centre for Nuclear Plant Safety OJSC	R&D to raise safety and economic efficiency of NPPs
Dom Housing Complex LLC	Hospitality services, transportation services
Energoatominvest LLC	Organizing passenger and cargo shipments, creating and operation of public catering outlets, consumer services, retailing, advertising, and hospitality services, provided to Rosenergoatom Concern OJSC affiliates

# 02

## DEVELOPMENT STRATEGY AND OUTLOOKS



- Mission
- Business Model
- Key Strategic Goals and Initiatives

## 2.1. MISSION

ROSENERGOATOM CONCERN OJSC SEES ITS MISSION AS BRINGING CONSUMERS THE ELECTRICAL AND THERMAL POWER PRODUCED BY RUSSIAN NUCLEAR PLANTS, WITH GUARANTEED SAFETY AS ITS TOP BUSINESS PRIORITY.

THE HIGHEST VALUES FOR ROSENERGOATOM CONCERN OJSC ARE NATIONAL ENERGY SECURITY, PROTECTION AND SAFETY FOR CITIZENS, AND ENVIRONMENTAL PROTECTION.

IN ITS MAIN ACTIVITIES FOR NPP OPERATION, ROSENERGOATOM CONCERN OJSC IS GUIDED BY THE FOLLOWING PRINCIPLES:

- ENSURING NUCLEAR, RADIATION, ENGINEERING, FIRE AND ENVIRONMENTAL SAFETY, AND LABOUR PROTECTION;
- UNCONDITIONAL COMPLIANCE WITH RUSSIAN FEDERAL LAW, OBSERVING FEDERAL SAFETY RULES AND REGULATIONS, AND ADHERENCE TO CORPORATE STANDARDS;
- BUSINESS EFFICIENCY IN GENERATION OF ELECTRICAL AND THERMAL ENERGY BY NUCLEAR PLANTS;
- ONGOING IMPROVEMENTS IN CORPORATE SAFETY CULTURE.

AS A CORPORATE OPERATOR, ROSENERGOATOM CONCERN OJSC ASSUMES TOTAL RESPONSIBILITY FOR ENSURING NUCLEAR AND RADIATION SAFETY AT ALL STAGES OF THE NPP LIFE CYCLE.

## 2.2. BUSINESS MODEL

Key partners	Key processes	Product positioning	Development	Consumers	Business results
<ul style="list-style-type: none"> <li>· TVEL JSC</li> <li>· FSUE GHK</li> <li>· FSUE PO Mayak</li> <li>· NIAEP OJSC</li> <li>· SPBAEP OJSC</li> <li>· AEP OJSC</li> </ul>	<ul style="list-style-type: none"> <li>· Operation of active NPPs</li> <li>· R&amp;D</li> <li>· NPP design &amp; placement</li> <li>· Construction of new generation units for NPPs</li> <li>· Sales of electric energy</li> </ul>	<ul style="list-style-type: none"> <li>· Production of electric and thermal power and capacity as base part of daily load schedule</li> </ul>	<ul style="list-style-type: none"> <li>· Commissioning new NPP power units and infrastructure</li> <li>· Design for power units VVER-TOI, BN-1200, KLT-40S etc.</li> <li>· Improvements to nuclear fuel cycle</li> </ul>	<ul style="list-style-type: none"> <li>· Major manufacturers</li> <li>· Secure suppliers</li> <li>· Electric power resellers</li> <li>· End users</li> </ul>	<ul style="list-style-type: none"> <li>· Implementation of development programme for nuclear industrial complex</li> <li>· Construction of 9 large power units and a floating thermal nuclear plant</li> </ul>
	<p><b>Key resources</b></p> <ul style="list-style-type: none"> <li>· 33 power units with installed capacity 25.2 GW</li> <li>· Human resources</li> <li>· Equipment</li> <li>· Nuclear fuel</li> <li>· Investments, including federal budget</li> </ul>		<p><b>Sales channels</b></p> <ul style="list-style-type: none"> <li>· National grid</li> <li>· Atomenergobit OJSC</li> </ul>		



Machine hall of power unit No.3, Beloyarsk NPP

## 2.3. KEY STRATEGIC GOALS AND INITIATIVES

THE STRATEGY OF ROSENERGOATOM CONCERN OJSC IS PART AND PARCEL OF THE ENERGY BUSINESS STRATEGY OF ROSATOM STATE CORPORATION, WHICH IN TURN RESTS ON THE RUSSIAN FEDERAL ENERGY STRATEGY UP TO 2030

The Concern's key development priorities are: increasing the share and improving efficiency of nuclear generation in Russia, closing the nuclear fuel cycle, and international expansion, including services to power units VVER in other nations.

### Strategic Goals and Initiatives

1. **Ensuring safe, efficient, and reliable operation of active NPPs**, nuclear and radiation safety of nuclear power facilities, protection of employees, citizens, and the environment.
2. **Raising the share of nuclear generation** by increasing installed capacity and generation of nuclear power, with ensured safety levels, including implementation of construction projects to build nuclear plants (projects currently under construction include nine power units for NPPs, and a floating power unit).
3. **Improving efficiency of nuclear plants**, with:
  - higher installed capacity use factor (ICUF) and load availability factor (LAF) of nuclear plants;
  - higher capacity, and longer service life of active power units;
  - improving efficiency of repair routines;
  - improving efficiency of fuel consumption;
  - lower operation cost, and cost management;
  - completing the design of VVER-TOI, and preparation to build nuclear plants based on VVER-TOI.

4. **Improving efficiency of capital construction projects**, including:
  - more efficient system of capital construction management;
  - more efficient purchases by consolidated purchasing, efficient inventory management, and optimized logistics;
  - implementing serial and batch construction under the VVER-TOI project: Kursk NPP-2, Smolensk NPP-2, Nizhny Novgorod NPP, and other.
5. **Growth of international operations**:
  - building nuclear plants abroad using the BOO model: Build – Own – Operate;
  - exporting electric power; servicing VVER power units abroad, including maintenance, repairs, upgrading, document development, and personnel training.
6. **Implementing the programme to close the nuclear fuel cycle (CNFC)**:
  - implementing the Russian programme;
  - building fast neutron (FN) reactors.

### Mid-term development programme up to 2017

- Starting with the targets approved by Rosatom State Corporation, the following figures are seen as mid-term key tasks through to 2017
- revenues of 356 billion rubles.;
- labour efficiency of 4,500 MWh per an employee;
- EBITDA at 148 billion rubles.

### Progress with the strategy in 2012:

- a set of steps to extend the service life of power units was accomplished, ensuring their stable operation (in 2012, extended-life power units generated 69 billion kWh);
- work was accomplished to reduce total repair days (in 2012, total repair days were reduced by 107, allowing generation of an additional 2.2 billion kWh);
- R&D to raise the thermal capacity of power unit No.4 of Balakovo NPP to 107–110%;
- activities undertaken to improve the resource characteristics of the first-generation RBMK reactor (installed at power unit No.1 of Leningrad NPP) and support permissible limits of their safe operation;
- analysis of potential increase in electric power generation of nuclear plants by increasing their base load (hydraulic accumulation plants);
- VVER-TOI design finished and ready for serial construction of nuclear power units.

\* BOO is a project model under which the company that builds the facility will later own and operate it;\*

# 03

## PERFORMANCE IN KEY ACTIVITIES



- Position in the Industry
- Electrical Power Production by Russian Nuclear Plants. Generating Capacity
- Ensuring Russian Nuclear Plants Safety. Radiation Impact on Personnel and Citizens
- Developing Generating Potential
- Maintenance and Repairs of NPPs. Implementation of Rosatom Production System
- Innovative Activities
- International Activities

### 3.1. POSITION IN THE INDUSTRY

The Concern's core business is generation of electrical and thermal energy by nuclear plants.

DURING 2012, THE CONCERN SHOWED TECHNICAL STABILITY, COMPETITIVE ABILITY, AND GOOD POTENTIAL FOR FURTHER GROWTH, HAVING ACHIEVED 177.3 BILLION KWH AS RECORD-HIGH POWER GENERATION IN THE ENTIRE HISTORY OF ROSENERGOATOM CONCERN OJSC.

One of Rosenergoatom's strategic goals as a constituent enterprise of Rosatom State Corporation is the efficient production and sale of electrical power generated by its NPPs.

In 2012, just as in previous years, the company ensured one of its top priorities in business: the safe and reliable operation of NPPs at all stages of the life cycle.

#### Key trends in the electric power sector

- The Concern comprises ten active nuclear plants with a total installed capacity of 25.2 GW.
- According to Russia's Energy Strategy up to 2030 approved by Federal Government Resolution No.1715-r of November 13, 2009, strategic goals for development of the electrical power sector include:
  - ensuring power security for the nation and its regions;
  - meeting the needs of the economy and citizens for electrical power (capacity) sold at affordable and competitive prices that guarantee payback of investments in the electrical power sector;
  - ensuring reliable and safe operation of the Russian power grid under normal conditions and in cases of emergency;
  - investment-based innovative upgrade of the sector to ensure high economic and

environmental efficiency of manufacturing, transport, distribution and use of power.

- To achieve the strategic development goals of the electrical power sector, the Federal Government has set the following priority tasks:
  - balanced development of generating and grid capacity, ensuring the needed level of reliable supply of electric power both nationwide and in individual regions;
  - further growth of the Russian United Power Grid, including by connecting and merging isolated supply networks;
  - extensive construction and upgrade of main production assets in the electric power sector (power plants and networks) to cover business and public needs in electric power;
  - promoting competitive relations on retail markets of electric power, ensuring that prices and tariffs of respective goods and services are economically justified;
  - leading development of nuclear, coal-mining, and renewable resource-based power (including hydraulic power), to make the sector less dependent on natural gas, and diversification of the nation's fuel-energy balance;
  - extensive adoption of new environment-friendly and high-efficiency technolo-

- gies of coal-burning, high-efficiency steam-gas units, next-generation controlled power grids, and other technologies that make the sector more efficient;
- ensuring robust, reliable, safe and controllable electric power systems, as well as required quality of electric power;
- developing small-scale power production in off-center power supply zones through more efficient use of local power resources, development of grids and networks, and reduced consumption of imported light petroleum products;
- building and implementing a price check mechanism thanks to high-tech innova-

tive development in the sector, reducing construction costs of generating and transmission capacity, promoting competition in the electric power sector and related sectors, and also through creation of a national system to control development in the electric power sector;
 

- reducing negative impact of the electric power sector on the environment by using optimized technologies.

In terms of development of non-fuel power generation, considerable (doubled) growth of electric power production is expected from the nuclear plants.

List of regions of presence

Region	NPP	Number of power units	Units under construction
Saratov Oblast	Balakovo NPP	4	
Sverdlovsk Oblast	Beloyarsk NPP	3 (2 final shutdown for decommissioning)	1
Chukotka Autonomous Okrug	Bilibino NPP	4	
Tver Oblast	Kalinin NPP	4	
Murmansk Oblast	Kola NPP	4	
Kursk Oblast	Kursk NPP	4	
Leningrad Oblast	Leningrad NPP	4	
	Leningrad NPP-2		2
Voronezh Oblast	Novovoronezh NPP	5 (2 final shutdown for decommissioning)	
	Novovoronezh NPP-2		2
Rostov Oblast	Rostov NPP	2	2
Smolensk Oblast	Smolensk NPP	3	
Kaliningrad Oblast	Baltic NPP		2
Pevek, Chukotka Autonomous Okrug	FTNPP		1

25.2  
GW

^ total installed capacity of Russian nuclear plants

**Key Competition**

At present, Rosenergoatom Concern OJSC leads Russian and foreign generating companies on such indicators as installed capacity and electrical power generation.

The Concern's electrical power generation compared to other Russian major generating companies in 2012, billion kWh

Generating company	Production
Rosenergoatom Concern OJSC	177.3
Mosenergo OJSC	101.3
RusHydro OJSC*	96.5
INTER RAO OJSC – Electric Generation	32.1

\* Does not include subsidiaries and controlled businesses.

The Concern's installed capacity compared to other Russian major generating companies in 2012, GW

Generating company	Installed capacity
Rosenergoatom Concern OJSC	25.2
RusHydro OJSC*	24.5
INTER RAO OJSC – Electric Generation	21.2
Mosenergo OJSC	12.3

\* Does not include subsidiaries and controlled businesses.

**Product Consumers**

The product of Rosenergoatom Concern OJSC is used by all businesses and entities listed in Section 2 "Buyers of Electrical Power and Capacity" in the Registry of Subjects of the electrical power (capacity) wholesale market (ECWM), and any business or entity officially recognized as part of the ECWM trading system that transacts to purchase electrical power and capacity from the ECWM.

The list and number of buyers of electrical power and capacity from the Concern are not constant values; they do not depend on the Concern's preferences. The number, list, and structure of users are determined by the ECWM Commercial Operator (JSC Trading System Administrator of Wholesale Electricity Market Transactions) every year, as part of the central contract-signing campaign on the ECWM (or more frequently, if any serious changes are made to regulations that set the working procedures for the ECWM during the calendar year, and if such changes require modification of contracts). To observe the principles of proportion and fair distribution of contract counterparts, under contracts where electrical power and capacity are sold at regulated prices, distribution plans are subject to coordination between market players as the parties prepare for the contract signing campaign. This coordination includes activities to optimise draft plans and consider the market players' respective interests.

The demand for electrical power and capacity sold by the Concern on the ECWM is mainly regular, although certain departures may be caused by either season-based fluctuations in electrical power needs, or water-level conditions that affect generation of hydraulic electrical power sold to the National Power Grid.

**Main Trends of Market Development**

Main Trends of Market Development  
In 2010, Rosenergoatom assumed responsibility for selling capacity on the wholesale market by signing 1,915 contracts with wholesale market users, regarding its nine newly built nuclear power units. The contracts will secure payments totaling about 4.4 trillion rubles (VAT excl.) from sold capacity of the new power units between 2011 and 2038. Under one of such contracts in 2012 all relevant certification procedures for the equipment of Power Unit No. 4 Kalinin NPP, to receive certificates from SO UPS were passed. In 2013

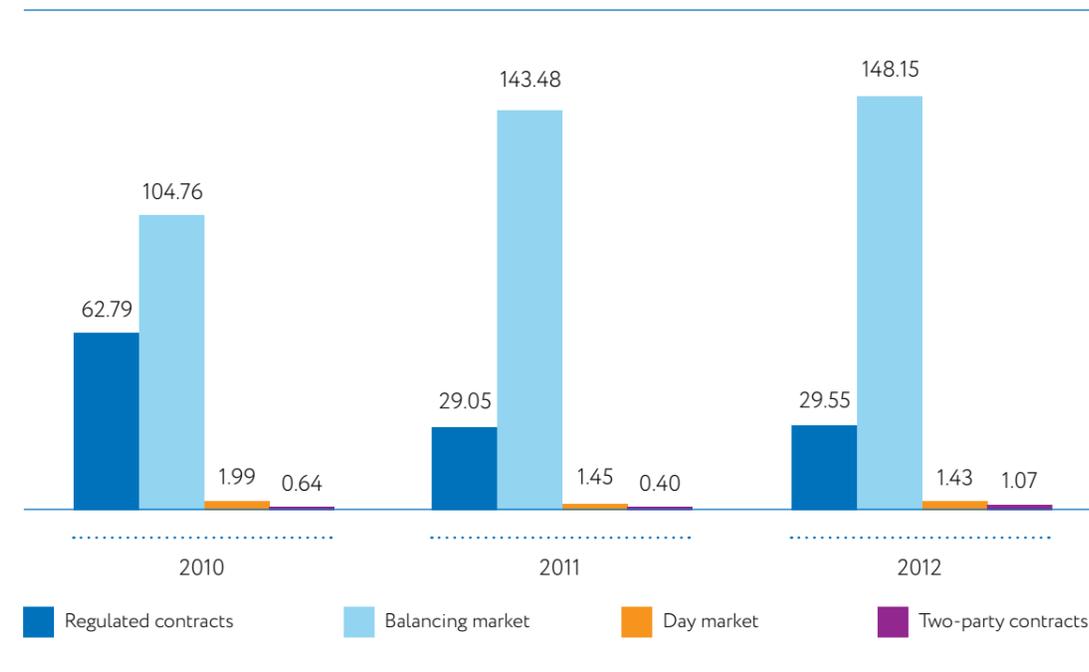
the sales of capacity from Power Unit No. 4 Kalinin NPP began.

In 2012, the tender procedure was used to select capacity for sales during 2013. All capacity declared during the selection procedure will be sold in 2013 at market prices set through selection, and considering the FTS-approved markup to ensure operation of NPPs. During 2012, electrical energy and capacity were sold at free (unregulated) prices (except electrical power and capacity sold to citizens).

**Sales Performance**

Actual total sales of electrical power from all nuclear plants in 2012 amounted to 177.29 billion kWh, whereof 177.12 billion kWh (or 99.91%) sold at the ECWM, and 0.17 billion kWh at the retail market (produced by Bilibino NPP). Estimated generation by nuclear plants as stated on the balance sheet of the Russian Federal Tariffs Service was 175.80 billion kWh, while total additional sales of electrical power from nuclear plants were 1.49 billion kWh, or 0.8%.

Structure of electrical power sold by the Concern at ECWM in 2010–2012 (million MWh)



In 2012, the Concern sold electrical power under regulated contracts, on the day market, on the balancing market, and under unregulated contacts. Capacity was sold under regulated contracts and capacity sale contracts signed after tenders for price bids for capacity, and sale contracts for capacity from new facilities of nuclear plants. Payments for electrical power and capacity supplied under regulated contracts, and capacity from generating equipment at nuclear and hydraulic electrical plants, were effected at the tariffs set by the FTS for Rosenergoatom Concern OJSC for 2012.

Actual revenues from sold electrical power and capacity in 2012 amounted to 198,416.04 mln rubles. Extra proceeds compared to revenues stated in the 2012 budget were 1,679.43 mln rubles (or 0.9% above the actual target).

After 2012, the average weighted annual selling price of electrical power from nuclear plants on the day market was 914.63 rubles/MWh.

Total additional sales of electrical power from nuclear plants were

1.49

billion kWh



0.8%



Bilibino nuclear power plant

**Sales of Thermal Power**

Last year, the Concern consolidated financial flows from consumers of thermal power generated by nuclear plants. Nuclear plants signed supplementary agreements under user contracts, which envisaged payments to the same banking account. Accounts receivable for thermal power were transferred to the head office that will collect payments centrally. Starting from 2013, all users of thermal power will work with the Concern under the same standard contacts for thermal power supply that contain provisions needed to protect the financial interests of the generating company.

**Product Market**

As part of the ongoing programme to centralize electrical power supply from the nuclear sector, in 2012 Atomenergobit continued its activities to centralize

power supplies in the nuclear industry. In 2012, companies in the nuclear sector received 3.3 billion kWh, and work was done for another seven companies to enter the wholesale market to start their power supply.

Extra proceeds compared to revenues stated in the 2012 budget were

1,679.43  
mln rubles

0.9%  
above the actual target

**3.2. ELECTRICAL POWER PRODUCTION BY RUSSIAN NUCLEAR PLANTS. GENERATING CAPACITY**

**Generation**

In 2012, the sector generated 177.3 billion kWh, or 102.7% of the 2011 figure. Growth in actual generation compared to the previous year was caused by:

- 5,583.7 mln kWh of electric power generation by power unit No.4 of Kalinin NPP (commissioned for operation in September 2012);
- canceled current repairs of power units No.1, 2 and 4 of Balakovo NPP (18 days total).

In 2012, the sector generated

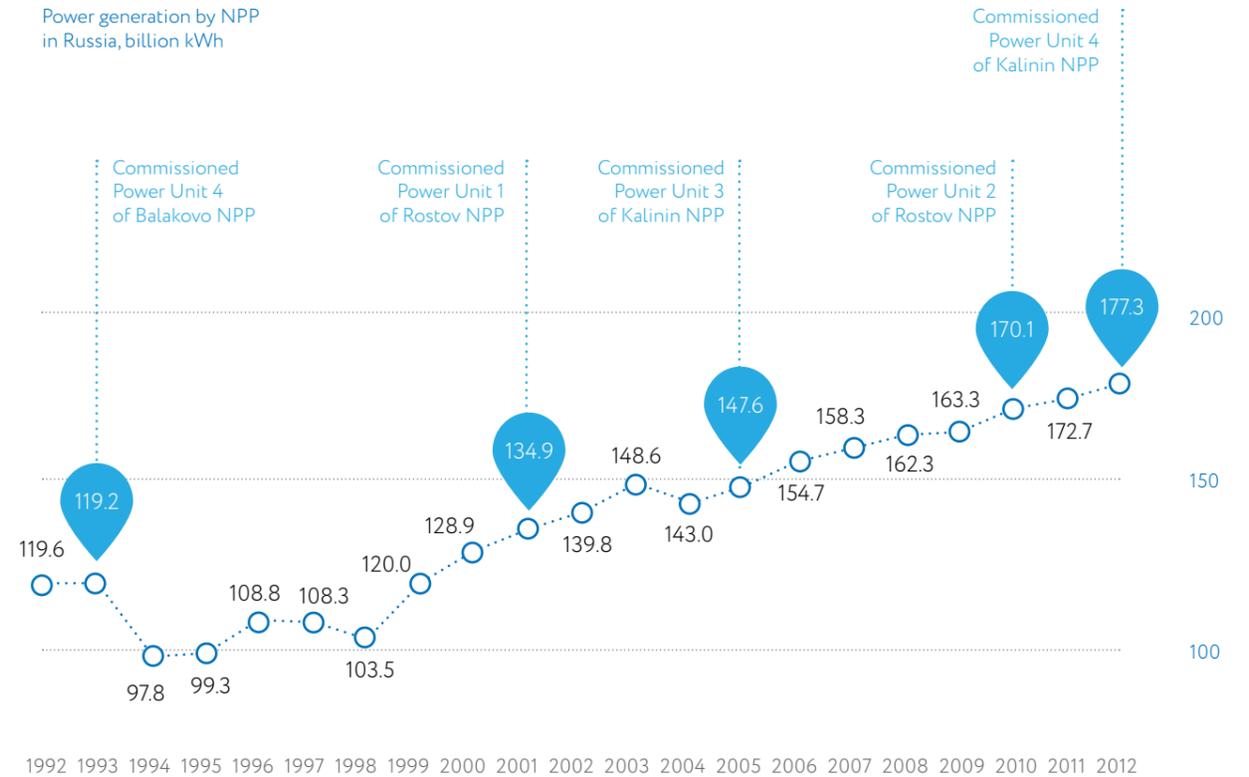
177.3 billion kWh

102.7%  
of the 2011 figure

5,583.7

mln kWh  
of electric power generation by power unit No.4 of Kalinin NPP (commissioned for operation in September 2012)

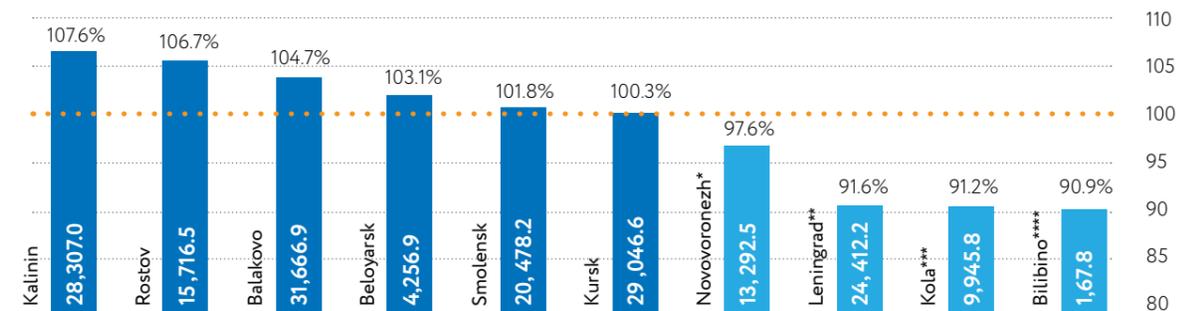
Power generation by NPP in Russia, billion kWh



**FTS Balance Compliance**

In 2012, the balance required by the FTS was 175.8 billion kWh; the result was 100.8% of the target.

FTS balance compliance in electrical power generation by Russian NPPs, %, mln kWh



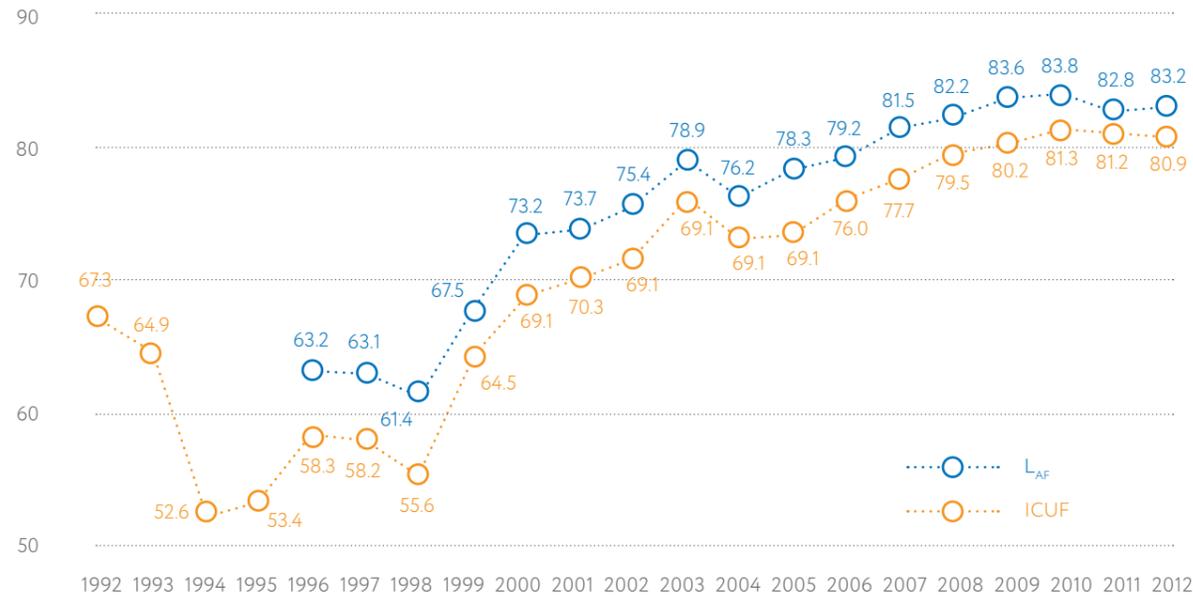
Non-compliance of the FTS balance was caused by:

- \* extraordinary repair on power unit No.3;
- \*\* shutdown of power unit No.1 to restore resource characteristics of the graphite insert of the reactor;
- \*\*\* additional grid limits due to repairs of power lines of the North-West system of FSK UES OJSC;
- \*\*\*\* grid constraints due to reduced power consumption compared to target (lower consumption by Mayskoye Gold Mining Company LLC).

**Installed capacity use factor (ICUF), Load availability factor (L<sub>AF</sub>)**

In 2012, the ICUF was 80.9%, or 0.3% below the 2011 figure; L<sub>AF</sub> was 83.2%, or 0.4% above the 2011 figure.

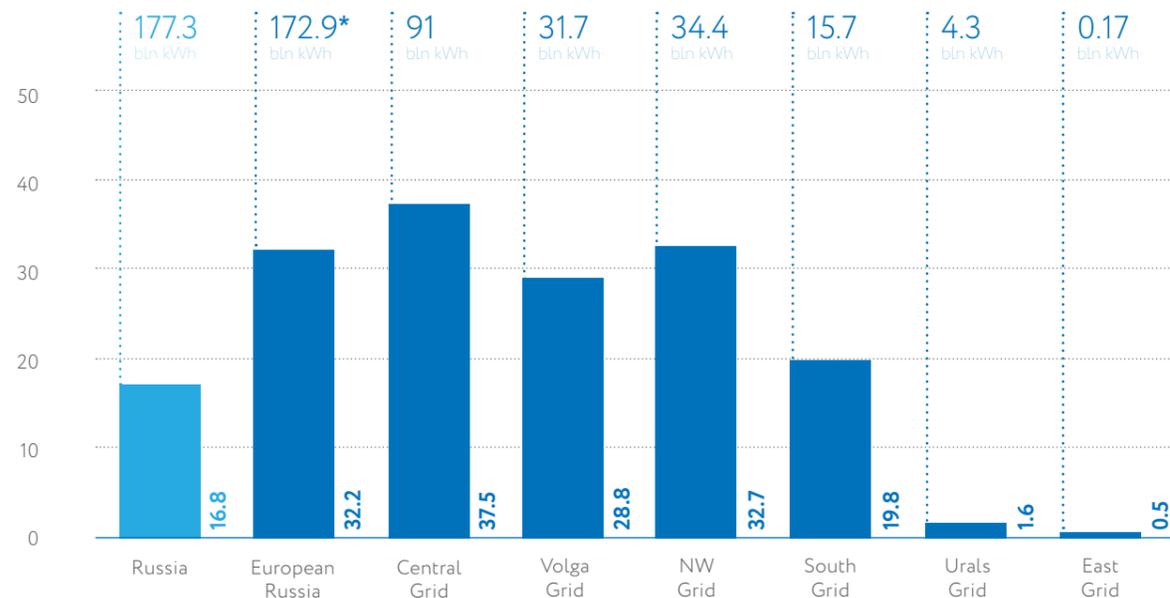
Installed capacity use factor (ICUF) and load availability factor (L<sub>AF</sub>) dynamically, %



**Proportion of Generation**

Nuclear generation as a proportion of Russia's total generation of electrical power reached 16.8% (16.6% after 2011).

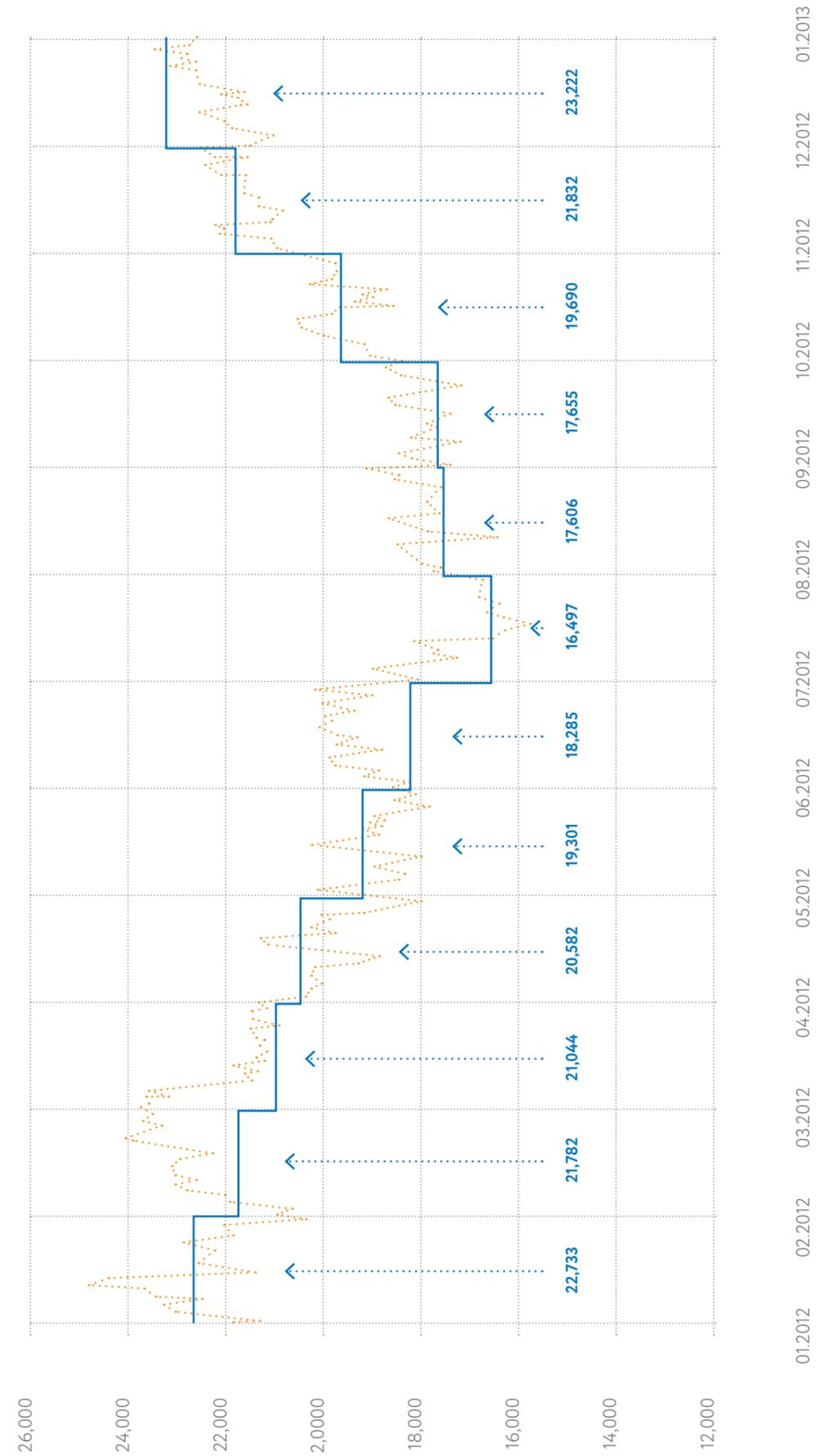
Proportion of electrical power generation by Russian Grid Systems in 2012, %



\* Central Russia Grid, Volga Grid, NW Grid, South Grid

Fact  
FTS balance target

Timeline of actual loads, and FTS target in 2012, MW



## Generating Capacity

## BALAKOVO NPP

## Location:

Saratov Oblast,  
12.5 km from the satellite city  
of Balakovo, and 145 km from  
the Oblast capital - Saratov.

Saratov  
Oblast

BALAKOVO NPP  
IS RUSSIA'S LARGEST  
PRODUCER  
OF ELECTRICAL POWER.  
IN 2012, BALAKOVO NPP  
PRODUCED MORE  
THAN 31 BILLION KWH  
OF ELECTRICAL POWER,  
AMOUNTING TO ONE  
FOURTH OF TOTAL ELECTRICAL  
POWER GENERATION IN THE  
VOLGA FEDERAL DISTRICT.

Balakovo NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	VVER-1000	1,000	28.12.1985
2	VVER-1000	1,000	08.10.1987
3	VVER-1000	1,000	24.12.1988
4	VVER-1000	1,000	11.04.1993
Total installed capacity – 4,000 MW			

17.8%

of the total electrical  
power generated  
by the Concern.

Balakovo NPP is a recognised leader in the Russian nuclear power industry – the plant has won the title of “Russia’s Best NPP” several times (in 1995, 1999, 2000, 2003, 2005–2009, and 2011).

Balakovo NPP is the winner of 14th “European Quality Gold Medal” International Contest.

**2012 operation results**

In 2012, Balakovo NPP produced 17.8% of the total electrical power generated by the Concern.

Performance of Balakovo NPP in 2012

Indicators	Unit	Value
Electrical power produced	mIn kWh	31,666.9
Compared to 2011	%	97.7
Compared to FTS balance target	%	104.7
ICUF	%	90.1

## Generating Capacity

## BELOYARSK NPP

## Location:

Sverdlovsk Oblast.  
3 km to satellite city of Zarechny;  
45 km to the Oblast capital -  
Yekaterinburg.



Sverdlovsk  
Oblast

BELOYARSK NPP  
NAMED AFTER  
I.V. KURCHATOV WAS  
THE PIONEER  
OF LARGE-SCALE NUCLEAR  
POWER PRODUCTION  
IN THE USSR, AND RUSSIA'S  
ONLY NUCLEAR PLANT  
RUNNING POWER UNITS  
OF DIFFERENT TYPES.

Beloyarsk NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
3	BN-600	600	08.04.1980
Total installed capacity – 600 MW			

# 2.4%

of the total electrical  
power generated  
by the Concern.

The electrical power produced by Beloyarsk NPP amounts to about 10% of total electric power in the Sverdlovsk power grid.

The plant was built in two phases: phase 1 was Power Units No. 1 and 2 with an AMB reactor, phase 2 built Power Unit No. 3 with a BN-600 reactor. After 17 and 22 years in operation, Power Units No. 1 and 2 were shut down in 1981 and 1989 respectively, and now remain in long-term conservation with defueled reactors; in terms of international standards, they are at Stage 1 of decommissioning.

At present, Beloyarsk NPP runs one power unit BN-600. This is the world's largest power unit with a fast-neutron reactor.

BN-600 uses high-concentration uranium dioxide fuel, but can also use combination fuel of uranium and plutonium.

In terms of safety and reliability, BN-600 is among the best nuclear reactors in the world.

Construction of power unit for No.4 Beloyarsk NPP continues; the unit will have a fast neutron reactor BN-800 rated for capacity 880 MW.

Beloyarsk NPP was named "Russia's Best NPP" in 1994, 1995, 1997 and 2001.

Since its Power Unit No.1 was launched, Beloyarsk NPP produced 155.9 billion kWh of electrical power.

**2012 operation results**

In 2012, Beloyarsk NPP produced 2.4% of the total electric power generated by the Concern.

Performance of Beloyarsk NPP in 2012

Indicators	Unit	Value
Electrical power produced	mIn kWh	4,256.9
Compared to 2011	%	100.2
Compared to FTS balance target	%	103.1
ICUF	%	80.8

**Generating Capacity**  
**BILIBINO NPP**

**Location:**

Chukotka Autonomous Okrug,  
4.5 km from the satellite city  
of Bilibino; km; 610 km from  
the capital of the Okrug – Anadyr.



BILIBINO NPP  
PRODUCES ABOUT 80%  
OF THE ELECTRICAL POWER  
GENERATED IN THE ISOLATED  
CHAUN-BILIBINO POWER  
GRID (CBPG); IT IS THE ONLY  
OPTION AND SOURCE  
OF THERMAL POWER  
IN THE TOWN OF BILIBINO.

Bilibino NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	1 EGP-6	12	12.01.1974
2	2 EGP-6	12	30.12.1974
3	3 EGP-6	12	22.12.1975
4	4 EGP-6	12	27.12.1976
Total installed capacity – 48 MW			

0.1%

of the total electrical  
power generated  
by the Concern.

The conditions of construction, operation, and maintenance, and the specifics of the location of the Bilibino NPP determine the following requirements for the reactor unit and related equipment.

The installed electric capacity of Bilibino NPP is 48 MW, simultaneously able to supply up to 67 GCal/hour to its users. At air temperatures as low as -50°C, the NPP operates in heat-exporting mode and can export 100 GCal/h while the electrical generation capacity is reduced to 38 MW.

In 2009, Bilibino NPP came joint first along with Balakovo NPP for “Best NPP Safety Culture”.

Since its Power Unit No.1 was launched, Bilibino NPP has generated 8,9 billion kWh of electrical power.

**2012 operation results**

In 2012, Bilibino NPP produced 0.1% of the total electrical power generated by the Concern.

Performance of Bilibino NPP in 2012

Indicators	Unit	Value
Electrical power produced	mIn kWh	167.8
Compared to 2011	%	109.6
Compared to FTS balance target	%	90.9
ICUF	%	39.8

**Generating Capacity**  
**KALININ NPP**

**16%**

of the total electrical  
power generated  
by the Concern.

**Location:**

Tver Oblast, 4 km from  
the satellite city of Udomlia;  
125 km from the Oblast capital – Tver.



KALININ NPP GENERATES  
70% OF ALL ELECTRICAL  
POWER IN THE TVER OBLAST.  
KALININ NPP EXPORTS  
CAPACITY TO THE UNIFIED  
POWER GRID OF CENTRAL  
RUSSIA, AND THEN OVER  
HIGH-VOLTAGE POWER LINES  
TO TVER, MOSCOW,  
ST. PETERSBURG, VLADIMIR,  
AND CHEREPOVETS.

In addition, thanks to its location, Kalinin NPP is engaged in high-voltage transit of electrical power. The master circuit of its switchyard ensures reliable supply of power to users, with electrical energy exported in every operation mode of the nuclear plant.

Kalinin NPP was named "Russia's Best NPP" in 2002.

Since its Power Unit No.1 was launched, Kalinin NPP has produced 417.4 billion kWh of electrical power.

Under the industry-level "Programme to Increase Generation of Electrical Power by Active Nuclear Units during 2011–2015", Power Units No. 1, 2 and 3 of Kalinin NPP are now preparing for production test operation at 104% of their designed capacity level. On September 25, 2012 an official ceremony opened power unit No.4 of Kalinin NPP for commercial operation.

**2012 operation results**

In 2012, Kalinin NPP produced 16% of the total electrical power generated by the Concern.

Kalinin NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	VVER-1000	1,000	28.06.1984
2	VVER-1000	1,000	25.12.1986
3	VVER-1000	1,000	08.11.2005
4	VVER-1000	1,000	25.09.2012
Total installed capacity – 4,000 MW			

Performance of Kalinin NPP in 2012

Indicators	Unit	Value
Electrical power produced	mln kWh	28,307.0
Compared to 2011	%	120.8
Compared to FTS balance target	%	107.6
ICUF	%	87.4

**Generating Capacity**  
**KOLA NPP**

**Location:**

Kola Peninsula,  
11 km from the satellite city  
of Poliarniye Zori; 170 km from  
the Oblast capital – Murmansk.



**KOLA NPP –  
RUSSIA'S FIRST  
NUCLEAR PLANT  
BEYOND  
THE ARCTIC CIRCLE.**

Kola NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	VVER-440	440	29.06.1973
2	VVER-440	440	09.12.1974
3	VVER-440	440	24.03.1981
4	VVER-440	440	11.10.1984
Total installed capacity – 1,760 MW			

**5.6%**

of the total electrical  
power generated  
by the Concern.

Kola NPP's power generation is about 60% of the total of electrical power generation in the Murmansk Oblast.

Kola NPP exports power to two power grids: Kolenergo (Murmansk Oblast), and Karelen-ergo (Republic of Karelia).

Under the industry-level "Programme to Increase Generation of Electrical Power by Active Nuclear Units during 2011–2015", Kola NPP Power Unit No. 4 concluded its production test operation, and activities are underway to obtain a license for commercial operation at 107% of its designed capacity level; Kola NPP Power Unit No. 3 is currently prepping for test operation at 107% of its designed capacity level.

Currently, the power units of Kola NPP are running in restricted mode due to reduced consumption and limited transit of electrical power.

Since its Power Unit No.1 was launched, Kola NPP has produced 359.0 billion kWh of electric power.

**2012 operation results**

In 2012, Kola NPP produced 5.6% of the total electrical power generated by the Concern.

Performance of Kola NPP in 2012

Indicators	Unit	Value
Electrical power produced	mln kWh	9,945.8
Compared to 2011	%	94.2
Compared to RTS balance target	%	91.2
ICUF	%	64.3

**Generating Capacity**  
**KURSK NPP**

**Location:**

Kursk Oblast, 4 km from the satellite city of Kurchatov; 40 km from the Oblast capital – Kursk.



THE KURSK NUCLEAR PLANT IS AMONG THE NATION'S FOUR NUCLEAR PLANTS OF EQUAL CAPACITY, AND IT IS A MAJOR NODE IN THE RUSSIAN UNIFIED POWER GRID. IT EXPORTS MOST OF ITS OUTPUT TO THE CENTRAL RUSSIA GRID THAT SERVES 19 REGIONS IN THE CENTRAL FEDERAL DISTRICT OF RUSSIA.

**16.3%**

of the total electrical power generated by the Concern.

The plant's contribution to the installed capacity of all power plants in the region is more than 50%, and it sells electrical power to most manufacturers in the Kursk Oblast.

Kursk NPP was named "Russia's Best NPP" in 2009 in the industry-wide contest on safety culture. In 2010–2011, third-party auditors recognized the environmental management system at Kursk NPP as compliant with the requirements of Russian national standards and the regulation on mandatory certification for environmental compliance.

Since its Power Unit No.1 was launched, Kursk NPP has generated 759.0 billion kWh of electric power.

**2012 operation results**

In 2012, Kursk NPP produced 16.3% of the total electrical power generated by the Concern.

Kursk NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	RBMK-1000	1,000	12.12.1976
2	RBMK-1000	1,000	28.01.1979
3	RBMK-1000	1,000	17.10.1983
4	RBMK-1000	1,000	02.12.1985
Total installed capacity – 4,000 MW			

Performance of Kursk NPP in 2012

Indicators	Unit	Value
Electrical power produced	mln kWh	29,046.6
Compared to 2011	%	100.0
Compared to FTS balance target	%	100.3
ICUF	%	82.7

Generating Capacity

LENINGRAD NPP

Location:

Leningrad Oblast, 5 km from the satellite city of Sosnovy Bor; 70 km from the Oblast capital (St. Petersburg).



LENINGRAD NPP IS A MAJOR PRODUCER OF ELECTRICAL POWER IN THE RUSSIAN NORTH-WEST. THE PLANT MEETS MORE THAN 50% OF THE POWER NEEDS OF ST. PETERSBURG AND THE LENINGRAD OBLAST. LENINGRAD NPP ACCOUNTS FOR 28% OF THE FUEL AND POWER BALANCE OF THE ENTIRE NORTH-WEST REGION.

Leningrad NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	RBMK-1000	1,000	21.12.1973
2	RBMK-1000	1,000	11.07.1975
3	RBMK-1000	1,000	07.12.1979
4	RBMK-1000	1,000	09.12.1981
Total installed capacity – 4,000 MW			

13.7%

of the total electrical power generated by the Concern.

Leningrad NPP was the nation's first plant to use RBMK-1000 reactors.

With a view to the future decommissioning of currently active power units, in August 2007, work began to build Leningrad NPP-2. Substitute power units with upgraded water-moderated reactors (VVER), each with an installed capacity of 1,200 MW, will come to replace the existing power units in Leningrad NPP with RBMK reactors; they will serve as reliable sources of power for St. Petersburg, Leningrad Oblast, and the Rus-

sian North-West up to the end of the 21st century.

Since its Power Unit No. 1 was launched, Leningrad NPP has generated 871.2 billion kWh of electric power.

2012 operation results

In 2012, Leningrad NPP produced 13.7% of the total electrical power generated by the Concern.

Performance of Leningrad NPP in 2012

Indicators	Unit	Value
Electrical power produced	mln kWh	24,412.2
Compared to 2011	%	86.9
Compared to FTS balance target	%	91.6
ICUF	%	69.5

## Generating Capacity

## NOVOVORONEZH NPP

## Location:

Voronezh Oblast,  
3.5 km from the satellite city  
of Novovoronezh; 45 km from  
the Oblast capital – Voronezh.



Voronezh  
oblast

NOVOVORONEZH NPP  
IS ONE OF THE OLDEST  
ENTITIES IN THE RUSSIAN  
NUCLEAR POWER INDUSTRY.  
NOVOVORONEZH NPP POWER  
UNIT NO. 1 WAS LAUNCHED  
ON SEPTEMBER 30, 1964,  
AND WAS THE STARTING  
POINT IN THE HISTORY  
OF THE NUCLEAR POWER  
INDUSTRY NOT ONLY  
IN RUSSIA, BUT ALSO  
IN CERTAIN NATIONS  
OF EASTERN  
AND CENTRAL EUROPE.

Novovoronezh NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
3	VVER-440	417	12.12.1971
4	VVER-440	417	28.12.1972
5	VVER-1000	1,000	31.05.1980
Total installed capacity – 1,834 MW			

# 7.4%

of the total electrical  
power generated  
by the Concern.

Novovoronezh NPP meets all the needs of the entire Voronezh Oblast in electrical power, and up to 90% of Novovoronezh's heating needs.

The Novovoronezh nuclear plant was Russia's first NPP to receive water-moderated energy reactors (VVER). During its 40-year history, five VVER reactor power units have been built on the Novovoronezh site.

For the first time in Europe, Power Units No. 3 and 4 underwent a unique set of activities to extend their service life by 15 years, with relevant licenses obtained from Ros tekhnadzor. On September 22, 2011, following unique repairs and upgrades, Russia's first one-million kilowatt unit with a VVER reactor was recommissioned.

As a result of dedicated activities, Novovoronezh NPP power unit No. 5, originally of the second generation, now belongs to the third generation of nuclear plants. It is fully compliant with modern Russian requirements and IAEA recommendations, and its service life was extended by another 25-30 years.

Since its Power Unit No.1 was launched, Novovoronezh NPP has generated 472.4 billion kWh of electric power.

## 2012 operation results

In 2012, Novovoronezh NPP produced 7.4% of the total electrical power generated by the Concern.

Performance of Novovoronezh NPP in 2012

Indicators	Unit	Value
Electrical power produced	mIn kWh	13,292.5
Compared to 2011	%	158.3
Compared to FTS balance target	%	97.6
ICUF	%	82.5

## Generating Capacity

## ROSTOV NPP

## Location:

Rostov Oblast,  
16 km from the satellite city  
of Volgodonsk; 205 km from  
the Oblast capital – Rostov-on-Don.

Rostov  
Oblast

ROSTOV NPP IS A MAJOR  
POWER PROVIDER  
IN SOUTHERN RUSSIA.  
THE PLANT ACCOUNTS  
FOR 40% OF THE TOTAL  
ELECTRICAL GENERATION  
IN THE ROSTOV OBLAST.  
FROM ROSTOV NPP,  
ELECTRICAL POWER  
IS EXPORTED OVER PL  
(POWER LINE) -500 TO  
THE VOLGOGRAD OBLAST  
AND ROSTOV OBLAST,  
KRASNODAR KRAI  
AND STAVROPOL KRAI,  
AND OVER TWO  
PL-220 LINES TO THE  
TOWN OF VOLGODONSK.

Rostov NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	VVER-1000	1,000	30.03.2001
2	VVER-1000	1,000	16.03.2010
Total installed capacity – 2,000 MW			

8.9%

of the total electrical  
power generated  
by the Concern.

Rostov NPP is one of a series of uniform  
unclear plants designed with VVER-1000  
reactors that meet the requirements of pro-  
duction line construction. The plant's entire  
capacity was designed to cover the needs of  
the unified power grid of the Northern Cau-  
casus.

Large-scale construction of the Rostov Nu-  
clear Plant began in October 1979.

In 1990, construction of the NPP was sus-  
pended, and the plant was left in stasis. In  
2000, Gosatomnadzor issued a license to  
continue construction of Rostov NPP Power  
Unit No. 1, with VVER-1000 reactor; in 2001,  
a license was issued for operation of the  
power unit.

On March 30, 2001, the turbine-generator  
of Power Unit No. 1 was connected to the  
Unified Power Grid of Russia, and on March

16, 2010, power unit No.2 was commissioned  
and put in operation. Currently, construction  
of power units No.3 and 4 is in progress.

Rostov NPP was named "Russia's Best NPP"  
in 2004 and in 2011; it has won the industry-  
level contest for safety culture three times  
since 2001.

Since its Power Unit No.1 was launched,  
Rostov NPP has generated 110.0 billion kWh  
of electrical power.

**2012 operation results**

In 2012, Rostov NPP produced 8.9%  
of the total electrical power generated  
by the Concern.

## Performance of Rostov NPP in 2012

Indicators	Unit	Value
Electrical power produced	mIn kWh	15,716.5
Compared to 2011	%	99.4
Compared to FTS balance target	%	106.7
ICUF	%	89.5

**Generating Capacity**  
**SMOLENSK NPP**

**11.6%**

of the total electrical power generated by the Concern.

**Location:**

Smolensk Oblast, 45 km from the satellite city of Desnogorsk; 150 km from the Oblast capital (Smolensk).



SMOLENSK NPP IS ITS COMMUNITY'S MAIN EMPLOYER, A MAJOR BUSINESS, AND THE LARGEST ON THE FUEL AND ENERGY BALANCE OF THE REGION. EVERY YEAR, THE PLANT'S AVERAGE OUTPUT IS 20 BILLION KWH OF ELECTRICAL POWER, OR MORE THAN 80% OF THE TOTAL ELECTRICAL POWER GENERATED BY ALL SMOLENSK PLANTS.

Smolensk NPP has won the industry-level contest "Russia's Best NPP" several times (in 1992, 1993 and 2011), and rose to the top three in 1999. In 2000, the nuclear plant ranked first in the contest "Russian Entity of High Social Efficiency"; in 2006, it was named "Russia's Best NPP" in the industry-level contest for safety culture; in 2007, it was the first NPP in Russia to be awarded an international compliance certificate in the quality management system under ISO 9001:2000, and named Russia's best NPP in social security and personnel management.

GOST R ISO 14001-2007, and named Russia's best NPP in "Physical Protection" nomination.

After 2010, Smolensk NPP was named "Russia's Best NPP" and the best nuclear plant in safety culture.

Since its Power Unit No.1 was launched, Smolensk NPP has generated 526.7 billion kWh of electrical power.

**2012 operation results**

In 2012, Smolensk NPP produced 11.6% of the total electrical power generated by the Concern.

In 2009, Smolensk NPP received a compliance certificate in the environmental management system under national standard

Smolensk NPP active power units

Power unit No.	Type of reactor	Installed capacity, MW	Launched on
1	RBMK-1000	1,000	09.12.1982
2	RBMK-1000	1,000	31.05.1985
3	RBMK-1000	1,000	17.01.1990
Total installed capacity – 3,000 MW			

Performance of Smolensk NPP in 2012

Indicators	Unit	Value
Electrical power produced	mln kWh	20,478.2
Compared to 2011	%	99.8
Compared to FTS balance target	%	101.8
ICUF	%	77.7

## Report on Energy Efficiency

In 2012, the INTER RAO UES Energy Efficiency Center conducted a study on energy efficiency, including thermal imaging and

certification of its buildings and structures in active nuclear plants that are Rosenergoatom branch companies.

Power saved through activities to reduce consumption and improve energy efficiency\*

Thermal power					
Objective	Actually used in 2009, 000 Joules	Used in 2010 (conditions comparable to 2009), 000 Joules	Used in 2011 (conditions comparable to 2009), 000 Joules	Used in 2012 (conditions comparable to 2009), 000 Joules	Savings in 2012 compared to 2011, 000 Joules
Energy used for own needs	13,663.54	15,659.95	12,112.67	11,244.074	868.596
Economy of energy resources used for production	1,976.38	2,720.84	1,656.57	1,631.25	25.32

Water					
Objective	Actually used in 2009, 000 m <sup>3</sup>	Used in 2010 (conditions comparable to 2009), 000 m <sup>3</sup>	Used in 2011 (conditions comparable to 2009), 000 m <sup>3</sup>	Used in 2012 (conditions comparable to 2009), 000 m <sup>3</sup>	Savings in 2012 compared to 2011, 000 m <sup>3</sup>
Energy used for own needs	1,071,916.19	1,360,000.74	924,169.23	903,146.83	21,022.40
Economy of energy resources used for production	8,942.31	7,659.13	8,220.26	8311.74	-91.48**

Electric power					
Objective	Actually used in 2009, 000 Joules	Used in 2010 (conditions comparable to 2009), 000 kWh	Used in 2011 (conditions comparable to 2009), 000 kWh	Used in 2012 (conditions comparable to 2009), 000 kWh	Savings in 2012 compared to 2011, 000 kWh
Energy used for own needs	10,637,679.40	10,189,023.61	9,826,445.10	9,128,669.1	697,776.0
Economy of energy resources used for production	94,813.60	96,395.55	87,715.00	87,100.73	614.27

\* Economy of power resources was calculated as required in Rosatom State Corporation Executive Order of August 9, 2011, No. 1/676-П, using the Methodology for calculating savings made by reduced consumption of power resources at Rosenergoatom nuclear plants.

\*\* More water was used for production in 2012 (conditions comparable to 2009) after new production facilities were brought online on power unit No.4 of Kalinin NPP.

The results of the study became the basis for an integrated programme for to save power and increase energy efficiency in active nuclear plants – branch companies of Rosenergoatom; this programme was made part of the programme for energy efficiency in the nuclear sector for 2012–2016.

The programme contains activities for energy efficiency in the nuclear sector, as defined in Rosatom State Corporation Executive Order of December 24, 2010 “Centralizing Activities for Power Saving and Higher Energy Efficiency in the Nuclear Sector”.

When activities are selected to be included in the programme, priority is given to ones

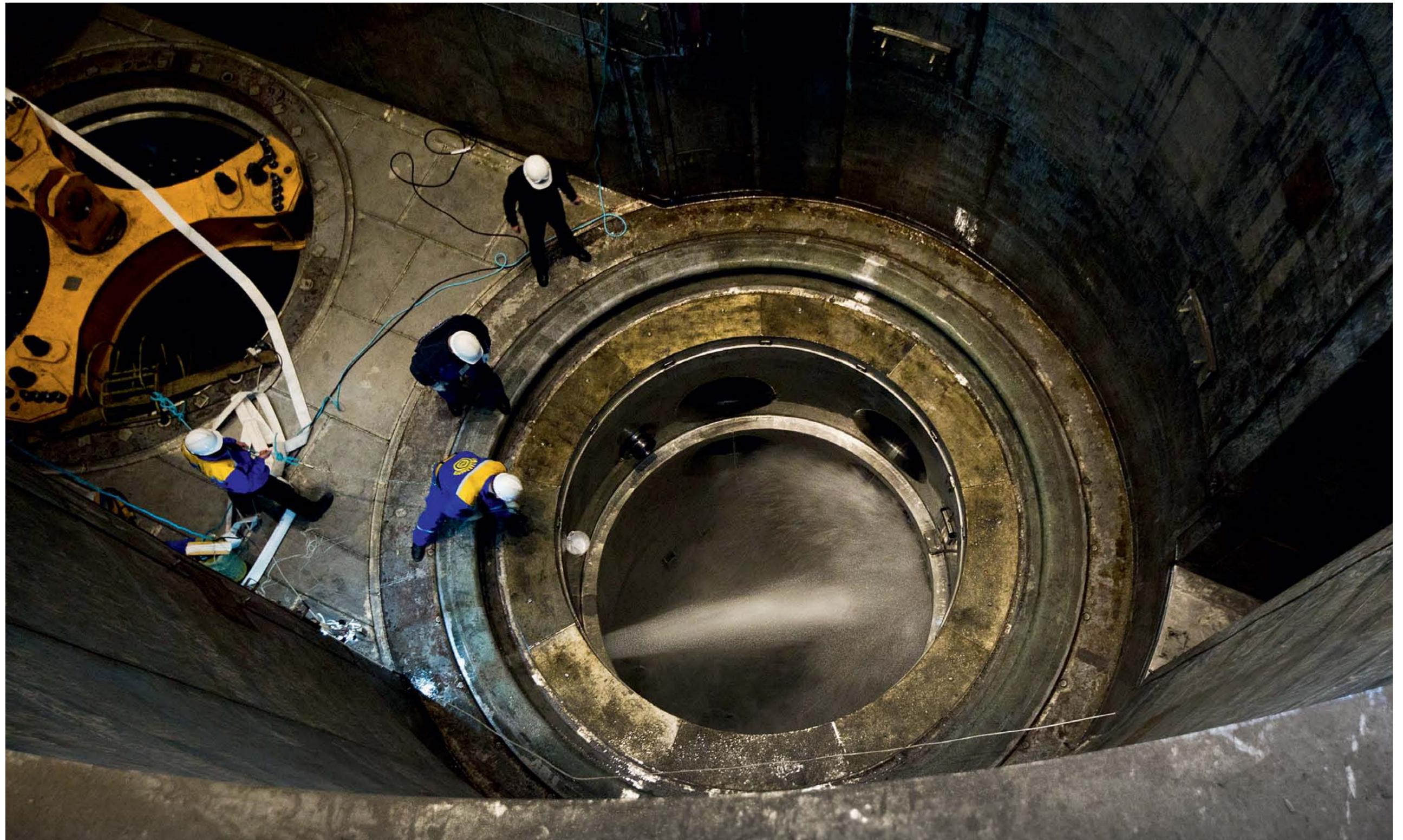
that once implemented will reduce power consumption by at least 3–5% or ones with a payback period no longer than 5–6 years.

As required by the Russian Federal Ministry of Energy, the examination was basis to issue an energy chart for Rosenergoatom. The energy chart was registered with the Department for energy efficiency and upgrading in the Fuel and Energy Complex under the Federal Ministry of Energy, record No.1920/E-007/O/2012.

Plans are now in place for 2013 to implement activities of the integrated programme for energy efficiency in active Rosenergoatom nuclear plants.

Information  
on power resources used

Source of power	Units	2010		2011		2012	
		Physical	000 rubles. (VAT excl.)	Physical	000 rubles. (VAT excl.)	Physical	000 rubles. (VAT excl.)
Nuclear power (used as fuel)	HGP, units	4,592	21,780,410.0	4,876	28,436,954.8	4,425	26,150,417.8
Petroleum	–	Not purchased		Not purchased		Not purchased	
Gasoline	(tons)	602	16,287	392	14,202	287	10,714
Diesel fuel	(tons)	1,997	43,938	1,992	65,877	2,432	84,415
Fuel oil	(tons)	22,723	229,245	13,135	141,776	11,460	137,490
Natural gas	–	Not purchased		Not purchased		Not purchased	
Coal	–	Not purchased		Not purchased		Not purchased	
Shale oil	–	Not purchased		Not purchased		Not purchased	
Peat	–	Not purchased		Not purchased		Not purchased	



Spillage on the open reactor of power unit No.4 of Kalinin NPP, December 2010.

### 3.3. ENSURING RUSSIAN NUCLEAR PLANTS SAFETY. RADIATION IMPACT ON PERSONNEL AND CITIZENS

ROSENERGOATOM CONCERN OJSC SEES SAFE OPERATION OF NUCLEAR PLANTS AS ITS TOP PRIORITY. ACTIVITIES IN THIS AREA ENSURE PROTECTION OF EMPLOYEES, CITIZENS, AND THE ENVIRONMENT, MINIMIZES RADIOACTIVE CONTAMINATION, AND PREVENTS INCIDENTS AND EMERGENCIES.

Rosenergoatom Concern OJSC holds Ros-tekhnadzor licenses authorizing operation of all its nuclear power units. Such licenses are issued based on positive results of expert audits and inspections of nuclear power units, carried out by government regulatory agencies. All power units are operated under the terms of such licenses.

Rosenergoatom Concern OJSC employees, whose function is to ensure the safety of nuclear energy, have passed examinations in working safety and practical skills according to regulated procedures, and are authorised by the government agency for safety regulation to perform their respective functions.

In 2012, Rosenergoatom Concern OJSC purchased insurance to cover 100% of all types of civil liability as required by Russian Federation law, and to meet the requirements for the Concern's subsidiaries to receive operational licenses for power units, hydraulic facilities, and dangerous industrial facilities.

In 2012, none of the power unit operation licenses were suspended for non-compliance. The nuclear plants worked reliably and unfailingly maintained required safety levels. No incidents were registered that would

have consequences such as radiation hazards or loss of nuclear materials and substances.

There were no failures of safety system components that might compromise safety. In each case that called for reactor shutdown and unloading, all safety systems were fully available and ensured safe reactors switching to subcritical mode or the needed level of capacity.

All activities for safety improvements planned for 2012 were implemented.

For the past 14 years, there have been no events that qualify above Level 1 on the INES Scale (International Nuclear Event Scale).

2012 had two incidents that qualified as INES Level 1 (no threat to the general public or the environment). Three such incidents were registered in 2010, and two in 2011.

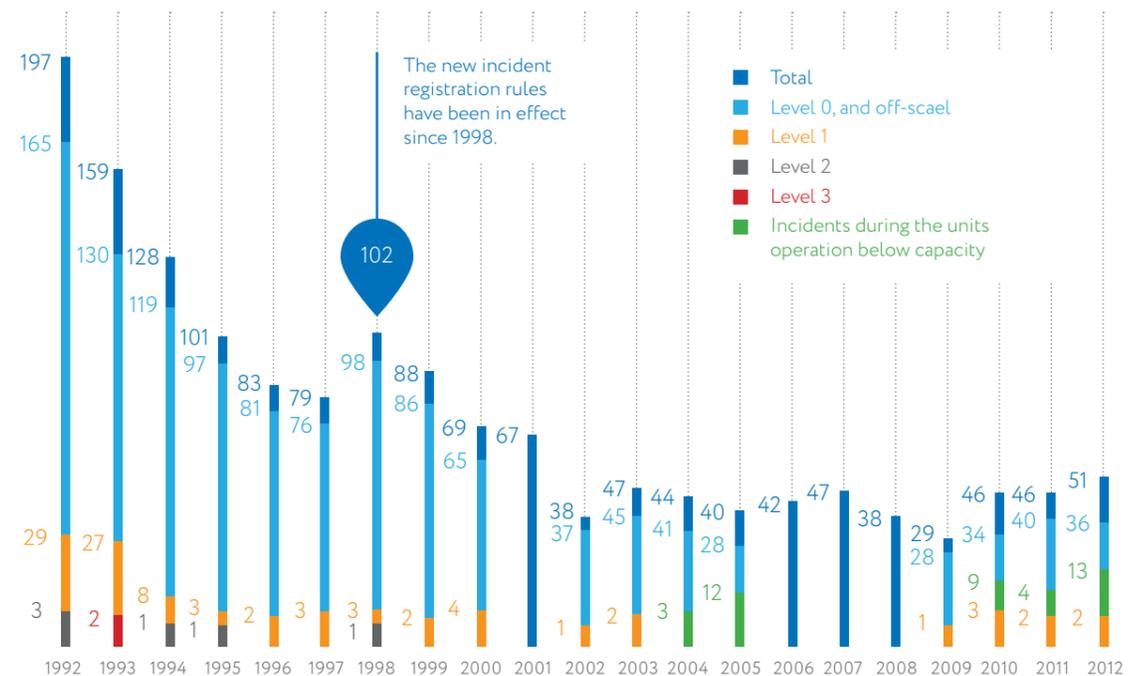
During 2012, the 33 power units engaged in production at the Concern's nuclear plants had 51 incident records, 13 of them were at power unit No.4 of Kalinin NPP that operated below capacity.

Incidents at Russia's active nuclear plants in 2012

NPP	Incidents				Total
	Off scale	INES Level			
		0	1	2	
Balakovo	2	1	1	0	4
Beloyarsk				0	0
Bilibino		1		0	1
Kalinin		3+13*		0	3+13*
Kola	2	1		0	3
Kursk	3	3		0	6
Leningrad	1	4	1	0	6
Novovoronezh	2	6		0	8
Rostov	1			0	1
Smolensk	1	5		0	6
<b>All nuclear plants</b>	<b>12</b>	<b>24+13*</b>	<b>2</b>	<b>0</b>	<b>38+13*</b>

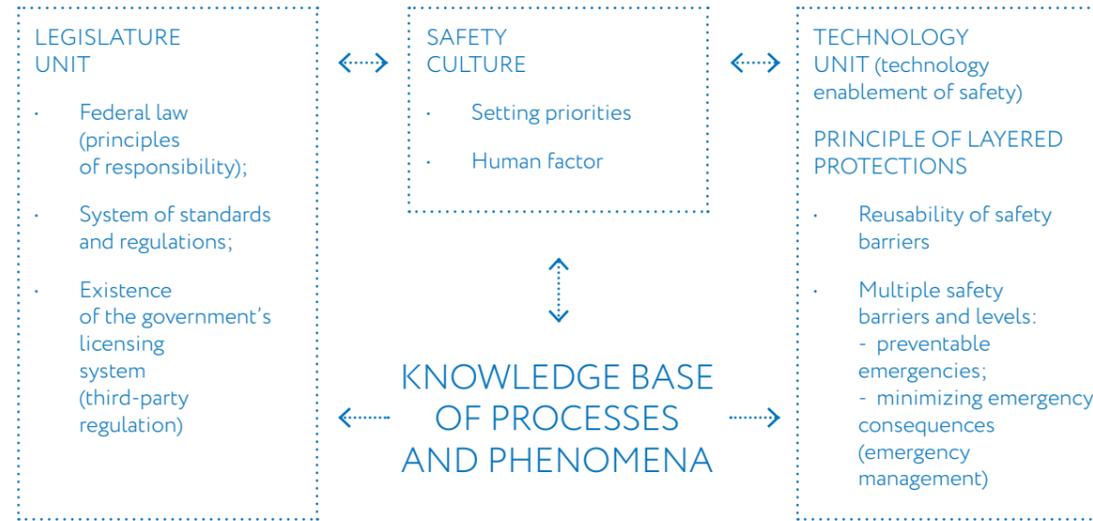
\* Power unit No.4 of Kalinin NPP at stages of commissioning and experimental operation.

Number of incidents by INES Scale at power units in commercial operation (dynamics)



**Fundamental Safety Principles**

Fundamental Safety Principles

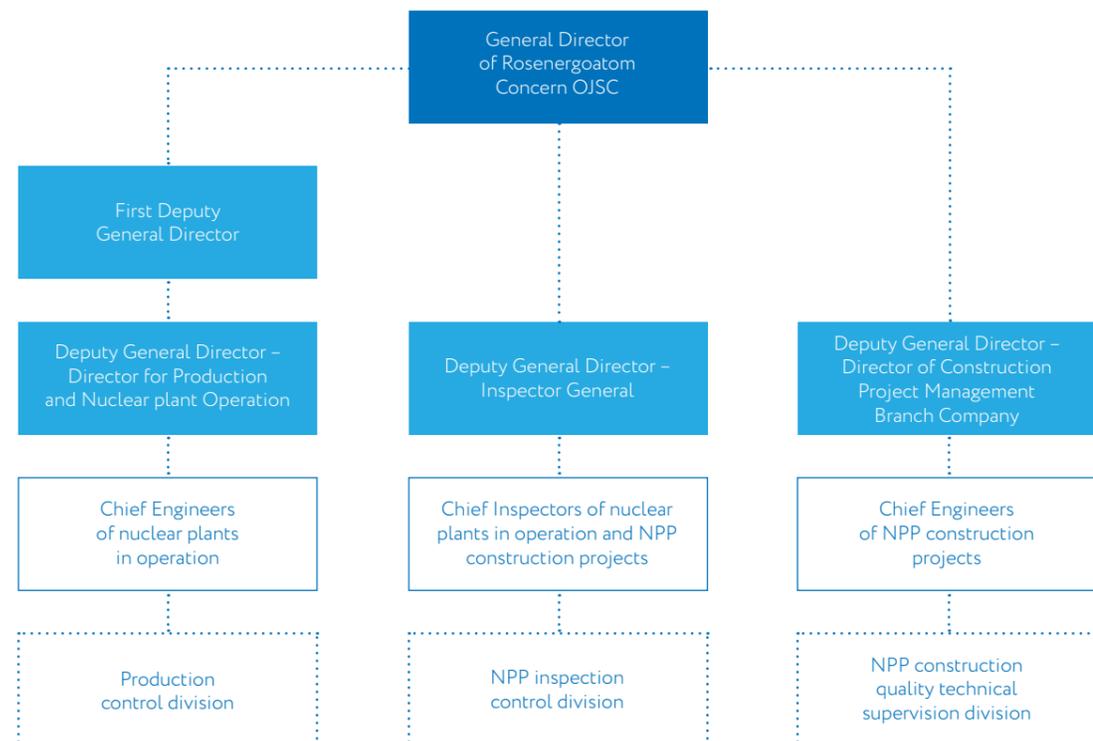


**Control of NPP Safety Assurance**

The Concern is implementing a whole range of internal and external activities to ensure proper compliance with both international and Russian requirements for NPP safety.

Protective barriers to stop radionuclides escaping the nuclear plant can include: the material of the fuel matrix, shells of fuel elements, equipment of production circuits, the protective tight shell of the reactor room, and biological protection.

Organization of NPP safety assurance control



As a component of the control system, target and comprehensive safety audits address the following tasks:

- identify general problems and issues during operation;
- develop and implement across the Concern activities and recommendations at a corporate level designed to raise NPP safety;
- efficiently control timely implementation of efforts to improve NPP safety and stability;
- identify and analyze good practices and efficient working methods adopted by the Concern's NPPs that improve levels of NPP safety.

At this time, the Concern is adopting new approaches to nuclear plant safety audits, which include the experiences of Electricite de France (EDF) and recommendations issued by the IAEA and WANO. These efforts will make the safety control system more efficient, and ensure better solutions to problems identified during audits at nuclear plants.

In 2012, the Concern's panel conducted five comprehensive audits to examine the situation with nuclear, radiation, fire, environmental, and engineering safety, at the nuclear plants of Beloyarsk, Bilibino, Novovoronezh, Kursk and Leningrad. Six target audits were used to assess safety at the nuclear plants of Balakovo, Novovoronezh, Rostov, Kola, Smolensk and Kalinin.

Rostekhnadzor conducted comprehensive safety audits at Balakovo, Beloyarsk and Novovoronezh NPP.

The WANO conducted peer audits at Beloyarsk NPP and Kola NPP.

Experts of the International Nuclear Insurance Pool visited the nuclear plants of Novovoronezh, of Balakovo, Rostov and Smolensk with international audits.

All audits confirmed that the operation of the nuclear plants meets the nuclear energy

standards and regulations effective in the Russian Federation, and international requirements and standards.

**Activities to improve safety and resistance of Russian nuclear plants to extreme external impacts of natural and artificial origin**

In the lights of the events in Japan that caused the Fukushima nuclear emergency, the Concern analyzed the causes of the emergency and conducted comprehensive audits of Russian nuclear plants to estimate their resistance to similar worst-case scenarios.

The Concern prepared and analyzed probable emergency scenarios for Russian nuclear plants, and worked out activities to mitigate consequences and minimize impact on citizens and the environment in the case of a serious, unforeseen emergency. A summary was used in the analytic report that included "Action Plan to Improve Safety of Active NPPs" and "Activities to mitigate consequences of unforeseen emergencies at NPPs".

In 2012, the Concern continued implementing activities to ensure protection of nuclear plants against extreme external impacts.

The Concern did the following:

- as a first action, unscheduled emergency response drills for nuclear plant personnel;
- targeted safety audits at nuclear plants;
- all nuclear plants adopted the "Personnel Action Charts for Unforeseen Emergencies";
- project estimates were prepared for additional project solutions;
- a programme devised to implement seismic protection systems for NPP nuclear power units that had none;
- requirements specifications written and arrangements made for additional analysis of unforeseen emergency scenarios;
- safety analysis of nuclear plants under construction and to be deployed.

All active NPPs were equipped with mobile anti-emergency equipment for total value of

2.6

billion rubles

As the most important and large-scale activities among efforts to mitigate consequences of hypothetical, unforeseen emergencies in 2012, all active NPPs were equipped with mobile anti-emergency equipment for total value of 2.6 billion rubles. For example, all Russian nuclear plants received mobile diesel generator units (MDGU) - 66 units total, 35 mobile pumping units (MPU), and 80 units of monoblock pumps. This equipment will be used in standby power supply circuits and in cooling systems reactors and used nuclear fuel bays during unforeseen emergencies.

In October 2012, Kursk NPP held a comprehensive emergency drill (CED-2012), which demonstrated for the first time the operation of mobile equipment purchased after the Fukushima events to make nuclear plants more resistant to extreme impacts.

CED-2012 proved that the quantity and capacity of available mobile equipment is sufficient in any natural or artificial emergency to maintain the power unit stable and available for an indefinite time.

### Safety culture

Safety culture is a set of characteristics and specific aspects of corporate activities and individual behaviour according to which safety issues as a top priority for nuclear plants receives the level of attention according to their respective significance (INSAG-4).

Safety culture is fundamental for safety management at NPPs. The principles of safety culture exist at three levels: political, executive, and individual.

#### Radiation Impact on Personnel and the Citizens. Radiation Control

Just as in the previous years, in 2012 the nuclear plants had no incidents with radiation consequences. The actual volume of gas-aerosol and liquid emissions, as in previous years, were far below the standard level of permissible emission (PE) and permissible discharge (PD) of radioactive substances.

There are areas zoned inside buildings, structures and premises of the nuclear plant (re-

stricted access zoning), and sanitary checkpoints with mandatory control at entry and exit points of the NPP acting as barriers to stop radionuclides escaping the nuclear plant.

Nuclear plant design also envisages a radiation control system (RCS) to ensure efficient systematic and continuous monitoring of the integrity of protective barriers.

The radiation control system of a nuclear plant includes automated data-metering hardware complexes and related support equipment. The system ensures collection and processing of data on control parameters that describe the radiation situation within the restricted access zone of the nuclear plant, on the site, in the protection zone, and in the observation zone, in all operation modes of the nuclear plant, including standard and unforeseen emergencies, and the plant's situation when power units are shut down.

#### Levels of commitment to safety culture

##### Commitment at the political level

- Declaration of safety policy
- Structure of management
- Resources
- Self-regulation

##### Commitment at the executive level

- Defining responsibility
- Defining and enforcement of implementation practices
- Personnel qualifications and training
- Incentives and penalties

##### Commitment at the individual level

- Critical position
- Strictly regulated and balanced approach
- Communication skills

Information of mobile anti-emergency equipment supplied to Russian NPPs in 2012

NPP	MDGU 0.2 MW	MDGU 2 MW	MPU	Monopumps
	Supplied (units)	Supplied (units)	Supplied (units)	Supplied (units)
Balakovo	4	4	4	12
Beloyarsk	1	1	1	2
Bilibino	4	4	4	4
Kalinin	3	3	3	9
Kola	4	3	4	12
Kursk	5	4	5	9
Leningrad	5	4	5	9
Novovoronezh	4	2	3	10
Rostov	2	2	2	6
Smolensk	4	3	4	7
Total	36	30	35	80
<b>All plants</b>				<b>181</b>

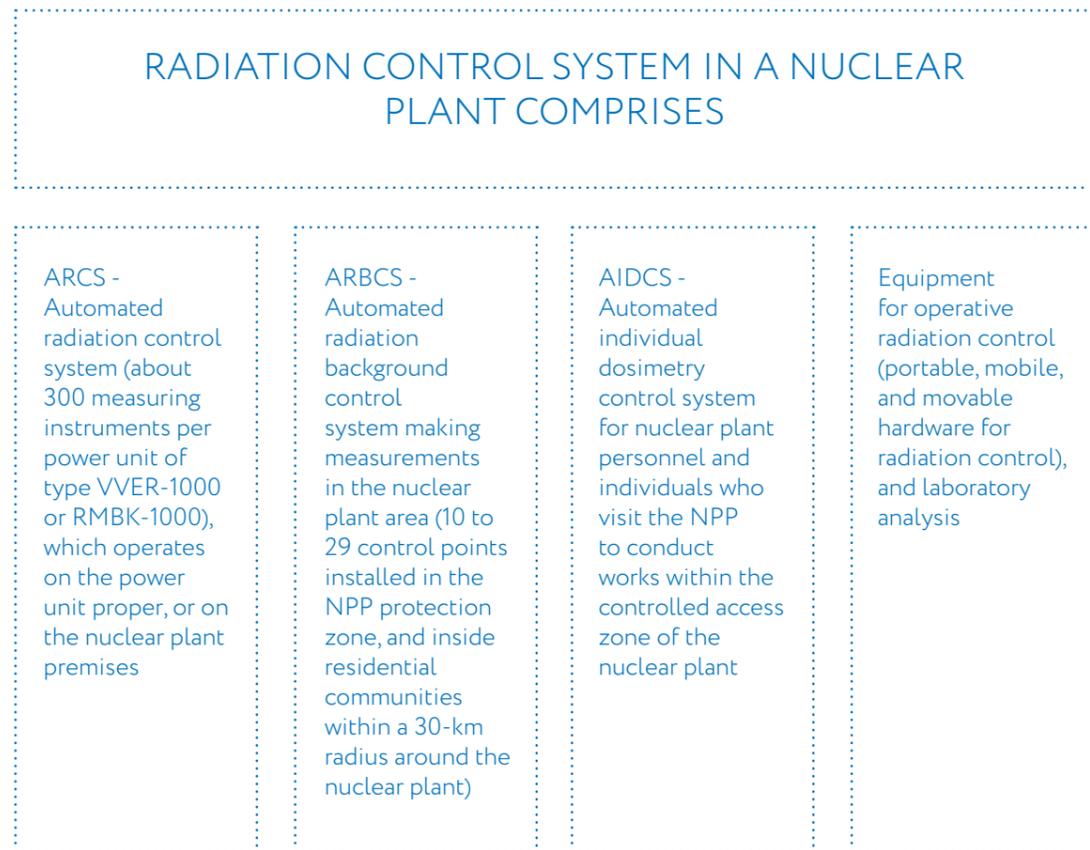
Total activity of gas-aerosol emissions by NPP in 2012

NPP	Inert Radioactive Gas		Iodine-131	
	TBq	% PE	MBq	% PE
Balakovo	Below detection threshold		Below detection threshold	
Beloyarsk	3.82	0.6	Below detection threshold	
Bilibino	430.03	21.5	Below detection threshold	
Kalinin	7.74	1.1	493.43	2.7
Kola	Below detection threshold		Below detection threshold	
Kursk	551.67	14.9	5038.77	5.4
Leningrad	56.50	1.5	22.68	0.02
Novovoronezh	15.20	2.2	482.00	2.7
Rostov	4.77	0.7	Below detection threshold	
Smolensk	57.39	1.6	162.86	0.2

Hardware and software of the radiation control system provide:

- production radiation monitoring: measuring the strength of exposure to gamma rays and volume-based activity of marker radionuclides to check the tightness of shells of fuel elements and equipment of the main circulation loop, production environments (including before and after special water and gas purification filters), aerosols and inert radioactive gases in auxiliary rooms, ventilation and localizing systems, and single or clustered marker radionuclide escaping the boundary of the nuclear plant;
- radiation monitoring of rooms and production premises of the nuclear plant: measuring the strength of exposure to gamma rays and volume-based activity of radionuclides in the air indoors;
- radiation dosimetry monitoring: doses of external and internal exposure of personnel;
- radiation monitoring to stop the spread of radioactive contamination: control of radioactive substances that contaminate personnel, clothes, vehicles and equipment by using stationary and portable radiation control instruments;
- radiation monitoring of the environment: enforcement of requirements to limit the NPP's radiation impact on citizens and the environment. Radiation monitoring of the environment is done in the modes of continuous control (automated) and periodical control (using portable devices, mobile laboratory instruments, and laboratory method). In the automated mode, radiation monitoring of the environment is done by the Automatic Radiation Background Control System (measuring the strength of exposure to gamma rays within residential communities) and ARCS (measuring the intensity of gas-aerosol emissions in the air, and liquid discharge to surface

Radiation control system in a nuclear plant



waters). Laboratory methods are used to control the content of radionuclides in soil, water, precipitation, green plants, water life forms, and locally-produced foodstuffs.

Radiation monitoring at nuclear plants is done by NPP radiation control services accredited to meet the requirements of the Federal Agency for Technical Regulation and Metrology. Organization of radiation control at a NPP (scope, frequency, control points, personnel, record keeping) is established by specific regulations that are coordinated with regional offices of the Federal Agency for Medicine and Biology. In addition, regional offices of the FMBA practice independent selective radiation monitoring of environmental objects and locally produced foodstuffs.

Targeted efforts to implement a set of administrative and technical activities at nu-

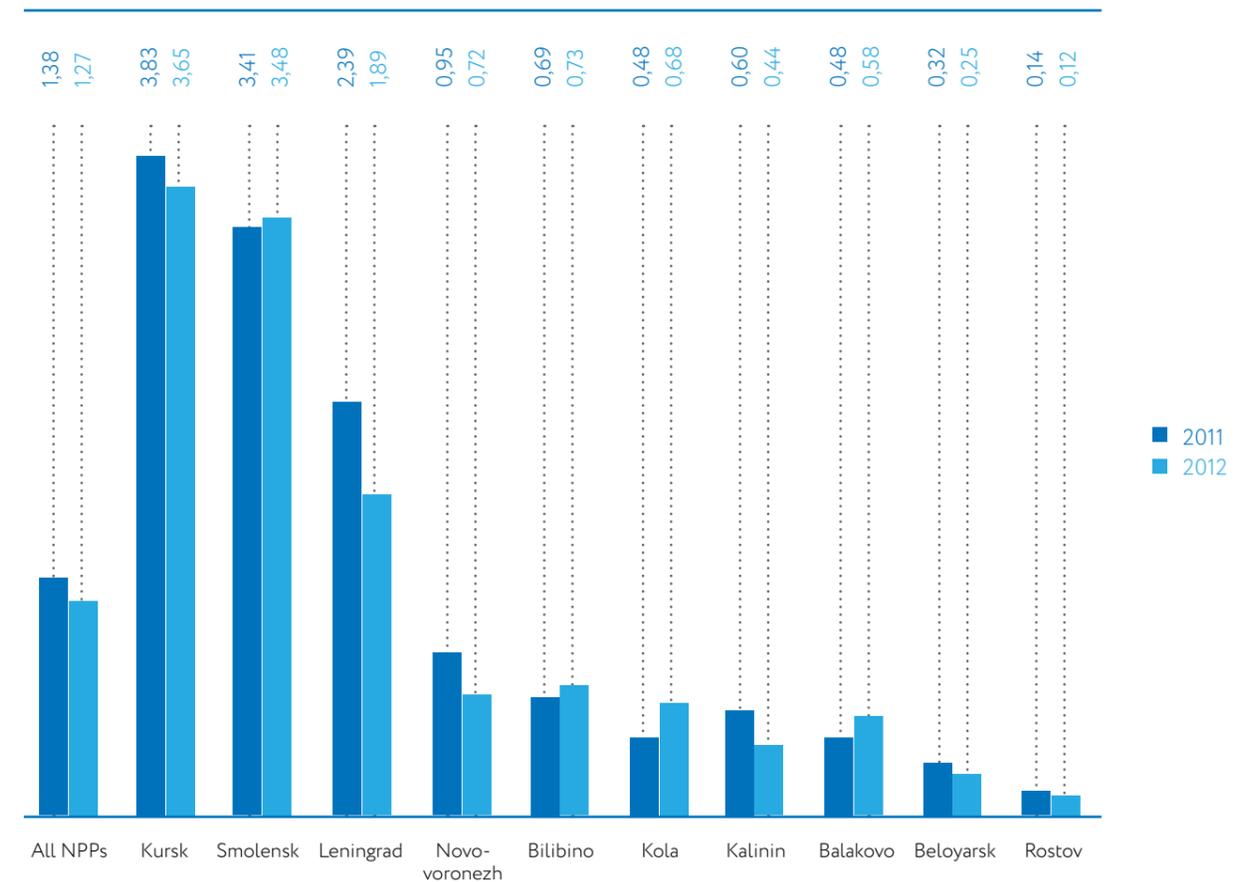
clear plants work to further reduce collective and average individual exposure doses for personnel.

The figures for personnel exposure in 2012 were comparable to those of the previous year, depending on the volume of repairs done at the nuclear plant.

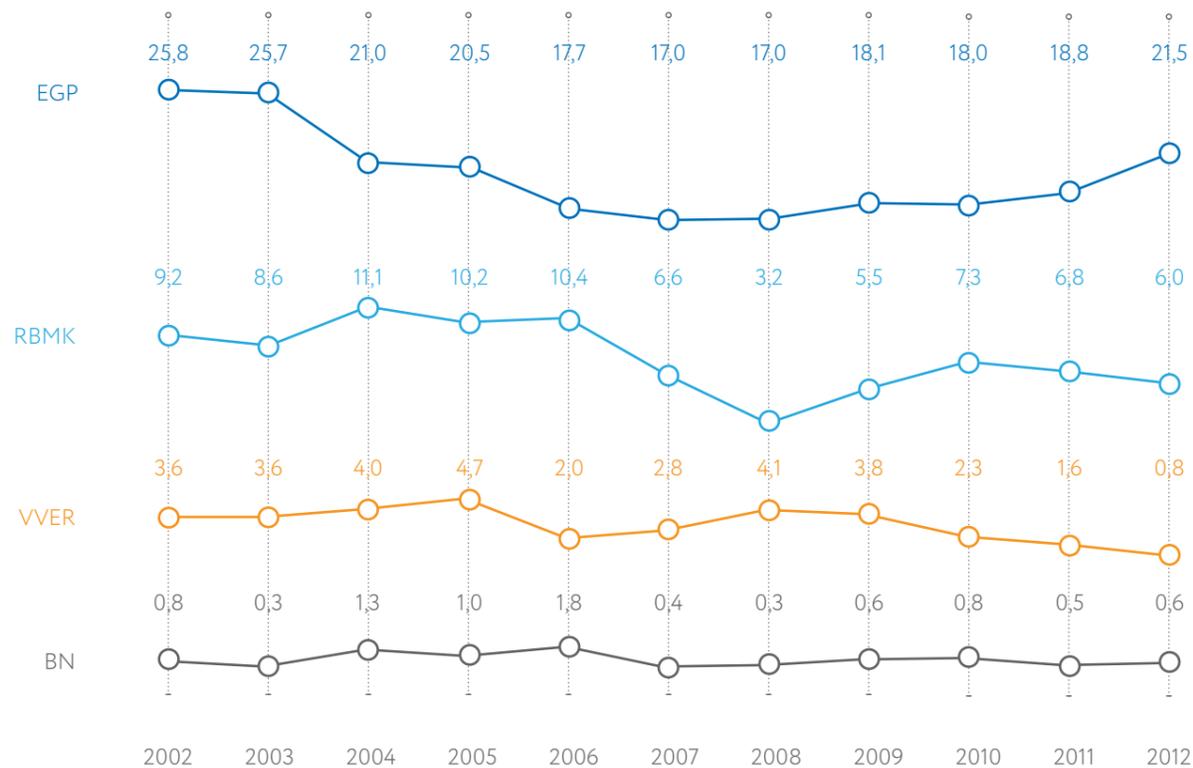
Results of radiation control at NPPs and surrounding areas in 2012 confirmed:

- the radiation situation at the nuclear plants met standard requirements;
- main exposure limits were observed at all nuclear plants;
- there was no detectable impact of nuclear plant operation on external objects.

Collective radiation exposure of NPP personnel in 2011–2012, person-Sv/unit



Emissions of inert radioactive gas, percentage of permissible level



**Ensuring Non-Proliferation of Nuclear Materials**

The nuclear non-proliferation mode at the nuclear plants is ensured by a system of government accounting and control of nuclear materials within the Concern; the system functions in total compliance with international and Russian regulatory acts, and is supervised by Rosatom State Corporation and Rostekhnadzor.

The system includes a whole set of administrative activities and technical means that ensure accounting, monitoring, detection, and registration of lost material, preventing unauthorized actions with nuclear fuel at every stage of its life at the nuclear plant, from the delivery of freshly-made fuel, until spent fuel is exported from the nuclear plant. The system is based on timely registration of each delivery, movement, and shipment of nuclear materials, and of changes in the quantity of nuclear materials in the nuclear fuel as it is used in the reactor to generate electrical and ther-

mal energy. All such activities are registered in the nuclear plant's operating and accounting documents, and form the basis for reports presented to the federal registration and control system and to Rosatom State Corporation.

For the purposes of nuclear fuel accounting and control at the places of storage and use of heat-generating packs (HGP), a physical inventory of nuclear materials is taken every year to determine the quantity available.

During the entire history of the Concern's nuclear plants, there has never been a case of loss or theft of nuclear materials.

**Handling Radioactive Waste and Spent Nuclear Fuel**

The main direction in handling radioactive waste (RW) is a further reduction in created primary RW, and conversion to a conditioned state that is safe for temporary storage at nuclear plants.

The Concern has equipped nuclear plants with RW processing complexes, with existing ones retrofitted, and new RW storage facilities built on nuclear plant premises to ensure that nuclear plants remain environmentally safe for their entire service life.

All activities that involve extraction, processing, and conditioning of RW accumulated and received at nuclear plants are done in conformity with the federal law.

Nuclear plants use the following methods of RW processing and conditioning: deep evaporation, cementing, ion-selective purification, combustion, pressing, melting, and fragmentation.

In 2012, the Concern's nuclear plants received into storage 3,563 m<sup>3</sup> of solid radioactive waste (SRW) (2.4% less than in 2011) and produced 3,715 m<sup>3</sup> of liquid radioactive waste (LRW) (2% less than in 2011). 1,326 tons of metal waste contaminated with radioactive substances was exported from nuclear plant sites and processed (Balakovo, Kalinin, Kola, Kursk and Smolensk NPP), along with 120 tons of thermal insulation materials (Kalinin and Leningrad NPP).

In 2012, the Concern's nuclear plants carried out the following RW handling work:

- Balakovo NPP: retrofitting RW storage cells in a special building;
- Kalinin NPP: storage built for non-recyclable protection containers (NPC);
- Kola NPP: dump for very low activity waste (VLAW) built, SRW incinerator upgraded;
- Kursk NPP: processing complex created of liquid radioactive waste (PC LRW), storage for liquid and solid waste (HJTO-II);
- Smolensk NPP: phase one of radioactive waste processing complex put in operation.

The Concern approved RW quotas for NPP for 2013–2014.

The main direction in handling spent nuclear fuel was to organise safe handling at nuclear plants and prepare to export all spent

nuclear fuel from nuclear plant sites for processing or long-term storage, to central storage facilities of Federal State Unitary Enterprise GHK.

**Preparing nuclear power units for decommissioning**

Decommissioning of nuclear power units upon expiry of their designed service life is a natural and necessary stage in their life cycle. These activities are carried out under nuclear power unit decommissioning programmes approved by Rosatom State Corporation, and annual working programmes.

At this time, the project has been approved to decommission power units No.1 and 2 of Novovoronezh NPP. Supporting documents have been submitted to Rostekhnadzor to receive decommissioning licenses for the power units.

Maintenance was done to ensure the safe condition of units No.1 and 2 of Beloyarsk and No.1 and 2 of Novovoronezh NPP; equipment needed for their decommissioning has been replaced and upgraded to the extent required.

Work plans (WP) have been developed to uninstall large equipment from the power units No.1 and 2 of Novovoronezh NPP, and to uninstall some of the equipment and individual assemblies on power units No.1 and 2 of Beloyarsk NPP.

A feasibility study and decisions on deadlines have been made to shutdown the power units Bilibino NPP. Decommissioning programmes for power units No.1, 2, 3 and 4 of Bilibino NPP were updated, equipment was examined and retrofitted to ensure hydraulic insulation on the low-activity radioactive waste storage at Bilibino NPP.

Leningrad NPP deployed equipment that will improve production processes to export spent nuclear fuel (SNF) from power units, to extract, sort, and transport low-activity SRW for processing. Decommissioning programmes for power units No.1 and 2 of Leningrad NPP were updated.

2,400 drums of pressed SRW were transported for processing and subsequent burial, and placed at the temporary site of Kursk NPP.

As planned, work was done to create information databases for decommissioning of power units No.1 and 2 of Novovoronezh NPP, power units No. 1, 2 and 3 of Beloyarsk NPP, power units No.1, 2, 3 and 4 of Bilibino NPP, power units No.1, 2, 3 and 4 of Leningrad NPP, power units No.1, 2, 3 and 4 of Kursk NPP, power units No.1 and 2 of Kola NPP, and power unit No.1 of Smolensk NPP.

Supporting documents were prepared to increase (to 3.2% of production cost) standard deduction to the decommissioning provision for nuclear power units, used as basis for RF Government Resolution.

The Concern created a specialized branch unit "Experimental Demonstration Center" (EDC) to assume the functions of preparing and decommissioning of nuclear power units.

**Fire Safety**

In 2012, the Concern ensured fire safety in the following key directions:

- improving the sector's standards and regulations related to fire safety;
- increased firefighting capability at nuclear plants, as required under applicable regulations;
- technical upgrade of automatic systems for fire detection, extinguishing, and public alerting;
- preparing nuclear plant personnel to respond to fire emergencies;
- implementing activities scheduled under the "2008–2012 Plan to Improve Fire Safety and Upgrade Firefighting Systems at NPP";
- inspections of fire safety during construction of power units for nuclear plants.

In 2012, more than 180 firefighting activities were used as required by applicable fire safety documents.

To protect nuclear plants against fires, in 2012 the Concern purchased 12 fire engines, including four vehicles with high-output pumping units (up to 500 m3/h) that can be used in case of first-degree fires and unforeseen emergencies (natural and human-caused).

**Industrial Safety**

As part of the activities to ensure nuclear plant safety, the Concern pays much attention to the industrial safety of the dangerous industrial facilities used in the nuclear plants.

The Federal Registry lists 220 dangerous industrial facilities owned by the Concern. The Concern has purchased insurance of liability for damage to third-party life, health, or property, or damage to the environment as a result of an emergency.

All employees who are involved in the operation of dangerous production facilities have been trained and certified by the respective Rostekhnadzor panels on issues of industrial safety.

All dangerous industrial facilities have the required industrial safety declarations, plans to prevent and eliminate oil and product spillages, and action plans to contain and eliminate emergencies.

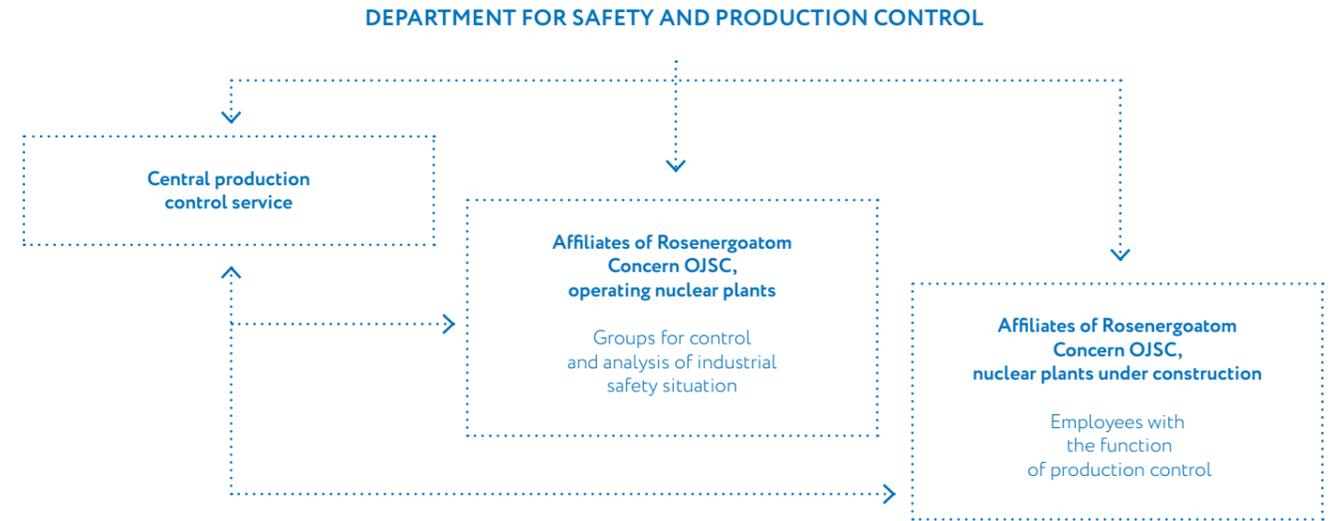
To prevent industrial emergencies and incidents, and to ensure that the Concern's personnel are ready to contain and eliminate the consequences of emergencies and incidents at dangerous industrial facilities, the Concern has organised and enforced control of the industrial safety situation.

The industrial safety system is based on organization and implementation of industrial safety monitoring.

To enforce rules and standards of industrial safety:

- the Concern works to optimize the regulatory base that includes activity guidance and methodological documents, which set out the procedures to identify

Structure of the industrial safety control system



- and operate dangerous industrial facilities, and to train personnel;
- technical supervision of equipment and structures at nuclear plants is organized and implemented;
- technical certification of equipment is done in a timely manner as scheduled;
- activities have been implemented to extend the time of safe operation of equipment, buildings and structures at nuclear plants;
- safety of production processes is monitored continuously.

In 2012, the Concern's dangerous production facilities had no industrial emergencies.

**Physical Protection**

Audits by supervisory and monitoring agencies have confirmed that Rosenergoatom Concern OJSC is engaged in systematic practical efforts to ensure the physical protection and anti-terrorist protection of its nuclear facilities.

As important components of the physical protection system, the company has physical protection engineering tool complexes (PPETC), which include advanced access monitoring and control systems (AMCS).

The priority objectives of the AMCS are:

- minimizing influence of the human factor on the PPETC;
- presentation of IDs by individuals entering secure zones, using a number of identification parameters, including biometrics; a rule requiring that at least two individuals must move within the restricted access zones;
- limited number of persons authorized to access rooms, buildings, and secure zones;
- automatic activation and deactivation of alarm systems in rooms and buildings;
- records of time and point of entry/exit, and tracking positions of personnel and visitors on the premises;
- preventing possible entry with dangerous weapons, fire arms, explosives, radiation substances (materials) and other prohibited objects on the premises.

Technical characteristics of the AMCS help units that guard and protect nuclear plants to ensure timely detection, blocking, and apprehension of perpetrators, and enable reliable access monitoring of personnel, visitors and vehicles entering and leaving (including by rail and road) secure areas and sensitive zones of the facilities.

In 2012, more than  
**180**  
firefighting activities were used as required by applicable fire safety documents.



Upper layer of the tower of power unit No.4 of Kalinin NPP under construction, 2009.

### Emergency Prevention Planning. Emergency Readiness

Emergency response is understood as concerted activities by the operator, its executive bodies, local self-government, and other entities, to mitigate, minimize, contain and eliminate consequences of a radiation-dangerous situation, plus measures to protect nuclear plant personnel, the public, and the environment

In order to plan, ensure readiness, and implement activities for the protection of personnel and nuclear plant premises against emergencies of natural and industrial origin, in accordance with Russian Federal Law, Resolutions passed by the Federal Government, and international recommendations issued by the IAEA, the Concern has established a system to prevent and respond to emergencies.

A finely-tuned mechanism of emergency interaction makes the Concern's emergency response system specific.

The Concern's Crisis Centre is a key component in the structure of nuclear plant emergency support. The structure also includes Rosatom's Situation Crisis Centre (SCC), Rostekhnadzor information analysis centre, and technical support centres (TSC) created in entities engaged in project design, research management and general design for nuclear plants, as well as in leading Russian institutes that research issues of nuclear plant support. A total of 14 such TSCs are now in operation.

The roles of the Crisis Centre and TSCs in ensuring higher emergency readiness of nuclear plants and better emergency interaction are established under federal standards and regulations, including regulation on the emergency declaration procedure, rapid information exchange, and urgent assistance to nuclear plants in radiation-dangerous situations (NP-005-98), and the Procedure for Rosatom Situation Crisis Centre (Rosatom SCC) to alert the sector's entities on current status of existing emergency situations.

The Concern's Crisis Centre monitors in 24/7 real time mode some key parameters related to production, radiation, the environment, and fire safety. Data exchange organized between Rosatom SCC and TSC has created a single information space in which all emergency responders can communicate. The forces available at each nuclear plant to contain and eliminate emergencies and extraordinary situations are composed of third-party rescue contractors and special corporate teams equipped with all necessary equipment and tools.

To maintain and increase the required level of skills in executive and operation personnel, nuclear plants train them in protection methods and how to respond to extraordinary situations. Training is available from schools of the Russian Federal Ministry of Emergencies (including the Civil Defense Academy), from advanced training providers that are part of Rosatom State Corporation, and emergency drill facilities that exist at the nuclear plants. Emergency drills and exercises are emphasized as training activities. Following the Fukushima disaster, the Concern decided to increase the number of emergency drills held annually where personnel can practice their responding skills in unforeseen emergency scenarios.

The Concern's Crisis Centre's information systems enable the work of the Nuclear Plant Rapid Response team (NPRR), composed of leading specialists, experts in safety and response to extraordinary situations. In 2012, the NPRR team marked its 25th anniversary - the nuclear plant safety system would be inconceivable without this service.

In 2012, the NPRR team held:

- a comprehensive emergency exercise at Kursk NPP;
- emergency drills at NPPs in Smolensk, Kalinin, Beloyarsk, Leningrad, Kursk and Kola.

During these exercises and drills, the course of an emergency situation is modeled using comprehensive simulators, with the radiation situation emulated by ARBCS indica-

tors software. The resulting modeled data are sent to nuclear plant emergency centres, the Crisis Centre and the TSCs. Thus experts are able to analyze the emerging situation under near-real conditions.

The Concern's system for prevention and elimination of extraordinary situations and emergency response meets all requirements for members of the Uniform National

System for Prevention and Elimination of Emergencies (UPEE), and is in fact one of its most accomplished links. Our experience of peer involvement as observers in emergency drill exercises, and our knowledge of the systems of emergency readiness that are used by international operators, demonstrate that the Concern's current system to prevent and eliminate emergencies is on par with the world's best practices.



A total of

14

technical support  
centres are now  
in operation.

### 3.4. DEVELOPING GENERATING POTENTIAL

HORIZONS FOR GROWTH OF RUSSIA'S NUCLEAR POWER SECTOR ARE SET FORTH IN THE 2030 NATIONAL ENERGY STRATEGY AND THE 2020 FEDERAL MASTER PLAN FOR DEPLOYMENT OF ELECTRIC POWER FACILITIES, WITH 2030 OUTLOOK.

#### Building new units for nuclear plants

In 2012, the Concern's nuclear plants worked on the construction of nine new power units. Six of them are based on the NPP-2006 design – another step forward in the evolution of the Russian nuclear power sector.

On September 25, 2012, power unit No.4 of Kalinin NPP was opened for operation with an official ceremony.

The Concern's activities to build new power units in 2012 were under general contracts signed with engineering companies NIAEP, SPBAEP, Atomenergoprojekt, FGUP GUSST No. 3 of Russia Specstroy, and LLC Uralenergostroy Managing Company. General contractors and their contractors were selected to meet the requirements of the Uniform Industry Level Purchasing Standard of Rosatom State Corporation.

To achieve the sector's strategic goals of putting new power units in operation in a timely manner, and to implement new investment projects, Rosenergoatom created a new entity, Facilities Construction Management that currently acts as a client on construction projects of nuclear power units

In 2012, monitoring of selected construction sites continued, or pre-project and/or project activities were in progress for the following power units: No. 3 and 4 of Leningrad NPP-2; No. 1 and 2 of Nizhniy Novgorod NPP; No. 1 and 2 of Central NPP;

No. 1 and 2 of Tver NPP, No. 1 and 2 of Seversk NPP, No. 5 of Beloyarsk NPP.

As stated in the declaration of intent, in 2012 activities began to prepare documents in support of investments to build Kursk NPP-2 and Smolensk NPP-2 (VVER-TOI design). Construction of these nuclear plants is scheduled for 2015 and 2016, respectively.

Progress and main figures for construction and installation in 2012

Activity	Unit	Done in 2012
Earthworks	000 m <sup>3</sup>	3,426
Reinforcement steel installation	tons	65,165
Concreting	m <sup>3</sup>	366,657
Production pipelines	tons	7,078
Metal structures	tons	30,150

#### Cost of nuclear plant construction

The NPP-2006 design remains the basis for organized serial construction of Russian-designed nuclear plants both in Russia and abroad at this time. The cost of building this one-design two-unit nuclear plant is 43.4 billion rubles converted to 2000 base prices, or 209.7 billion rubles as priced in Q3 2011. Each power unit takes 48 months to build. The power start of the first nuclear power unit of the NPP-2006

Construction of new NPP power units in 2012

NPP	Power unit	Type of power unit	Power unit construction deadline	Key outcomes
Beloyarsk NPP	№4	BN-800	2014	Reactor building tested
Novovoronezh NPP-2	№1	VVER-1200 (NPP-2006 design)	2014	Reactor room. Dome covered with internal protection shell. Reactor building installed as designed
	№2	VVER-1200 (NPP-2006 design)	2016	Reactor room. Reactor shaft. Support beam built. Turbine building. Electric bridge crane assembled 180 (220) 32 + 220 + 6.3 tons (mechanical part)
Leningrad NPP-2	№1	VVER-1200 (NPP-2006 design)	2015	Reactor building. Steel reinforcement of internal shell to Elev. +34.00
	№2	VVER-1200 (NPP-2006 design)	2017	Tight shell built to Elev. +9.00
Rostov NPP	№3	VVER-1000	2015	Voltage for own needs supplied. Dome as to designed
	№4	VVER-1000	2019	Assembly of metal structures in Machine Room Aisle A
Baltic NPP	№1	VVER-1200 (NPP-2006 design)	2017	Fusion trap installed as designed
	№2	VVER-1200 (NPP-2006 design)	2018	Concrete preparation for reactor building completed

Achievement of financial and business targets in 2012

Item	Unit	TARGET	FACT
Financing	billion rubles	156.05	156,51
To year target	(%)	–	100,3
Increment of non-financial assets	billion rubles	152.72	159,25
To year target	(%)	–	104,3
Capital investments engaged	billion rubles.	129.29	133,63
To year target	(%)	–	103,4

design is accomplished in 8 years, with the second unit turned on 10 years after project launch. The maximum expenditure to finance a two-unit NPP falls in the sixth year of construction.

To build new power units faster, the company has adopted new construction methods within the Rosatom Production System:

- batched assembly of the main circulation pipelines (MCP) in the pre-assembly preparation shop (PAPS) directly on the construction site;
- welding done on four MCP loops at the same time, making more than two welded joist at once, with higher quality of welding;
- the K-1000-60/300 turbine unit is delivered as five large packs;

Number of contractors and employees on nuclear plants under construction, 2012

NPP	Number of main contractors	Employed, total	Including	
			engineering	workers
Baltic NPP, power units No.1 and 2	19	1,456	238	1,218
Beloyarsk NPP, power unit No.4	58	4,161	562	3,599
Novovoronezh NPP-2, power units No.1 and 2	24	5,130	1,084	4,046
Leningrad NPP-2, power units No.1 and 2	6	2,541	150	2,391
Leningrad NPP-2, temporary buildings and structures	1	15	3	12
Rostov NPP, power units No.3 and 4	50	5,342	1,035	4,307
<b>Total</b>	<b>158</b>	<b>18,645</b>	<b>3,072</b>	<b>15,573</b>

- manufacturing and assembly of larger units of the reactor room protection shell.

**Number of contractors and employees on nuclear plants under construction**

In 2012, construction of Russian nuclear plants involved 158 organizations, with 18,645 employees engaged in construction.

**Upgrading and extending the service life of power units**

The Concern is upgrading active nuclear power units as a matter of priority; this not only preserves nuclear plant capacity, but also makes power units safer and improves performance.

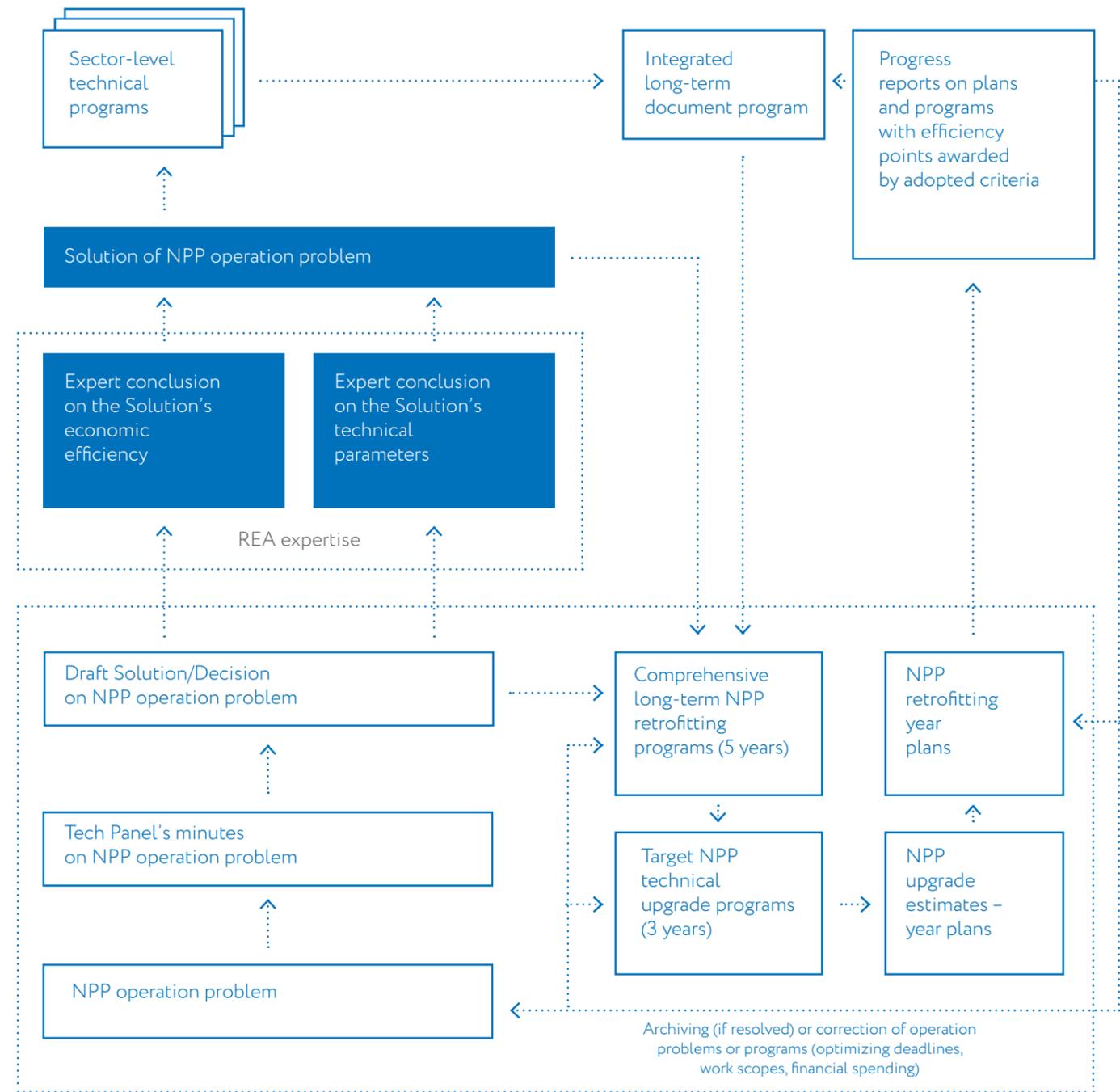
**Objectives of upgrading nuclear power units:**

- ensuring safe and stable operation of active nuclear plants that meet the criteria and requirements of effective standards and regulations in nuclear power use;
- higher output of electric and thermal power by active nuclear power units;
- higher reliability and business efficiency of active nuclear plants making them more competitive on the ECWM.

The uniform engineering policy on nuclear plant upgrading envisages:

- building and implementation of long-term upgrading plans tied in with safety assessment and nuclear plant operation licensing;

Diagram of upgrading management in active nuclear power units



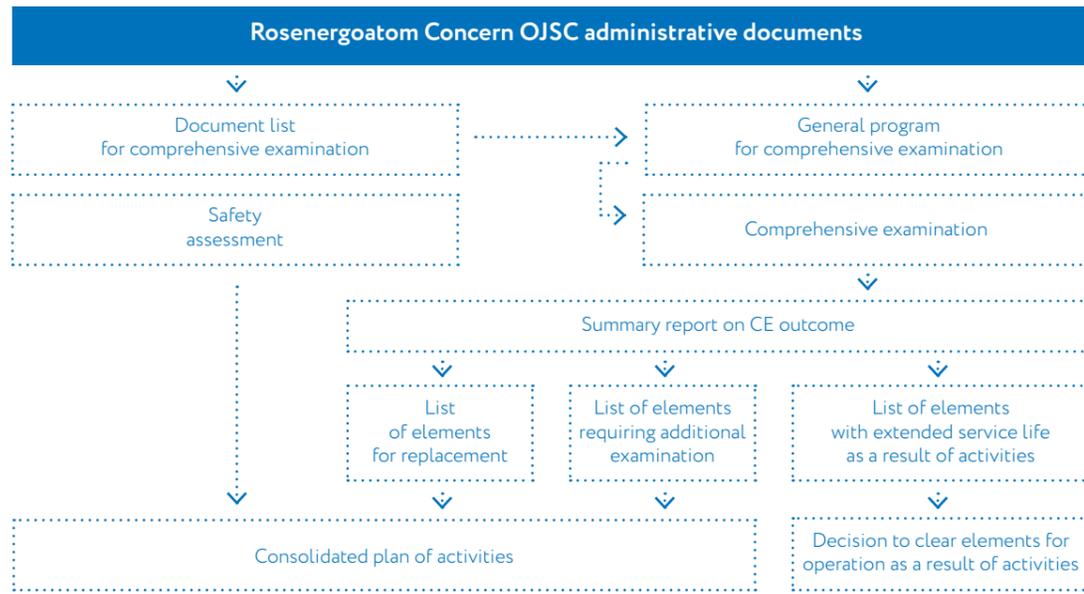
- optimized nuclear plant upgrading based on evaluation of contributions from planned activities to safety and business efficiency;
- cutting the costs of nuclear plant upgrading by implementing priority activities with the highest engineering performance and business efficiency.

**Nuclear plant upgrade management**

The Concern manages upgrading of its nuclear plants based on industry-level regulations and by enforcing procedures for long-term, mid-term and annual (current) operation planning.

Diagram: management of service life extension for nuclear plant power units

Stage 1



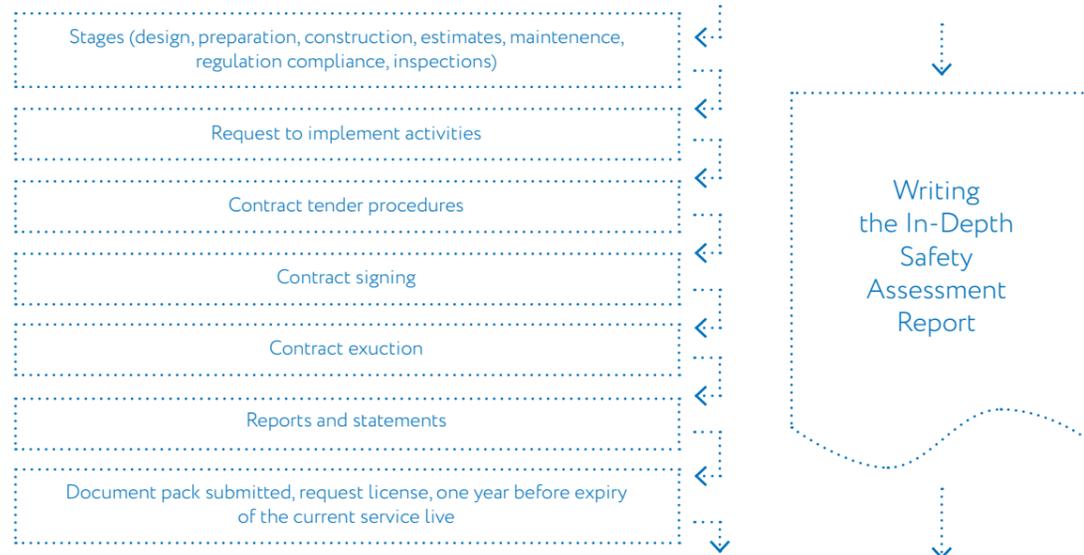
**PRE-PROJECT STAGE**



**INVESTMENT PROJECT**

**Program for power unit preparation for project design examination**

**IMPLEMENTATION OF ACTIVITIES INCLUDED IN INVESTMENT PROJECT**



**Obtaining licence for project design examination**

Stage 2

**Results of nuclear power unit upgrading in 2012**

In 2012, power units were upgraded in the following key directions:

- replacement of electric and thermo-mechanical equipment, and instrumentation;
- upgrade of main equipment: reactors, turbines, electrical, instrumentation, alarms and protection systems, air conditioning, ventilation, and other, for higher reliability and longer intervals between repairs;
- adopting new systems: chemical batching, electric equipment diagnostics and monitoring, and others.

As part of activities to prevent and mitigate consequences of unforeseen emergencies, nuclear plants adopted systems that monitor hydrogen concentration in an unforeseen emergency, systems to maintain hydrogen concentration inside the active zone below the explosive point, and others. The nuclear plants received mobile diesel generator units, pumping units, monoblock pumps for emergency water supply, special equipment for emergency response and rescue at nuclear plants, and other equipment.

**Extending the service life of active nuclear power units**

Extending the service life of power units in an active NPP beyond their designed service life is one of the most relevant tasks at the current stage of evolution of the nuclear power sector in Russia, and the most efficient direction for financial investments in order to maintain generating capacity and make nuclear plants safer.

In accordance with effective standards and industry-level regulations, management of nuclear power unit service life extension uses the system shown on page 94.

The economically justifiable extra service life for nuclear plant power units is 15 to 30

years, and is calculated for each specific case based on both engineering and economic factors.

Activities to extend the service life of active power units in Russian nuclear plants started in 1998.

By the end of 2012, work had been done to extend the service life of 18 power units in nuclear plants, with a total installed capacity of 10,848 MW. Rostekhnadzor licenses were received to operate those power units beyond their respective designed service life.

At this time, investment projects to extend service life are underway on nine power units: power units No.3 and 4 of Kursk NPP; power unit No.4 of Kola NPP; power unit No.2 of Smolensk NPP; power units No.1 and 2 of Kalinin NPP; power units No.1, 2 and 3 of Balakovo NPP.

Five service life extension projects are at the development stage: power unit No.4 of Balakovo NPP (2014); power unit No.3 of Smolensk NPP (2013), power units No.1 and 2 of Kola NPP (2014), and power unit No.4 of Novovoronezh NPP (2013).

As part of power unit service life extension projects now in progress, the scope of works planned for 2012 was accomplished.

Results of activities to extend service life of nuclear power units in 2012:

- Rostekhnadzor license received to operation power unit No.1 of Smolensk NPP for an additional period;
- justification pack was prepared to enable the operator's decision-making on repeated extension of service life for power unit No.4 of Novovoronezh NPP;
- The programme to extend service life of power unit No.3 of Kursk NPP was done as planned for 2012. The document pack was submitted to Rostekhnadzor requesting the license.

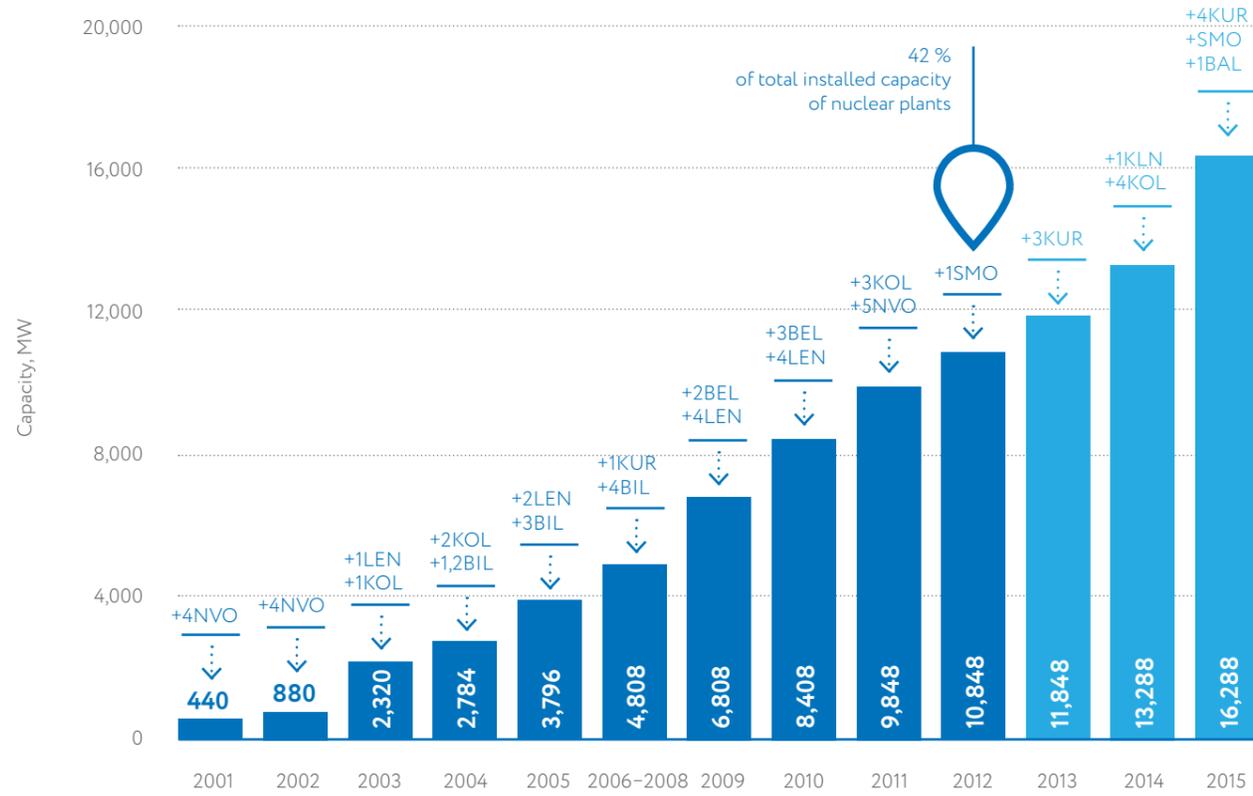
By the end of 2012, work had been done to extend the service life of

18

power units in nuclear plants, with a total installed capacity of

10,848 MW

NPP generating capacity preserved through extended service life



**Programme to Increase Power Generation**

The programme to increase power generation by active NPPs has the following main objectives:

- enabling additional generation of electric power;
- raising the factors ICUF and  $L_{AF}$ .

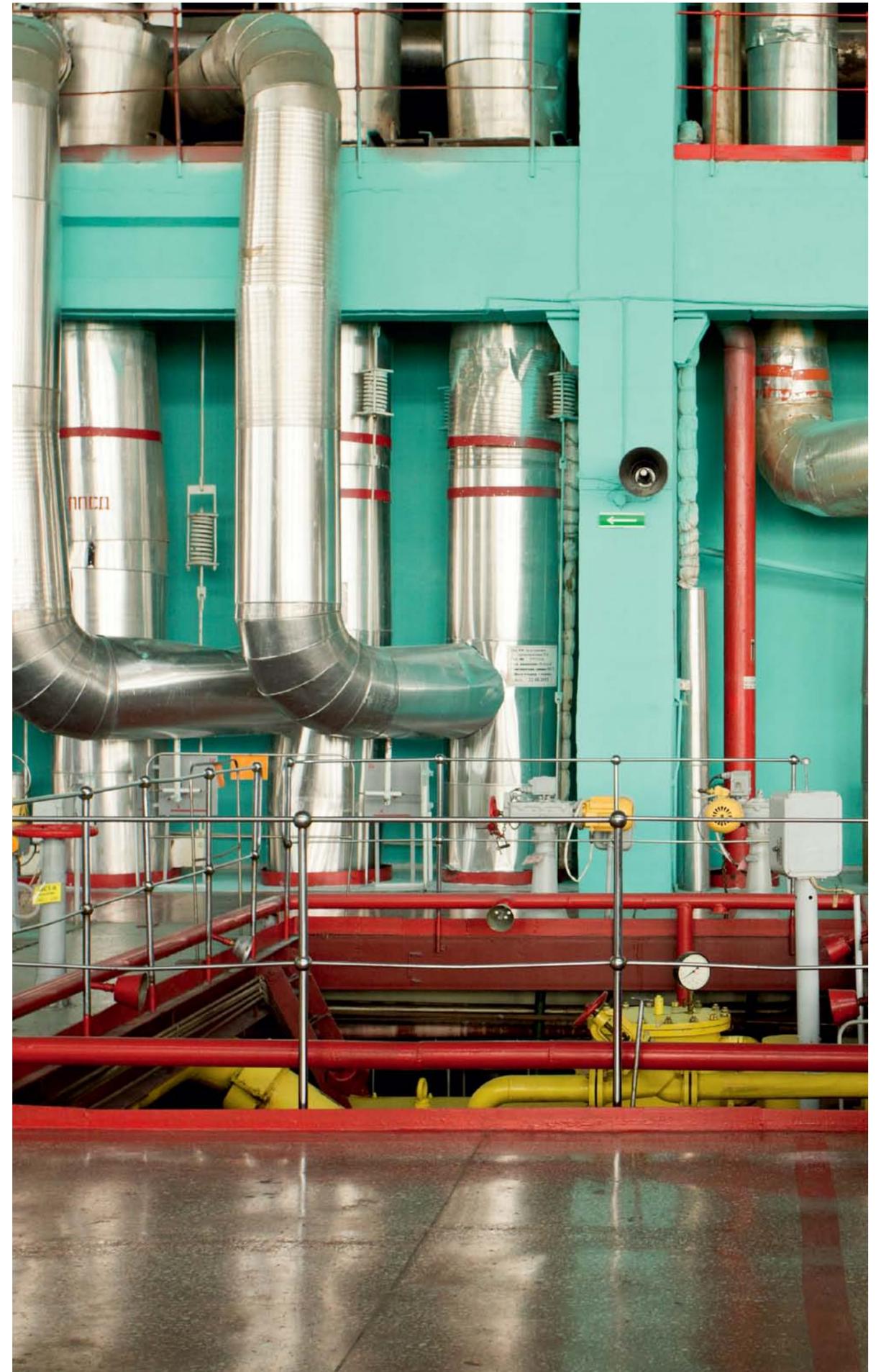
In 2012, seven power units in nuclear plants with VVER-1000 reactors ran at 104% of their rated capacity:

- power units No.1, 2, 3 and 4 of Balakovo NPP;
- power units No.2 and 3 of Kalinin NPP;
- power unit No.1 of Rostov NPP.

In 2011, changes were made to the programme for higher power generation by active nuclear plants of Rosenergoatom in 2007-2015, due to changed conditions of power unit operation, specifically:

- canceled activities to increase the thermal capacity of RBMK-1000 reactors by 5%;
- work to restore resource characteristics of the graphite stacks in RBMK reactors.

Considering the above, once implemented, the programme to extend power generation is expected by 2015 to generate an additional 87.6 billion kWh of electric power.



## 3.5. MAINTENANCE AND REPAIRS OF NPPS. IMPLEMENTATION OF ROSATOM PRODUCTION SYSTEM

REPAIRS TO NPP SYSTEMS AND EQUIPMENT IS A MAJOR COMPONENT ACTIVITY FOR ROSENERGOATOM CONCERN OJSC, INTENDED TO ENSURE SAFE AND EFFICIENT OPERATION OF POWER UNITS BETWEEN REPAIRS. THE MAIN RESERVES IN TARGETS FOR GENERATION OF THERMAL AND ELECTRICAL POWER, AND TO RAISE THE COMPETITIVE ABILITY OF THE NUCLEAR POWER GENERATION INDUSTRY LIE IN REPAIR OPTIMIZATION.

The 2015 repairs improvement strategy envisages efforts to cut unrelated costs and increase the technical level and efficiency of maintenance and servicing, with unconditional enforcement of rules and regulations in nuclear and radiation safety and operational and fire safety.

### Economic effect of reduced repair days in 2012

Financial effect: 1,408.9 mln rubles.  
Extra generation: 1.5 billion kWh

The 2012 repair campaign in terms of electric power generation support and repair cost cutting was executed fully and with good quality. In 2012, 38 repairs of active nuclear power units were carried out, with a total actual duration of 1,756 days (compared to a target of 1,863 days). Overall, scheduled repairs in 2012 were reduced by 107 days, of which 46.5 days were due to the implemented Rosatom production system.

In 2012, there were 17 recorded cases of extraordinary repairs on power units, with a total duration of 86.8 days.

### Implementing Rosatom's Production System

Since 2009, the companies of Rosatom State Corporation, including Rosenergoatom, have implemented the Rosatom Production System (RPS), designed to detect and optimize all types of loss. The target for repair day reduction through implementation of the RPS was 43 days, while the actually achieved figure was 46.5 days. Additional generation of electric power thanks to the RPS amounted to 809.8 mln kWh, with 729 mln rubles received through higher financial efficiency.

### Resource Characteristics of Graphite Stack Restored in Power Unit No.1 of Leningrad NPP

While in extended service life, power unit No.1 of Leningrad NPP (RBMK-1000 reactor type) revealed distortion of the graphite stack. To ensure further safe operation of the power unit, the company developed an action plan to control the resource characteristics of RBMK-1000 reactors.

Analysis of repair day reduction  
in nuclear power units

NPP	Target, days	Fact, days	Fact, with RPS, days	Financial effect, with RPS, mln rubles	Extra generation, with RPS, mln kWh
Balakovo	198	170.5	-27.5/-5	531.6/99.4	608.3/114.6
Beloyarsk	71	65	-6/-4	26.3/14.8	36.5/21.7
Bilibino	272	258	-14/0	—	—
Kalinin	152	139.5	-12.5/-8	311.1/200.1	277.9/178.6
Kola	240	228	-12/0	19.2/0	28.6/0
Kursk	226	228	+2/-1	5.4/7.4	-15.8/7.2
Leningrad	207	211	+4/0	-47.6/0	-52.5/0
Novovoronezh	170	176	+6/-3	-146.8/0	-133.8
Rostov	106	88.5	-17.5/-8	337.1/127.0	330.3/150.4
Smolensk	221	191.5	-29.5/-17.5	372.6/280.3	446.8/337.3
<b>Total</b>	<b>1,863</b>	<b>1,756</b>	<b>-107/-46.5</b>	<b>1,408.9/729</b>	<b>1,526.3/809.8</b>

As part of this action plan, during 2012:

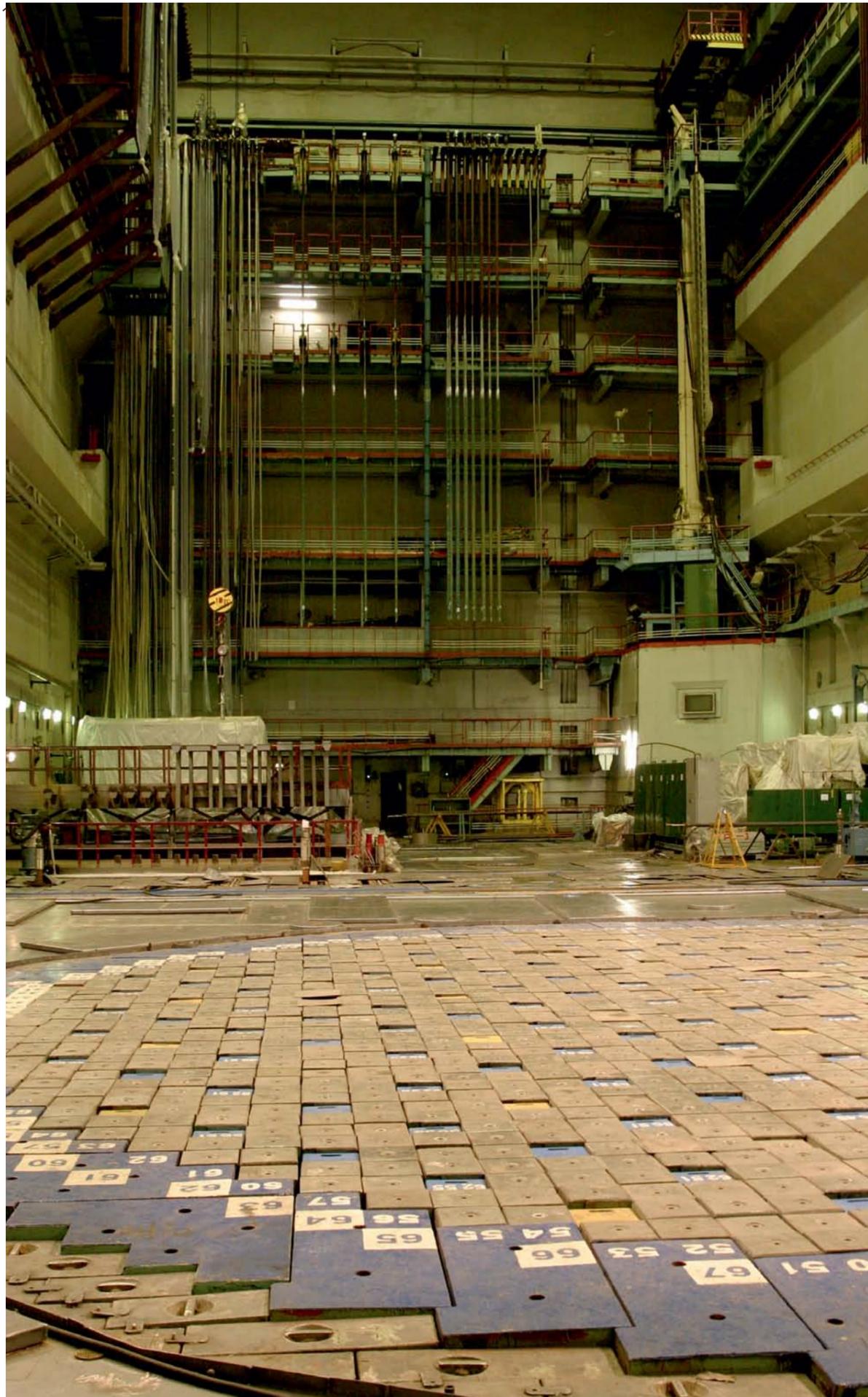
- a special project management team was formed of representatives from NIKIET, Kurchatov Institute, and major R&D entities of the sector, and designers of auxiliary equipment;
- R&D contracts and general contracts were signed with NIKIET for management of resource characteristics of power unit No.1;
- the necessary means to monitor and restore the graphite stack were developed.

All auxiliary equipment developed for the project was tested and accepted at special

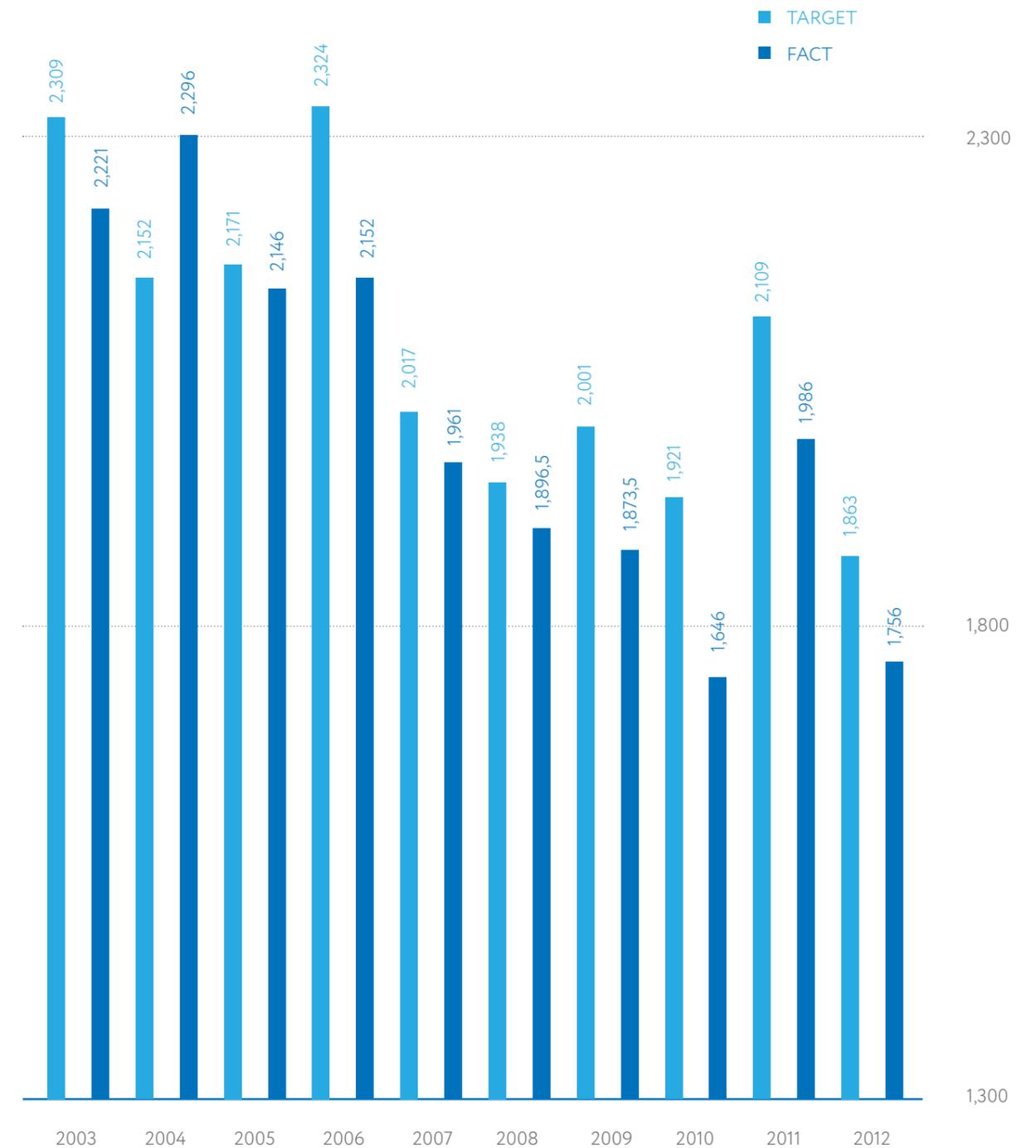
benches to confirm its functional abilities and ensure safety of works on the reactor.

The results of bench tests and measurements on power unit No.1 of Leningrad NPP became the basis for a safety validation study that was presented to Rostekhnadzor, whose experts examined it and issued an official permit to authorize restoring the resource characteristics of the graphite stack in power unit No.1 of Leningrad NPP.

At this time, all auxiliary equipment has been delivered to the power unit, assembled and tested, and personnel have been



Duration of repair campaigns by years, in days



trained and made ready to perform. The plan for 2013 is to restore the graphite stack in power unit No.1 of Leningrad NPP.

Both Rosenergoatom and Leningrad NPP are facing the task for 2013 to accomplish planned activities, prove reliability and

safety of further operation of the reactor, officially receive a license to operate power unit No.1 of Leningrad NPP, and connect it to the grid. Experience gained from power unit No.1 will be useful later on all other power units with RBMK-1000.

## 3.6. INNOVATIVE ACTIVITIES

INNOVATIVE DEVELOPMENT OF ROSATOM STATE CORPORATION COMPANIES SEEKS TO MAKE THEIR PRODUCTS AND SERVICES MORE COMPETITIVE ON THE NUCLEAR POWER MARKET BY UPGRADING EXISTING TECHNOLOGIES AND RETROFITTING ITS PRODUCTION FACILITIES. IMPROVING CURRENT TECHNOLOGIES AND ADOPTING INNOVATIVE ONES IS A PREREQUISITE TO DEVELOPMENT OF THE NUCLEAR POWER SYSTEM ON THE PRINCIPLES OF SAFETY AND SUSTAINABLE GROWTH.

In 2012,  
R&D received  
financing of

8,433.78

mln rubles under  
the Concern's  
integrated  
investment  
programme.

All science research and experimental design initiated by the Concern are applied by nature and with the purpose to address real-life current needs of its nuclear plants, and to identify future objectives in the Concern's production and technology.

At present the Concern's main priorities for innovative development are: upgrading applied technologies for project design and construction of nuclear power units; extending the service life of principal equipment through development and adoption of new materials; design of new reactors.

### Management of R&D and Innovation

At present, the Concern places specific orders with science researchers of the sector to develop new technologies for the nuclear power industry. This work will be coordinated by the Science and Engineering Centre – a branch company created by the Concern in 2012 Rosenergoatom, and vested with the following functions:

- developing and supporting a uniform activities policy of Rosenergoatom Concern OJSC in science and technology;

- systematic adoption of scientific research in production; conducting the full innovative cycle of scientific research and experimental design;
- coordinating scientific research and engineering to support nuclear plant operation;
- supporting an integrated system to control research in science and technology in order to ensure their high efficiency and competitive ability;
- working out a patent and license policy in intellectual activities.

### R&D Financing Mechanisms

Based on "Rosatom State Corporation Long-Term Action Plan (2009–2015)", approved by Federal Government Resolution No. 705 of September 20, 2008, and local corporate regulation of Rosenergoatom, annual action plans are drawn up for scheduled R&D and are officially coordinated and approved. The finally approved spending target is stated in the respective section of the Investment Programme for the planning year.

In 2012, R&D received financing of 8,433.78 mln rubles under the Concern's integrated investment programme.

### VVER-TOI Design

In 2012, work on the innovative project VVER-TOI was concluded.

#### VVER-TOI Safety

The VVER-TOI project combines active and passive safety systems to ensure that the reactor core remains intact for at least 72 hours into any heavy unforeseen emergency under any scenario of events, while the project's engineering solutions guarantee that the reactor unit will enter a safe condition regardless of the combination of trigger events (natural and artificial) that cause loss of all electric power sources.

VVER-TOI technology for nuclear plants is the sequel to NPP-2006 project, designed to make Russian VVER technology competitive on the international market, and aimed at subsequent serial construction of nuclear plants both in Russia and abroad.

VVER-TOI project has realized the entire range of engineering solutions that ensure nuclear plant safety, and rules out above-standard escape of radioactive substances into the environment under external (natural and artificial) impacts combined with internal triggers and additional failures.

The project carefully analyzed current characteristics and growth dynamics of foreign competitors, leading to the conclusion that by its technical characteristics the VVER-TOI is on par with the best nuclear plant designs, but is superior in economic performance and integral safety. Further work on the project assumes that a non-variant part will be isolated from the base project; this part, in conformity with the procedures of Rostekhnadzor, will be officially approved to be reproduced in a series of project designs to build nuclear power units with the VVER-TOI design used as basis. To date, it has been decided to implement the design at Kursk NPP-2, Smolensk NPP-2, Nizhny Novgorod NPP, and NPP Akkuyu in Turkey.

### Floating thermal nuclear power plant (FTNPP)

In 2012, the Concern continued construction of the world's first floating nuclear power plant (FTNPP) with a capacity of 70 MW, with two KLT-40C reactor units.

FTNPP is a new class of power sources based on Russian technologies of nuclear ship-building. The goal is to supply reliable heat and power to remote areas in the Arctic Circle and the Russian Far East throughout the year. The first FTNPP will be stationed in the city of Pevek (Chukotka Autonomous Okrug).

The main floating power unit (FPU) "Academician Lomonosov" was built at Baltiysky Zavod (St. Petersburg). By the end of 2012, all power equipment had been built and delivered to the builder plant. Its workshops assembled the steam-generating units of the reactors, and manufactured the metal-water protection (MWP) tanks; its steam-turbine units were raised and mounted on the FPU. The complete set of active zones was made for the first fuel load of the reactors.

The hull is now 90% complete. Work is underway to make and install the onboard systems. The floating power unit is scheduled to be commissioned in 2016.

### Fast-neutron reactors

To date, the Russian nuclear sector has accumulated unique practical experience with creating and long-term successful operation of fast-neutron reactors. They are expected to enable the transition of the nuclear power sector to a closed fuel cycle that will ensure more efficient use of uranium resources, delivering a solution to the environmental problems of handling spent nuclear fuel and radioactive waste.

The programme "New technology platform: closed nuclear fuel cycle and fast-neutron reactors" has the following goals and objectives:



- promoting national security of the power supply, economy, and environmental protection through development of the nuclear power sector by using fast-neutron reactors in a closed fuel cycle;
- reducing risks of power planning security through reduced dependence on fuel resources;
- cutting specific deferred costs of reproduction and development;
- creating a basis for the nuclear power sector's transition to self-sufficiency in nuclear fuel with minimized consumption of natural uranium and the least radioactive waste;
- creating a prototype fast-neutron reactor able to compete with VVER and of equal output, to build a series of fast-neutron reactors running on a closed fuel cycle;
- ensuring that the environmental characteristics of the nuclear fuel cycle are acceptable to the public and economy;

- production support for the non-proliferation of fissionable materials.

Therefore, the technologies of fast-neutron reactors and closed fuel cycle have great innovative potentials, while commissioning and operation of power unit No.4 at Beloyarsk NPP with a BN-800 reactor unit is of special importance – the unit's physical start is scheduled for the end of 2013.

These reactors will not have any active foreign analogs until 2020.

#### Key Events of Work in 2012

For the first time in Russia, production facilities were established and began making fuel elements for mixed oxide-uranium fuel composition using pellet technology, able to make up to 90 HGP sets annually for a BN-800 reactor.

Radiation resistance of the material of fuel element shells of austenitic steel for fast-neutron reactors was experimentally confirmed to the level  $\geq 95$  displacement per atom; this has created the basis for considerably higher elimination rate of nuclear fuel.

#### BN-1200

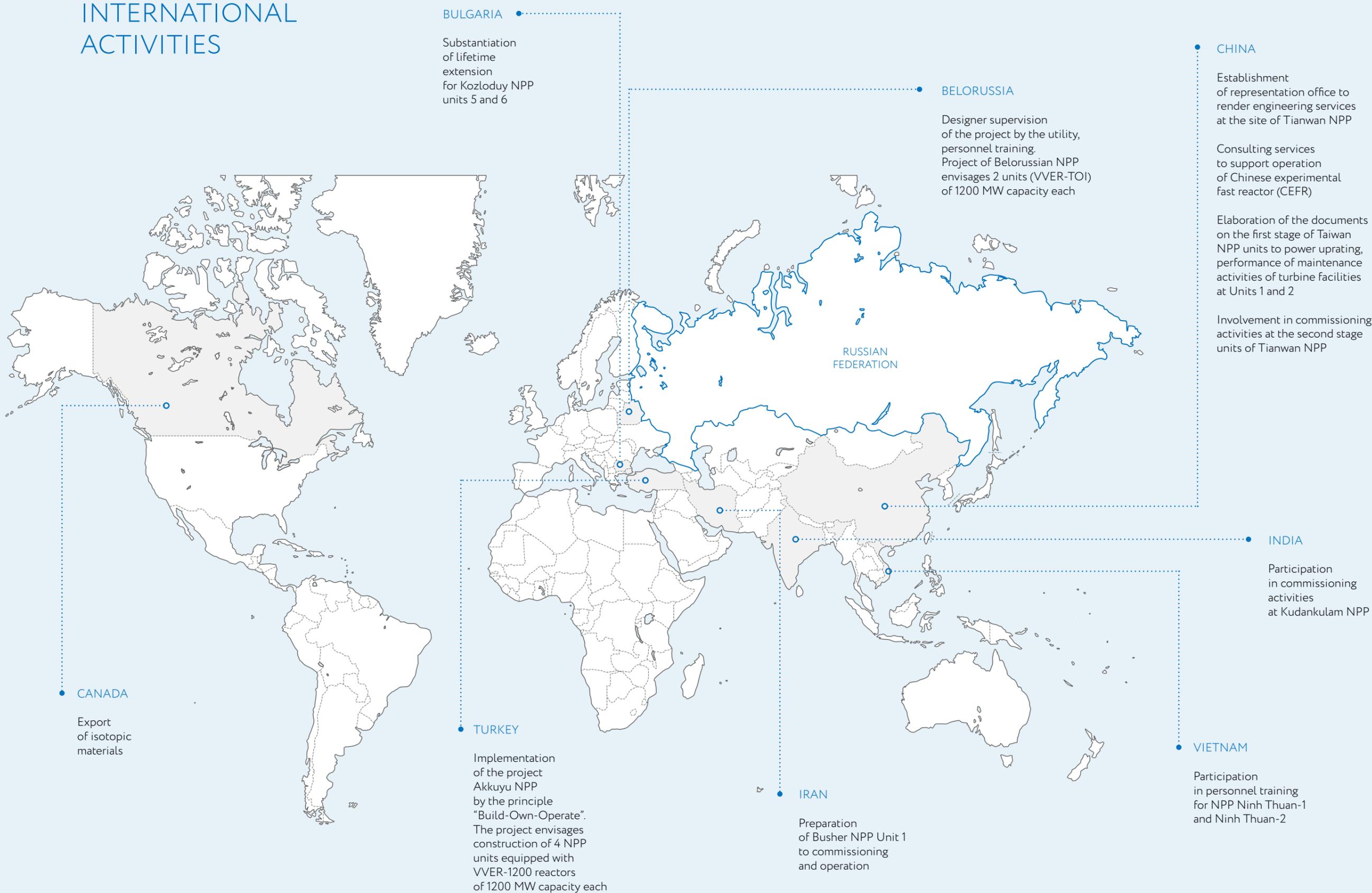
In accordance with Federal Government Regulation No.705 of September 20, 2008 "Long-Term Action Programme of Rosatom State Corporation (2009–2015)", Rosenergoatom manages R&D to support design of power units with high capacity fast-neutron reactors as the backbone component in the closed nuclear fuel cycle.

It is established that the power unit's rated capacity must be 1,200 MW. A key requirement for the design of the BN-1200 power

unit is its assured ability to compete with VVER-1200 power units.

In 2012 design of the reactor's active zones continued, with further research into fine optimized solutions for the engineering and construction aspect of the power unit. Since 2009, 67% of total planned works has been carried out – work is due to be completed in 2015.

## INTERNATIONAL ACTIVITIES



## 3.7. INTERNATIONAL ACTIVITIES

ROSENERGOATOM'S INTERNATIONAL ACTIVITIES SEEK TO ENSURE THAT RUSSIAN NUCLEAR PLANTS ARE SAFE AND RELIABLE, BY ADOPTING BEST INTERNATIONAL PRACTICES. UNDER ITS STRATEGY OF GLOBAL EXPANSION, ROSATOM STATE CORPORATION IS INCREASING ITS PRESENCE ON FOREIGN MARKETS.

International cooperation became particularly intensive in 2012. In Russia and abroad, the Concern had about 250 international events attended by more than 3,000 people, including 40 large-scale events, 9 international audits, 29 protocol meetings attended by Concern executives, and some 160 awareness workshops and meetings. Eight agreements were signed or renegotiated that regulate international operations.

### MAJOR INTERNATIONAL ACTIVITIES IN 2012

- Special event hosted by WANO: "Post-Fukushima Nuclear Power as Seen by Plant Operators" was part of the 4th international forum Atomexpo-2012.
- International practical science conference "Safety, Efficiency and Economics of Nuclear Power Industry" (MNTK-2012).
- Extraordinary meeting of the parties to the Convention on nuclear safety (the Concern's specialists participated in six subject groups, and helped to write the Russian Federation's National Report).
- The Concern took part in an emergency drill at Danpiere NPP (France) and worked in the Crisis Power Centres of Electricite de France (EDF).
- International observers were involved in the comprehensive emergency exercise at Kursk NPP.
- Peer audits by WANO at Beloyarsk and Kola NPP.
- Follow-up peer audits at Rostov and Kalinin NPP.
- International insurance inspections at Rostov and Smolensk NPP.
- Comprehensive joint audits of Balakovo and Smolensk NPP by supervisory agencies of Russia and France.
- Meetings of managing panels and boards with key partners, such as WANO, EDF, Energoatom (Ukraine), Iberdrola (Spain).

### Cooperation with the IAEA

With assistance from Rosatom State Corporation, Rosenergoatom Concern OJSC is actively involved in international activities under the aegis of the IAEA.

In 2012, the programme of missions to examine operation safety (OSART missions) was extended through to 2023, and the missions will be more frequent now. It was decided that the next OSART missions will visit Kola NPP (in 2014) and Novovoronezh NPP (in 2015).

During the reporting year, examination of the Russian design NPP-2006 arranged by the Concern to confirm its compliance under the IAEA safety standards. Examination was part of preparations for international expert assessment of the VVER-TOI design.

The design of HBNPP-2 (NPP-2006) was praised by the IAEA experts. Directions for further joint activities were outlined. In 2013, materials on the VVER-TOI will be submitted to the IAEA's expert panel.

### Cooperation with WANO

The events at Fukushima in the spring of 2011 returned the global community's focus to the issue of making nuclear plants safer. In 2012, leading international organizations, including WANO, had a series of activities to discuss post-Fukushima issues. For example, the Concern's experts participated in three WANO international project groups ("Serious emergency management", "Radiation safety", "Determining criteria for peer audits"), trusted to enforce the recommendations of the Mitchell Panel.

Steps were taken to create a WANO Regional Crisis Centre in Moscow for nuclear plants with VVER reactors, based on Rosenergoatom's Crisis Centre. Interaction between the Concern and WANO will be made more efficient after a shared information field is created to highlight nuclear plant operation non-compliance, equipment failures, and nuclear plant performance.

During the reporting year, close attention was also paid to enforcing the recommendations of the corporate peer audit conducted by WANO in 2011. The follow-up corporate peer audit is scheduled for 2013.

### Cooperation with the Materials Aging Institute (MAI)

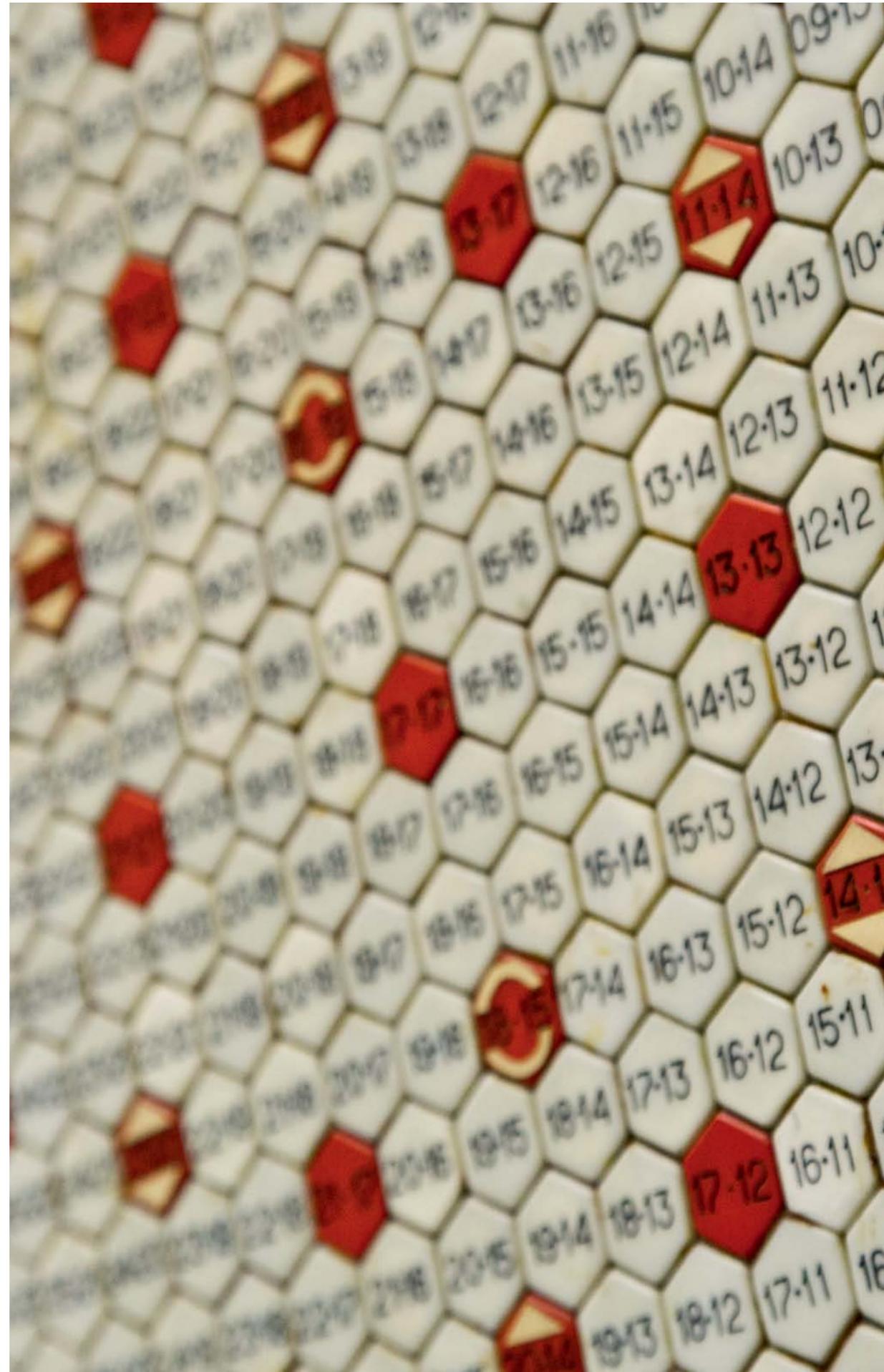
A new phase in cooperation with foreign organizations began when in 2012 the Concern joined the MAI – the Materials Aging Institute established by Electricite de France (EDF). Being part of the MAI is important because one of the priority tasks the Concern currently faces is extending the service life of Russian nuclear plants, while the institute has united global leaders in nuclear power generation and gathered vast amounts of information on the issue.

Partnership with foreign businesses  
In 2012, the Concern continued cooperating with companies and strategic partners on a regional scale.

The company's partnership with Electricite de France (EDF, France) is now 18 years old, and is based on an annually approved exchange programme in science and technology. This exchange includes meetings between top executives, workshops, visits, technical briefings, anti-crisis exercises, and close relations between the nuclear plants of both nations. Cooperation is ongoing in a number of directions. In 2011–2012, the parties also exchanged experiences in implementing their post-Fukushima action plans.

The Concern's cooperation with NAEK (Ukraine) started in 1999, when the parties signed an agreement on cooperation in science and technology. Direct cooperation between Russian and Ukrainian nuclear plants is also growing.

The Concern's partnership with Iberdrola-Generacion (Spain) is proceeding under a framework agreement signed in 2005. Practical work is based on annually approved cooperation programmes. In 2012, the project



was actively underway to adopt CheckPlus ultrasonic flow meters on feed water pipelines, as recommended by the Spanish partner after they analyzed the operational efficiency of power unit No.5 of Novovoronezh NPP in 2010.

**Increasing Presence in Other Nations**

Under the Rosatom State Corporation 2030 Action Strategy that envisages international expansion of the power business, and increased exports of high-tech products, the Concern has been building its presence outside of Russia.

As a technical client, the Concern is involved in the Akkuyu NPP construction project (Turkey). This cooperation is based on a three-party investment agreement signed between Rosatom State Corporation, Rosenergoatom, and NPP Akkuyu Project Co., for a total value of 21.9 billion rubles. NPP Akkuyu – a branch company of Rosenergoatom – has been established in Turkey, and plans for 2013 include creating the construction project’s directorate, and training programmes for Turkish personnel.

In Iran, the Concern is providing services to prepare the Buser NPP for launching and operation.

In China, the Concern is providing services in engineering consulting, and carries out scheduled preventive repairs on the Tianwan NPP that is now in operation.

In Bulgaria, a project is underway to conduct comprehensive examination of power units No.5 and 6 of NPP Kozloduy, as part of activities to extend their service life.

In 2012, isotope materials worth 120 mln rubles were exported to Canada.

In the Czech Republic, the Concern’s future depends on the tenders that Rosatom State Corporation has placed for Temelin-2NPP construction project.

In India, the Concern expects to assist pre-commissioning of Kudankulam NPP. In Vietnam and Bangladesh, the Concern plans to provide support under Rosatom’s regional plans for Ninh Thuan NPP and Ruppur NPP.

As a technical client, the Concern is involved in the Akkuyu NPP construction project (Turkey). This cooperation is based on a three-party investment agreement signed between Rosatom State Corporation, Rosenergoatom, and NPP Akkuyu Project Co., for a total value of

21.9 billion rubles

# 04

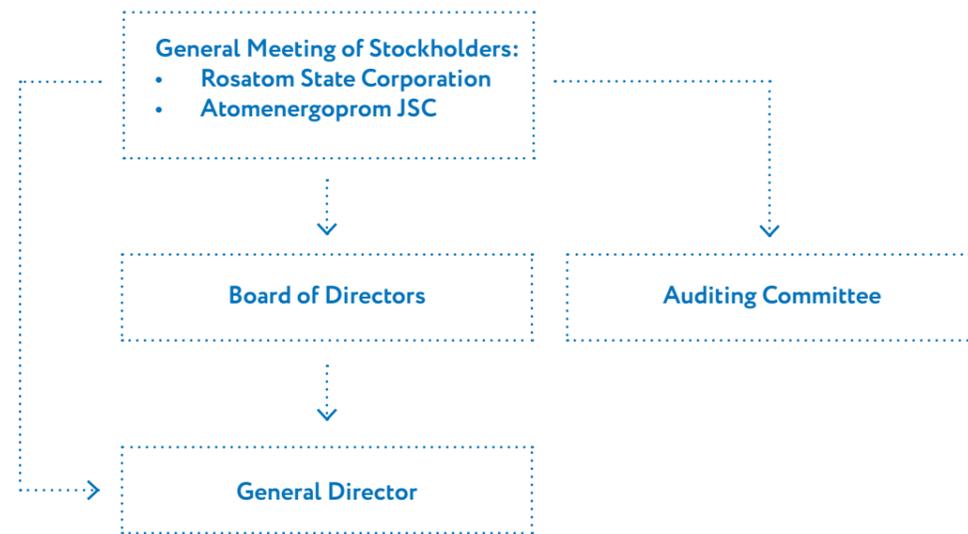
## SYSTEM OF MANAGEMENT



- Structure and List of Executive Management
- Corporate Management System
- System of Key Efficiency Ratios.
- Employee Evaluation and Remuneration
- Internal Control and Auditing.
- Risk Management
- Property Management
- Quality Management
- Purchase Management
- Information Technology

## 4.1. STRUCTURE AND LIST OF EXECUTIVE MANAGEMENT

### STRUCTURE OF THE CONCERN'S BODIES OF MANAGEMENT AND CONTROL



Under the Federal Law On Joint-Stock Companies, the management structure of Rosenergoatom Concern OJSC includes:

- General Meeting of Stockholders;
- Board of Directors;
- General Director.

Control of financing and business activities is the function of the Auditing Committee and the Auditor of Rosenergoatom Concern OJSC.

Rosenergoatom has advisory collegiate bodies: the Directorate and the Central Committee.

Information about the activities of Rosenergoatom is disclosed at the corporate website:  
<http://www.e-disclosure.ru>  
<http://www.rosenergoatom.ru>

The Concern's Stockholders as of December 31, 2012:

1. Atomenergoprom – 96.415%.
2. Rosatom State Corporation – 3.585%.

#### Registered Capital

Between January 01, 2012 and December 31, 2012 the Concern's registered capital remained unchanged, and was 530,011,527,000 rubles, according to its constitutive documents.

As of December 31, 2012, the Board of Directors was composed of:

- Aleksandr Markovich Lokshin (Board Chairman);
- Sergey Anatolyevich Adamchik;
- Kirill Borisovich Komarov;
- Yevgeny Vladimirovich Romanov;
- Boris Georgievich Silin.

Structure of the Concern's managerial bodies, by gender and age

Item, %	Board of Directors			Directorate		
	Male	Female	Total	Male	Female	Total
	5 (100%)	0	5 (100%)	27 (97%)	1 (3%)	28 (100%)
up to 30 years old inclusive	0	0	0	0	0	0
31 to 50 years old	1 (20%)	0	1 (20%)	1 (3%)	0	1 (3%)
51 and older	4 (80%)	0	4 (80%)	26 (97%)	1 (3%)	27 (97%)
<b>Total</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>27</b>	<b>1</b>	<b>28</b>

In 2012, the Board of Directors had four non-executive Directors (not employed by Rosenergoatom). The Board had no independent directors (as defined in the Russian Corporate Conduct Code and recommended by the FFMS). At the end of 2012, the Board of Directors had not formed any panels or committees.

The structure of the Board of Directors is determined by Russian Federal law, and the directors are designated based on the principles of the required balance of knowledge and skills, experiences, including competencies in production, administrative, environmental, and social issues. During the reporting period, the Board had no change of directors.

#### Information about the Auditor and Registry Keeper

In accordance with the Minutes No.2 of General Meeting of Stockholders of June 29, 2012, Accountants and Business Advisers Limited Liability Company (FBK LLC) was designated as the Concern's Auditor.

Keeping the registry of holders of registered securities issued by the Concern is the function of Registrar R.O.S.T.

Details of the Registry Keeper:

- full corporate name: Registrar R.O.S.T. Open Joint-Stock Company;

- location: bldg. 13, 18 ul. Strominka, Moscow;
- license: No. 10-000-1-00264, issued by Russian FCSM on December 03, 2002.

#### Chief Executive Officer

The Concern's Chief Executive Officer is its General Director, Yevgeny Vladimirovich Romanov, elected by the Sole Stockholder's Resolution No. 15 of July 29, 2011, for the term of 5 years, effective from August 01, 2011.

#### Auditing Committee

In accordance with the Minutes No.2 of Atomenergoprom General Meeting of Stockholders of June 29, 2012, the Auditing Committee of Rosenergoatom was formed with the following members:

##### Members of the Auditing Committee

Pyotr Anatolyevich Stepayev	Chairman of the Auditing Committee, Deputy head of Management for Capital Investment Programmes in Rosatom State Corporation
Yelena Grigoryevna Novomlinskaya	Auditing Committee Member, Advisor to Management for Economics and Controlling, Directorate for Nuclear Energy Complex, Rosatom State Corporation
Liudmila Nikolayevna Demidova	Auditing Committee Member, Director of Economics and Controlling, Rosenergoatom Concern OJSC



### Aleksandr Markovich Lokshin

Board Chairman, Rosenergoatom Concern OJSC, First Deputy General Director for operations management, Rosatom Nuclear Energy State Corporation

Born in 1957.  
Graduate of M.I. Kalinin Leningrad Polytechnic Institute.  
2001–2006 – acting Director, Director, Deputy General Director of Rosenergoatom Concern OJSC – Director of Smolensk Nuclear Plant, Branch Company of Rosenergoatom Concern OJSC.  
2006–2008 – First Deputy General Director, acting General Director in Federal State Unitary Enterprise Rosenergoatom.  
2008–2010 – Deputy General Director, Rosatom Nuclear Energy State Corporation.  
2010–2011 – Deputy General Director, Director, Nuclear Energy Complex, Directorate, Rosatom Nuclear Energy State Corporation.  
2011–2012 – First Deputy General Director, Director, Nuclear Energy Complex, Directorate, Rosatom Nuclear Energy State Corporation.  
Since 2012 – First Deputy General Director for operations management, Rosatom Nuclear Energy State Corporation.

Titles: "Distinguished Contributor to the Power Industry of the Russian Federation".

Holding in the registered capital of Rosenergoatom Concern OJSC: none.  
Holding of common stock issued by Rosenergoatom Concern OJSC: none.



### Sergey Anatolyevich Adamchik

Board Director, Rosenergoatom Concern OJSC, Inspector General, Rosatom Nuclear Energy State Corporation

Born in 1954.  
Graduate of Tomsk Polytechnic Institute.  
2007–2008 – Deputy Head of the Federal Service for Environment, Technological, and Nuclear Supervision in the Russian Federation.  
November 2008 to June 2010 – Deputy Inspector General, Rosatom Nuclear Energy State Corporation.  
Since July 2010 – Inspector General, Rosatom Nuclear Energy State Corporation.

Holding in the registered capital of Rosenergoatom Concern OJSC: none.  
Holding of common stock issued by Rosenergoatom Concern OJSC: none.



### Kirill Borisovich Komarov

Board Director, Rosenergoatom Concern OJSC, Director, Atomenergoprom JSC, Deputy General Director, Director of the Unit for Development and International Business in Rosatom Nuclear Energy State Corporation

Born in 1973.  
Graduate of Urals State Law Academy.  
Candidate of Law.  
2005–2006 – Deputy head of the Federal Agency for Water Resources, Russian Federation.  
2006–2007 – Vice President TVEL, General Director, Atomenergomash.  
2007–2010 – Deputy Director, Executive Director, Atomenergoprom JSC.  
Since April 2010 – Director, Nuclear Power Industry Complex, at the same time with the office of Executive Director of Nuclear Energy Complex Directorate, Rosatom Nuclear Energy State Corporation.  
Since April 2011 – Deputy General Director, Director of the Unit for Development and International Business in Rosatom Nuclear Energy State Corporation, and the office of Director in Atomenergoprom JSC.

Holding in the registered capital of Rosenergoatom Concern OJSC: none.  
Holding of common stock issued by Rosenergoatom Concern OJSC: none.



### Yevgeny Vladimirovich Romanov

Board Director, Rosenergoatom Concern OJSC, General Director, Rosenergoatom Concern OJSC

Born in 1961.  
Graduate of Urals Polytechnic Institute.  
1990–1995 – head of economic analysis group, Deputy head of economic planning section, Accountant General of Urals Electrochemical Plant.  
1995–1998 – Advisor to Deputy Chairman of Administration, Deputy Head of Corporate Client Base Management, Vice President of "United Export-Import Bank" – ONEXIM Bank.  
1998–2000 – Vice President of JSCB ROSBANK.  
2000–2001 – Advisor to First Deputy General Director, RAO Norilsk Nickel.  
2001–2004 – First Deputy General Director, acting General Director, General Director of Kola GMK.  
2004–2008 – First Deputy Director, First Deputy Chairman of Administration, Deputy Director, head of Mining and Metallurgy Directorate, Deputy Chairman of Administration in Zapolyarye Branch Company, Norilsk Nickel GMK.  
2008–2009 – General Director, VSMPO-AVISMA.  
2009–2010 – comprehensive audits of financing and business activities of RusSpecStal JSC.  
2010–2011 – General Director of Rostekhnologii JSC – Metallurgy.  
Since August of 2011 – General Director of Rosenergoatom Concern OJSC.  
In 2011, elected to World Association of Nuclear Operators (WANO).

Holding in the registered capital of Rosenergoatom Concern OJSC: none.  
Holding of common stock issued by Rosenergoatom Concern OJSC: none.



### Boris Georgievich Silin

Board Director, Rosenergoatom Concern OJSC, Advisor to First Deputy General Director for operations management in Rosatom Nuclear Energy State Corporation

Born in 1954.  
Graduate of Moscow Institute of Chemical Machine Building.  
2004–2008 – head of Department, Deputy head of Management for nuclear power industry and nuclear fuel cycle of the Federal Agency for nuclear energy (Rosatom).  
2008–2010 – head of Department, Deputy Director of Department for nuclear power complex of Rosatom Nuclear Energy State Corporation.  
2010–2012 – Advisor, Nuclear Energy Complex Directorate, Rosatom Nuclear Energy State Corporation.  
Since 2012 – Advisor to First Deputy General Director for operations management, Rosatom Nuclear Energy State Corporation.

Holding in the registered capital of Rosenergoatom Concern OJSC: none.  
Holding of common stock issued by Rosenergoatom Concern OJSC: none.



## DIRECTORATE



**Yevgeny Vladimirovich  
Romanov**

General  
Director

Born in 1961.  
Graduate of Urals Polytechnic Institute.  
1990–1995 – head of economic analysis group,  
Deputy head of economic planning section,  
Accountant General of Urals Electrochemical  
Plant.  
1995–1998 – Advisor to Deputy Chairman of  
Administration, Deputy Head of Corporate Client  
Base Management, Vice President of “United  
Export-Import Bank” – ONEXIM Bank.  
1998–2000 – Vice President of JSCB ROSBANK.  
2000–2001 – Advisor to First Deputy General  
Director, RAO Norilsk Nickel.  
2001–2004 – First Deputy General Director, acting  
General Director, General Director of Kola GMK.  
2004–2008 – First Deputy Director, First Deputy  
Chairman of Administration, Deputy Director,  
head of Mining and Metallurgy Directorate,  
Deputy Chairman of Administration in Zapolyarye  
Branch Company, Norilsk Nickel GMK.  
2008–2009 – General Director, VSMPO-AVISMA.  
2009–2010 – comprehensive audits of financing  
and business activities of RusSpecStal JSC.  
2010–2011 – General Director of Rostekhnologii  
JSC – Metallurgy.  
Since August of 2011 – General Director  
of Rosenergoatom Concern OJSC.  
In 2011, elected to World Association of Nuclear  
Operators (WANO).



**Vladimir Grigoryevich  
Asmolov**

First Deputy  
General Director

Born in 1946.  
Graduate of Moscow Energy Institute.  
Doctor of Engineering, Professor.  
1994–2003 – Director for Science  
Development, Russian Science Centre  
“Kurchatov Institute”.  
2003 – Deputy Minister for Nuclear Energy,  
Russian Federation.  
2004–2006 – Director-coordinator, Russian  
Science Centre “Kurchatov Institute”.  
2006–2008 – First Deputy General Director,  
Director for Science and Engineering  
Policy, Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC, Deputy General  
Director, Director for Science and Engineering  
Policy, Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC, Deputy General  
Director, Director for Science and Engineering  
Policy of Energoatom Concern OJSC.  
Since 2009, First Deputy General Director  
of Rosenergoatom Concern OJSC.  
Member of Administration, Russian Nuclear  
Society. Member of International Advisors  
Group under the General Director of IAEA  
(INSAG)  
2011–2013 – President of WANO.  
Decorated with Order of Fortitude (1997), Order  
of Honor (2009).



**Vladimir Yuryevich  
Myasnikov**

First Deputy  
General Director

Born in 1977.  
Graduate of Financial Academy  
under the Russian Federal Government.  
2004–2006 – Deputy General Director, Kola  
GMK.  
2006–2009 – head of Economic Planning  
Directorate, mining and metallurgy industrial  
complex, head of Directorate for Operation  
Improvements, Deputy head of Department  
for Operation Management, Deputy head  
of Department for Foreign Assets, GMK Norilsk  
Nickel.  
2010–2011 – head of Financial and Economic  
Service, RT Metallurgiya.  
Since 2011 – Financial Director, head of Treasury,  
Rosenergoatom Concern OJSC.  
Since June 2012 – First Deputy General  
Director, Rosenergoatom Concern OJSC



**Stanislav Ivanovich  
Antipov**

Deputy General Director –  
Director of Science  
and Engineering Centre  
(branch company  
of Rosenergoatom Concern OJSC)

Born in 1951.  
Graduate of Urals Polytechnic Institute, Tver  
State University.  
1998–2005 – Deputy General Director, –  
Director, FGUP Kalinin Nuclear Plant, branch  
company of Rosenergoatom Concern OJSC  
2005–2006 – General Director, FGUP  
Rosenergoatom Concern OJSC.  
2006–2007 – Deputy General Director – Head  
of Department for Corporate construction and  
sector-level relations, FGUP Rosatomstroy ISK.  
2007–2009 – First Deputy Head of Department  
for Power Construction, Head of Development  
of Power Management, First Vice-President,  
Head of Department for Power Construction  
in Stroytransgaz.  
2010–2011 – Executive Director, Department  
for regional projects, Energokaskad.  
2011–2012 – First Deputy General Director,  
VNIIAES; First Deputy General Director  
for science and technology support to NPP  
operation, VNIIAES; Director, VNIIAES-NTP.  
Since September 2012 – Deputy General  
Director, Director of Science and Engineering  
Centre, branch company of Rosenergoatom  
Concern OJSC.  
Decorated with Order of Honor (2002),  
honorary title “Honored Power Engineer  
of the Russian Federation” (1995).



**Alla Igorevna  
Arkhangel'skaya**

Deputy General Director,  
Director for Economics

Born in 1960.  
Graduate of Ordzhonikidze Moscow Institute  
of Management.  
Candidate of Economics.  
2006–2007 – Deputy Executive Director,  
Director for Economics, Deputy Director  
for Economics in Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC.  
2007–2010 – Director of Department of Prices,  
Tariffs, and Cost-Management, Director of the  
Department for Economic Estimates, Pricing,  
and Budget Planning in Atomenergoprom JSC.  
Since 2010 – Deputy General Director, Director  
for Economics, Rosenergoatom Concern OJSC.



**Beslan Andreyevich  
Barganjiya**

Deputy General Director,  
Director for Legal  
and Corporate Issues

Born in 1959.  
Graduate of Moscow Construction Engineering  
Institute.  
Candidate of Political Sciences.  
2001–2006 – head of management, head  
of Section in the Office of the Russian  
President’s Plenipotentiary Representative  
in Volga Federal District, Administration of the  
Russian President.  
2006–2008 – assistant to the Russian  
President’s Plenipotentiary Representative  
in Volga Federal District, Administration  
of the Russian President.  
2008–2010 – head of Law Department,  
Energoatom Concern OJSC, Director of Law  
Department, Rosenergoatom Concern OJSC.  
Since 2010 – Deputy General Director, Director  
for Legal and Corporate Issues, Rosenergoatom  
Concern OJSC.



**Sergey Nikolayevich  
Zavyalov**

Deputy General Director,  
Director Branch Company  
of Rosenergoatom Concern OJSC  
“Directorate Construction  
of Floating Thermal Nuclear  
Power Plants”

Born in 1961.  
Graduate of Leningrad Shipbuilding Institute.  
2000–2005 – General Director, Vyborg  
Shipyard.  
2005–2006 – Project Director, International  
Industrial Bank.  
2006–2007 – Project Engineer, AKO BARSS  
Group.  
2007 – Advisor to Director, Atomenergoprom  
JSC.  
2007–2009 – Deputy General Director, Director,  
“Directorate for Construction  
of Floating Thermal Nuclear Power Plants”  
Branch Company of Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC,  
Deputy General Director, Director, “Directorate  
for Construction of Floating Thermal Nuclear  
Power Plants” Branch Company of Energoatom  
Concern OJSC.  
Since 2009 – Deputy General Director, Director,  
“Directorate for Construction  
of Floating Thermal Nuclear Power Plants”  
Branch Company of Rosenergoatom Concern  
OJSC



**Pavel Leonidovich  
Ipatov**

Deputy General Director,  
Director for Strategy  
and Corporate Development

Born in 1950.  
Graduate of Urals Polytechnic Institute,  
National Economic Academy under the USSR  
Council of Ministers.  
1985–2005 – Chief Engineer, Director,  
Deputy General Director, Director of Balakovo  
Nuclear Plant – branch company of FGUP  
Rosenergoatom Concern OJSC.  
2005–2012 – Governor of Saratov Oblast,  
Chairman of Saratov Oblast Government.  
Since July 2012 – Deputy General Director,  
Director for Strategy and Corporate  
Development, Rosenergoatom Concern OJSC.  
Decorated with Order of Red Banner (1988),  
Order of Peoples’ Friendship (1994), Order  
of Honor (2000). Winner of the Prize of the  
USSR Council of Ministers (1991), Prize of the  
Russian Federal Government in Science and  
Engineering (2001)



**Aleksandr Vasilyevich  
Palamarchuk**

Deputy General Director,  
Director of Facilities Construction  
Management, Branch Company  
of Rosenergoatom Concern OJSC

Born in 1960.  
Graduate of Odessa Polytechnic Institute.  
Candidate of Engineering.  
2002–2008 – Chief Engineer, “Volgodonsk  
Nuclear Plant”, Branch Company of Federal  
State Unitary Enterprise Rosenergoatom  
Concern OJSC, Director, “Volgodonsk Nuclear  
Plant”, Branch Company of Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC,  
Deputy General Director, Director, “Volgodonsk  
Nuclear Plant”, Branch Company of Federal  
State Unitary Enterprise Rosenergoatom,  
Deputy General Director, Director, Branch  
Company of Energoatom Concern OJSC  
“Volgodonsk nuclear plant”.  
2009–2010 – Deputy General Director, Director,  
“Volgodonsk Nuclear Plant”, Branch Company  
of Rosenergoatom Concern OJSC.  
2010–2012 – Deputy General Director, Director,  
“Rostov Nuclear Plant”, Branch Company  
of Rosenergoatom Concern OJSC (following  
change of name in 2010)  
Since May 2012 – Deputy General Director,  
Director of Facilities Construction Management  
– Branch Company of Rosenergoatom Concern  
OJSC  
Decorated with order metal “Services  
to Homeland” II degree (2003), order medal  
“Services to Homeland” I degree (2007).



**Aleksandr Konstantinovich  
Polushkin**

Deputy General Director,  
Director for Project Engineering

Born in 1948.  
Graduate of Bauman Moscow College  
of Technology.  
1998–2007 – Deputy General Director,  
in charge of startup of Rostov NPP, Federal  
State Unitary Enterprise Rosenergoatom  
Concern OJSC, Deputy Executive Director  
for Routine Management of Capital  
Construction Projects, Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC, First  
Deputy Director for development, in charge  
of project facilities startup in Federal State  
Unitary Enterprise Rosenergoatom Concern  
OJSC, Deputy General Director  
for development, Director for development,  
Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC.  
2007–2009 – Deputy Director,  
Atomenergoprom JSC.  
2010 – Deputy Director, Directorate for Nuclear  
Energy Complex, head of Engineering Project  
Management, Rosatom State Corporation.  
2010–2012 – Deputy General Director,  
Director for Engineering Project Management,  
Rosenergoatom Concern OJSC.  
Honorary title “Honored Power Engineer  
of the Russian Federation” (2006).



**Oleg Makarovich  
Sarayev**

Deputy General Director –  
Project Manager

Born in 1940.  
Graduate of Tomsk Polytechnic Institute.  
2002–2008 – President, Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC,  
General Director, Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC,  
Deputy General Director for innovation  
projects, Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC.  
2006–2008 – Deputy General Director,  
Director for new technology platform,  
Rosenergoatom Concern OJSC, Deputy General  
Director, Director for new technology platform,  
Energoatom Concern OJSC.  
Since 2009 – Deputy General Director, project  
manager, Rosenergoatom Concern OJSC.  
Decorated with Medal “Distinguished Work”  
(1973), Order of Red Banner (1981), order of  
Honor (1995). Laureate of USSR state prize  
(1988).



**Nikolay Nikolayevich  
Safronov**

Deputy General Director,  
Director for Special Security

Born in 1958.  
Graduate of Higher School of the USSR KGB.  
Candidate of Economics.  
1997–2008 – Deputy General Director, Deputy  
General Director for coordination  
with Countries of CIS and Eastern Europe,  
Deputy Executive Director for Security, Deputy  
General Director for Special Security, Federal  
State Unitary Enterprise Rosenergoatom  
Concern OJSC, Deputy General Director,  
Director  
for Special Security, Energoatom Concern OJSC.  
Since 2009 – Deputy General Director, Director  
for Special Security, Rosenergoatom Concern  
OJSC.



### Vladimir Alekseyevich Servetnik

Deputy General Director,  
Director for Purchases  
and Logistics, Rosenergoatom  
Concern OJSC



### Nikolay Mikhaylovich Sorokin

Deputy General Director –  
Inspector General



### Jumberi Leontovich Tkebuchava

Deputy General Director,  
Director for HR Management,  
Social and Administrative Issues



### Aleksandr Alexeevich Khvalko

Deputy General Director –  
Sales Director



### Aleksey Vitalyevich Shalimov

Chief Accountant



### Aleksandr Viktorovich Shutikov

Deputy General Director,  
Director for Production  
and Operation of Nuclear Plants

Born in 1962.  
Graduate of Moscow institute of engineering  
physics.  
2002–2004 – Deputy General Director, FGUP  
Siberia Chemical Plant.  
2005–2007 – Advisor to General Director,  
Deputy General Director for Raw Materials, First  
Deputy Head of Material Supplies Directorate,  
Deputy General Director, Techsnabexport.  
2007–2008 – Deputy General Director,  
Executive Director, Atomredmetzoloto.  
2008 – General Director, Uranium Mining  
Company.  
2008–2009 – Advisor to Chairman  
of Administration, ACB Baltic Bank  
for Development CJSC.  
2009–2011 – Advisor to General Director,  
Managing Director for Russian Projects, Director  
for Non-Uranium Projects, Atomredmetzoloto.  
Since August 2012 – Deputy General  
Director, Director for Purchases and Logistics,  
Rosenergoatom Concern OJSC.

Born in 1944.  
Graduate of A.A. Zhdanov Gorky Polytechnic  
Institute.  
Candidate of Engineering.  
2002–2006 – First Deputy General Director  
for Generation of Electrical and Thermal Energy,  
Technical Director, Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC.  
2006–2008 – Deputy General Director,  
Technical Director, Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC,  
Deputy General Director, Director of Kursk  
nuclear plant, Branch Company Energoatom  
Concern OJSC.  
2009–2011 – Deputy General Director, Director  
of Kursk nuclear plant, Branch Company  
of Rosenergoatom Concern OJSC.  
Since July 2011 – Deputy General Director,  
Inspector General of Rosenergoatom Concern  
OJSC.  
Honorary title “Distinguished Contributor  
to power industry of the Russian Federation”  
(2010).

Born in 1953.  
Graduate of Moscow Mining Institute.  
1998–2004 – Vice President, Oil Company  
Slavneft OJSC.  
2004–2006 – Advisor to President, Deputy  
General Director, Rosgosstrakh JSC.  
2006–2008 – Deputy General Director, Director  
for HR management, social and administrative  
issues, Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC.  
2008–2009 – Deputy Director,  
Atomenergoprom JSC.  
2009–2013 – Deputy General Director, Director  
for HR Management, Social and Administrative  
Issues, Rosenergoatom Concern OJSC.  
Since April, 2013 – First Deputy General  
Director, Rosenergoatom Concern OJSC.

Born in 1964.  
Graduate of Saratov Institute of Economics.  
Doctor of Economics.  
2002–2007 – head of Department for Federal  
Wholesale Energy Market and electrical power  
exports, Deputy Executive Director  
for Commerce, Deputy Executive Director,  
Sales Director, Deputy Director for Economics,  
Deputy Sales Director, Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC  
2007–2008 – Deputy General Director, Sales  
Director, Energoatom Concern OJSC.  
Since 2009 – Deputy General Director – Sales  
Director, Rosenergoatom Concern OJSC.

Born in 1975.  
Graduate of Moscow State University of Traffic,  
Moscow National Correspondence School  
of Management (MBA).  
1999–2010 – senior specialist of accounting,  
manager of general accounting group, head  
of section – senior accountant, Office  
for Business and Tax Accounting,  
Techsnabexport OJSC.  
2010–2012 – Deputy Accountant General,  
manager of Directorate for Business and Tax  
Accounting, Techsnabexport.  
Since August 2012 – Accountant General,  
Rosenergoatom Concern OJSC.

Born in 1961.  
Graduate of Tomsk Polytechnic Institute.  
Candidate of Engineering.  
1991–2009 – shift engineer, “Balakovo nuclear  
plant” Branch Company of Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC,  
Deputy Chief Engineer for operation, “Balakovo  
nuclear plant” Branch Company of Federal State  
Unitary Enterprise Rosenergoatom Concern  
OJSC, Chief Engineer, “Balakovo nuclear plant”  
Branch Company of Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC.  
Since 2009 – First Deputy Director  
for production and operation of nuclear plants,  
Deputy General Director, Director  
for production and operation of nuclear plants  
in Rosenergoatom Concern OJSC.



### Viktor Igorevich Ignatov

Deputy General Director,  
Director, "Balakovo nuclear plant",  
Branch Company  
of Rosenergoatom Concern OJSC



### Mikhail Vasilyevich Bakanov

Deputy General Director,  
Director, "Beloyarsk Nuclear Plant",  
Branch Company  
of Rosenergoatom Concern OJSC



### Farit Timurovich Tukhvetov

Deputy General Director, Director,  
"Bilibino Nuclear Plant",  
Branch Company  
of Rosenergoatom Concern OJSC



### Mikhail Yuryevich Kanishev

Deputy General Director,  
director of Kalinin Nuclear Plant –  
Branch Company  
of Rosenergoatom Concern OJSC



### Vasily Vasilyevich Omelchuk

Deputy General Director, Director,  
"Kola Nuclear Plant",  
Branch Company  
of Rosenergoatom Concern OJSC



### Vyacheslav Aleksandrovich Fedyukin

Deputy General Director,  
Director, "Kursk Nuclear Plant",  
Branch Company  
of Rosenergoatom Concern OJSC

Born in 1951.  
Graduate of Tomsk Polytechnic Institute.  
Candidate of Engineering.  
2005–2008 – Deputy General Director, Director  
Branch Company of Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC  
"Balakovo Nuclear Plant", Deputy General  
Director, Director "Balakovo Nuclear Plant",  
Branch Company of Rosenergoatom Concern  
OJSC.  
Since 2009 – Deputy General Director, Director  
"Balakovo nuclear plant", Branch Company  
of Rosenergoatom Concern OJSC.  
Decorated with Order "Friendship of Peoples"  
(1994), order medal "Services to Homeland" II  
degree (2001).

Born in 1956.  
Graduate of Urals Polytechnic Institute.  
2002–2009 – Chief Engineer, "Beloyarsk  
Nuclear Plant" Branch Company of Federal  
State Unitary Enterprise Rosenergoatom  
Concern OJSC, Chief Engineer, "Beloyarsk  
Nuclear Plant" Branch Company of Energoatom  
Concern OJSC, Chief Engineer, "Beloyarsk  
nuclear plant", Branch Company  
of Rosenergoatom Concern OJSC.  
Since 2010 – Deputy General Director, Director,  
"Beloyarsk nuclear plant", Branch Company  
of Rosenergoatom Concern OJSC.

Born in 1954.  
Graduate of Urals Polytechnic Institute.  
Candidate of Engineering.  
1997–2007 – Director of Moscow Regional  
Centre, World Association of Nuclear Operators  
(MC WANO).  
2007–2008 – Deputy General Director,  
Director, Branch Company of Federal State  
Unitary Enterprise Rosenergoatom Concern  
OJSC "Bilibino nuclear plant", Deputy General  
Director, Director, "Bilibino nuclear plant"  
Branch Company of Energoatom Concern OJSC.  
Since 2009 – Deputy General Director, Director,  
"Bilibino nuclear plant", Branch Company  
of Rosenergoatom Concern OJSC.  
Honorary title "Distinguished Contributor  
to power industry of the Russian Federation"  
(1995), Decorated with order metal "Services  
to Homeland" II degree (2010).

Born in 1961.  
Graduate of Moscow institute of engineering  
physics.  
1998–2005 – shift engineer, senior engineer,  
reactor control engineer, shift manager  
of reactor shop, Kalinin Nuclear Plant - Branch  
Company of FGUP Concern Rosenergoatom  
OJSC.  
2005–2012 – chief engineer, Kalinin Nuclear  
Plant - Branch Company of Rosenergoatom  
Concern OJSC.  
Since April 2012 – Deputy General Director –  
Director, Kalinin Nuclear Plant, branch company  
of Rosenergoatom Concern OJSC.  
Honorary title "Honored Power Engineer  
of the Russian Federation" (2011).

Born in 1953.  
Graduate of Odessa Polytechnic Institute.  
1994–2008 – Chief Engineer, "Kola Nuclear  
Plant", Branch Company of Federal State Unitary  
Enterprise Rosenergoatom Concern OJSC, Chief  
Engineer, "Kola nuclear plant", Branch Company  
of Energoatom Concern OJSC.  
Since 2009 – Deputy General Director, Director,  
"Kola Nuclear Plant", Branch Company  
of Rosenergoatom Concern OJSC.  
Decorated with order metal "Services  
to Homeland" II degree (2000), order medal  
"Services to Homeland" I degree (2006).

Born in 1962.  
Graduate of Kursk Polytechnic Institute.  
2006–2008 – leading power unit control  
engineer at Kursk nuclear plant, shift engineer  
of power unit at nuclear Kursk nuclear plant,  
head of reactor room No. 2, Kursk nuclear plant.  
2009–2010 – Deputy Chief Engineer for  
engineering support and upgrade, Kursk nuclear  
plant.  
Since 2011 – First Deputy Director, Kursk  
nuclear plant.  
Since August of 2011 – Deputy General Director,  
Director, "Kursk nuclear plant", Branch Company  
of Rosenergoatom Concern OJSC.



**Vladimir Ivanovich  
Pereguda**

Deputy General Director,  
Director, "Leningrad Nuclear  
Plant", Branch Company  
of Rosenergoatom Concern OJSC



**Vladimir Petrovich  
Povarov**

Deputy General Director,  
Director, "Novovoronezh Nuclear  
Plant" JSC, Rosenergoatom  
Concern OJSC



**Andrey Aleksandrovich  
Salnikov**

Deputy General Director –  
Director, Rostov Nuclear Plant -  
Branch Company  
of Rosenergoatom Concern OJSC



**Andrey Yuvenalyevich  
Petrov**

Deputy General Director, Director,  
"Smolensk Nuclear Plant",  
Branch Company  
of Rosenergoatom Concern OJSC



Born in 1958.  
Graduate of Tomsk Polytechnic Institute.  
2005–2009 – Deputy Chief Engineer  
for retrofitting, "Kursk Nuclear Plant", Branch  
Company of Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC, Deputy  
Chief Engineer for engineering support  
and upgrade, "Kursk nuclear plant", Branch  
Company of Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC, Deputy Chief  
Engineer for engineering support and upgrade,  
"Kursk nuclear plant", Branch Company  
of Energoatom Concern OJSC.  
2009–2011 – First Deputy Director, "Kursk  
nuclear plant", Branch Company  
of Rosenergoatom Concern OJSC.  
Since 2010 – Deputy General Director, Director  
"Leningrad nuclear plant", Branch Company  
of Rosenergoatom Concern OJSC.

Born in 1957.  
Graduate of Moscow Energy Institute.  
Candidate of Engineering.  
2001–2008 – Deputy Chief Engineer for safety  
and reliability, Volgodonsk nuclear plant, Branch  
Company of Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC.  
2008–2009 – First Deputy Director,  
Novovoronezh Nuclear Plant, Branch  
Company of Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC, First Deputy  
Director, Novovoronezh Nuclear Plant, Branch  
Company of Energoatom Concern OJSC.  
Since 2009 – Deputy General Director, Director,  
Novovoronezh NPP, Branch Company  
of Rosenergoatom Concern OJSC.  
Decorated with order metal "Services  
to Homeland" II degree (2003).

Born in 1960.  
Graduate of Tomsk Polytechnic Institute.  
2001–2006 – Deputy Chief Engineer  
for operation, Volgodonsk Nuclear Plant  
- Branch Company of FGUP Concern  
Rosenergoatom Concern OJSC.  
2006–2010 – Chief Engineer, Volgodonsk  
Nuclear Plant - Branch Company  
of Rosenergoatom Concern OJSC.  
2010–2012 – Chief Engineer, Rostov Nuclear  
Plant, Branch Company of Rosenergoatom  
Concern OJSC (after renamed in 2010).  
Decorated with order metal "Services  
to Homeland" II degree (2010).

Born in 1963.  
Graduate of Ivanovo Energy Institute.  
Candidate of Engineering.  
2001–2006 – Chief Engineer, "Volgodonsk  
Nuclear Plant", Branch Company of Federal  
State Unitary Enterprise Rosenergoatom  
Concern OJSC.  
2006–2008 – Deputy General Director,  
Director, "Smolensk Nuclear Plant", Branch  
Company of Federal State Unitary Enterprise  
Rosenergoatom Concern OJSC, Deputy General  
Director, Director, "Smolensk Nuclear Plant",  
Branch Company of Energoatom Concern OJSC.  
Since 2009 – Deputy General Director, Director,  
"Smolensk Nuclear Plant", Branch Company  
of Rosenergoatom Concern OJSC.  
Decorated with order metal "Services  
to Homeland" II degree (2003). Honorary title  
"Distinguished Contributor to power industry  
of the Russian Federation" (2009).

## 4.2. CORPORATE MANAGEMENT SYSTEM

### Principles of Corporate Management

Rosenergoatom adheres to the fundamental principles of corporate management as laid out by the Organization for Economic Co-operation and Development, and observes the principles set forth in the Russian Corporate Conduct Code:

- protection of stockholder rights;
- equal treatment of stockholders;
- observing the legally-protected rights of interested parties;
- timely and accurate disclosure of information on all material issues related to the Concern;
- efficient control of the Board, and accountability of the Concern's management before its stockholders.

### Report on the Board's Work on Priority Activities

In conformity with the "Corporations" Federal Act, No. 208-FZ of December 26, 1995, (Version of December 29, 2012), and the Concern's Articles of Incorporation, one of the duties of the Board is to determine priority activities for the Concern.

During 2012, the Board convened for 35 meetings. The most important decisions of in the reporting year were:

- decisions to create branch companies, including outside of Russia;
- increasing the Concern's registered capital; an additional issue of securities to mobilize funds from the federal budget to finance activities for the development of the nuclear power complex;
- decisions to withdraw from the registered capitals of other businesses.

The Concern's performance is seen as part of the development strategy for the entire nuclear sector in the Russian Federation.

The Concern's priority objectives are to increase its share and increase the efficiency of nuclear power generation in Russia, closing the nuclear fuel cycle, and to continue international expansion, including services to VVER power units built abroad.

The following activities were used to achieve the above objectives:

1. The Concern created "Facilities Construction Management" – a branch company that monitors capital construction projects from approval of the project document pack, to issue of the construction license, to the successful generating start of the power unit for nuclear plant power units; and with other objects, from the time when a permit is issued to put the facilities into operation.
2. To build a technology basis for innovative development, to focus efforts and science and technology resources, to ensure that research is oriented towards the end goal, to support R&D and administrative activities addressing problems that arise at each stage of the life cycle, and to make power units safer, more reliable and cost efficient, the Board decided to create the "Science and Engineering Centre" Branch Company.
3. In accordance with the General Layout Diagram for facilities of the electric power sector through to 2030, and the roadmap to put nuclear power units into operation in Russia through to 2030,

KER achievement by the Concern's General Director after 2012

#### Performance indicator

EBITDA

Progress of investment programme approved as year began, in physical units

Progress of cost plan under Rosenergoatom's investment programme, as year began

Total electrical power generated

Production

Limits on cost growth (without depreciation) to last year's level (reduced value)

Extent of personnel involvement

No personnel exposure incidents above 50 mSv/year

LTIFR against previous three-year period

No incidents above Level 2 on the INES scale

to make Nizhny Novgorod Oblast and Vladimir Oblast more power-independent, and to stop shortages of electrical capacity and power on the Nizhny Novgorod power grid, the Board of Directors decided to create the "Directorate of Nizhny Novgorod Nuclear Plant Construction Project" – a branch company.

4. As part of activities to implement the Rosatom State Corporation's Regional action plan in Central and Eastern Europe, the consortium formed by Rosenergoatom and Electricite de France (EDF) after a public international tender won the contract for comprehensive examination of the actual condition and to estimate residual resources of the equipment and structures in power units No. 5 and 6 of NPP Kozloduy in the Republic of Bulgaria. In the course of the project, the Board decided to establish Resources-Bulgaria FIP as a branch company in Bulgaria to ensure proper administration of the project.

As one of the Concern's priority objectives for 2012, optimization of the Concern's corporate

circuit sought to implement a range of activities that discontinued involvement in entities pursuing non-core activities, or not engaged in active business, as well as in entities where the Concern's holdings are of a minority nature thus disabling enforcement of industry-level corporate management standards accepted in the sector.

As decided by the Board, the Concern withdrew from 18 entities as part of the effort to optimize its corporate structure.

### Report on Dividends Paid

By resolution of the General Meeting of Stockholders of Rosenergoatom (Minutes No. 2 of June 29, 2012), no dividends were declared nor paid on the Concern's common stock after 2011.

### Information about Major Transactions, and Transactions of the Concern

None of the transactions in 2012 qualified as major transactions or transactions of Concern subject to approval by the bodies of management of Rosenergoatom Concern OJSC.

During 2012,  
the Board  
convened for

35

meetings

**Criteria and Amounts of Remuneration Paid to the Members of the Board**

As regulated in par. 12.10 of the Articles of Incorporation of Rosenergoatom, if decided by the General Meeting, the Members of the Board of Rosenergoatom, while in office, may be entitled to remunerations and reimbursement of costs related to their functions as the Board Members. Such payable amounts must be approved by resolution of the General Meeting of Stockholders.

In 2012, no remuneration was paid to the Board Members of Rosenergoatom Concern OJSC.

**Criteria and Amounts of Remuneration Paid to the General Director and the Directorate**

The General Director's remuneration is regulated in the employment contract, payable on approval by the Board of Directors.

The variable part of remuneration depends on achieved key efficiency indicators (KER), set for the Concern as a whole, and included in the indicator matrix of the Concern's General Director.

The KER for Rosenergoatom State Corporation are parsed and translated to executives of every level.

Total remuneration paid in 2012 to key executive personnel amounted to 466.6 mln rubles.

Total performance ratio after 2012 adjusted by weight factors was 108.94%.

Total performance ratio after 2012 adjusted by weight factors was

108.94%



**4.3. SYSTEM OF KEY EFFICIENCY RATIOS. EMPLOYEE EVALUATION AND REMUNERATION**

The procedure to remunerate employees in Rosenergoatom Concern OJSC is regulated in corporate acts and regulations on payments to employees in the headquarters and in branch companies.

The amount of remuneration depends on the position level (with differentiation factors), type of job functions, and the level of assigned key efficiency ratios (KER).

The minimum paycheck for an employee in a branch company of Rosenergoatom in 2012 was: before July 1, 2012 – 6,800 rubles; after July 1, 2012 – 7,540 rubles (compared to the federally regulated minimum wage of 4,611 rubles).

The working efficiency evaluation system for executive officers is based on a system of annual assessment (which, among other

things, rests on achievement of their key efficiency ratios). Detailed information on how the KER system is used as incentives for the Concern's executives and other employees is available in par. 6.3.

The system of incentives is based on bonuses for achieved KER, where each ratio has a weighted value assigned against the total of bonuses. The total amount of bonuses is found from the annual amount of base salaries for each position, adjusted by a specific coefficient; the top limit depends on the employment position level, and can be as high as 260% if the target KER level is achieved. Bonuses are only paid when threshold values of the KER are achieved, also found from the individual KER matrix. If achievements excel the target, the bonus ratio can be adjusted up.

The minimum paycheck for an employee in a branch company of Rosenergoatom in 2012 was:

before July 1, 2012 –

6,800 rubles;

after July 1, 2012 –

7,540 rubles;

Amount of remuneration by employee categories, 000 rubles/year

Employee category	Base salary	KER achievement bonus
<b>2010</b>		
Managerial	393.6 up	137.7 up
Specialists	200 up	40 up
Shop floor	69.6 up	7 up
<b>2011</b>		
Managerial	393.6 up	137.7 up
Specialists	200 up	40 up
Shop floor	75.6 up	7.5 up
<b>2012</b>		
Managerial	396.7 up	139.9 up
Specialists	203.9 up	41.5 up
Shop floor	86.0 up	8.6 up



Novovoronezh nuclear power plant

## 4.4. INTERNAL CONTROL AND AUDITING

SEEKING HIGHER BUSINESS EFFICIENCY, ROSENERGOATOM CONCERN OJSC CONTINUES TO IMPROVE ITS INTERNAL CONTROL AND AUDITING, AND ACTS TO COMBAT THEFT AND FRAUD. IN 2012, ROSENERGOATOM CONCERN OJSC REDUCED ITS RISKS OF UNFAIR PRACTICES, IMPROVED ITS FINANCIAL DISCIPLINE, AND PREVENTED ATTEMPTS TO SUPPLY COUNTERFEIT PRODUCTS TO ACTIVE NUCLEAR PLANTS AND CONSTRUCTION PROJECTS.

In 2012, Rosenergoatom's Department for internal control and auditing had

27

control activities

13 & 14

were schedule  
were extra-ordinary

In 2012, Rosenergoatom's Department for internal control and auditing had 27 control activities (of which 14 were scheduled and 13 were extraordinary).

The main conclusions from the industrial safety assurance audit were confirmed when the new concept of government regulation in industrial safety was stated at the February 2013 meeting of the Panel for Development of the Fuel and Energy Complex and Environmental Safety.

After a comprehensive audit of the efficient use of funds on nuclear plant construction projects, specific proposals were submitted to the Rosenergoatom management and Rosatom State Corporation on ways to reduce existing risks. Construction of new nuclear power units is a priority direction for the Concern, as it combines considerable economic, public image-related and political interests of the Russian Federation. Therefore, decisions by Rosatom State Corporation and Rosenergoatom Concern OJSC to make the work of monitoring agencies more intensive and to launch a range of control activities ensuring efficient use of funds in capital construction of nuclear plants are addressing a strategic goal in the sector.

Control activities of 2012 resulted in 189 instructions, with 111 administrative-technical activities planned. Changes were made to 17 corporate regulations. 97 employees were disciplined, including 30 top executives.

The Concern's branch companies received 51 control activities with assistance from senior auditors and internal controllers. After the audits, auditors issued 258 instructions, planned 216 administrative-technical activities, made changes to 95 regulatory documents, and disciplined 82 employees.

In 2012, Rosenergoatom created its Arbitration Panel, the function of which is to enforce the law and help find out-of-court settlements to order-related controversies. Since it was established, the panel has considered 77 complaints filed by parties to purchasing tenders hosted by the Concern, its subsidiaries and controlled entities. In 46.7% of the claims, petitioners' arguments were confirmed in full or in part.

The Concern's thorough work on internal control and auditing received international acclaim when the Institute of Certified Financial Managers awarded it the prize in the nomination "2012 Most Efficient Corporate Control and Auditing System" in London.

In 2013, along with traditional tasks such as control of efficient resource use, detection and analysis of risks that can impact the goals of the Concern and its branch companies in financing, business, and management, the Department will also have to deal with a range of serious objectives and functions that require extra consideration, such as: for 2013, a review of arbitration practices is to be prepared, and proposals offered to the General Director on ways to improve purchasing procedures.

Under an Executive Order to Rosatom State Corporation, materials are now being prepared to organize and support audits by law enforcement, auditors, and supervisory agencies in Rosenergoatom Concern OJSC.

In 2012, the Concern launched a comprehensive programme to combat corruption and theft in the nuclear sector during 2012–2013. As part of the programme, a mechanism is developed to examine and coordinate individuals to fill corruption-risk positions.

There were audits to check 985 bidders in purchasing procedures for compliance under the United Industry-Level Purchasing Standard of Rosatom State Corporation, including the corruption component.

One of the key directions in combating corruption is to prevent and identify counterfeit product supplies to active nuclear plants and construction projects. For this purpose, Novovoronezh NPP hosted a field meeting of heads of business security managers in Rosenergoatom Concern OJSC who met representatives of major equipment manufacturers in August 2012. The meeting worked out general approaches to assessing potential security threats from supplies of counterfeit products, and coordinated a multi-party draft agreement on cooperation to protect nuclear plants against counterfeit products.

In 2012, there were reports on 8 cases of counterfeit products, used or otherwise sub-standard products, and products of illegal origin intended to be supplied to Russian nuclear plants, while 46 attempted supplies of counterfeit products and forged-document consignments to the nuclear plants were prevented.

To prevent delivery of counterfeit and sub-standard products to nuclear plants, experimental operation of a website was launched with a database that accumulates information about such attempts. The website is scheduled for commercial operation and will become accessible to the general public in mid-2013.

There were audits to check

985

bidders in purchasing procedures for compliance under the United Industry-Level Purchasing Standard of Rosatom State Corporation, including the corruption component.

## 4.5. RISK MANAGEMENT

RISK MANAGEMENT IN ROSENERGOATOM CONCERN OJSC IS DONE AS PART OF THE CORPORATE RISK MANAGEMENT SYSTEM OF ROSATOM STATE CORPORATION (CRMS) THAT MUST INTEGRATE RISK MANAGEMENT EXPERIENCES GAINED BY THE ENTITIES WITHIN ROSATOM STATE CORPORATION INTO THE CORPORATE SYSTEM THAT WILL ENSURE COMPREHENSIVE MANAGEMENT OF ENGINEERING, TECHNOLOGICAL, OPERATING, INVESTMENT, AND OTHER RISKS.

Goals and objectives of risk management are:

- support for the implemented strategy of Rosatom State Corporation OJSC through risk management;
- timely identification of emerging risks, evaluation and mitigation of threats able to impact the Concern's performance;
- providing information support to the Concern's management in executive decisions.

The Concern has an active process underway to organize risk-management activities systematically, while distribution of risks among the parties (risk owners) is not changed as an efficient method to reduce the risk. This process has identified key risks, activities to manage which are determined and implemented by the Concern's units according to their core business directions.

To minimize possible financial damage from uncontrollable risks, the Concern purchases comprehensive insurance to insure its interests in various operations.

As an operator, under the Use of Nuclear Energy Federal Act, Rosenergoatom Concern OJSC assumes total responsibility and ensures nuclear and radiation safety for all stages of the nuclear plant life cycle. Therefore, the Concern has achieved a high level in management of nuclear and radiation risks, environmental and physical safety.

### Risk Management in Action

During 2012, the Concern's dangerous production facilities had no industrial emergencies.

In 2012, as required by effective fire-fighting regulations, there were more than 180 fire safety exercises.

Compliance with instructions issued by the Federal Fire Safety Service was 100%.

As part of ensuring nuclear plant safety, the Concern pays a great deal of attention to industrial safety of dangerous production facilities that run as components of the NPP. The basis of the industrial safety management system in the Concern is organization and practice of production control over industrial safety. Detailed information about the production control over industrial safety is provided in Section 3.3 "Safety of Russian NPP. Radiation impact on personnel and citizens".

Special safety measures, including anti-terrorist resistance of nuclear plants with robust physical protections at every stage of the life cycle (project design, construction, operation, decommissioning) as nuclear-dangerous objects, integrity of the state secrets, commercial and executive secrets, corporate business security while enforcing the law and protecting the Concern's cor-

Key risks, and measures to prevent/minimize them

Risk	Description	Measures to prevent/minimize
<b>Specific risks</b>		
1. Risks of nuclear, radiation, technical, fire, environmental, and physical safety	Risk of serious emergency/incident at the NPP	Programmes are approved annually to ensure: nuclear, radiation, technical, and fire safety, and NPP physical protection. Results of risk management are covered in detail in Section 3.3 "Ensuring Safety of Russian NPPs. Radiation impact on personnel and citizens"
2. Risk during nuclear plant decommissioning	Risk of delayed radiation safety of finally shutdown power units	For decommissioning of nuclear units, corresponding programmes are prepared (no units were decommissioned in 2012). In 2012, Rosenergoatom created a branch company "Experimental demonstration engineering centre for decommissioning"
3. Operating risks	Risks of lower generation from equipment downtime or unavailability to pick load due to internal and external factors	The nuclear plant upgrade programme underway (for 5 years, updated annually), and other activities, with progress and results as described in Section 3.2 "Generation of electric power by Russian nuclear plants. Generating capacity". Once implemented, the upgrade programme increases the installed capacity use ratio: in 2012, growth in equivalent capacity of active plants was 132 MW; downtime during scheduled and preventive repairs was reduced by 107 days. The Concern successfully fulfilled the FTS balance in 2012 to 100.8%, with 2.7% growth of electrical power generation compared to 2011.
4. Commodity risks	Risks of changing prices for electrical power and capacity produced by NPPs, changes in regulations on markets of electrical power and capacity	Market monitoring and forecasting; joint development of market models. The risk is external, with limited control ability. Activities used enable planning of the Concern's operations adjusting them to the changing situation; this ensures financial stability for the company.
5. Risks of higher costs	Risk of rising costs to produce electrical power	Optimizing costs, work with regulatory agencies. Monitoring production and financial indicators. The Concern's cost control programme achieved its target indicators for cost cutting in 2012.
<b>General risks</b>		
6. Financial risks (credit risk, interest rate risk, risk of reduced government financing, currency exchange risk, liquidity risk)	Risk of counterparts defaulting or failing to perform on time. Risk of unfavorable change of interest rates, mismatch of interest income/expense in time. Risk of inadequate funds from the federal budget. Risk of cash shortage to meet the Concern's liability	Compliance with financial Rosatom State Corporation's policy; active panel for accounts receivable/payable, panel for credit risks. In 2012, there were material loss from financial activities

Key risks, and measures to prevent/minimize them

Risk	Description	Measures to prevent/minimize
<b>General risks</b>		
7. Operation risks	Reputation risks. Risk of skilled personnel shortages	Monitoring the information space. Openness and keeping the public aware of NPP operation. More details on the activities available Section 6.8 "Interaction with stakeholders".
8. Investment risks	Risk of deadline delay with nuclear plant construction in the Russian Federation, and risk of cost hikes	Monitoring implemented investment programme to enforce regulations of the Concern, Rosatom State Corporation, and RF Ministry of Energy. Results of risk management are covered in detail in Section 5.2 Investments.

porate interests, is a priority for a corporate operator. Detailed information about the system to prevent and eliminate extraordinary situations is available in Section 3.3 "Safety of Russian NPPs. Radiation impact on personnel and citizens".

The active nuclear plants have created: systems of communication, alerting, and information support; coordination services; standing executive bodies; routine management bodies; forces and equipment to contain and eliminate emergencies. Detailed information about the system to prevent and eliminate emergencies is available in Section 3.3 "Safety of Russian NPPs. Radiation impact on personnel and citizens".

All nuclear plants are engaged in systematic activities that assess the achieved level of safety culture, and build commitment among personnel to safety culture principles. The topical plans of training programmes for specific positions, and qualification support programmes include a Section on "Safety culture". Training and methodological materials on safety culture have been prepared. Training in disciplines of the "Safety culture" course is provided when personnel are trained for a position, and then retrained.

Priority plans for risk management in 2013 are determined by the Concern's high requirements for safety and operation stabil-

ity, which in turn creates a basis for good financial and business performance, including:

- improvement of the operation safety indicator system in the nuclear plants of Rosenergoatom Concern OJSC;
- developing an operator entity's guidance "Main Provisions on Analysis of Trends and Event Triggers in Nuclear Plant Operation";
- putting the prototype of Rosenergoatom Concern OJSC Industry-level system of diagnostics into commercial operation;
- deploying the software-hardware set of the automatic control and protection system for the turbine at power unit No. 2 of Smolensk NPP;
- deploying the united information system for non-compliance control as new nuclear power units are put into operation;
- concluding analysis of unforeseen emergencies under trigger events caused by high-intensity external impacts of natural and artificial origin, for nuclear plants with RBMK;
- continuing systematic analysis of original engineering requirements, specifications, and requests for equipment supplied to nuclear plants, to increase their reliability, quality, and availability;
- implementing the investment project to extend the service life of power units No. 3 and 4 of Kursk NPP, No. 1-4 of Balakovo NPP, and No. 1 and 2 of Kalinin NPP;



- developing, verifying, and approval by Rostekhnadzor, a Calculation Methodology for strength and residual resource of VVER-1000 reactor units with service life extended to 60 years.

The plan for 2013 is to continue work to develop the risk management system, and to integrate the system with the existing control processes, primarily with strategic and mid-term planning and budgeting.

## 4.6. PROPERTY MANAGEMENT

As of December 31, 2012, the Concern actually used land in 816 plots with a total area of 21,269 hectares, of which:

- 552 land plots with a total area of 6,718 ha were legally owned by the Concern, including 48 plots that emerged during the 12 months of 2012 as previously registered ones were divided;
- 264 plots with a total area of 14,551 ha, rented by the Concern, including 109 plots leased during the reporting period (of which 8 plots were at the stage of government registration).

The title was registered to 552 plots.

Cadastre registration had been done for 815 plots, including by declaring forest lands.

Land planning is done, with subsequent cadastre registration of each 1 plot.

For 808 plots, documents have been issued as title of ownership and/or lease.

As of December 31, 2012 the Concern owned 7,489 units of real estate, of which:

- 7,350 units were held as registered title by the Concern;
- 77 units were at the stage of government registration;
- 28 units were at the stage of cadastre chart preparation;
- 34 units were at the stage of document processing with capital construction services.

## 4.7. QUALITY MANAGEMENT

AT ALL LIFE CYCLE STAGES OF ITS NUCLEAR PLANTS, ROSENERGOATOM CONCERN OJSC DETERMINES ITS QUALITY POLICY BASED ON ITS MAIN OPERATION GOALS: ECONOMICALLY EFFICIENT GENERATION, AND RELIABLE SUPPLY OF ELECTRICAL AND THERMAL POWER TO USERS, WITH NUCLEAR AND RADIATION SAFETY AS UNCONDITIONAL PRIORITIES.

The Concern's quality management rests on ISO series 9000 standards, the regulatory document NP-011-99 "Requirements to Quality Assurance Programme for Nuclear Plants", and the provisions of IAEA standards for nuclear plant safety, GSR series (General Safety Requirements).

The results of quality management efforts in 2012 were:

- confirmation of effective quality management system certificates issued to the Concern, No. TIC 15 100 128 018 (certification agency TÜV Thüringen e.V.) and No. ROSSRU.0001.01AE00.77.11.0030 (certification agency ANO Atomcertificat);
- developing the quality system regarding the effect of the Declaration on Quality Policy, designating a top management representative on quality, forming and approval of the registry of employees in charge of quality in structural subdivisions of the Concern's central apparatus;
- audits of equipment manufacturers, and audits of incoming equipment control organization at the Concern's nuclear plants, and construction quality of nuclear plant projects built by general contractors;

- progress inspections of NPQAP (O), NPQAP (E), and compliance under GOST R ISO 9001-2008 of Balakovo NPP, Beloyarsk NPP, Kola NPP, Kursk NPP, Leningrad NPP, Smolensk NPP and Kalinin NPP;
- developing and enacting ORS "Technical Requirements for Operator Entity" (21 product range groups for equipment, to be used in tenders for equipment purchased by nuclear plants);
- developing and implementation of an action plan to improve the quality of equipment delivered to active nuclear plants and construction projects at the stages of purchasing and manufacturing during 2012–2013.

### Main plans for quality management in 2013

Confirming and expanding the scope of application of the quality management system certificates issued to Rosenergoatom by TÜV Thüringen e.V.) and ANO Atomcertificat for processes of project design and nuclear plant construction.

## 4.8. PURCHASE MANAGEMENT

In Rosenergoatom Concern OJSC as a constituent of Rosatom State Corporation, purchasing is regulated by Rosatom State Corporation's Uniform industry-level standard of purchasing (Purchasing Regulation or UIPS), as approved by the Rosatom State Corporation Supervisory Council resolution No. 37 of February 7, 2012, the modified version as approved by Rosatom State Corporation Supervisory Council, resolution No. 46 of February 15, 2013,

Starting in 2013, Rosenergoatom Concern OJSC makes its purchases as required under Federal Act No. 223-FZ of July 18, 2011 "Purchasing of Products, Works, and Services by Specific Corporate Entities". The UIPS seeks to promote fair-play competition, and allows

Further evolution of the quality system towards building and implementation of a uniform technical policy in quality.

In addition, the plan for 2013 is to implement a programme for higher quality of equipment delivered to active nuclear plants and construction projects at the stages of purchasing and manufacturing during 2012–2013, with the following results expected:

- updating the regulatory basis for equipment quality assurance in nuclear plants;
- developing and enactment of guiding documents to regulate certification of purchased equipment;
- providing analytical support to purchase centres (the Concern's head office, nuclear plants, general contractors) by keeping quality database on manufactured equipment;
- 24 audits to examine manufacturers of equipment critical for nuclear plant safety.

no preferences for local suppliers. Analysis of purchasing procedures during 2012 demonstrated that the share of purchases from local suppliers for active nuclear plants varied, and averaged 20% of total purchases in branch companies. (Local suppliers are understood as entities that mainly operate in the regions where the nuclear plants are located).

Pursuant to Federal Act No. 223-FZ of July 18, 2011 "Purchasing of Products, Works, and Services by Specific Corporate Entities" and the standard that regulates disclosure of information on goods, works or services to be purchased, such reports are published on the Internet through the Federal Government's website [www.zakupki.gov.ru](http://www.zakupki.gov.ru), and

on the corporate website on purchasing in the nuclear sector: [www.zakupki.rosatom.ru](http://www.zakupki.rosatom.ru); thus a wide range of people are able to join the procedure.

Pursuant to Part 8 Article 3 of Federal Act No. 223-FZ of July 18, 2011 "Purchasing of Products, Works, and Services by Specific Corporate Entities", the Russian Federal Government has the right to give preference to products, works and services, manufactured or performed or provided by Russian residents, rather than by foreign residents, always observing the customs law of the Customs Union and international treaties to which the Russian Federation is party, and always considering the specifics of small and medium businesses involved in purchasing.

In 2012, the Concern held 15,184 purchasing procedures for a total of 206,007 mln rubles.

The savings from competitive purchasing procedures amounted to 10,338 mln rubles (or 7.7%).

To raise efficiency in purchasing, it is ensured that the related procedures are timely. The respective key efficiency ratio was added to the list of key efficiency ratio for heads of purchasing centres established in the Concern's branch companies.

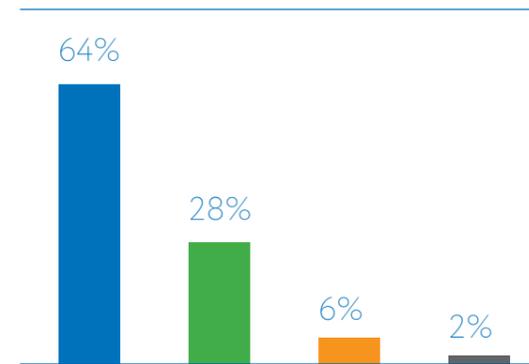
After 2012, efficiency ratios for purchasing were on target.

The 2013 annual purchasing programme was published on the purchasing website of Rosatom State Corporation.

As part of purchasing, the Concern's key objectives for 2013 include:

- reducing the number of adjustments in the annual purchasing programme;
- timely conduct of purchasing procedures – 95%;
- share of public purchasing procedures – 80%; – share of purchasing procedures where complaints about the purchase host are confirmed as justified – not to exceed 2%.

Results of the annual purchasing programme in 2012 by types of purchasing procedures

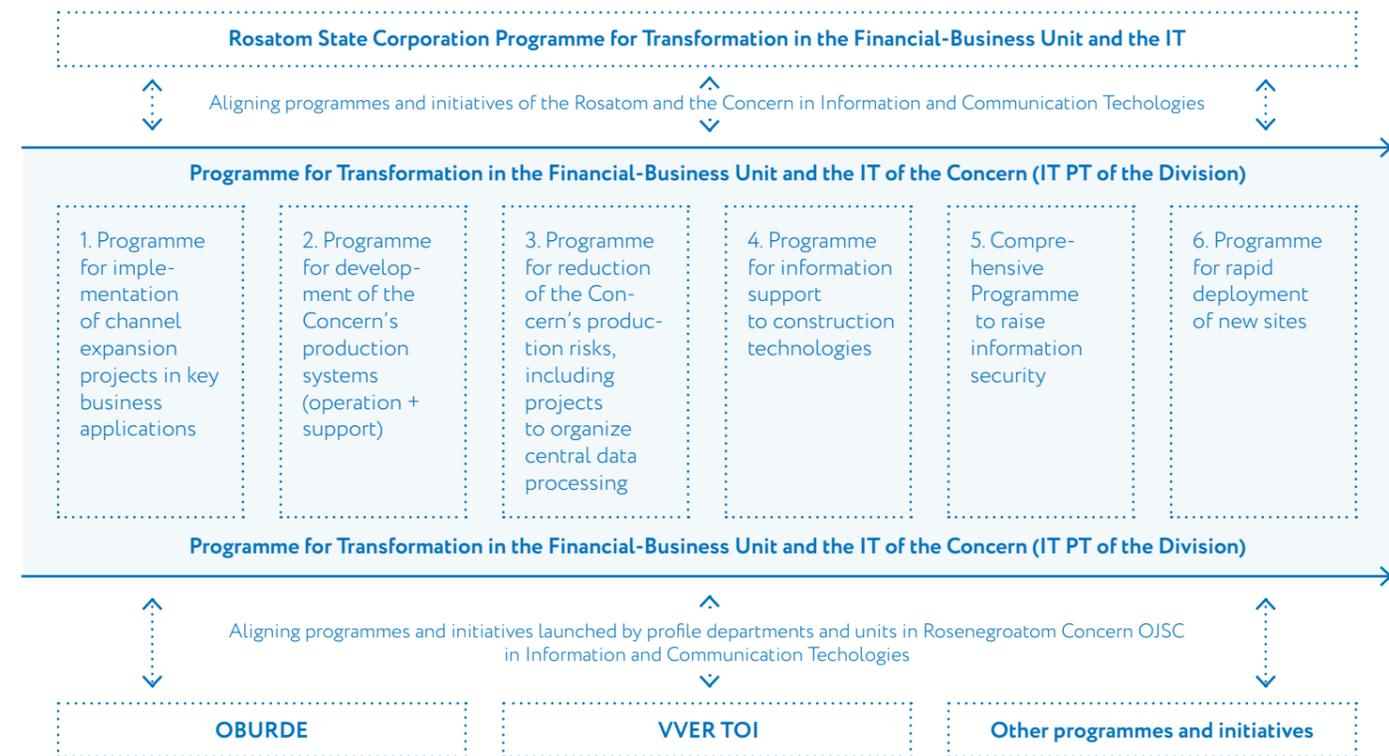


Item	Number of procedures	Amount, million rubles	%
Open purchasing procedures	11,550	131,331	64
Closed purchasing procedures	109	5,002	2
Sole supplier (obvious)	1,258	56,799	28
Sole supplier (other)	2,267	12,885	6
<b>TOTAL</b>	<b>15,184</b>	<b>206,007</b>	<b>100</b>

## 4.9. INFORMATION TECHNOLOGY

INFORMATION TECHNOLOGIES HAVE THE EVER MORE IMPORTANT ROLE IN OPERATIONS OF ROSENERGOATOM CONCERN OJSC. TODAY, THEY ARE PART OF THE BASIC PRODUCTION CYCLE AND IT HAS IMMEDIATE INFLUENCE ON RELIABILITY AND RESULTS OF BUSINESS PROCESSES.

Progress with the Programme to transform FBU and IT



During 2012, the development of information technology in Rosenergoatom Concern OJSC was oriented towards activities under the Project Programme to transform the FBU (financial and business unit) and IT in Rosatom State Corporation, and to ensure stable operation of active systems of IT, communications, and information security. Serious effort was exerted to systematically organize the management of information and communications technologies (ICT), and ensure their further development; one of

the results was creation of the ICT mid-term development concept.

The Concern's strategic needs in ICT are formalized as development target programmes that set forth the directions to implement ICT projects in the mid-term. Organizing development in ICT through target programmes will ensure a more systemic and balanced evolution of ICT within the Concern.

By regular adoption of IT in its business processes in 2012, the Concern addressed the following top priorities:

- **IT-support for capital construction processes**, including:
  - enabling control of nuclear plant building through time schedule monitoring during construction, tied in with targets and actual performance;
  - enabling video surveillance of construction of facilities, tied in with construction time schedules, targets and actual performance figures;
  - enabling management of the long-term investment programme, tied in with construction time schedules, targets and actual performance figures;
  - objective selection of suppliers (manufacturers) by purchasing centres (HO, NPPs, etc.) tied in with quality, manufacturing progress, and certification of nuclear plant equipment;
  - managing base design configuration of VVER-TOI, and feedback from projects that use it in practical operation;
- **development of FBU applications**:
  - customizing and expanding functionality and analytic reporting of SAP ERP one-design solution, its replication to all branch companies – active nuclear plants;
  - deploying a HR management system in the central office and branch companies of Rosenergoatom Concern OJSC (including IT support for personnel training and safety processes at nuclear plants);
  - deployment of an efficient document flow system, including processes of administrative and engineering document flow, building a distributed archive of technical documents in the Concern;
  - developing a system for planning, adjustment, execution, and target-fact analysis of the incomes-expenses budget;

- **developing applications for the technical unit**:
  - deploying an automated system to support operation as recommended by WANO;
  - creating a system to ensure delivery of technical data from nuclear plants to the Crisis Centre, and their exchange between IT applications;
  - backup of ICT infrastructure to ensure transfer of technical data to the Crisis Centre;
  - creating an IT base to track events of nuclear plant life cycle;
  - reating automated technology to manage repairs at nuclear plants;
  - building an accounting system to keep records of sales and payments for electric power.

#### **Programme to reduce risks of production and information exchange**

The programme includes:

- implementation of one-design networking solutions based on uniform equipment for all nodes of telecommunication, with a quickly expandable channel band;
- transition from traditional videoconferencing sessions (VCS) to total remote communication (“remote presence mode”), with access from mobile devices;
- creating a web-conferencing service;
- upgrading the Data Processing Centre (DPC) in the HO, DPC of the Crisis Centre, creating the Concern’s standby DPC at Novovoronezh NPP;
- creating standard-design DPC units at nuclear plants.

#### **Programme to improve protection of information**

The programme envisages:

- determining a holistic view of upgrading the corporate IT security system to match relevant threat models in information security;
- creating systems to control and ensure IT security (workplace protection, event monitoring, building rapid response scenarios);



- upgrading mechanisms of administrative and engineering support to IT security services, creating competency centres and structural subdivisions in IT security in the HO and branch companies, with IT security control processes centralized in the Concern.

The strategic goals of the nuclear power sector – support for serial construction of nuclear power units and increasing the share of nuclear generation in the national power balance – force the Concern to confront new large-scale objectives that will require efficient IT support in all domains of management.

# 05

## FINANCIAL SITUATION AND PERFORMANCE

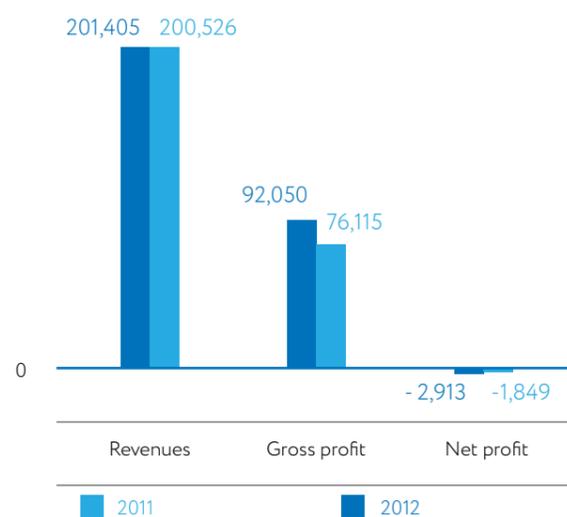


- Key Financial Performance Figures
- Investment Activities

## 5.1. KEY FINANCIAL PERFORMANCE FIGURES

In 2012, Rosenergoatom Concern OJSC realized sales revenues of 200,526,125,000 rubles, or 878,904,000 rubles less than the 2011 figure. The main causes of the lower revenues were an unfavorable price situation on the free market for electrical power, and grid restrictions on supplies of electrical power.

Dynamics of sales revenues, gross and net profit in 2011 and 2012, mln rubles.



The main causes underlying grid restrictions were lower consumption of electrical power during holidays and the spring floods, plus constraints on electrical power exchange in the Kola-Karelia section (Kola NPP) due to restrictions in the Murmansk power grid and North-West power grid (after the year, Kola NPP accounted for 54% of total grid restrictions).

Russian Federal Government Resolution No. 1178 of November 29, 2011, "Pricing and Regulation of Prices/Tariffs in the Electrical Power Sector", made changes to the Rules

of Indexing the Price of Electrical Capacity, originally enacted by Russian Federal Government Resolution No. 238 of April 13, 2010 "Setting Price Parameters for the Sale of Electrical Capacity on the Wholesale Market for Electrical Power and Capacity": the price of capacity set as a result of competition for 2012, must be indexed for the period between July 1, 2012, and January 1, 2013, to adjust it to the changing consumer price index calculated and published by the federal government agency vested with the functions of official board of statistics, but not to exceed 7% (actually by 6.1%).

The amount of power actually sold by the Concern on the wholesale market in 2012 was 177.3 billion kWh, which was 1.5 billion kWh or 0.8 % above the balance target assigned by the FTS. The actual generation by power unit No. 2 of Rostov NPP in 2012 was 7.8 billion kWh; and by power unit No. 4 of Kalinin NPP was 5.6 billion kWh.

After 2012, payments amounted to 230,171.7 mln rubles (VAT incl.) or 98.3% of the actual cost (VAT incl.). Cash payments for commodity sold in 2012 were 228,950.8 mln rubles (or 99.5% of total sales). The difference of 1,190.9 mln rubles was reassigned as collectable debt to third parties, while the debt of 29.9 mln rubles was written off by Rosenergoatom Concern OJSC Executive Order of December 25, 2012 "Writing off accounts receivable and payable" from the provision for bad debts.

The cost dynamics (14% growth by 2011) were influenced by the following factors:

- higher material costs caused by higher costs of materials and inventory, including more spent on fuel due to higher prices of HGP and rescheduled fuel

Structure of actual revenues from electrical power and capacity sold in 2012, 000 rubles (VAT excl.)

Item	
Total revenues from sold electrical power/capacity, by accounts	198,416,044
including:	
• revenues from sold own products	195,662,176
including:	
• Bilibino NPP	1,688,648
• regulated contracts (electrical power)	5,750,610
• regulated contracts (electrical capacity)	18,657,706
• day market	133,064,439
• free two-party contracts	968,067
• balancing market	780,505
• contracts of new nuclear plants (capacity)	3,819,841
• capacity under competitive contracts	30,932,360
• revenues from resold third-party generation	2,753,868
including:	
• Atomenergobit	53,607
• BNPP	2,849
• Kolenergobit	230
• regulated contracts (electrical power)	29,888
• day market	2,436,196
• balancing market	231,098

## Financial and business indicators, mln rubles

Indicator	2010	2011	2012	2012/2011, %
Sales revenues	210,222.70	201,405.03	200,526.13	99.56
Production cost	88,634.80	109,354.54	124,411.45	113.77
Gross profit	121,587.90	92,050.49	76,114.68	82.69
Administrative and business costs	92,799.84	83,222.89	61,996.23	74.49
Sales profit/loss	28,788.07	8,827.60	14,118.45	159.94
Other incomes and expenses (balance)	398.175	-7,283.01	-10,931.93	150.10
Profit before tax	29,186.24	1,544.59	3,186.52	206.30
EBITDA	127,369.82	96,112.91	81,536.40	84.83
Profit tax	6,953.57	3,736.47	4,800.94	128.49
Other payables	-488.224	-721.532	-234.251	32.47
Net profit	21,744.44	-2,913.41	-1,848.67	63.45

- stocking campaign, production-related services, services of infrastructure providers, following tariff increases;
- more depreciation now paid on newly-commissioned buildings;
- higher insurance costs following changes to the premium calculation procedure;
- power unit No. 4 of Kalinin NPP put in operation in 2012;
- higher labour costs and cost of insurance programmes in 2012 (following legal changes);
- purchase of electrical power on the day market and balancing market to enable contract performance during extraordinary repairs;
- higher property tax on fixed assets commissioned in 2012;
- higher cost of repairs and maintenance, as extraordinary works were done in 2012 during WP and extraordinary shut-down of power units.

Total administrative costs of 61,975.97 mln rubles included provisions for capital investment of 51,818.81 mln rubles under Federal Government Decree No. 68 of 30 January 2002.

The table below represents efficiency ratios that describe Rosenergoatom's performance in 2012.

## Efficiency ratios, %

Ratio	Formula	2010	2011	2012
Sales efficiency	Sales profit / Revenues	3.69	4.38	7.04
Asset efficiency	Net profit / Average assets	3.25	-0.34	-0.18
Equity efficiency	Net profit / Equity	3.24	-0.38	-0.21

2012 sales profit compared to that of the previous year increased by 5,290,849,000 rubles to 14,118,449,000 rubles, mainly due to a reduction of administrative costs by 21,228,462,000 rubles.

Sales efficiency (by sales profit) for 2012 was 7.04% against 4.38% of the previous year. This increase was caused by leading reduction of full costs (95.81% of previous year) over decrease in revenues (99.56% of the previous year).

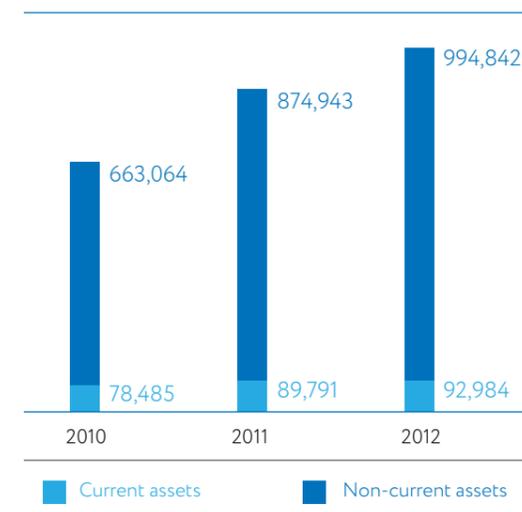
## Asset Structure

In 2012, the value of Rosenergoatom's assets grew by 13% (123,092,198,000 rubles).

This growth of asset value was caused by higher value of both non-current assets by 14% (119,898,884,000 rubles), and current assets by 3.5% (3,193,314,000 rubles).

Paid long- and short-term advanced amounts, pre-payment for works and services related to construction, are recognized on Rosenergoatom's business accounts in accordance with the accounting policy, in the Section "Non-current assets", because depending on the type, liquidity of accounts payable can vary.

## Dynamics of non-current assets, mln rubles



The value of non-current assets increased thanks to higher value of fixed assets, which in turn grew when item "Capital investments in fixed assets in progress" appreciated by 44,466,970,000 rubles, or by 12%, and the value of buildings, machines and equipment rose by 89,170,879,000 rubles, or by 33.5%, as a sign of considerable investment in fixed assets.

The total value of non-current assets as of December 31, 2012 was 994,841,700,000 rubles. Non-current assets were considerably distributed among Rosenergoatom branch companies.

Rosenergoatom's current assets appreciated by 3,193,314,000 rubles, or 3.5% in 2012. In the structure of Rosenergoatom's current assets in 2012, inventory increased considerably by 6,672,962,000 rubles (20.5%) along with financial investment rising by 6,691,502,000 rubles (99%) while at the same receivables dropped by 6,396,149,000 rubles (14.6%), and cash and equivalents by 3,697,812,000 rubles (a factor of three). Growth of inventory was triggered primarily by supplies of fuel components to new fuel companies.

## Distribution of non-current assets, %

Central Administration	3
Balakovo NPP	3
Beloyarsk NPP	10
Bilibino NPP	1
Kalinin NPP	11
Kola NPP	2
Kursk NPP	6
Novovoronezh NPP	3
Smolensk NPP	4
Leningrad NPP	8
Rostov NPP	15
Novovoronezh NPP-2	15
Leningrad NPP-2	10
Baltic NPP	4
Floating NPP	2
Engineering Design Branch Office	4
Other affiliates	0

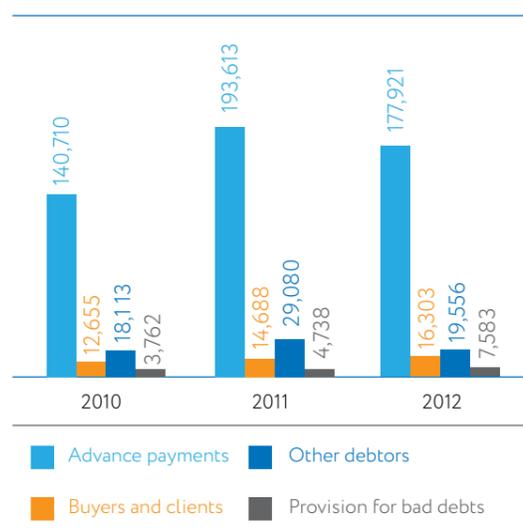
The increase in financial investment was caused by short-term loans issued to Atomenergoprom Concern OJSC (available cash is placed as allowed by the financial policy of Rosatom State Corporation).

The most remarkable decrease in current assets was that of accounts receivables, dropping by 6,396,149,000 rubles, or 14.6%, with the head office's efforts to cut miscellaneous debts.



Completion of core loading in power unit No.4 of Kalinin NPP, 2011

Structure of receivables, mln rubles

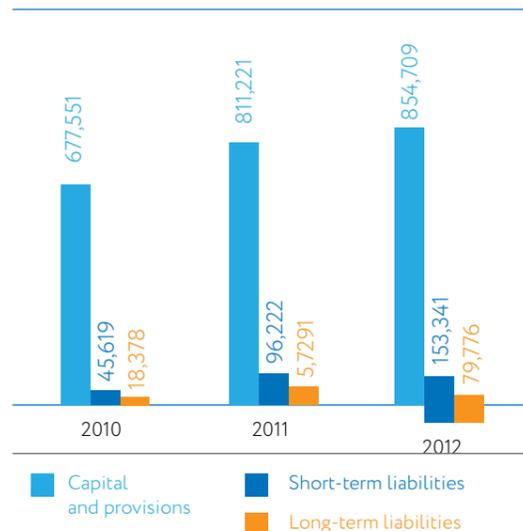


**Structure of Capital**

The value of Rosenergoatom’s assets at the end of the reporting period was 1,087,825,834,000 rubles, or 123,092,198,000 rubles more than at the beginning of the year.

This increment in asset value was the result of newly built fixed assets and construction in progress, from depreciation and provisions created to ensure safety of nuclear plants at all stages of their life cycle and development, established under Federal Government Decree No. 68 of January 30, 2002 “Approval of the Rules for Operators to Provide Funds for Re-

Dynamics of liabilities in 2011-2012, mln rubles



serves That Ensure Safety of Nuclear Plants at All Stages of Their Life Cycle and Development”.

In the structure of the Concern’s sources of funds, equity is prevalent at 79% (854,708,610,000 rubles).

**Financial Ratios**

The book value of net assets as of December 31, 2012 was 936,542,342,000 rubles, net value having increased in 2012 by 101,522,140,000 rubles mainly due to the growth of fixed assets by 115,432,310,000 rubles (appreciation of buildings, machines, equipment, and capital investments in progress, to finance fixed assets).

During the period, liabilities accepted for calculation rose by 21,570,058,000 rubles, including due to the growth of:

- long-term and short-term liabilities in loans, by 19,251,882,000 rubles;
- other long-term liabilities growing by 6,046,783,000 rubles (due to refundable VAT on advanced amounts).

Rosenergoatom’s net assets as of December 31, 2012 were worth 76.7% more than the registered capital; this ratio shows the company’s financial situation in a positive light, as being totally compliant with the requirements on corporate net assets. Taking into account that net assets both exceeded the registered capital and increased during the reporting period, we can say that by this indicator Rosenergoatom’s financial situation is quite healthy.

**Liquidity Ratios**

The key financial ratios and results were calculated as per the Methodology for Calculation of Key Financial Ratios and Indicators for Financial and Business Analysis in Atomenergoprom JSC and its subsidiaries and controlled businesses, based on its business accounting information.

The current liquidity ratio describes current assets to short-term liabilities. As of December 31, 2012, this ratio was 1.36, or +0.11 compared to the previous period. This growth was caused by the increase in inventory and financial in-

Evaluation of net assets

Item	Actual value				Period change
	as of Dec. 31,2011		as of Dec. 31,2012		
	000 rubles	% of bottom line	000 rubles	% of bottom line	000 rubles
1	2	3	4	5	6 = (rp. 4 – rp. 2)
Net assets	835,020,202	86.6	936,542,342	86.1	101,522,140
Registered capital	530,011,527	54.9	530,011,527	48.7	0
Net assets over registered capital	305,008,675	31.6,	406,530,815	37.4	101,522,140

vestments. Short-term liabilities were fully covered by current assets.

The quick liquidity ratio shows the part of short-term debt that can be repaid immediately from cash or equivalents, and short-term receivables. The most liquid assets as of December 31, 2012 could cover 38% of the short-term liabilities.

The absolute liquidity ratio shows the part of short-term debts that is covered from cash or equivalents. The value of this ratio as of December 31, 2012 was 0.13. The change of 0.05 was caused by a decrease in short-term liabilities.

**Financial Stability Ratios**

Financial stability is the result of the entire business operation, and represents stable excess of incomes over expenses. The table below shows Rosenergoatom Concern OJSC financial stability ratios for 2012.

The financial leverage ratio describes the entity’s dependence on external loans; it was within the permissible range. As of December 31, 2012, the ratio was 0.15, which means that Rosenergoatom Concern OJSC was loan-free and solvent.

The autonomous ratio describes the specific weight of equity in total assets, and as of December 31, 2012, equity had a share of 87%, or within the standard range.

The financial stability ratio describes the share of own and long-term sources of financing to the bottom line. As of 31 December, 2012, the ratio was 0.94. A slight change in the ratio was caused by the growth of equity and assets.

The equity ratio tells us whether the entity’s own funds are sufficient to finance its current activities. This ratio in Rosenergoatom as of December 31, 2012 was 27% for all current funds.

As of December 31, 2012, the current liquidity ratio was

1.36

or

+0.11

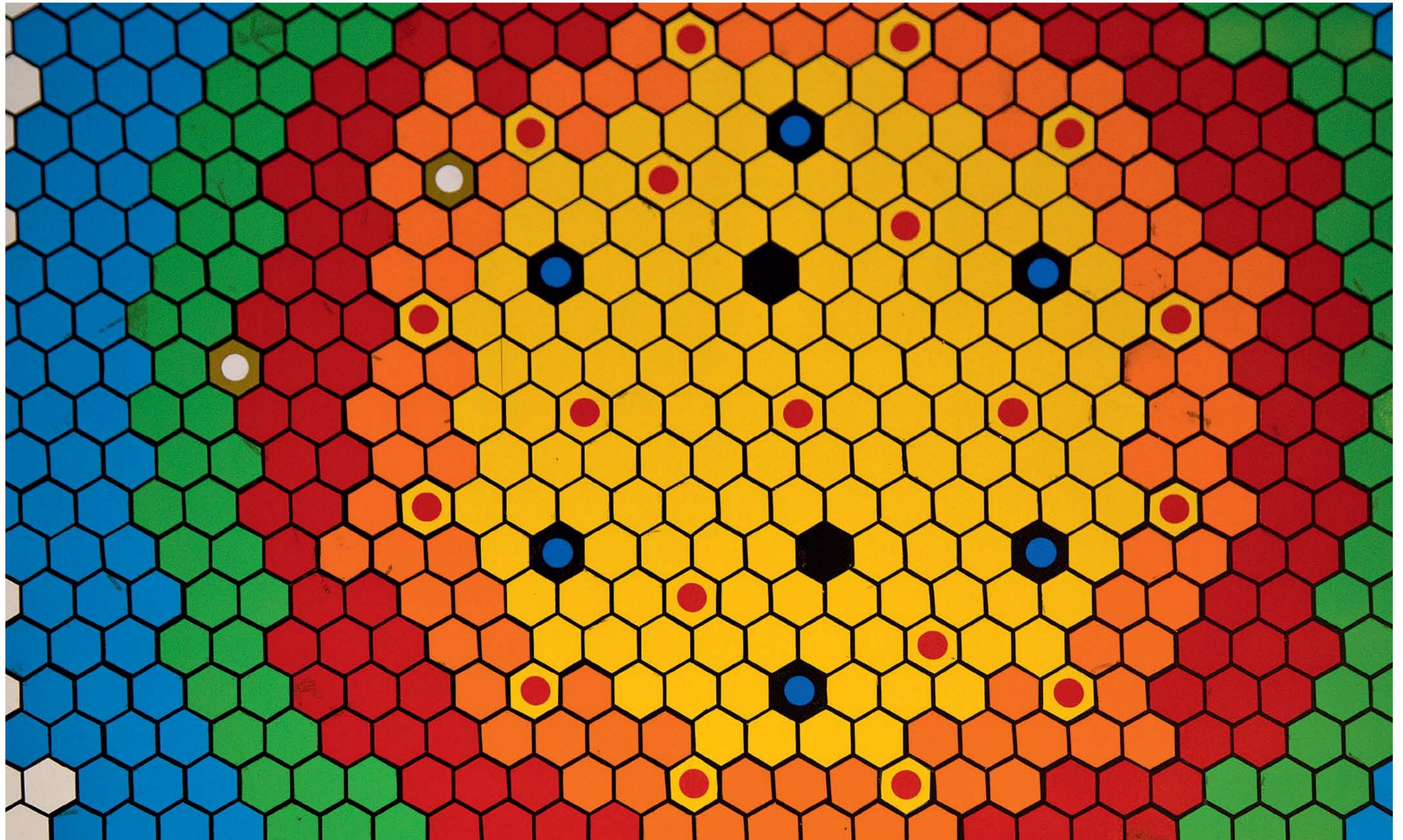
compared to the previous period

Liquidity ratios

Ratio	Standard	As of Dec. 31,2010	As of Dec. 31,2011	As of Dec. 31,2012
Current liquidity ratio	1 < k ≤ 2-2.5	3.27	1.25	1.36
Fixed-term liquidity ratio (quick ratio)	0.3÷0.8	0.59	0.30	0.38
Absolute liquidity ratio	0.1÷0.5	0.31	0.08	0.13

Financial stability ratios

Ratio	Standard	As of Dec. 31,2010	As of Dec. 31,2011	As of Dec. 31,2012
Financial leverage ratio	k < 1.0÷1.5	0.08	0.14	0.15
Autonomous (financial independence) ratio	0.4÷0.9	0.92	0.87	0.87
Financial stability ratio	0.6÷1	0.95	0.93	0.94
Equity ratio	k ≥ 0.1	0.69	0.20	0.27



Reactor BN-600 core cartogram in the Public information center of Beloyarsk NPP

## 5.2. INVESTMENT ACTIVITIES

THE CONCERN'S INVESTMENT ACTIVITIES THROUGH CAPITAL INVESTMENTS SOUGHT TO IMPLEMENT THE LONG-TERM (2009–2015) PROGRAMME OF ROSATOM STATE NUCLEAR ENERGY CORPORATION, APPROVED BY FEDERAL GOVERNMENT DECREE NO. 705 OF SEPTEMBER 22, 2008, REGARDING DEVELOPMENT OF THE NUCLEAR POWER INDUSTRY IN RUSSIA. TO ENSURE CONTINUOUS AND EFFICIENT IMPLEMENTATION, THE CONCERN HAS PREPARED INVESTMENT PROGRAMS FOR THE LONG TERM, MEDIUM-TERM (THREE YEARS) AND SHORT TERM (ONE YEAR).

Functional distribution between the parties involved in the investment process is regulated in the Investment Agreement between State Corporation Rosatom, Atomenergoprom JSC, and Rosenergoatom Concern OJSC.

The Concern's investment activities were financed from the Concern's own funds, from assets contributed by Rosatom State Corporation, and when necessary, with loaned resources. The Concern's 2012 Investment Programme was officially coordinated with the Federal Ministry of Energy for a total value of 156,051.6 mln rubles, and achieved 100.2% of the target. By investment directions, the results of 2012 appear as follows:

- investment projects to build NPP power units, including construction of floating nuclear thermal and electrical plants, financing of project survey to find new sites for construction of nuclear power units (70.7% of total investment);
- projects and activities at operating power units: investment projects to extend the life of generation I and II power units, ensuring safe and stable operation of active power units, programme to increase electrical power generation at NPP active power units in Rosenergoatom (20.8% of total investment);

- investment projects at facilities that handle contaminated nuclear fuel and radioactive waste (3.7% of total investment);
- other investment projects and activities: conservation, science research and experimental engineering, technical documents, and other activities prior to project phases (4.8% of total investment).

Investment projects to build nuclear power units NPP were also financed with in-kind contributions worth 58,207.5 mln rubles by Rosatom State Corporation.

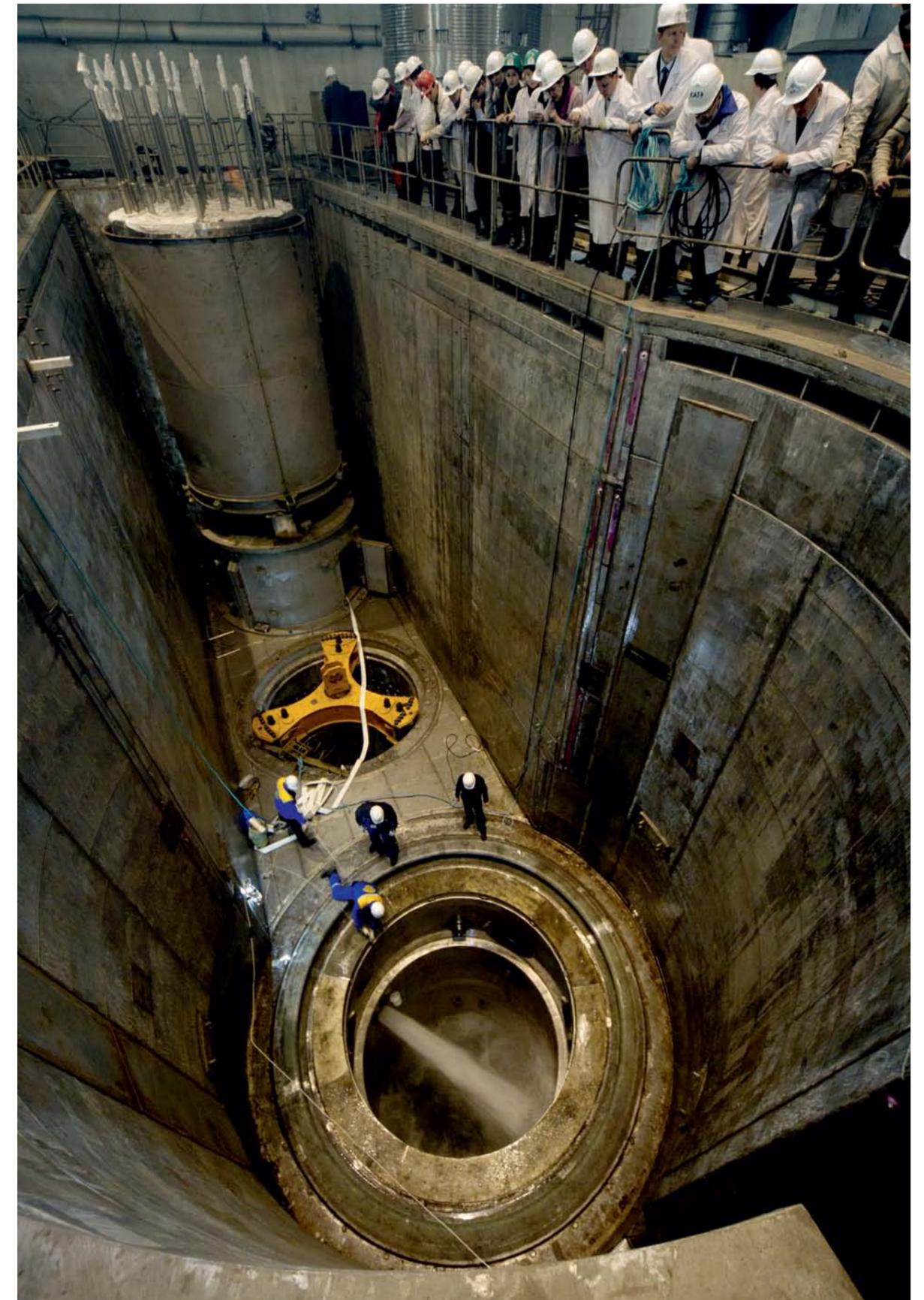
Investments to fixed capital in 2012 amounted to 146,230.5 mln rubles.

Dynamics of asset contribution, mln rubles

2010	2011	2012
53,239.8	68,496.5	58,207.5

Investments to fixed capital, dynamic, mln rubles

2010	2011	2012
136,554.3	201,778.4	146,230.5



5 The Concern's  
2012 Investment  
Programme  
achieved  
100.2%  
of the target

5



Construction site of Novovoronezh NPP-2

# 06

## SUSTAINABLE GROWTH



- Public Position on Sustainable Growth
- Environmental Impact
- Human Resource Management
- Labour Protection
- Social Policy
- Developing Areas of Presence
- Charity and Sponsorship
- Interaction with Stakeholders

## 6.1. PUBLIC POSITION ON SUSTAINABLE GROWTH

IN ACCORDANCE WITH THE INTERNATIONALLY ACCEPTED DEFINITION, WE UNDERSTAND SUSTAINABLE GROWTH TO BE A PROCESS OF CHANGE IN WHICH INVESTMENTS, ENVIRONMENTAL IMPACT, THE EVOLUTION OF SCIENCE AND TECHNOLOGY, AND THE DEVELOPMENT OF THE INDIVIDUAL AND THE COMMUNITY, ARE ALL HARMONIZED AND WORK TO STRENGTHEN OUR ABILITY TO MEET HUMANKIND'S NEEDS AND ASPIRATIONS FOR THE FUTURE.

### Opportunities and Challenges in the Context of Sustainable Growth

Sustainable growth means development that meets current needs without endangering future generations' ability to meet their needs.

#### UN International Committee on Environment and Growth

The entire world has been observing growing need for affordable, environment-friendly electrical power; this creates great long-term opportunities to promote the nuclear power sector. With fossil fuel deposits on the decline and global awareness of the need to stop greenhouse gas emissions, growth of nuclear power sector is inevitable. On an international scale, as key issues of the sector's further development following the Fukushima disaster, we focus on the safe and environment-friendly operation of nuclear plants. This is why efficient growth of the sector largely depends on how we can respond to current challenges, namely – the unconditional assurance of safe operation of all facilities in the nuclear power industry under all circumstances, long-term management of radioactive waste, and control over nuclear plants at every stage of the life cycle.

### Reliable and Safe Operation of Nuclear Plants

Reliable and safe operation of nuclear plants is the key priority in the Concern's activities. Objectives in this area ensure the protection of personnel, citizens and the environment, minimize radioactive emissions, and prevent incidents and emergencies.

The safe operation of nuclear plants is confirmed through regular audits by bodies of control and supervision, both Russian and international. In more detail, the policy and approaches to safety assurance are covered and Section 3.3 "Safety of Russian Nuclear Plants. Radiation Impact on Personnel and Citizens".

#### Minimizing environmental impact

The purpose of the Concern's environmental policy is to ensure a safety level of its nuclear plants whereby any impact on the environment, personnel or citizens either in the near future or in the long term should ensure the preservation of natural habitats, maintaining their integrity and life supporting functions. As implemented by the Concern, its comprehensive approach to managing its environmental impact envisages total accountability and disclosure of all environment-protection figures.



To achieve the goals and enforce the fundamental principles of its Environmental Policy, the Concern has assumed the obligation to implement and maintain the best methods of environmental management, and to meet applicable international and national standards in environmental management.

Improving its environmental management system and having it certified as compliant under the international standard ISO 14001 is an efficient way for the Concern to confirm its commitment to the ideals of environmental protection, but also an opportunity to gain a competitive edge and improve interaction with stakeholders and the broader public. The results of the environmental policy are covered in more detail in Section 6.2 "Environmental Impact".

#### Safe and Decent Working Conditions. Labour Protection

Ensuring safe working conditions for staff at nuclear plants and contractors is the Concern's key objective in industrial safety; it is also one of its key priorities and operating principles. The management pays close attention to ensuring safe operation and labour protection, and to adopting corrective measures at the Concern's nuclear plants. To prevent injuries, audits and pre-

vention activities are regularly applied. Efforts to achieve the goals set for 2012 suppressed a peak of injuries in 2011 at operating nuclear plants, with a positive outcome: in 2012, the Concern's nuclear plants registered only three incidents compared to seven cases in 2011. To further improve the situation with labour protection, and maintain the previous injury-free performance during operation and repair of nuclear plant equipment, the company is adopting ever-stricter requirements for personnel in terms of standard compliance, not only in labour protection, but also in operation and repairs. Detailed information is available in Section 6.4 "Labour Protection".

#### High Social Responsibility

Operating nuclear plants in Russia creates tens of thousands of skilled jobs, and involves the interests of hundreds of thousands of plant employees' family members. The Concern acts as a responsible employer by providing additional benefits, and looking after the working conditions and social welfare of its employees. In conformity with the industry-level tariff agreement, a collective contract was signed and executed that spells out policies on employment and remuneration, and social guarantees and benefits to employees both current and retired.

**Developing Areas of Presence**

Rosenergoatom Concern OJSC has great economic influence on the development of its areas of presence, with serious contributions made to power security by generating and fairly distributing economic value, and creating skilled jobs, including in associated economic sectors. A major taxpayer to government budgets at all levels, the Concern contributes a lot to ensuring the long-term stability of the Russian regions.

Rosenergoatom’s areas of presence are characterized by the high quality of local infrastructures, good salaries, skilled jobs, and facilities for sports and entertainment. Aware of its important role, the Concern spares no effort or resources to support sustainable growth in its areas of presence: it is involved in development of local infrastructure, nurseries and schools, and medical institutions; it participates in housing programmes and public recreation facilities. Serious funds have been invested building building utilities networks, and pipelines to bring heating and power to citizens.

As nuclear plants are under construction, in addition to the nuclear plant buildings themselves, the company also builds infrastructure facilities in satellite cities: nurseries, schools, hospitals, and housing. Currently, along with new power units in already developed areas, Rosenergoatom Concern OJSC is improving utilities, building more housing, and upgrading and retrofitting domestic heating pipelines for citizens.

The Concern is a significant influence in its areas of presence. Acting through its branch companies – Russian nuclear plants – the Concern arranges numerous events in sports and mass entertainment and implements socially-significant projects.

**Transparency and Active Dialogue with Stakeholders**

By adhering to principles of transparency and active dialogue with Stakeholders, Rosenergoatom Concern OJSC seeks to maintain the highest level of openness and transparency in its operations. Rosenergoatom is engaged in active exchange with all Stakeholders, it discloses timely information on all aspects of its activities, and responds to the involved party requests and recommendations. Rosenergoatom Concern OJSC management consistently enforces the principles of its information policy: timely response, accessibility, accuracy and completeness of disclosed information, with a reasonable balance struck between the Concern’s openness and its own business interests. To achieve successful implementation of its transparency policy, the company uses all communication formats available today: interactive public Annual Reports, its corporate website, press conferences, public dialogues and consultations, arranging visits to nuclear plants for representatives of Stakeholders, and many other methods. Detailed information on interaction with Stakeholders is available in Section 6.8 “Interaction with Stakeholders”.

**6.2. ENVIRONMENTAL IMPACT**

ROSENERGOATOM CONCERN OJSC SEES PROTECTION OF THE ENVIRONMENT AND RATIONAL USE OF NATURAL RESOURCES ARE SEEN AS PRIORITY TASKS. THE GOAL OF THE CONCERN’S ENVIRONMENTAL POLICY IS TO ENSURE A LEVEL OF NUCLEAR PLANT SAFETY WHERE ALL IMPACTS ON THE ENVIRONMENT, PERSONNEL AND CITIZENS IN THE NEAR FUTURE AND IN THE LONG TERM PRESERVES NATURAL SYSTEMS, AND MAINTAINS THEIR INTEGRITY AND LIFE SUPPORT FUNCTIONS.

Rosenergoatom Concern OJSC has adopted a comprehensive approach to environmental footprint management; this includes total accountability and disclosure of all figures on environmental protection. Environmental services of the nuclear plants practice ongoing environmental monitoring to assess environmental safety. This enables timely and efficient solutions, and minimizes nuclear plants’ impact on the environment.

The principles of Rosenergoatom’s environmental activities and obligations in environmental security and protection are stated in the Environmental Policy, published at [www.rosenergoatom.ru](http://www.rosenergoatom.ru).

**Main Indicators of Environmental Impact**

**Air Polluting Emissions**

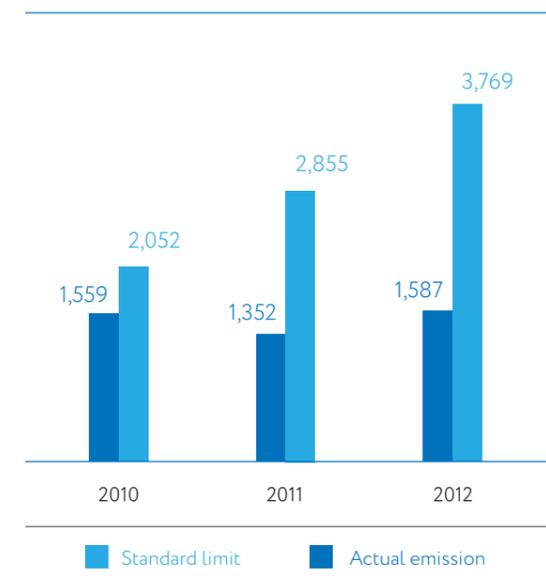
Nuclear plants’ contribution to air pollution compared to other sectors of the economy remains negligible.

Emissions of air pollutants from nuclear plants do not exceed permissible levels and remain far below the quotas set by environmental protection agencies.

In all nuclear plants, gross emissions of air pollutants did not exceed regulated limits. In 2012, our units released 1,587 tons of air pollutants, or 42.1% of the quota for the reporting year (3,769 tons).

223 tons of pollutants passed through gas-treatment plants and dust traps, of this amount, 210 tons were trapped and decontaminated (about 94% efficiency).

Emissions of air pollutants from nuclear plants - dynamics, tons



Emissions of NO<sub>x</sub>, SO<sub>x</sub> and other important air pollutants, stating type and mass in tons

Description	2010	2011	2012
Sulfur dioxide	888.9	706.1	779.8
Carbon oxide	163.7	147.7	170.2
Nitrogen oxide (converted to NO <sub>2</sub> )	251.2	215.8	245.2
Hydrocarbons (without volatile organic compounds)	81.6	70.5	200.8
Volatile organic compounds	73.5	71.1	70.8
<b>Total</b>	<b>1,458.9</b>	<b>1,211.2</b>	<b>1,466.8</b>

Emissions of ozone-depleting substances (ODS) in 2010–2012, in tons

Description	2010	2011	2012
<b>HFU-12*</b>			
Smolensk NPP	0.150	0.148	0.142
Total	0.150	0.148	0.142
<b>GHFU-22**</b>			
Kalinin NPP	0.290	0.315	0.630
Kursk NPP	1.025	1.339	1.202
Novovoronezh NPP	0.165	0.165	–
<b>Total</b>	<b>1.480</b>	<b>1.819</b>	<b>1.832</b>

\* HFU-12 – difluor-dichlor-methane (ozone-depleting potential 1.0).

\*\* GHFU-22 – difluor- methane (ozone-depleting potential 0.055).

For years, the share of nuclear plants in pollutants released to the atmosphere by all its corporate entities in the Russian Federation has remained below 0.01%

Nevertheless, nuclear plants are working to reduce their pollutant load on the atmosphere:

- improved technology to increase fuel combustion efficiency;
- higher quality fuel oil is used (with lower sulfur content);
- paint technologies are improving;
- efficient gas-purification and dust-trapping equipment is put in operation.

### Dumping Pollutants into Water Bodies

Nuclear plants are major users of water resources. Therefore, issues of water use and removal are important for their environmental activities. Virtually all water taken from water bodies (about 99%) by nuclear plants was used for production (media cooling inside turbine condensers and in heat exchangers) and then returned to the water bodies.

During 2012, removal of water from nuclear plants matched the water balance and

Water use, with breakdown by sources, mln m<sup>3</sup>

Water intake, by sources	2010	2011	2012
Potable water from natural water sources	12.2 (of which ground waters 7.7)	10.4 (of which ground waters 6.5)	11.5 (of which ground waters 7.5)
Potable water for municipal water supply systems	8.5	7.8	7.2
Fresh service water from natural bodies of water	1,809.6	1,799.2	1,706.1
Seawater	5,101.3	5,297.8	4,508.2
<b>Total</b>	<b>6,931.6</b>	<b>7,115.2</b>	<b>6,233.0</b>

Share and total volume of reused and recycled water

Water consumption	2010		2011		2012	
	Volume, mln m <sup>3</sup>	Share of used water, %	Volume, mln m <sup>3</sup>	Share of used water, %	Volume, mln m <sup>3</sup>	Share of used water, %
In water recycling systems	21,046.1	304	25,825.0	363	28,167.5	452
In water reusing systems	418.0	6.0	407.5	5.7	425.4	6.8

quantity of generated electrical power, it amounted to 93.4% of total used water; this is a good water use ratio for water resources. Water was used within limits approved by environmental protection agencies.

In all nuclear plants, wastewater in residential and rainwater sewage was treated before it was released to above-ground water bodies. The content of pollutants that get into above-ground water bodies with nuclear plant discharge was controlled under coordinated and approved official regulations.

In 2012, a total of 5,823 mln m<sup>3</sup> was dumped,

while the share of contaminated wastewater was about 0.09% - a good figure compared to other businesses in the Russian Federation (typically 3.5–4%).

Discharge of contaminated wastewater is gradually being reduced through systematic efforts to upgrade and retrofit wastewater treatment systems at nuclear plants.

### Treatment of Production and Consumption Waste

Nuclear plants' activities in environmental protection with respect to treatment

Production waste, with breakdown by classes, tons

Indicators	2010	2011	2012
Class 1 (top hazard)	46	52	52
Class 2 (high hazard)	21	78	123
Class 3 (medium hazard)	1,633	1,180	1,586
Class 4 (low hazard)	20,385	12,462	11,900
Class 5 (no hazard)	13,221	10,099	26,503

of waste of production and consumption are compliant with Russian Federal environmental law, and are done based on licenses and approved draft quotas for waste, and related placement limits.

Just as other businesses, in the course of their production activities nuclear plants generate waste of five hazard classes. In 2012, the Concern's nuclear plants generated 40,164 tons of waste.

Generated waste of production and consumption, dynamics, in tons

2010	2011	2012
35,306	23,871	40,164

Most (about 95.6%) of the waste generated in 2012 was Class 4 (low hazard) and Class 5 (no hazard): 11,900 tons, and 26,503 tons, respectively.

Existing waste at the beginning of 2012: 14,858 tons, at year's end: 16,860 tons. Through waste treatment activities, nuclear plants in 2012 decontaminated five tons of waste of Hazard Classes 1 and 2 (top and high hazard). 1,480 tons of waste of Hazard Classes 3–5 (medium hazard, low hazard, and no hazard) was used. 33,890 tons was delivered to other businesses. 2,787 tons of Hazard Classes 3–5 waste was buried in proprietary facilities.

All production and consumption waste is placed in equipped grounds, special storage facilities, and its utilization is controlled by nuclear plants' environmental services.

### Costs of Environmental Protection

The costs that nuclear plants currently incur to protect the environment are composed of the following costs:

- protection and rational use of water resources (including payments to contractors who receive and treat wastewater);
- protection of air;
- protection of the environment against impact by production and consumption waste (including payments under contracts to deliver waste to special contractors);
- reclamation of disturbed and contaminated land.

Costs of environmental protection, mln rubles

2010	2011	2012
1,605	1,731	2,458

A penalty of 222,630 rubles was imposed on Smolensk NPP in 2012 for non-compliance under the water-protection law and standard regulations. No other nuclear plants were subjected to any disciplinary penalties by monitoring and supervisory agencies, with no lawsuits filed for environmental damage.

Under applicable laws, penalties must be paid for adverse impact on the environment as a form of partial compensation for damage done by the user to the environment.

### Environmental Risk Management

Today, risk analysis methodology is the most efficient scientific approach that helps to

Structure of environmental protection costs in 2012, 000 rubles

Environmental protection activity	Current (operating) costs, 000 rubles	Environment-related services, 000 rubles	Environmental protection costs, 000 rubles
	1	2	3 = 1 + 2
Total	1,528,633.764	928,886.634	2,457,520.398
including:			
• protection of air and prevention of climate change	258,376.948	10,387.955	268,764.903
• wastewater collection and treatment	578,247.447	215,849.701	794,097.148
• waste treatment	193,708.561	20,261.148	213,969.709
• protection and reclamation of soil, surface and ground waters	44,088.959	39,734.730	83,823.689
• preserving biodiversity and protection of habitats	948.200	8,172.300	9,120.500
• ensuring radiation safety of environment	361,839.789	607,194.200	969,033.989
• science research and development to minimize human footprint	2,336.000	12,443.900	14,779.900
• other activities in environmental protection	89,087.860	14,842.700	103,930.560

Payments for environmental impacts, dynamics, 000 rubles

Description	Actually paid, 000 rubles		
	2010	2011	2012
Fees for permissible and above-quota pollutant emissions (discharge) (dumped production and consumption waste)	9,862	8,765	9,691
Funds and penalties paid to compensate damage caused through failures under environmental law	0	0	222.6

evaluate quantitatively the impact of different industrial factors on the environment and human health.

During 2006–2012, IBRAE RAN conducted a whole range of research projects using risk assessment methodology. Their comprehensive research covered, among others, Sver-

dlovsk Oblast and Voronezh Oblast where Beloyarsk NPP and Novovoronezh NPP respectively are located.

Rosenergoatom Concern OJSC considered the results of this analysis in determining its environmental policy and to improve its environment management system (EMS).

Over the past ten years a very level of high nuclear plant safety has been achieved, helping to set standards of permissible radioactive emissions and discharge to the environment, with individual exposure in critical groups of citizens around nuclear plants being negligible below the minimum dose of 10 mcSv/year.

Actual gas-aerosol emissions from nuclear plants during the past ten years never exceeded 20% of permissible, while liquid radioactive dumps were 5% of permissible discharge. Such release of radionuclides into the environment (under  $10^{-6}$  Sv/year) makes the radiation risk indisputably acceptable for the public, and thus actual emissions and discharge can be described as optimized. Therefore, there is no need for activities to reduce radiation impact on the environment.

#### Ecological Suitability

Rosenergoatom Concern OJSC has developed a programme of activities in key directions including environmental protection and corporate standards that represent objectives for the near future and are aligned with the Concern's strategic concept to improve EMS.

The Concern is always working to improve its methodological documents and corporate standards (CS) on environmental safety and protection. In order to bring nuclear plants' environmental efforts into compliance with Russian Federal law and standard regulation at various levels, CS documents have been prepared and enacted, such as the "Main rules for organizing environmentally-friendly production at nuclear plants", "Methodological recommendations for organizing environmental monitoring at nuclear plants", and others.

#### Environmental Audit and Certification of Environmental Management System

To achieve its goals and observe the key principles of its Environmental Policy, the Concern has assumed the obligation to adopt and use the best methods of environmental management under international and Russian standards on environmental management.

For the Concern as an operator who ensures environmentally safe production of electrical and thermal energy at nuclear plants, improving its EMS and its certification for compliance with the provisions of international standard ISO 14001 is an efficient way to restate its commitment to the ideals of environmental protection; it is also a chance to increase its competitive advantages and to better interact with Stakeholders and the public.

#### Key 2012 Results

Adherent to its Environmental Policy to make its nuclear plants environment-friendly, the Concern carried out the following important activities in 2012:

- Kalinin NPP upgraded its air treatment system to filter pollutants in ventilation systems for solid radioactive waste storage (SRWS) and the special building; capital repair of the bed of the water storage facilities (waterline sections exposed to erosion by wind and waves were strengthened);
- Kursk NPP accomplished all planned activities to reduce discharge of phosphates and nitrogen compounds to the River Reut. Working on the project "Additional Treatment of Waste to Remove Phosphates and Nitrogen Compounds in Kursk NPP", the sewage treatment facilities (STF) of phases 1 & 2 at Kursk NPP launched phase two of filter fields for experimental operation; surface and ground water ecosystems around Kursk NPP were monitored. A report was prepared entitled "Parameters of surface and ground water ecosystems around Kursk NPP in 2012, collected through environmental monitoring".

Inspection and/or re-certification audits were organized and examined certified systems of environmental management at company headquarters and active nuclear plants for compliance under international standard ISO 14001:2004. The effects of environmental certificates were confirmed.

The regulation on competition "Best Specialist in Environmental Protection and As-



urance of Nuclear Plant Environmental Safety" was prepared and enacted.

The company obtained approval from the Federal Environmental Expert Panel for its license request to operate power unit No. 4 Kola NPP at 107% of capacity.

The nuclear plants that operated during 2012 remained totally compliant with all applicable standards and regulations of environmental law.

## 6.3. HUMAN RESOURCE MANAGEMENT

AS A RESPONSIBLE EMPLOYER, ROSENERGOATOM CONCERN OJSC NEVER STOPS CARING ABOUT ITS EMPLOYEES' WORKING CONDITIONS AND SOCIAL WELFARE, TRYING TO GIVE THEM BROAD OPPORTUNITIES FOR CAREER GROWTH AND OCCUPATIONAL DEVELOPMENT. THIS HELPS THE COMPANY TO BUILD AND MAINTAIN OPTIMIZED STAFF THAT IS ABLE TO ENSURE THE SAFE, STABLE, AND ECONOMICALLY EFFICIENT OPERATION OF ITS NUCLEAR PLANTS.

The goal of the Concern's HR policy is to have competent and highly skilled employees, both at the present time and in the long term; this presumes the existence of an HR management system able to rapidly and adequately respond to the changing market environment.

### Key Characteristics of Human Resources

Growth in the nuclear power sector, with ever more new power units being built, is resulting in a shortage of highly skilled personnel as new jobs are created every year.

The problem of access to a skilled workforce for newly built power units is resolved from both internal and external sources.

Use of internal sources includes personnel rotation and a specialized HR pool established in similar power units of active nuclear plants, with employees hired on top of staff quotas to be trained to enter key positions so that newly built nuclear plants can be manned in good time.

Engaging personnel from internal sources saves money and reduces training time.

Use of external sources includes the company hiring graduates from colleges and universities, individuals retired from military service, and other recruiting.

There is no preference for local hires when the company needs to fill key positions – occupation-related criteria prevail.

### Estimated Needs in Human Resources

Under the programme to recruit, position, and train personnel in active nuclear plants and construction projects, the company's HR needs through to 2020 are estimated at least 20,000 individuals (at least 2,000 individuals to be hired annually).

### Ethical Practice

Rosenergoatom Concern OJSC has prepared and adopted:

- A corporate ethics code;
- An Ethics Regulation Panel;
- Regulations on the Authorized Ethics Officer.

All nuclear plants have formed their own Ethics Panels and elected their own Authorized Ethics Officers.

The main results of Ethics Code enforcement in 2012:

- 23 statements of non-compliance filed under the Ethics Code;
- 8 Authorized Ethics Officers elected;
- Employees took 72 hours of training on ethical issues;

- 3% of executive employees trained in corporate ethics procedures.

### Managing Employees' Efficiency

Since 2009, Rosenergoatom Concern OJSC has used an Employee Efficiency Management system that rests on assessing employees' achievement of key efficiency ratios (KER) and meeting the required level of competencies.

The system helps all employees focus on efforts to achieve results that are most relevant for the company, and ties their year bonuses with their personal performance.

In 2012, 8,500 employees (at least 25%) had their performance assessed. KER targets for 2013 have been set for more than 9,000 employees.

### Developing managerial competencies

In 2012, the company implemented two large-scale programmes to develop managerial competencies: "Incentives" (50 training sessions with nearly 650 trainees) and "Record" (41 training sessions, with about 400 trainees). Training was also provided under the "Speakers" programme and several other programmes, including standalone activities.

### HR Pool

Working towards the priority tasks of its HR policy, Rosenergoatom has established a reserve pool of employees trained to fill in top executive positions.

In 2012, the company concluded its strategic reserve programme in the Electric Energy Division, launched to continue the corporation's project to create the Rosatom Gold Reserve of human resources. The programme is designed to educate executives who within three to five years will be able to contend for top administrative positions in branch companies.

Currently, more than 20% programme participants have been assigned top executive positions. Many continued their training in sector-level programmes succeeding the Gold Reserve programme: "Heritage" and "Capital".

At the end of 2012, an HR reserve of 270 executive officers was created on the division level. To build it, 822 employees had to take remote examinations (tests), with 149 executives and specialists involved in the work of the Evaluation Centers.

**Personnel Involvement**

Involvement is an emotional and mental condition that drives employees to do their best.

Diagram of personnel involvement



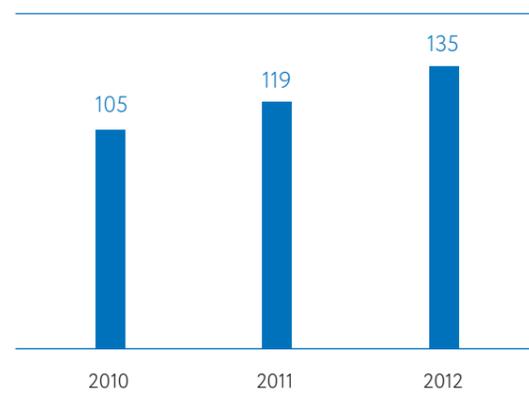
A study in 2012 showed that the average involvement index for the Concern’s personnel was 71%, or 7% above the 2011 figure. The head office and all nuclear plants adopted action plans to raise the efficiency of specific HR management processes and improve personnel attitudes.

**Personnel Training and Advanced Training**

A key factor that ensures safe and efficient operation of nuclear plants is the company’s use of a successful system of personnel training, re-training and skill management. Employees receive training under programmes developed by the Concern’s training units and by schools and providers of occupational training.

On the average, each employee in the Concern had 132 hours of training in 2012.

Distribution of training hours per employee in active nuclear plants, year-on-year dynamics



The in-house training system for nuclear plants exists as training and apprenticeship units at the nuclear plants (TAU) or directly inside plant facilities.

Curricula available from TAUs include academic studies in rules and regulations on the use of nuclear power, control of industrial processes of electrical power generation at NPP, and practical studies on VR simulation equipment.

To hone practical skills of production process management, TAU centers have training hardware and equipment including comprehensive simulators. In 2012, the company authorized the use of comprehensive simulators for power units Nos. 3, 4 and 5 at Novovoronezh NPP, while a comprehensive simulator for power unit No. 4 of Kalinin NPP passed commissioning acceptance.

Each employee group at nuclear plants must take annual training under qualification maintenance programmes. Operating personnel at control boards of nuclear plant units, must receive at least 92 hours of training annually, including 40 hours of practical studies on simulators. For other personnel categories in nuclear plants mandatory training is at least 20 hours.

In 2012, employees in nuclear plants received 3,710,389 hours of in-house training from TAUs and nuclear plant units. On the average, each employee in active nuclear plants received 108.7 hours of in-house training

Rosenergoatom Concern OJSC employees also receive annual training from third-party occupational education providers. The main providers of third-party education services for the Concern are schools such as CICE&T (Central Institute for Continuing Education and Training), MIFI National Nuclear Science Research Institute, and Federal State educational autonomic establishment of additional professional training “Petersburg Power Institute of Professional Upgrading”. In 2012, external training amounted to 801,079 hours, with 23 hours of external training per employee.

The cost of external training for employees in NPP and HQ Administration in 2012 was 283,101,000 rubles, or 8,200 rubles per employee annually.

Training hours for NPP employees in 2012

Item	Total	Per employee
Total hours of in-house training (in TAU and units)	3,710,389	108.7
Total training hours with third-party providers	801,079	23.3
Total training hours,	4,511,468	132
· executives	862,173	138.1
· specialists and office	1,493,308	121.7
· shop floor	2,155,887	138.2

\* Gender-specific statistics not available.

As required by regulations, NPP employees are periodically examined to prove their knowledge needed to perform their job functions. Examinations cover rules and standards of nuclear energy use, industrial safety, operation safety, radiation safety, fire-fighting, basic rules of nuclear plant operation, job descriptions, and process manuals.

NPP personnel training also includes training in psychology training provided by specialists of psycho-physiological support laboratories (NPP PPSL). Specialists from among employees of the nuclear plants, whose job functions require permits to be employed in activities that involve the use of nuclear power, must take on-hire and then annual mandatory psycho-physiological audits in NPP PPSL.

The logistic programme for NPP PPSL in 2012 purchased and put in operation equipment and software complexes, for total worth over 5,250,000 rubles.

In 2012, another PPSL was created in the Rosenergoatom Concern OJSC Branch Company - Directorate of Novovoronezh NPP-2 Construction Project.

**Approach to Recruitment of High-Skilled Personnel for Nuclear Plants**

Timely and good paychecks are a key factor in recruiting high-skilled personnel for nu-

clear plants. In 2012, the average monthly paycheck in Rosenergoatom exceeded 60,000 rubles, or 2.5–3 times the average in the Concern’s regions of presence.

The company assists employees who desire to own housing. More than 10,000 apartments are to be built by 2020. Mortgages are available on preferential terms at rates not higher than 7%, and even as low as 1% for younger employees; interest-free loans are also available, with deferred first installment. Under the corporate housing programme, the company built and distributed 909 apartments in 2012, including 370 in the town of Sosnovy Bor, 24 in Udomlya, 345 in Novovoronezh, and 70 in Zarechny.

Rosenergoatom Concern OJSC has always regarded caring for its employees and their families as an issue of the greatest importance. Its social programmes and policies include voluntary medical insurance, a chance to receive rehabilitative medical treatment, private pension plans, and an extensive programme of entertainment and sporting activities. More detailed information on social programmes available to Rosenergoatom Concern OJSC employees can be found in Section 6.5 “Social Policy”.

Total workforce breakdown by occupation, employment contract, and region \*

Division	2010		2010, Total	2011		2011, Total	2012		2012, Total
	Men	Women		Men	Women		Men	Women	
HQ Administration	446	351	797	505	408	913	499	391	890
Balakovo NPP	2,859	1,060	3,919	2,771	1,023	3,794	2,768	955	3,723
Beloyarsk NPP	1,528	686	2,214	1,593	651	2,244	1,907	821	2,728
Bilibino NPP	504	234	738	486	224	710	483	190	673
Kalinin NPP	2,510	1,151	3,661	2,561	1,176	3,737	2,660	1,291	3,951
Kola NPP	2,060	546	2,606	2,029	553	2,582	2,046	547	2,593
Kursk NPP	3,473	1,587	5,060	3,381	1,402	4,783	3,370	1,149	4,519
Leningrad NPP	3,840	1,467	5,307	3,667	1,149	4,815	3,646	1,134	4,780
Novovoronezh NPP	2,515	827	3,342	2,303	760	3,063	2,333	775	3,108
Rostov NPP	1,312	553	1,865	1,402	613	2,015	1,499	666	2,165
Smolensk NPP	3,143	1,434	4,577	3,023	1,364	4,387	3,003	1,335	4,338
<b>Total</b>	<b>24,190</b>	<b>9,896</b>	<b>34,086</b>	<b>23,721</b>	<b>9,323</b>	<b>33,043</b>	<b>24,214</b>	<b>9,254</b>	<b>33,468</b>

\* Contracts for season-specific activities (temporary employment) are not envisaged in the Concern.

Staff turnover, breakdown by gender and region \*, %

Division	2010, total	2010		2011, total	2011		2012, total	2012	
		Turnover ratio, women	Turnover ratio, men		Turnover ratio, women	Turnover ratio, men		Turnover ratio, women	Turnover ratio, men
HQ Administration	9.36	4.8	4.56	9.4	4.8	4.6	5.03	2.40	2.63
Balakovo NPP	3.8	1.69	2.11	3.37	1.5	1.87	1.11	0.23	0.88
Beloyarsk NPP	1.1	0.42	0.68	4.68	1.81	2.87	1.07	0.24	0.83
Bilibino NPP	6.4	2.43	3.97	7.6	2.89	4.71	4.62	2.56	2.06
Kalinin NPP	4.5	1.62	2.88	4.84	1.74	3.1	1.68	0.67	1.01
Kola NPP	4.9	1.51	3.39	4.49	1.4	3.1	1.14	0.33	0.81
Kursk NPP	0.7	0.17	0.53	5.29	1.32	3.97	1.43	0.41	1.02
Leningrad NPP	2.4	1.17	1.23	4.59	2.29	2.3	1.49	0.32	1.17
Novovoronezh NPP	0.02	0.0018	0.0182	6.82	0.68	6.14	1.29	0.25	1.04
Rostov NPP	0.8	0.26	0.54	5.66	1.88	3.78	0.92	0.52	0.4
Smolensk NPP	0.5	0.21	0.29	6.15	2.62	3.53	0.99	0.34	0.65

\* Turnover ratio among younger employees (under 35 y.o.) was 1.7% according to the 2012 data

Division	2012		Employment contracts, % Type: Permanent	Employment contracts, % Type: Fixed-term
	Full time, %	Part time, %		
HQ Administration	100	0	100	—
Balakovo NPP	100	0	100	—
Beloyarsk NPP	100	0	100	—
Bilibino NPP	100	0	100	—
Kalinin NPP	100	0	100	—
Kola NPP	100	0	100	—
Kursk NPP	100	0	100	—
Leningrad NPP	100	0	100	—
Novovoronezh NPP	100	0	100	—
Rostov NPP	100	0	100	—
Smolensk NPP	100	0	100	—
<b>Total</b>	<b>100</b>	<b>0</b>	<b>100</b>	<b>—</b>

Total employed breakdown by age and regions, %

Division	2010			2011			2012		
	under 35	35 to 55 (60)	retirees	under 35	35 to 55 (60)	retirees	under 35	35 to 55 (60)	retirees
HQ Administration	31.24	53.58	15.18	31.54	55.21	13.25	34.54	51.46	14.00
Balakovo NPP	24.28	68.16	7.56	24.36	67.27	8.37	25.48	66.02	8.50
Beloyarsk NPP	21.49	64.09	14.42	26.07	59.90	14.03	29.33	56.45	14.22
Bilibino NPP	33.07	57.73	9.20	33.43	56.86	9.71	34.93	59.01	6.06
Kalinin NPP	35.08	60.60	4.32	35.95	58.73	5.32	36.98	57.60	5.42
Kola NPP	29.61	63.46	6.93	28.44	64.61	6.95	28.60	62.97	8.43
Kursk NPP	28.04	64.40	7.56	28.82	64.17	7.01	30.19	61.58	8.23
Leningrad NPP	24.78	60.22	15.00	27.24	58.36	14.40	29.00	56.29	14.71
Novovoronezh NPP	26.49	62.40	11.11	25.18	63.83	10.99	26.94	61.93	11.13
Rostov NPP	35.91	62.33	1.76	35.84	63.24	0.92	40.69	54.66	4.65
Smolensk NPP	25.56	67.68	6.76	25.75	68.13	6.12	26.75	65.69	7.56
<b>Average</b>	<b>29</b>	<b>62</b>	<b>9</b>	<b>29</b>	<b>62</b>	<b>9</b>	<b>31</b>	<b>59</b>	<b>9</b>

Men and women in employment, %

Subdivision	2010		2011		2012	
	Men	Women	Men	Women	Men	Women
HQ Administration	56	44	55	45	56	44
Balakovo NPP	73	27	73	27	74	26
Beloyarsk NPP	69	31	71	29	70	30
Bilibino NPP	68	32	68	32	72	28
Kalinin NPP	69	31	69	31	67	33
Kola NPP	79	21	79	21	79	21
Kursk NPP	69	31	71	29	75	25
Leningrad NPP	72	28	76	24	76	24
Novovoronezh NPP	75	25	75	25	75	25
Rostov NPP	70	30	70	30	69	31
Smolensk NPP	69	31	69	31	69	31
Average	70	30	70	30	71	29

Share of younger employees (under 35 years) by categories, %

Category	2010	2011	2012
Managerial	7.56	7.9	8.5
Specialists	26.36	28.56	29.3
Office	6.79	6.86	6.99
Shop floor	28.51	28.66	29.1

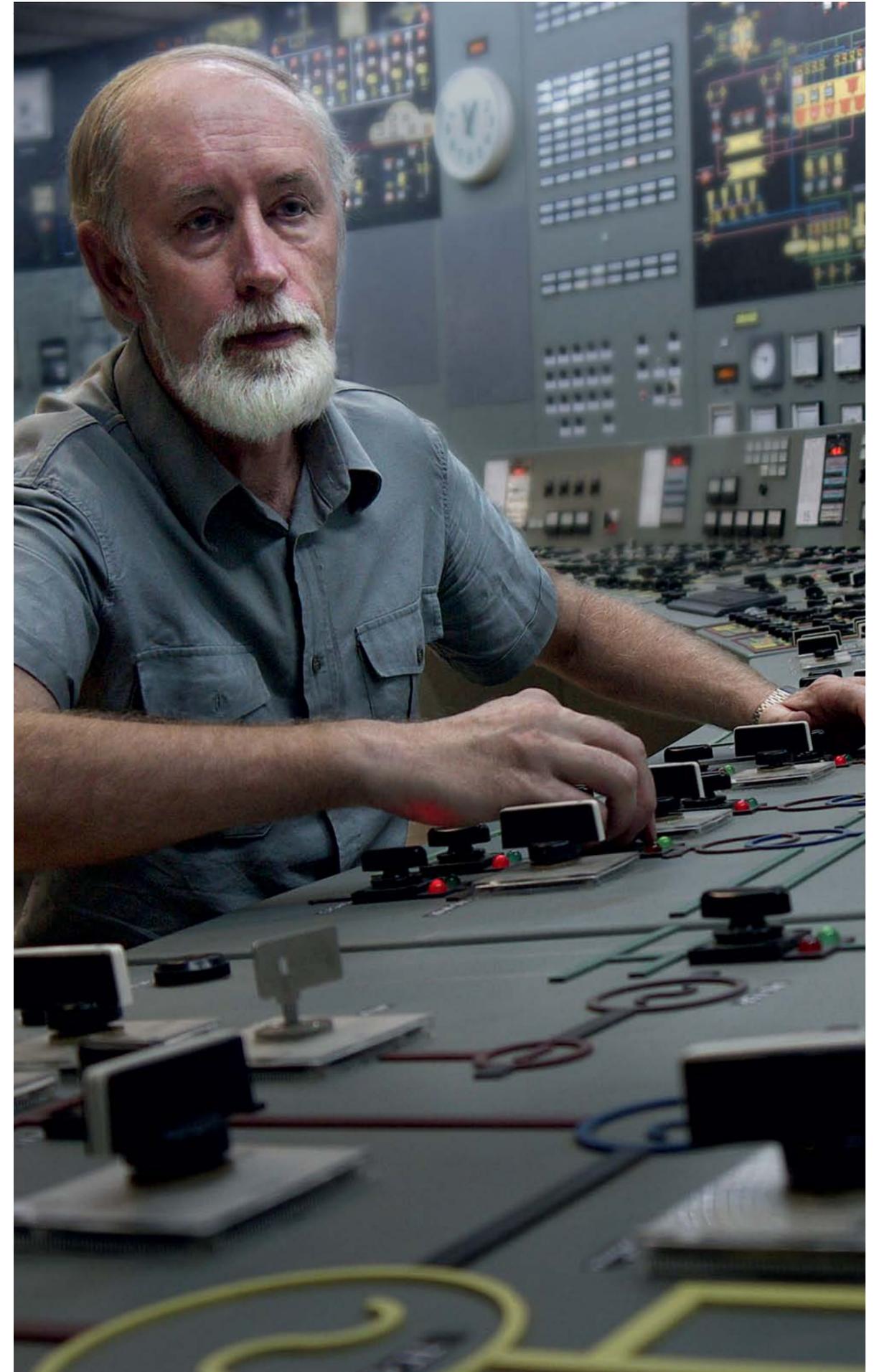
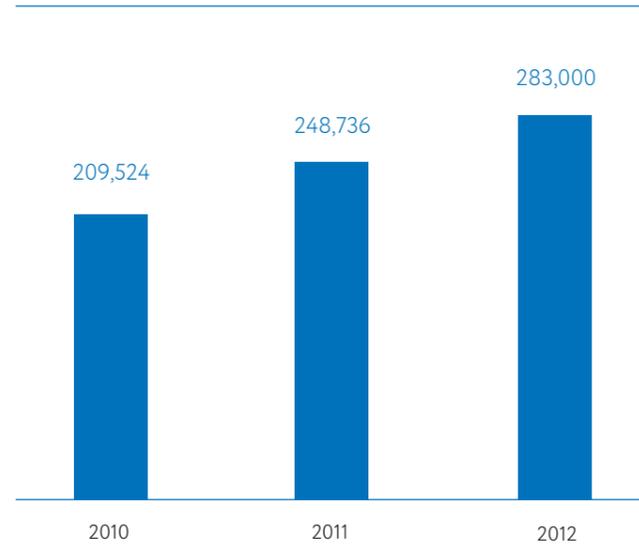
Employees' average age dynamics, year-on-year

	2010	2011	2012
Average age	42.9	42.4	42.3

Absence from work ratio, %

Subdivision	2010	2011	2012
HQ Administration	1.38	2.82	3.05
Balakovo NPP	0.49	0.35	2.2
Beloyarsk NPP	3.99	2.98	2.7
Bilibino NPP	0.40	0.50	2.68
Kalinin NPP	6.00	5.00	5.13
Kola NPP	3.60	3.10	4.4
Kursk NPP	3.80	3.40	3.17
Leningrad NPP	5.25	3.96	3.27
Novovoronezh NPP	3.85	3.69	1.5
Rostov NPP	2.00	2.00	1.94
Smolensk NPP	4.35	3.97	3.1

Distribution of training costs per employee in HQ and NPPs, dynamics, 000 rubles



## 6.4. LABOUR PROTECTION

ENSURING SAFE WORKING CONDITIONS FOR NUCLEAR PLANT EMPLOYEES AND CONTRACTOR PERSONNEL IS THE CONCERN'S KEY OBJECTIVE IN LABOUR PROTECTION, A MAJOR PRIORITY, AND ONE OF ROSENERGOATOM'S OPERATING PRINCIPLES.

### Injury Statistics

In 2012, branch companies of Rosenergoatom Concern OJSC – active nuclear plants had two accidents (including one serious accident):

- June 25, at Smolensk NPP (serious accident);
- June 30, at Novovoronezh NPP.

The accidents were caused by:

- failure to observe the production process;
- design flaw;
- employee's non-compliance with operation routine and discipline;
- inadequate organization of production;
- careless attitude of the victim.

Rosenergoatom Concern OJSC HQ had no accidents.

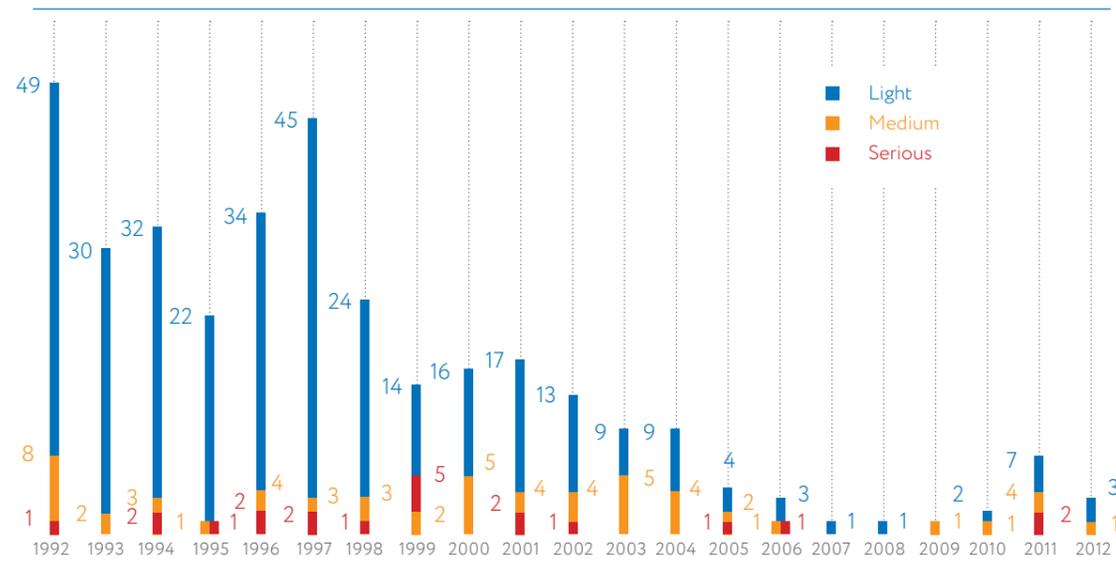
Rosenergoatom Concern OJSC Branch Companies – nuclear plant construction projects – registered one accident (Directorate of Kostroma NPP Construction Project). Cause: Traffic accident.

In 2012, for the Concern,  $K_v = 0.086$ ,  $K_r = 159.5$ . No occupational disease cases.

Accidents causing disability for one business day and longer, including lethal cases (LTI: line 01 of Form No. 7: injuries) at the Concern's active nuclear plants in 2012 – two victims.

Fact-based Injury frequency ratio resulting in temporary disability in 2012: 0.039.

Dynamics of employee injuries, over years

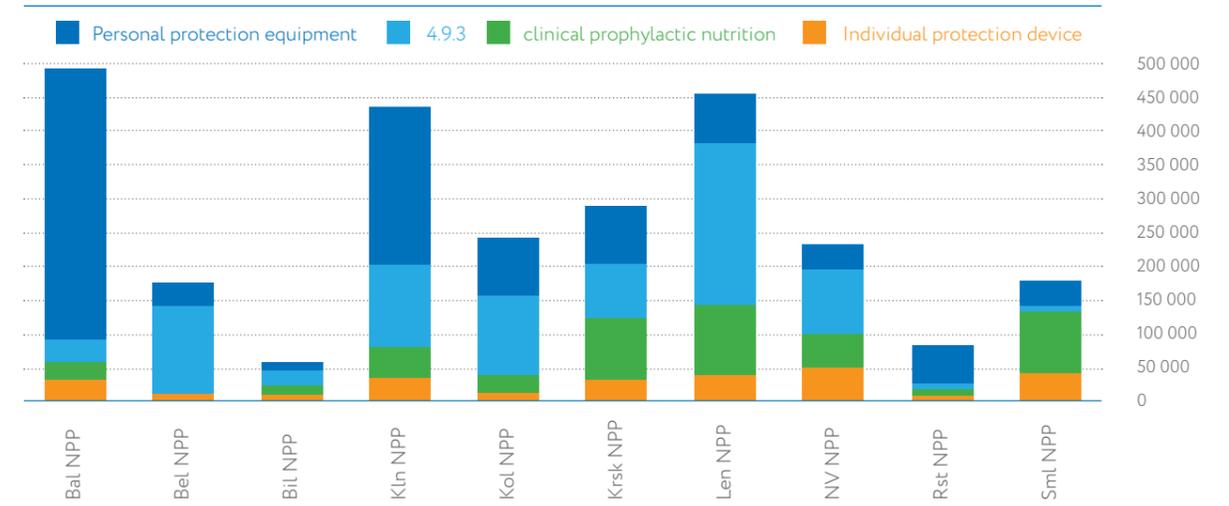


Accidents at active NPPs, year-on-year dynamics\*

Division	2010	2011	2012
Balakovo NPP	0	0	0
Beloyarsk NPP	1S (M)	1M	0
Bilibino NPP	0	0	0
Kalinin NPP	0	1S (W)	0
Kola NPP	0	1S (M)	0
Kursk NPP	0	1c (M)	0
Leningrad NPP	0	1	0
Novovoronezh NPP	1(M)	0	1
Rostov NPP	0	1S (M)	0
Smolensk NPP	0	0	1S (M)

\* S – serious; M – medium; L – light; (M) – men; (W) – Women

Investments in labour protection, 000 rubles



### Management System under Occupational Health and Safety Assurance Standard OHSAS 18001:2007

In 2012, stage two of the occupational health and safety management system was deployed and successfully passed certification for compliance under international standard OHSAS 18001:2007 at the nuclear plants of Beloyarsk, Bilibino, Kola, Kursk, Novovoronezh and Leningrad.

Thus the occupational health and safety management system under OHSAS 18001:2007 is now used in all active nuclear plants.

### Certification of Labour Protection Activities

In 2012, the Certification Agency's Panel of VNIIAES assisted by a representative of the central office of SSOT-Atom subsystem exercised inspection control of certified activities for labour protection at the HQ and the active nuclear plants.

The panel concluded that:

- labour protection activities at HQ and nuclear plants are compliant with federal law and regulatory acts on labour protection;
- the effect of the compliance certificate for labour protection activities (safety certificate) was confirmed.

**Business results of investments  
in labour protection**

Total investments in labour protection amounted to 2,665,066,000 rubles.

**Interaction with contractors  
in labour protection**

Work with contractors at active nuclear plants goes in accordance with:

- Standard Regulation on organization of nuclear plant interaction and contractors on issues of labour protection at active power units;
- Standard Regulation on safety audits on repair sites.

Work with contractors on construction sites is part of an approved programme that envisages practical activities in 2013 to reduce injury rates at construction projects of the nuclear power sector.

**Main results of activities in 2012**

To prevent injuries caused by failure to observe rules of equipment operation and repair at nuclear plants, and to promote responsible attitudes among personnel, the company enforces directives and ensures that the nuclear plants adopt a 3-stage control system in labour protection for equipment operation and repair, and use of individual safety tickets as penalty for violation of rules of operation and repair.

Heads of active nuclear plants attended a workshop that discusses best practices in labour protection.

One of the Directorate meetings in 2012 was focused entirely on efficient solutions to problems in labour protection.

OHSAS 18001:2007, the international health and safety assurance standard, was successfully adopted by the nuclear industry.

Measures to intensify efforts in labour protection were carried out as planned.

Nuclear plants were audited by labour protection compliance teams on the 2012 safety audits time schedule.

Work was organized to create uniform management of labour protection on nuclear plant construction sites.

**Conclusions**

1. The system of labour protection management in Rosenergoatom works in accordance with applicable standards and regulations.
2. Problem-solving activities planned for 2012 curbed the injury rates that peaked in 2011 at active nuclear plants, with positive outcomes: in 2012, the Concern's nuclear plants registered only 3 accidents compared to 7 in 2011.
3. To ensure further improvement of labour protection, and to maintain the achieved of injury-free operation and repair of equipment, nuclear plants need to be more demanding of personnel with regards to compliance with standards and regulations applicable not only to labour protection, but also to operation and repairs.
4. Nuclear plants were instructed to intensively use the system of individual responsibility for failing to observe the rules of operation and repair.

## 6.5. SOCIAL POLICY

AS A SOCIALLY RESPONSIBLE BUSINESS, ROSENERGOATOM MAKES CONSIDERABLE INVESTMENTS IN ITS EMPLOYEES, TO CREATE GOOD WORKING CONDITIONS AND SOCIAL WELFARE.

Under the Collective Contract, the Concern's employees are entitled to voluntary health insurance (VHI), private pension insurance (PPI), health-improving and sports programmes. Great support is given to help recently hired and retired employees realize their potential. Today, the Concern is the nuclear sector's flagship company in welfare, HR, and other issues related to development of the human factor. While the industry average is about 40,000 rubles of social spending per employee; the figure is as high as 70,000 rubles in Rosenergoatom Concern OJSC.

**Health Protection, Rehabilitation,  
and Aid to Personnel****Voluntary insurance for employees**

Spending on voluntary medical insurance amounted to 253.5 mln rubles in 2012. Employees receive medical services from medical offices of the Hospital of the Federal Bio-Medical Agency as regulated by the relevant law. Additional VHI policies are issued to employees' family members at a corporate discount. Under the VHI programme, employees and their family members can receive special information, consulting, and medical assistance, not only locally or in their region, but also from institutions in Moscow and St. Petersburg.

Corporate spending under personal insurance contracts in 2012 for all categories of insured employees amounted to 295.7 mln rubles.

**Rehabilitation**

Every year, the Concern has activities for personnel rehabilitation in departmental clinics and health resort institutions. In 2012, for example, 11,003 persons received health rehabilitation and treatment in 10 clinics at the nuclear plants, under rehabilitation programmes to treat cardiovascular, musculoskeletal, nervous system, gastrointestinal, and other conditions. Under voluntary medical insurance contracts, medical rehabilitation treatment was accessed by 552 employees. Another 7,162 individuals received health rehabilitation treatment away from home, in rehabilitation institutions and resorts in 20 health centers on the Black Sea, the Mineral Waters area of the Caucasus, and European Russia. The Concern's total spending on health rehabilitation and improvement in 2012 amounted to 998 mln rubles.

**Aid to personnel**

The mandatory employee training system deployed at Rosenergoatom assumes that employees not only improve their knowledge of safety, but also gain first aid skills useful both at work and at home.

The curricula and mandatory special training system implemented in the Concern improve employees' occupational level, and even make them more employable should they choose to leave the company.

Retirees are entitled to allowances payable under collective contracts. In addition, the Concern gives assistance to its retired employees through the Inter-Regional Organization of Rosenergoatom Concern OJSC Veterans (MOOVK).

**Mass sports and athletic activities**

Rosenergoatom Concern OJSC pays a great deal of attention to fitness, exercise, and sports, and various creative activities that improve health and contribute to employees' quality of life. Currently, more than 10,000 employees regularly practice in athletic clubs and art groups.

In 2012, four large-scale corporate events were open to all employees:

- Sport NPP-2012 – the 7th Rosenergoatom Concern OJSC Summer Sports Rally (hosted by Kursk NPP);
- Junior Sport NPP-2012 – the 6th Rosenergoatom Children and Teenagers Sports Festival for a Prize (hosted by Rostov NPP);
- Baltic Energy – the 7th Tourist Rally of Employees of Nuclear Power Sector and Manufacturing Sectors (hosted by Leningrad NPP);
- Russia's Lights – the 5th Festival of Patriotic Programmes (hosted by Smolensk NPP).

In addition, 14 corporate tournaments in popular sports involved more than 1,000 athletes from the Concern.

**Private Pension Insurance**

In 2012, as new retirees by age, 860 former Rosenergoatom Concern OJSC employees

**PPI co-financing programme**

Item	2010	2011	2012
Retired individuals	12,716	13,449	14,090
Pensions paid, mln rubles	187.4	205.9	236.4
Total paid by the Concern to PPF to finance pensions, mln rubles	453.5	519.3	581

received private pensions. Spending on private pensions amounted to 581 mln rubles.

At this time, 14,090 retirees of the Concern collect their private pensions from the Atomgarant Non-Government Pension Fund (NPF). The average monthly private pension was 1,854 rubles, with a total of 236.4 mln rubles paid as additional allowances by Atomgarant NPF to retired employees in 2012. The co-financing programme now covers 3,518 employees.

On January 1, 2012, private pensions indexation adjusted pensions by 6% upwards for retirees previously employed by the administration and branch companies.

Spending of 713 mln rubles was budgeted to finance PPI in 2013.

**Improving Housing Conditions for Employees**

A comprehensive programme has been in place since June 2012 to provide housing for the Concern employees in 2012–2020, with 43 billion rubles of total financing to build 10,413 apartments.

The Concern helps its employees with purchasing permanent housing, and depending on their needs they can request interest-free loans to pay the first mortgage installment, and/or partial reimbursement of interest on the mortgage loan.

In 2012, the Concern adopted a procedure to finance and manage the inventory of temporary corporate housing, used to accommodate employees and their families until they have permanent housing.

In 2012, the Concern's programme improved housing for 710 employee families.

**Employee families whose housing conditions improved with the Concern's assistance**

2010	2011	2012
650	683	710

**Veterans' Movement**

Taking care of its veteran employees is an important direction in the Concern's social policy. The main objective for the veterans' movement is to maintain the achieved level of cooperation with veterans, getting them involved in activities of their choice, allowing them to share their experiences with younger specialists, providing skilled medical assistance, and helping them with daily chores.

The Concern honors the Agreement on Social Protection signed with the Inter-Regional Organization of Rosenergoatom Concern OJSC Veterans/Retirees (MOOVK), under which:

- social, moral, and financial assistance is provided to veteran employees, as well as medical aid and health improvement;
- social and other programmes are implemented to protect veterans;
- veterans share experiences and skills with younger generation of employees, impart their patriotic spirit, and pass on their glorious traditions of work;
- veterans are invited to work with the public, including through the media, to promote the nuclear power industry;
- inviting veterans to join feasible paid work on temporary teams on assignments in research, production, etc., and other involvement in activities, to engage their vast occupational and life experiences.

In 2012, the actual number of retirees in the Inter-Regional Organization of Rosenergoatom Veterans (MOOVK) grew to 15,832 individuals, including: 952 veterans of Chernobyl Disaster response teams, 674 World War II veterans, war time home front veterans, and concentration camp prisoners, and 5,487 veteran employees of the nuclear power sector.

From the funds donated by the Concern under charity contracts, MOOVK provided 5,515,000 rubles as financial aid to its members in difficult situations, including purchase of medicines and high-tech medical aid, gifts on special dates, etc. 13,137,000 rubles were spent to purchase medicines and high-tech medical aid; and 6,974,000 rubles to buy services of health resorts and medical rehabilitation treatment for retirees. 1,228 pensioners went to spas and resorts. Veterans received nursing services, and presents on holidays and personal dates. Financial aid was provided to retirees in 19,760 cases.

**Youth Policy**

Working with the younger generation is an important aspect of Rosenergoatom Concern OJSC social policy. Young employees cannot be recruited unless they have access to good working and recreation conditions, and a wide range of social security services.

Activities and programmes under the youth policy seek to:

- promote the next generation's role and creative initiatives in business management and improvements in production processes, promoting safety culture;
- create favorable conditions for young employees to continue their education and occupational skills;
- improve social and housing conditions;
- create a mechanism to control, enforce and monitor the youth policy;
- create necessary administrative and economic conditions to develop creative ability and organize young people's leisure;
- create conditions to promote youth movements, and maintain contacts between young employees at Rosenergoatom and other businesses and organizations.

In 2012, the following events were notable in young employees' life:

- the 8th International Tournament in Brain Games: "What? Where? When?" and "Brain Ring" among young employees of the nuclear power industry and manufacturing (Novovoronezh NPP);



- a delegation of young specialists from Rosenergoatom Concern OJSC participated in the 7th international youth environmentalist forum “Chernobyl Lessons” (town of Slavutich, Ukraine);
- a delegation of young specialists from Rosenergoatom Concern OJSC joined the 25th international young nuclear sector employees symposium “Dysnai-2012” (Ignalina NPP, Lithuania);
- a delegation of young specialists participated in the 2nd international innovation forum hosted by Rosatom State Corporation (Kaluga Oblast);
- an integrated youth division composed of survey teams from Rosenergoatom joined the inter-regional “Memorial Watch” summer events in Voronezh Oblast;
- the 2nd tournament of the “Parliamentary Debate” game among young specialists of Rosenergoatom (Balakovo NPP);
- a delegation of young specialists from Rosenergoatom Concern OJSC participated in an occupational contest among young specialists of Energoatom (Rovno NPP, Ukraine);
- the international science and technology conference of young nuclear specialists “NPP Youth: Safety, Science, Production” (Kalinin NPP);
- the 10th international youth humor festival between teams of the nuclear power industry “2012 Autumn Maximum” (Beloyarsk NPP);
- a team from Rosenergoatom Concern OJSC appeared in the humour festival of youth teams representing businesses of the nuclear sector and profile colleges of the innovation consortium “2012 Rosatom Cup” (city of Obninsk);
- the “Homeland” patriotic assembly for children and teenagers (Smolensk NPP).

### Union Activities

Rosenergoatom Concern OJSC has evolved an efficient system to interact with base-level trade unions in the nuclear plants and HQ, all of which are united as the Association of base-level trade unions, and as regards part of the Russian National Trade Union of the Nuclear Power Industry. The association helps to pursue an integral and balanced policy that represents and protects the lawful rights and interests of the Concern’s employees.

As a form of interaction between the Concern’s management and the trade unions, standing corporate meetings (SCM) on issues of social security, employment, and recruitment have convened on a quarterly basis since 2004 at one of the nuclear plants. Such meetings are attended by executives and employees from HR and social

units on the one part, and by chairpersons of trade unions on the other. The parties meet to discuss vital issues of employment and social policy, such as wage increases, medical insurance, working conditions, housing, youth policy, veterans policy, and so on.

The central event of the year is the annual corporate conference, convened to debate and approve the “Corporate Agreement of Rosenergoatom in Employment and Social Relations” – the result of joint efforts by unions and the employer. The Corporate Agreement regulates employer-employees relations, and is the basis for collective contracts later signed in all branch companies. Collective contracts have been signed and are effective in all operating nuclear plants and construction projects, and in the HQ Administration.

## 6.6. DEVELOPING AREAS OF PRESENCE

A social infrastructure of quality, high salaries, skilled jobs, available sports and recreation facilities should be the quality of life in the Concern's areas of presence.

Fully aware of this, the Concern exerts considerable efforts and resources to support sustainable growth in the areas of presence of nuclear plants: it helps to create infrastructure, assists nursery and pre-school facilities, schools, and medical institutions, and helps to build and maintain housing and public recreation facilities. As a major taxpayer to government budgets of all levels, the Concern makes a significant contribution to the long-term economic stability of Russia's regions.

### Economic Influence

The Concern's economic influence on development in its areas of presence is diversified. The Concern contributes much to energy security of many regions.

Value created and distributed by Rosenergoatom Concern OJSC according to Russian Accounting Standards, billion rubles

No.	Item	2010	2011	2012
1	Created economic value	216.4	210.3	208.4
2	Incomes (sales revenues, gains from financial investments, and sold assets)	216.4	210.3	208.4
3	Distributed economic value	102.3	131.2	142.3
4	Operating costs (payments to suppliers and contractors, cost of purchased materials)	65.3	92.4	98.5
5	Salaries and other amounts and benefits for employees	21.5	24.2	26.2
6	Payments to capital providers	1.2	0.2	0.7
7	Gross tax payment (before individual profit tax and VAT)	13.9	14.0	16.2
8	Investments in communities, including donations	0.4	0.5	0.6
9	Retained economic value	114.1	79.0	66.1
10	Contribution to GDP		117.8	109.8

In some regions, nuclear plants produce as much as 36.5% of total locally generated power

In addition, the Concern is actively involved in creation and fair distribution of economic value.

The Concern is a major taxpayer in its areas of presence, and contributes to government budgets on every level.

The Concern's activities are a considerable influence as they create many skilled jobs in the nuclear and related sectors of economy, which offer high income employment with good working conditions.

Each gigawatt of nuclear plant installed capacity means a thousand-plus skilled jobs in the nuclear sector, and at least 10,000 jobs in associated sectors.

Tax payments to budgets of federal, regional and local governments in places of residence of branch companies of Rosenergoatom Concern OJSC in 2012, 000 rubles

Region of presence	Branch company	Federal budget	Regional budget	Local budget	Total
Saratov Oblast	Balakovo NPP	0	834,253.8	149,463.1	983,716.9
Sverdlovsk Oblast	Beloyarsk NPP, Directorate of Beloyarsk NPP-2 Construction Project	0	631,507.8	98,718.4	730,226.2
Chukotka Autonomous Okrug	Bilibino NPP	0	289,719.9	52,267.0	341,986.9
Tver Oblast	Kalinin NPP	0	1,639,055	87,644.6	1,726,699.5
Murmansk Oblast	Kola NPP	0	881,602	209,021.1	1,090,623.1
Kursk Oblast	Kursk NPP	0	1,528,172.5	125,398.8	1,653,571.3
Voronezh Oblast	Directorate of Novovoronezh NPP-2 Construction Project, Directorate of Voronezh NPP Construction Project	0	1,091,254.4	126,332.3	1,217,586.7
Smolensk Oblast	Smolensk NPP	0	1,330,133.1	137,862	1,467,995.1
Leningrad Oblast	Leningrad NPP	0	2,459,367.8	180,071.1	2,639,438.9
Rostov Oblast	Rostov NPP	0	2,041,274	254,109.4	2,295,383.4
Republic of Bashkortostan	Directorate of Bashkortostan NPP Construction Project	0	19,391.4	14,417.2	33,808.6
Kaliningrad Oblast	Directorate of Baltic NPP Construction Project	0	20,753.5	7,461.6	28,215.1
Kostroma Oblast	Directorate of Kostroma NPP Construction Project	0	7,664.7	34,333.9	41,998.6
Moscow	HQ Administration and Moscow-based branches	6,254,100	581,274.8	0	6,835,374.8
St. Petersburg	FTNPP (St. Petersburg)	0	1,163.6	0	1,163.6
Kamchatka Krai	FTNPP (Vilyuchinsk)	0	102.1	0	102.1
Nizhny Novgorod Oblast	FTNPP (Nizhny Novgorod)	0	84.1	0	84.1
<b>Total</b>		<b>6,254,100</b>	<b>13,356,774.4</b>	<b>1,477,100.5</b>	<b>21,087,974.9</b>

Table. Numbers employed by nuclear plants and contractors

NPP	Staff	Contractor staff
Balakovo NPP	3,723	2,000
Beloyarsk NPP	2,762	3,595
Bilibino NPP	676	500
Kalinin NPP	3,951	5,612
Kola NPP	2,633	3,000
Kursk NPP	4,641	915
Leningrad NPP	4,783	4,000
Novovoronezh NPP	3,200	1,637
Rostov NPP	2,200	5,000
Smolensk NPP	4,484	1,504

In its areas of presence, the Concern is most often one of the largest employers and the best paying one. High requirements for employee skill level motivate the local labour market to better train its human resources, and thus the level of education also rises.

As a negative impact caused by higher than average salaries, the general price index tends to increase through the demand-supply balancing mechanism, and affects the buying capacity of other citizens in the region.

At the same time, the high salaries of nuclear plant employees boost local consumer markets and related businesses, thus being a positive factor for the local employment situation.

In addition, the presence of a nuclear plant in the region can attract power-intensive production, which is another positive factor for employment.

The Concern also considerably influences growth in associated sectors, as a major buyer of products and services from domestic (largely local) suppliers.

Therefore, the arrival of nuclear power fa-

cilities in a region generally creates a strong multiplier factor for local economies in the regions of presence.

### Social Influence

The Concern's activities have considerable social influence on its areas of presence. Large investments in infrastructure, housing built and maintained, improved housing conditions for employees, notable social projects, programmes to interact with schools, veteran and youth organizations – and this is far from a comprehensive list.

Investments in infrastructure form an important aspect of the Concern's social responsibility. Its investment programmes typically include construction of social objects and infrastructure.

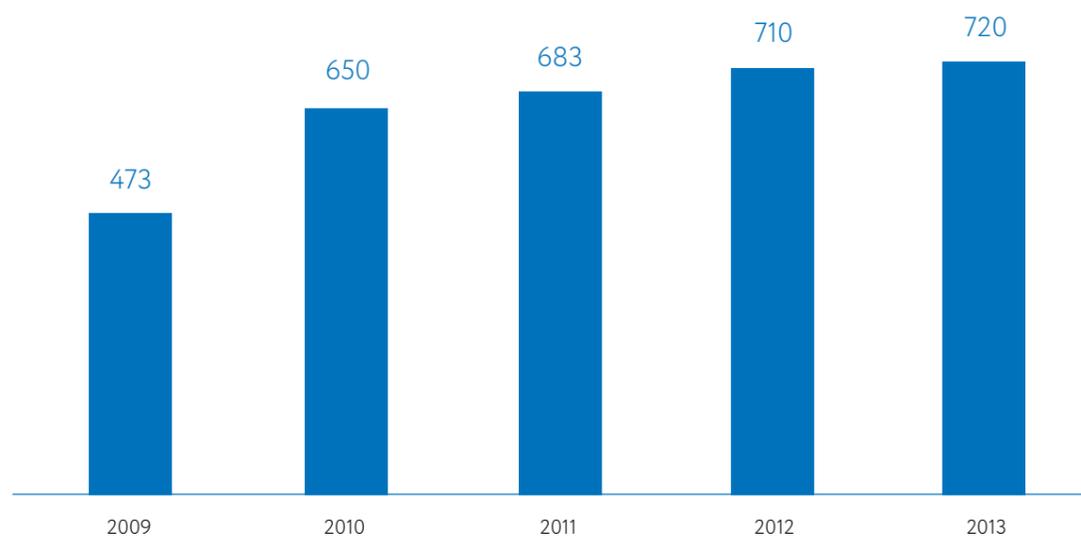
Key infrastructure components in the home towns of nuclear plants were built even as the plant was under construction. The table below contains information about past investments into the development of infrastructure.

As a responsible employer, the Concern helps hundreds of families solve their housing problems every year.

Infrastructure components built in the Concern's areas of presence

Area	Infrastructure components built in the community thanks to NPP
Balakovo NPP, Town of Balakovo, Saratov Oblast	541,500 square meters of housing (11,481 apartments), three schools, 11 pre-schools, gymnasium, medical office, medical clinic, shopping stores, pharmacies.
Beloyarsk NPP, town of Zarechny, Sverdlovsk Oblast	Under a programme to win the allegiance of local government and citizens, the company built and commissioned: the Young Engineers Club for children, Aleschenkov Boulevard, Youth Theater, and a gas pipeline to the town of Zarechny.
Kalinin NPP, town of Udomlya Tver Oblast	Western bypass road 51.5 km long built, connecting Udomlya with the large municipality of Bologoye. Bridges retrofitted in the villages of Gaynovo, Krasny May, and Manikhino. A potable water pipeline built to the north section of Udomlya. In 2011, a new 92-apartment block commissioned under Rosenergoatom Concern OJSC mortgage programme.
Kola NPP, town of Poliarniye Zori, Murmansk Oblast	Kola NPP financed construction of St. Trinity Cathedral, a 117-apartment block, and supports operation of housing facilities. A boiler house built and put in operation by Atom-Housing managing company. The city stadium was repaired. The NPP maintains and develops the city's sports infrastructure (alpine skiing, ice palace, ski track, training equipment hall, and multi-purpose gym). A pre-school for 75 children was built and equipped.
Kursk NPP, town of Kurchatov, Kursk Oblast	Construction of housing in Kurchatov (for 50,000 citizens), six secondary schools, 14 pre-schools, schools of arts, retail stores, canteens, cafés, hotel and restaurant, hospital compound with medical clinic, maternity hospital, and dentistry building, bakery, Energetik – a unique sports facilities complex, embankment along the cooling water pool near the town, phase one of the municipal Culture Centre
Leningrad NPP, town of Sosnovy Bor, Leningrad Oblast	Motor road A-121 repaired, heavy-duty asphalt pavement made. A new stretch of road 1.7 km long built complete with rainwater drains in A. Nevskiy Prospekt, between streets Leningradskaya and Molodezhnaya; a 1.4 km motor road widened and paved between Leningradskaya and the NPP-1 mooring facilities.
Novovoronezh NPP, town of Novovoronezh, Voronezh Oblast	In 2012, to commemorate the 55th anniversary of the town of Novovoronezh, the Concern financed repair of the central town square, with a water fountain built, had repaired the façade of the Culture Centre, and installed CCTV in the streets.  The Concern supports construction of housing and infrastructure in the North Estate. A managing company was established and now services apartment blocks and provides utilities and public services: branch company of Atom-Housing, Novovoronezh, AtomTeploSbit LLC.
Rostov NPP, town of Volgodonsk Rostov Oblast	Trunk pipelines and local supply networks, electrical power lines along motor roads, including lampposts along newly built roads, a surgery building for town hospital No. 1, service building for municipal dental clinic, a secondary school, a stadium in Molodezhniy district park area.
Smolensk NPP, town of Desnogorsk Smolensk Oblast	Most social facilities in Desnogorsk were built with assistance from Smolensk NPP; many units were previously assets on the corporate balance sheet. Direct aid from Smolensk NPP financed construction of an Orthodox cathedral in the town "Glad Tiding to All Mourners"; and a boxing club.  In 2012, State Corporation Rosatom and Smolensk Oblast signed a cooperation agreement under which additional financing will be available for the municipality of Desnogorsk to develop the area and support citizens.

Families with improved housing conditions with the Concern's assistance



In 2012, a new comprehensive housing programme for the Concern's employees was adopted, planned for 2012–2020. During the period, more than 625,000 square meters of housing is to be built -10,500 apartments. Housing construction is one of key conditions to recruit skilled labour – and this is particularly important after large-scale construction of new power units.

- youth organizations in science and technology, occupational training, social activities and sports;
- additional higher education, and advanced training programmes;
- Housing for Youth project;
- plans for career growth, and development of executive competencies.

Work with veteran organizations goes under the regulation on social support to retirees, former employees of Rosenergoatom Concern OJSC, and the regulation on veteran employees of the nuclear power sector. Detailed information on work with veterans is available in par. 6.5 "Social Policy" of this Annual Report.

Social programmes and projects designed to ensure good living and working conditions for employees and their families include:

- voluntary medical insurance;
- health rehabilitation treatment;
- private pension plans;
- hosting cultural, entertainment, and sporting events.

Details on the Concern's social programmes are available in par. 6.5 of the Annual Report.

Work with schools in the areas of presence includes career consulting for high-school students, and support for profile training in colleges, hosting tournaments and contests. For example, the Concern is involved in annual vacancy fairs aimed at college students. It offers internships and apprenticeships at nuclear plants. Unique projects include educational ones for school children, such as Children's Nuclear Academy at Kola NPP, Atom Class at Rostov NPP, a lecture cycle "My Job" for high-school students at Leningrad NPP, and others.

Programmes for young employees of the Concern seek to create conditions for efficient work and to help realize creative potential. Key directions for young specialists:

- A system of adaptation, training, and tutorship for young specialists;

## 6.7. CHARITY AND SPONSORSHIP

THE GOALS OF THE CONCERN'S CHARITABLE AND SPONSORSHIP PROGRAMMES ARE TO PERFORM ITS SOCIAL DUTIES, CONSOLIDATE EMPLOYEES, AND INCREASE THEIR RESPONSIBILITY AND SELF-RESPECT.

Rosenergoatom Concern OJSC has had charitable programmes since its incorporation, and sees this as one of its best corporate traditions.

After years of cooperation, main principles and terms of interaction have evolved between the Concern and charity recipients. Co-financing is one such principle: the Concern partners up with other businesses and organizations in practically every project. In addition, the Concern's charity projects have inputs from private individuals, including employees of nuclear plants and HQ Administration.

Traditional directions for charity and sponsorship include:

- assistance to socially disadvantaged citizens – orphaned children or persons in

dire straights, the disabled, Chernobyl disaster responders, war and home front veterans, large families, etc.;

- restoring and renovating places related to Saint Sergius of Radonezh and Seraphim of Sarov; preparations to celebrate 700th anniversary of Saint Sergius. Church building in the towns of presence;
- support and promotion of sports and a healthy lifestyle, and patriotism;
- events to improve social and sport infrastructure in communities around NPP, landscaping;
- support for cultural projects that promote moral values and responsibility.

Total spending on charity and sponsorship in 2012 amounted to 586.6 mln rubles, on these directions:

Spending on charity and sponsorship, mln rubles

Charity and sponsorship category	2012
Traditional events under the charity and sponsorship policy	191.41
Industry-level programmes	209.19
Charitable activities and sponsorship in nuclear plant locations (including aid to retirees, persons in need, institutions for children, sports infrastructure, etc.)	186.0
<b>Total</b>	<b>586.6</b>

## 6.8. INTERACTION WITH STAKEHOLDERS

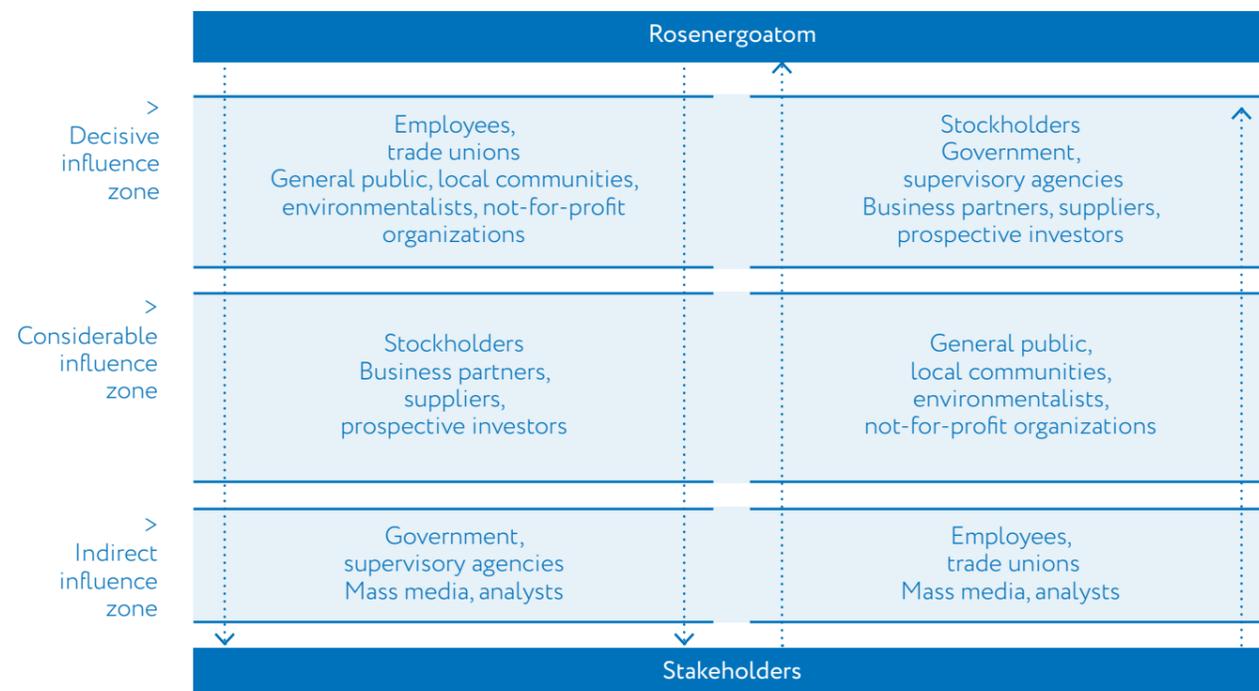
THROUGH ACTIVE DIALOGUE WITH STAKEHOLDERS ROSENERGOATOM CONCERN OJSC SEEKS TO ENSURE THE HIGHEST LEVELS OF OPENNESS AND TRANSPARENCY OF ITS ACTIVITIES. ROSENERGOATOM CONCERN OJSC MAINTAINS CLOSE CONTACT WITH ALL STAKEHOLDERS, WITH TIMELY DISCLOSURE OF RELEVANT INFORMATION ON EVERY OPERATION-RELATED ASPECT, AND RESPONDS TO THEIR REQUESTS AND RECOMMENDATIONS.

### Approach to interaction with stakeholders

The approach to interaction rests on the following principles:

- trust and sincerity;
- partnership;
- openness and transparency;
- mutually beneficial cooperation;
- regular constructive dialogue;
- performing all obligations.

Stakeholder matrix and nature of interaction\*



\* The matrix is regularly updated to consider opinions of corporate management and third-party experts.

### Interaction with Stakeholders

Stakeholders	Interests	Interaction procedure
Government (federal, subjects of the Russian Federation, local self-government, supervisory agencies)	Efficient and stable electrical power supplies, safe and open operations, no negative environmental impact, social responsibility, leadership in technology and innovations	Presentation of Annual Report through dialogues and public hearings. Annual Report published on the corporate website. Publication of Annual Report, interactive version (website). Printed copies of Annual Report delivered by official mail. Publication of annual environmental reports
Stockholders (Rosatom State Corporation, Atomenergoprom JSC)	Achievement of targets (generation, investments, safety, salaries, social programmes, operating efficiency).	Presentation of Annual Report through dialogues. Printed copies of Annual Report delivered by official mail. Annual Report published on the corporate website. Publication of Annual Report, interactive version (website)
The Concern's employees and trade unions	Stable employment and good paycheck, social security (including pension), self-realization, tutorship, personnel training, career growth, advanced training	Notifications on the issued Annual Report with a link to corporate page and interactive version of Annual Report (website). Top management addressing the employees to present Annual Report. Printed version of the report sent to divisions, branch companies, subsidiaries and controlled businesses.
Citizens, communities, environmental and NGOs	Public relations, considering stakes, proposals and expectations. Safe and open operations, no adverse impact on the environment, stable electrical power supplies, support in areas of presence, jobs, environmental projects and investments	Presentation through dialogues and public hearings. Press releases with a link to corporate page and interactive version of Annual Report (website)
Business partners, suppliers, prospective investors	Plans for development, government support, assured stability of quality, stable financial situation.	Presentation of Annual Report through dialogues and public hearings. Annual Report published on corporate website. Publication of Annual Report, interactive version (website). Printed copies of Annual Report delivered by official mail. Distribution at exhibitions and conferences. Press releases
Mass media, analysts	Open and safe operations, access to management, plans and outlooks, key targets achieved, regular disclosure of corporate information	Presentation of Annual Report through dialogues and public hearings. Press releases with a link to corporate page and interactive version of Annual Report (website). Press conferences

## Main Forms of Communication and Awareness

Main forms of communication and awareness



### Public Discussions

In strict compliance with the laws of the Russian Federation, when planning its activities that can have considerable impact on the environment and the local public, Rosenergoatom Concern OJSC initiates public discussions that invite participation from experts representing R&D and designers, supervisory agencies, federal, regional, and local government agencies, NGOs, environmentalists, the press, and the broader public.

Any public discussion is a set of activities used to assess environmental impact from planned business or other activities. Discussions have the purpose of informing the public about planned activities, and their possible impacts on the environment, to identify public preferences and consider them for impact assessment, and to protect the rights, liberties, and lawful interests of citizens within areas targeted for specific business operations.

Overall, in 2012, in Rosenergoatom Concern OJSC's areas of presence of the company held 13 public discussions resulting in licenses issued for various activities: placement, construction, operation, increasing capacity of power units, including at the nuclear plants of Rostov, Novovoronezh, Balakovo, and Beloyarsk. These activities involved more than four thousand individuals.

### Environmental Reports

Every year, each nuclear plant issues an annual environmental report. In 2012, for the

first time, public presentations of such reports were made in every region where nuclear plants are situated.

For details about the results of environmental impact and implemented environmental policy, please see Section 6.2. "Environmental Impact".

### Media

Information about nuclear plant operation and the radiation situation in the communities around them is available without delay as press releases and reports published on the corporate website and the nuclear plants: [www.rosenergoatom.ru](http://www.rosenergoatom.ru).

The website [www.russianatom.ru](http://www.russianatom.ru) publishes information on radiation monitoring at Russian nuclear plants in real time.

#### Multi-channel voice mail service

Balakovo NPP: (845-3) 62-22-20  
Beloyarsk NPP: (34377) 3-61-00  
Kalinin NPP: (48255) 6-87-87  
Kola NPP: (81532) 4-48-88  
Kursk NPP: (47131) 5-65-55  
Leningrad NPP: (81369) 5-55-55  
Novovoronezh NPP: (47363) 7-37-37  
Rostov NPP: (8639) 23-61-77  
Smolensk NPP: (48153) 3-21-24

In addition, all nuclear plants have 24/7 voice mail service that publishes daily updates on the nuclear plants and radiation environment.

Information support for nuclear plant operation is coordinated by Public Relations Centres at each NPP. Reports on operation and social materials are published through corporate and local media, on local TV channels, blogs, and so on.

In the event of an emergency at a nuclear plant, there is a system of rapid information exchange using community and regional TV and radio, press agencies, press services of governors and regional governments, the regional offices of the Ministry for Emergencies and the police. This system is used not only in case of emergencies, but also on attempted hack attacks and misinformation.

It is accepted practice to organize press tours and visits to nuclear plants, inviting reporters not only from the Russian press, but international media as well.

In 2012, emergency drills of Rosenergoatom Concern OJSC involved employees of public awareness centres (PAC) at nuclear plants of Kola, Kalinin, Smolensk, Leningrad, Beloyarsk, Kursk, and Rostov.

To cover a comprehensive drill, Kursk NPP invited more than 30 representatives from printed and digital media, including foreign observers.

### Special Projects

Awareness campaigns addressing the general public are seen as one of the most important directions for public interaction. Public Awareness Centres in the areas around nuclear plants have displays and show rooms that are visited by 3,000-5,000 people every year. Special education projects are also implemented, such as the 'Nuclear Academy for Children' (Kola NPP), "Kurchatov Public Readings for Children" (Beloyarsk NPP), and "Today's Fiction is Tomorrow's Reality" (Kalinin NPP), addressed to students of different age groups. This includes a unique project called "Atom Class", implemented first in 2012 in one of the secondary schools in Rostov-on-Don. Under the project, a physics laboratory will receive advanced equipment

and devices, including interactive multimedia, and special tool kits for science experiments.

Public Awareness Centres at nuclear plants have a chain of Clean Energy clubs as a meeting place for local reporters who regularly write on the issues of the nuclear sector. The clubs organize interviews, press conferences, and topical press tours.

### Public Opinion Polls

The Concern's management emphasizes the importance of public opinion on issues of development in the nuclear power sector.

In March 2013, the Levada Centre again polled Russian citizens to learn what they think about nuclear power, using a representative national sampling that covered urban and rural respondents: 1,601 individuals aged 18 and older, in 130 communities of 45 regions nationwide.

The results of the poll show that the nuclear phobia that emerged in 2011 following the Fukushima disaster has been successfully overcome and that people see nuclear power as the only real alternative to fossil fuels.

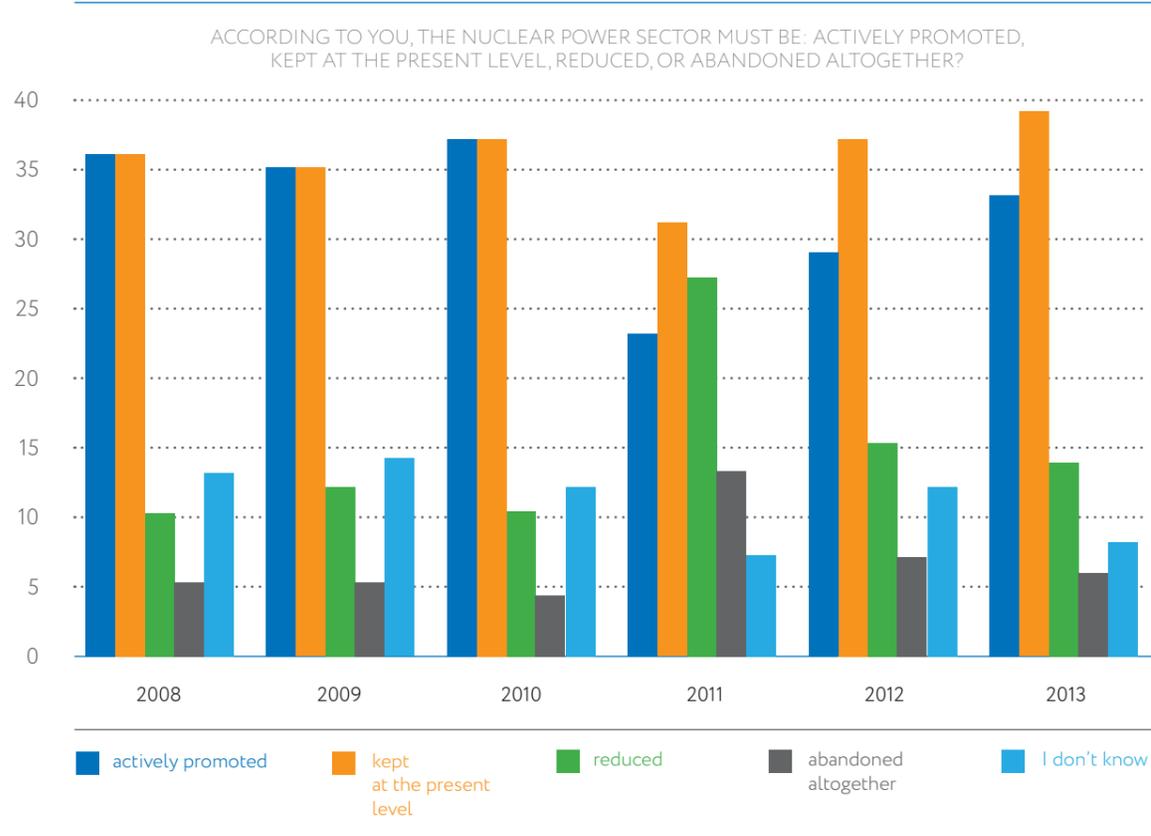
### Blogosphere

In 2012, in a series of other blogs, Rosatom State Corporation launched the blogs of General Director of Rosenergoatom (<http://publicatom.ru/blog/romanov/>) and nuclear plants (<http://publicatom.ru/blogs/>). They are used to publish information about nuclear plant operations, and to answer questions from the public.

### Interaction as this Annual Report was Prepared

The 2012 Annual Report is the fifth integrated report published by the Concern. In the context of its construction, "Safety of the Russian Nuclear Sector" was selected as the priority issue of the Report.

Levada Centre poll on dynamics of Russian citizens' perception of nuclear power, %



This Annual Report was guided by the rules of sustainable growth reporting found in the Global Reporting Initiative (GRI, version 3.1) and Technical Protocol for the electric power sector (GRI Electric Utility Sector Supplement).

Key stakeholder representatives were involved in dialogues to discuss selection and coverage of most significant aspects of the Concern's operations; they also actively participated in public affirmation of the report.

Dialogue No. 1 on "Discussing Concept of 2012 Annual Report of Rosenergoatom" with stakeholders took place on January 31, 2013. The concept of the Concern's Annual Report was presented to all parties attending, and each had a chance to speak and make comments and proposals. As a result of the dialogue, the concept of the Annual Report received a number of significant changes (see the Table).

Dialogue No. 2 titled "Rosenergoatom Concern OJSC System to Prevent and Eliminate

Emergencies" took place on April 9, 2013 in the building of VNIIAES in Moscow. During the dialogue, participants not only asked questions about information disclosure in the Concern's Annual Report, but also had a hands-on experience when they visited the Concern's Crisis Centre.

During Dialogue No. 3 titled "Public Awareness and Alerts" on April 9, 2013, stakeholder representatives could interactively examine the Concern's efforts to keep the public informed and aware. Their comments and proposals to improve the system were later considered, including when this report was prepared.

**Public Consultations**

Public consultations on discussion of the draft public Annual Report of Rosenergoatom Concern OJSC for 2012 took place on May 17, 2013. The event involved the Concern's top executives, representatives of the government, supervisory agencies, business partners, the public, environmentalists, and the media – a



total of 34 people. During public consultations the parties had the opportunity to examine the draft report that considered comments and proposals offered by stakeholder representatives during previous dialogues. Both stakeholders and experts spoke of the high quality of the 2012 Annual Report from Rosenergoatom, and the exhaustive disclosure and compliance with international and industry-level standards of Public Accountability Policy. Parties to the dialogue also stated that all their recommendations and proposals on information disclosure were considered in the report; they also raised some new proposals (see the table below).

**Considering material comments and proposals offered by stakeholders**

Material comments raised during dialogues and public consultations and considered in the 2012 Report

Questions, comments, proposals	Comments and proposals considered
<b>Stockholders (Rosatom State Corporation, Atomenergoprom JSC)</b>	
Safety in the nuclear power sector to be selected as a priority issue	"Safety of Russian nuclear power sector" is the priority issue of the report
Report to include references to GRI indicators	Will be considered in future
Provide information on the Concern's innovative activities and R&D deliverables	Considered in Section 3.6 "Innovative Activities"
<b>Business partners, suppliers, prospective investors</b>	
Annual Report to cover the Concern's contribution to municipal infrastructure in host communities	Considered in Section 6.6 "Developing areas of presence"
Disclose information on social programmes, career growth and personnel training	Considered in Section 6.3 "HR management"
Annual Report to emphasize safety assurance. Provide details on international activities	Considered in Section 3.7 "International Activities"
<b>Government (federal, Subjects of the Russian Federation, local self-government, supervisory agencies)</b>	
Annual Report to cover social topics related to the Concern's efforts to develop awareness centres in the regions of presence	Considered in Section 6.8 "Interaction with stakeholders"
As a priority, Annual Report to cover safe and reliable operation of nuclear plants	"Safety of Russian nuclear power sector" is the priority issue of the Report
Annual Report to cover results of Rostekhnadzor audits in 2012, and corrective action by Rosenergoatom	Considered in Section 3.3 "Assuring Safety of Russian NPPs. Radiation Impact on Personnel and Citizens"
<b>Media, Analysts</b>	
More attention on disclosure of sustainable growth activities	Considered in Section 6 "Sustainable growth". Number of reported indicators expanded.
Cover the situation with power unit No. 1 of Leningrad NPP	Considered in Section 3.5 "Maintenance and repair"
Additionally interpret environmental radiation safety indicators to make report data more informative	Considered in Section 3.3 "Assuring Safety of Russian NPPs. Radiation Impact on Personnel and Citizens"
Provide details on results of innovative activities.	Will be done in future
Provide details on future needs in human resources: numbers, skill levels.	Future reports will describe the Concern's HR strategy in more detail
Provide details on the Concern's contribution to WANO activities	Considered in Section 3.7 International Activities
Disclose more comparative data on impacts from various type of power generation on environment.	Will be considered in future.

Questions, comments, proposals	Comments and proposals considered
<b>Citizens, communities, environmental monitors, NGOs</b>	
Give more details on sustainable growth	Considered in Section 6 "Sustainable growth"
Cover in-depth SNF generated annually	Considered in Section 6.2 "Environmental Impact"
Cover competitive ability and efficiency after Russia joins the WTO	Consequences of WTO membership on the Concern's operations and competition will be disclosed in future
Annual Report to pay special attention to safe, reliable and efficient operation of nuclear plants, environment-friendly nuclear energy	Section 3.3 "Assuring Safety of Russian NPPs. Radiation Impact on Personnel and Citizens"
<b>Environmentalist Organizations</b>	
Annual Report to focus on safe, reliable and efficient operation of nuclear power sector as a priority issue. Describe the Concern's competitive ability and efficiency after Russia joins the WTO.	Consequences of WTO membership on the Concern's operations and competition will be disclosed in future.
Public consultation to be broadcast online	Feasibility of dialogue webcasts will be examined
<b>Employees, trade unions</b>	
More coverage of the Concern's social policy, mention events of significance for nuclear plant employees, sports and culture activities	Additionally covered in Section 6.5 "Social policy" and Section 6.6 "Developing areas of presence"
Describe innovative technologies used by the Concern. Cover the Concern's anniversary. Describe initiative to create an association of nuclear communities. Disclose the Concern's plans for social activities	Additionally covered in Section 6.5 "Social policy" and Section 6.6 "Developing areas of presence"

Progress with comments on 2011 Annual Report

Stakeholder questions, comments, proposals as regards 2011 Report, compliance progress	As promised for 2012	Progress
A wider list of stakeholders to be invited for public consultations on the Annual Report, including parties opposed to nuclear power	Will be considered in future dialogues	Dialogues on 2012 Annual Report involved more parties, included more representatives of media and environmentalists
Cover activities to promote the nuclear sector	Will be considered in next Annual Report	Extra information provided on NPP Public Awareness Centres. Dialogue on public awareness and informing
The Concern's expert assistance needed to work with stakeholders in areas with new NPP construction sites	Will be considered as activities begin in new regions	Information support, including expert (methodological) assistance, construction of new nuclear power units, by the Concern's Department of Information and PR, and NPP Public Awareness Centres



Construction site of power plant No.4 of Kalinin NPP, 2011

## CONCLUSION ON THE PUBLIC CONSULTATION ROSENERGOATOM'S ANNUAL REPORT ROSENERGOATOM

### Preamble

Rosenergoatom Concern OJSC requested that we should assess its 2012 Annual Report, the completeness and relevance of information therein disclosed, and the response to stakeholders' proposals and inquiries to Rosenergoatom Concern OJSC.

We have the required competencies in corporate liability, sustainable growth, and non-financial reports, and while we observe ethical prerequisites of independent and objective judgment, we express our personal opinion as experts, but not as corporate entities of which we are representatives.

For this purpose, we and our representatives were furnished with following materials: the draft and final version of the 2012 Annual Report, and minutes of the dialogues. In addition, we were offered an opportunity to participate in public consultations that discussed the draft report, held on May 17, 2013, and in dialogues with stakeholders (January 31, 2013 in Moscow, dialogue to discuss the Annual Report concept, attended by 27 stakeholder spokespersons; April 09, 2013 in Moscow, dialogue on "Rosenergoatom Concern OJSC System to Prevent and Eliminate Emergencies", attended by 20 stakeholders; April 09, 2013 in Moscow, dialogue on "Public Information and Awareness", attended by 20 stakeholder spokespersons; and May 17, 2013 in Moscow, public consultations to discuss the draft public Annual Report of Rosenergoatom Concern OJSC for 2012). During the events, all participants and stakeholder representatives were able to ask questions and state their opinions.

As a merit of the Report, we should note that during the procedure of public consultation, Rosenergoatom Concern OJSC adhered to provisions of international standards (Guidance on Reports of Sustainable Growth, Global Reporting Initiative (GRI, Ver. G3.1), series AA1000 Institute of Social and Ethical Accountability); however, our conclusion has no objective to confirm the report's compliance with international reporting systems.

This conclusion is based on a comparative analysis of two versions of the report (the draft for public consultation and the final version), the materials furnished to us with the results of recent dialogues and hearings, minutes of meetings, and a table with considered stakeholders' comments, as well as explanations provided by Rosenergoatom Concern OJSC executives and employees during this public consultation on the report.

We are unaware of any facts that would make us question any information contained in the report. However, during this public consultation, we did not review the system of information gathering and analysis in Rosenergoatom Concern OJSC; nor did we examine its reporting processes. The accuracy of the report's content is the responsibility of Rosenergoatom Concern OJSC; whether or not any data in the report is true is not a matter for this public consultation. We have not received any reward or remuneration from Rosenergoatom for our participation in the public consultation procedure.

The text of this conclusion has been coordinated with all signatories. Rosenergoatom Concern OJSC may use it for internal purposes

or in its communications with stakeholders, and publish it without any changes.

### Value statements, comments, and recommendations

Based on our analysis of the report, public domain information posted on the Rosenergoatom Concern OJSC corporate website, and discussion of the results of an independent evaluation of the report, we do confirm the following:

- In its report, Rosenergoatom Concern OJSC discusses all important issues of relevance to stakeholders, including aspects of nuclear plant safety, environmental impact, social security, economy in the Concern's regions of presence, and efficient systems of management. The report sufficiently represents strategic development priorities for Rosenergoatom Concern OJSC, and describes its approaches to principles of responsible business.
- The report contains significant information, encompasses areas relevant for stakeholders, and discusses key areas of the Concern's responsible business practices. All aspects of activities of Rosenergoatom are disclosed with a reasonable level of detail. The report states the mission, values, strategy, sustainable growth policy, and corporate governance system, with achieved objectives in business, social and environmental issues described by a wide range of indicators. We believe that the topic of "Safety of Russian nuclear power industry" was correctly chosen as the priority issue for the Annual Report, since aspects of safe

operation of nuclear plants are paramount for all stakeholders.

- The report uses both Russian and international accounting standards, thus making it comparable to other businesses. In 2012, the number of performance indicators disclosed was considerably expanded. We express our shared positive evaluation of the report, both its format and the scope of information therein presented.
- As it prepared its Annual Report, Rosenergoatom Concern OJSC responded to opinions, inquiries and recommendations offered by stakeholders involved in the concept report discussions and dialogues.

While we speak of strong points in 2012 Annual Report of Rosenergoatom Concern OJSC, we must also point out certain aspects of relevance and completeness, seen as important by stakeholders, and we recommend that they should be considered in subsequent reporting cycles:

- We think it would be important to pay more attention to the description of the Concern's strategy, including its goals on sustainable growth, and to describe the Concern's consistent progress towards such goals.
- More attention should be given to the description of the Concern's contribution to local economies, including creation and development of infrastructure in small communities nationwide.
- Information on the management of non-financial risks (environmental, social, etc.) needs to be more detailed.

Most questions raised by key stakeholders were answered in the course of dialogues and public consultations. In addition, the Concern amply uses all means available today (including the Internet) to communicate its position and relevant information to its stakeholders. Therefore, we believe that further expansion of the report's scope would be unreasonable.

#### Interaction with stakeholders of Rosenergoatom Concern OJSC, and consideration of their comments and request

During its activities that involved stakeholders in January through May of 2013, Rosenergoatom Concern OJSC furnished ample information about its strategic goals and objectives, operation results, improvements of its safety system, and contribution to its areas of presence. Involvement of Rosenergoatom Concern OJSC in such dialogues and public discussions of its draft Annual Report, confirms the company's high commitment to ensure performance acceptable for the public and the environment. The management of Rosenergoatom Concern OJSC is aware of how important interaction with stakeholders is, and develops forms and methods of such interaction, using among other things interactive methods of information and exchange with a wide range of stakeholders: the General Director's blog, virtual reality visits, etc.

#### Response by Rosenergoatom Concern OJSC to stakeholders' comments

Our analysis demonstrates that Rosenergoatom Concern OJSC has actively responded to stakeholders' questions, comments, and proposals, as proved, among other

things, by the modified final version of the Annual Report that elaborates and provides additional information, with removed various technical errors and flaws indicated by the participants during the events.

For example, the Concern elaborated, specified and amended as requested, the Sections "Assuring nuclear and radiation safety", "Personnel Management", "Developing the areas of presence", etc. The report pays special attention to issues of sustainable growth with a separate section now devoted to it. Sustainable growth indicators have become considerably numerous and detailed.

Therefore, the Concern fulfilled the obligations it assumed with the previous Annual Report, where it intended to include detailed and exhaustive information in its subsequent Annual Reports.

In certain aspects, the company either promised to disclose information requested by the stakeholders in subsequent reports, or it provided relevant grounds for non-disclosure.

Thus, as the final version of the 2012 Annual Report was prepared, the management of Rosenergoatom Concern OJSC demonstrated a high degree of openness, and constructively responded to stakeholder comments and requests, including problems raised. It is our hope that in future Rosenergoatom Concern OJSC will continue active development of its system of public reporting and interaction with stakeholders. In view of the above, we state our favorable perception of the report filed by Rosenergoatom Concern OJSC, and our support for Rosenergoatom's commitment to the principles of responsible business practices; we also acknowledge that the 2012 Report filed by Rosenergoatom Concern OJSC passed public affirmation successfully.

Chairman, subcommittee for legal support to the nuclear power industry, Panel on power industry in the State Duma of the Federal Assembly

V.T. Potsyapun



First Deputy Director, Kurchatov Centre of Nuclear Technologies, "Kurchatov Institute"

Yu.M. Semchenkov



Director, Moscow Regional Office, WANO

M.V. Chudakov



Executive Director, Green Patrol Russian National Non-Government Organization

A.A. Markov



Chairperson, Oka Inter-regional Environmentalist Movement

A.V. Khasiyev



Head of urban district of Novovoronezh

Yu.I. Pegusov



Head, Centre of Corporate Social Responsibility and Non-Financial Reporting, the Russian Union of Manufacturers and Entrepreneurs

E.N. Feoktistova



Chairman, Russian Trade Union of Employees of Nuclear Power Industry

I.A. Fomichev



Director, Institute for Safe Development of Nuclear Energy under RAS, Science Research and Coordination of Future Developments

L.A. Bolshov



Chairman, Inter-Regional Public Environmental Organization "Green Cross"

S.I. Baranovsky



Head, "Council of Territories" public organization for support of Baltic NPP Construction Project

A.A. Zhuravleva



First Deputy, Editor in Chief, FGUP RAMI RIA Novosti

M.G. Filimonov



President, International Association of Young Nuclear Specialists, NGO

E.G. Churkin



## APPENDICES

- Details and Contacts
- Table of Standard Components of Sustainable Growth Reports Guidance under the Global Reporting Initiative (GRI), RUME
- System of Public Reporting Indicators at Rosenergoatom
- Auditor's Opinion on Non-Financial Reports
- Statement by the Rosenergoatom Internal Control and Audits Department on the Results of an Internal Audit to Examine Rosenergoatom's Process of Generating Public Reports
- Business/Financial Accounting Statements
- Auditor's Report Certifying Annual Business Accounting Statements
- Auditing Committee Statement on the Results of Review of Financial and Business Activities of Rosenergoatom Concern OJSC for 2012
- Report on the Concern's Compliance with Provisions of the Corporate Conduct Code recommended by the Federal Financial Markets Service
- Active nuclear power units connected to the grid
- Installed Capacity and Electrical Power Generation by Russian Nuclear Plants in 2012, by Power Sources and Geography (Regions of Russia)
- Glossary
- Abbreviations

## DETAILS AND CONTACTS

<b>Full and short corporate names</b>	Open Joint Stock Company "Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants"
<b>Location</b>	Rosenergoatom Concern OJSC, Rosenergoatom
<b>Contact telephone</b>	109507, Moscow, ul. Ferganskaya, 25
<b>Fax</b>	8 (495) 647-46-03
<b>Email</b>	info@rosenergoatom.ru
<b>Website</b>	<a href="http://www.rosenergoatom.ru">www.rosenergoatom.ru</a>
<b>Auditor</b>	Open Joint Stock Company "Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants" Rosenergoatom Concern OJSC, Rosenergoatom 109507, Moscow, ul. Ferganskaya, 25
<b>Registry Keeper</b>	Keeping the Registry of Holders of the Concern's registered securities is the function of Registrar R.O.S.T. OJSC. Details of the Concern's Registry Keeper: Full name: Registrar R.O.S.T. Open Joint-Stock Company. Location: Moscow, ul. Strominka, 18, bldg. 13. License: No. 10-000-1-00264, issued by FCSM of Russia on December 03, 2002.
<b>Stockholders</b>	1. Atomenergoprom JSC – 96.4150%. 2. Rosatom State Corporation – 3.5850%
<b>Subsidiaries and affiliates</b>	Subsidiary entities: Atomenergoremont OJSC – 100% Atomenergobit OJSC – 100% Energoatominvest LLC – 100% UKS OJSC – 100% (in bankruptcy) ENIC OJSC – 100% Baltic NPP OJSC – 100% IKAO CJSC – 100% BNPP-2 OJSC – 80.6% VNIIAES OJSC – 75.002% Rusatom Service CJSC – 52% Atomtechemport CJSC – 51% Affiliates: Termoxid PNF CJSC – 44.90% ASE CJSC – 47.78% KONSIST-OS CJSC – 25% Energoatominvest NPO CJSC – 24%

## TABLE OF STANDARD COMPONENTS OF SUSTAINABLE GROWTH REPORTS GUIDANCE UNDER THE GLOBAL REPORTING INITIATIVE (GRI), RUME

GRI index	GRI Report Guidance component	Full disclosure/comment	Report pages	Report Sections
<b>1</b>	<b>Strategy and analysis</b>			
1.1	Statement from the most senior decision-maker of the organisation.	●	14-17	Address by Chairman of Council, General Director
1.2	Description of key impacts, risks and opportunities	●	164	6.1. Public position in sustainable growth
<b>2</b>	<b>Description of corporate entity</b>			
2.1	Name of organisation	●	26	1.1. General Information
2.2	Primary brands, products, and/or services	●	26	1.1. General Information
2.3	Operational structure of the organisation, including main divisions, operating companies, subsidiaries, and joint ventures	●	28	1.3. Corporate Structure
2.4	Location of organisation's headquarters	●	212	Appendix. Details and Contacts
2.5	Number of countries where the organisation operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	The Concern operates in 7 countries	108	3.7. International Activities
2.6	Nature of ownership and legal form	●	212	Appendix. Details and Contacts
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	●	40-71	3.1. Position in the Industry
2.8	Scale of the reporting organisation.	●	26, 28	1.1. General Information 1.3. Corporate Structure
2.9	Significant changes during the reporting period regarding size, structure, or ownership	●	9-10, 128-130	Information about the Annual Report 4.2. Corporate Management System

GRI index	GRI Report Guidance component	Full disclosure/ comment	Report pages	Report Sections
2.10	Awards received in the reporting period	●	135	The Concern's 2011 Annual Report won several Russian awards in 2012: <ul style="list-style-type: none"> <li>3rd in nomination "Power Industry's Best Report" in Corporate Annual Reports Open hosted by Krasnodar Krai Government under annual Sochi International Investment Forum;</li> <li>2nd in nomination "Best Interactive Annual Report", hosted by RA Expert;</li> <li>1st in nomination "Best Interactive Annual Report", by Moscow Exchange;</li> <li>3rd in industry-level rating of Year Reports in Rosatom State Corporation</li> </ul>
<b>3 Report Parameters</b>				
3.1	Reporting period (e.g. fiscal/calendar year) for information provided.	2012	9-10	Information about the Annual Report
3.2	Date of most recent previous report (if any).	The Concern's previous report was published in June 2011		Information about the Annual Report
3.3	Reporting cycle (annual, biennial, etc.)	●	9-10	Information about the Annual Report
3.4	Contact point for questions.	●		Appendices
3.5	Process for defining report content.	This report was guided by the GRI and technical industry-level protocol for the electrical power sector, to ensure relevance and importance of issues covered, a dialogue with stakeholders discussed the concept of the Annual Report and its priority topics	10	Information about the Annual Report
3.6	Boundary of the report (e.g. countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	●	9-10	Information about the Annual Report
3.7	State any specific limitations on the scope or boundary of the report (see completeness principle for explanation of scope).	●	9-10	Information about the Annual Report

GRI index	GRI Report Guidance component	Full disclosure/ comment	Report pages	Report Sections
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organisations.	Information and data in the report describe the activities of the Concern and its branch companies (nuclear plants)	9-10	Information about the Annual Report
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	●	9-10	Information about the Annual Report
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g. mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	No rephrases	10	Information about the Annual Report
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	No essential changes from previous reporting periods	10	Information about the Annual Report
3.12	Table identifying the location of the Standard Disclosures in the report.	●	213-232	Appendix 1
3.13	Policy and current practice with regard to seeking external assurance for the report.	●	9-10	Information about the Annual Report
<b>4 Governance, Commitments, and Engagement</b>				
4.1	Governance structure of the organisation, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organisational oversight.	●	114-127	4.1. Structure and List of Executive Management
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.	●	114, 115	4.1. Structure and List of Executive Management
4.3	For organisations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	●	114-115	4.1. Structure and List of Executive Management
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	Interaction with stockholders and employees is regulated by Russian law.	131	4.3. KER System. Employee Evaluation and Remuneration
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives and organization's performance.	●	131	4.3. KER System. Employee Evaluation and Remuneration

GRI index	GRI Report Guidance component	Full disclosure/ comment	Report pages	Report Sections
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	The Concern has an Ethics Code to regulate management of conflicts of interests. Ethics Code: <a href="http://www.rosenergoatom.ru/wps/wcm/connect/rosenergoatom/site/documents">http://www.rosenergoatom.ru/wps/wcm/connect/rosenergoatom/site/documents</a>	174-177	6.3. HR Management
4.7	Process for determining the composition, qualifications and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity.	●	114	4.1. Structure and List of Executive Management
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	●	32,135	4.4. Internal control and auditing.
4.9	Procedures of the highest governance body for overseeing the organisation's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	●	257-265	Appendix. Corporate Conduct Compliance Report
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	The Concern uses a KER-based system to evaluate performance of top executives	131	4.3. KER System. Employee Evaluation and Remuneration
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organisation.	●	136-139	4.5. Risk Management
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organisation subscribes or endorses.	●	108-111, 164-166	6.1. Public position in sustainable growth 3.7. International Activities
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organisations.	●	108-111	3.7. International Activities
4.14	List of stakeholder groups engaged by the organisation.	●	196	6.8 Interaction with stakeholders
4.15	Basis for identification and selection of stakeholders with whom to engage.	●	196	6.8 Interaction with stakeholders

GRI index	GRI Report Guidance component	Full disclosure/ comment	Report pages	Report Sections
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	●	197-201	6.8 Interaction with stakeholders
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting.	●	202-203	6.8 Interaction with stakeholders

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
<b>Economic</b>				
<b>Approach</b>				
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	Includes several indicators: 1.2-1.7	●	190 6.6. Developing areas of presence
EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change.	1.3	●	Financial aspects and other risks and opportunities for corporate activities caused by climate change were not estimated
EC3	Coverage of the organisation's defined benefit plan obligations.	1.4. Voluntary pension insurance	●	185-189 6.5. Social policy
EC4	Significant financial assistance received from government.		●	158-159 5.2. Investment activities
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.		●	131 4.3. KER System. Employee Evaluation and Remuneration
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.		●	141-142 4.8. Purchase management

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
EC7		●	174-175	6.3. HR Management
EC8		●	190-194	6.6. Developing areas of presence
EC9		●	190, 191	6.6. Developing areas of presence
<b>Environmental</b>				
<b>Approach</b>				
				6.1. Public position on sustainable growth 6.2. Environmental impact
EN1		●	71, 90	3.4. Developing generation potential.
EN2		Not applicable		
EN3		●	71	3.2. Electrical power production by Russian NPPs. Generating capacity
EN4		●	71	3.2. Electrical power production by Russian NPPs. Generating capacity
EN5		●	70	3.2. Electrical power production by Russian NPPs. Generating capacity
EN8	2.2	●	169	6.2. Environmental impact

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
EN9	2.2	Seawater intake fm Baltic Sea (Kopor Bay, Gulf of Finland). Fresh water intake fm: <ul style="list-style-type: none"> <li>• Saratov Reservoir (Balakovo NPP);</li> <li>• Beloyarsk reservoir (Beloyarsk NPP);</li> <li>• reservoir at B. Ponneurgen Springs (Bilibino NPP);</li> <li>• Lake Udomlya (Kalinin NPP);</li> <li>• Lake Imandra (Kola NPP);</li> <li>• River Seym (Kursk NPP);</li> <li>• R. Sista, R. Kovashi, Lake Kopanskoye (Leningrad NPP);</li> <li>• River Don (Novovoronezh NPP);</li> <li>• Cimlyansk reservoir (Rostov NPP);</li> <li>• Desnogorsk reservoir on R. Desna (Smolensk NPP).</li> </ul> Nuclear plants have no ml impact on water sources. Water intakes for nuclear plants are not protected areas. Nuclear plants do not impact the Ramsar List marshlands.	169	6.2. Environmental impact
EN10	2.4	●	169	6.2. Environmental impact
EN11		The Concern does not own/ lease any lands within or near protected zones or high biodiversity zones		
EN12		Nuclear plants and other facilities of Rosenergoatom Concern OJSC do not impact biodiversity within or near protected zones or high biodiversity zones. Moreover, restricted access to lands under nuclear facilities creates favorable conditions for life and reproduction of local species and populations, including ones that are unique and threatened		
EN16		●	167-168	6.2. Environmental impact
EN18		●	168	6.2. Environmental impact
EN17		●	168	6.2. Environmental impact

	Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
EN19	Emissions of ozone-depleting substances by weight.		●	168	6.2. Environmental impact
EN20	NOx, SOx, and other significant air emissions by type and weight.	2.6	●	168	6.2. Environmental impact
EN21	Total water discharge by quality and destination.		●	169-170	6.2. Environmental impact
EN22	Total weight of waste by type and disposal method.		●	169	6.2. Environmental impact
EN23	Total number and volume of significant spills.				6.2. Environmental impact
			In 2012, Smolensk NPP had a non-production incident that caused escape of oil products to Desnogorsk Water Reservoir: about 180 kg of oil products (estimate). Area of contaminated water surface was 150,000 m2. This non-compliance qualified as unauthorized discharge of oil products to a water body; not as an emergency and large-scale pollution.		
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	2.7			6.2. Environmental impact
			Water bodies used by nuclear plants are not protected biodiversity zones (not on the Ramsar List)		
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	2.11	●	168	6.2. Environmental impact
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.		●	171	6.2. Environmental impact
EN30	Total environmental protection expenditures and investments by type.	2.12	●	171	6.2. Environmental impact
<b>HR</b>	<b>Human Rights Performance Indicators</b>				
	<b>Approach</b>		The Concern observes human rights; a Code of Ethics has been adopted: <a href="http://www.rosenergoatom.ru/wps/wcm/connect/rosenergoatom/site/documents">http://www.rosenergoatom.ru/wps/wcm/connect/rosenergoatom/site/documents</a>	174-175	

	Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
HR1	Percentage and total number of significant investment agreements and contracts that include human rights clauses or that have undergone human rights screening.				All effective investment agreements are signed in strict compliance with the Russian law and presume protection of human rights
HR2	Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening and actions taken.				Under the Uniform industry-level purchasing standard of Rosatom State Corporation used by the Concern, labour protection systems of suppliers and contractors are examined, including in terms of human rights. Labour protection clauses are part of standard contracts signed with suppliers and contractors
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.				On hire, 100% employees read corporate rules, policy and procedures, including those related to human rights issues. At least two hours of training per employee
HR4	Total number of incidents of discrimination and corrective actions taken.				In the reporting period, no cases of discrimination on record.
HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.				The Concern acts in strict compliance with the Russian law. During the period, there were no constraints on freedom of associations and collective negotiations
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the elimination of child labour.				The Concern honors the RF Labour Code. No child labour used.
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour.				The Concern honors the RF Labour Code. No cases of coercion or forced labour on record.

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
HR8		Standard job descriptions for each of the Concern's employees presumes that they know and observe the law of the Russian Federation, including protection of human rights		
HR9	3.2.3	In the reporting period, no cases of infringed rights of native or minority ethnic groups on record.		
HR10		All transactions of purchases, recruitment, social programmes, remuneration, awards, charity and sponsorship were evaluated in terms of human rights protection		
HR11		The Concern operates in strict compliance with Russian law. No complaints of human rights violation on record during the reporting year		
<b>Labour Practices and Decent Work</b>				
<b>Approach</b>				Section 6. Sustainable growth
LA1			178-179	6.3. HR Management
LA2			178	6.3. HR Management
LA3			185	6.5. Social policy
LA4	3.1.4	Collective contracts cover 100% of employees.		6.3. HR Management
LA5		The Concern honors the RF Labour Code as regards period of notice to employees before serious changes in its activities.		6.3. HR Management
LA7			182-183	6.4. Labour protection

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
LA8			185-187	6.5. Social policy
LA9			185-186	6.5. Social policy
LA10	3.1.10		177	6.3. HR Management
LA11		Mandatory employee training system in Rosenergoatom presumes not only furthering knowledge in safety and labour protection, but also acquiring first aid skills for incidents at work and at home. Training and occupational skills programmes used in the Concern make individuals more employable should if they leave the company. – added to par. 6.3, emphasis	176-177	6.3. HR Management
LA12			174	6.3. HR Management
LA13	3.1.12		117	4.1. Structure and List of Executive Management
LA14	3.1.12	Base pay rates are gender-independent		
LA15		100% of employees resume their functions after maternity leave		
<b>PR Product Responsibility</b>				
<b>Approach</b>				3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
PR1		Nuclear, radiation, industrial, engineering, and fire safety is evaluated at each stage of the life cycle	76-79	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
PR3		Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements.		The Concern discloses all necessary information in a timely fashion as required by Russian law, instructions from supervisory and other authorized agencies
PR4		Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.		Not applicable, as products are not to be marked
PR 5		Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.		Not applicable, as there is no interaction with end users of electric power
PR6		Programmes for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.		Not applicable, there being no marketing communications
PR9		Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.		In the reporting period, the Concern was not subject to any large penalties for legal and regulatory non-compliance with products and services.
<b>SO</b>	<b>Society</b>			
	<b>Approach</b>			Section 6. Sustainable growth
SO1		Percentage of operations with implemented local community engagement, impact assessments, and development programmes.	196-201	6.8 Interaction with stakeholders
SO2		Percentage and total number of business units analyzed for risks related to corruption.	135	4.4. Internal control and auditing

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
SO3		Percentage of employees trained in organisation's anti-corruption policies and procedures.		In 2012, there was no training in anti-corruption policies and corporate procedures
SO4		Actions taken in response to incidents of corruption.		In 2012, no cases of corruption on record
SO5	3.3.4	Public policy positions and participation in public policy development and lobbying.		The Concern is involved in Rosatom State Corporation legislative initiative to regulate the business of nuclear energy
SO6		Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.		In 2012, the Concern made no donations to political parties, policies or organizations
SO8		Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.		In 2012, the Concern was not subject to any large penalties, or non-financial sanctions
SO9		Operations with significant potential or actual negative impacts on local communities.		In the reporting period, the Concern's had no considerable negative impact on local communities
SO10		Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.		The Concern's policy and procedures are design to prevent all possible negative impacts on local communities
<b>Electric Utilities Sector Supplement</b>				
EU1		Installed capacity, broken down by primary energy source and by regulatory regime.	50-69, 259	3.2 Electric power production by Russian NPPs Appendix. Installed capacity & generation of electric power by Russian NPPs in 2012, breakdown by power sources and geography (Russian regions)

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
EU2		●	259	6.6. Developing areas of presence 3.2 Electric power production by Russian NPPs Appendix. Installed capacity & generation of electric power by Russian NPPs in 2012, breakdown by power sources and geography (Russian regions)
EU3		Not applicable: no sales to ultimate clients		
EU4		Not applicable: the Concern does not transport electric power		
EU5		Not applicable: emissions of CO <sub>2</sub> and equivalents and negligible		
EU6		●	36-37	2.3. Key strategic goals and initiatives
EU7		●	40-43, 46	3.1. Position in the Industry
EU8		●	102	3.6. Innovation activities

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
EU9		1) Decommissioning (D) of nuclear- and radiation-hazardous sites is financed from D Savings Fund built with deductions from costs of sold products (electrical and thermal energy) as instructed in Federal Government Decree No. 68 of January 30, 2002. 2) Total costs are calculated based on operator's guidance (RDEO) "Methodology to Calculate Costs of Preparation and Decommissioning of nuclear plant units" MT1.3.2.06.030.0082-2012, written by VNIIAES (reviewed and updated in 2012). 3) As reference for D cost estimation, materials were used from approved D project for Units 1 and 2 of Novovoronezh NPP.	83-84	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
EU10		Facilities for the nuclear power sector are built under the 2030 RF Energy Strategy and 2020 master layout map of facilities in the electrical power sector, considering outlooks until 2030		
EU11		●	46	3.2. Electrical power production by Russian NPPs. Generating capacity
EU12		Not applicable: the Concern is not engaged in transmission of electrical power		
EU13		In 2012, the Concern's impact on biodiversity compared to similar areas was not assessed		
EU14		●	177	6.3. HR Management
EU15		The Concern's data gathering system is unable to provide such consolidated data for 2012. The Concern plans to disclose information of EU15 in its future Reports		

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
EU16		●	76-82, 182-184	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public. 6.4. Labour protection
EU17		The Concern's data gathering system is unable to provide such consolidated data for 2012. The Concern plans to disclose information of EU17 in its future Reports		
EU18		100% of all sub (contractor) personnel are trained in health protection and safety		
EU19			196-201	6.8. Interaction with stakeholders
EU20		During the reporting period, the Concern did not cause population relocation impacts		
EU21		●	77-78	3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
EU22		During the reporting period, the Concern did not cause population relocation impacts		
EU23		Not applicable, the Concern is not engaged in electrical power transmission or distribution		
EU24		Not applicable, the Concern is not engaged in electrical power transmission or distribution		

Global Reporting Initiative, G3.1	RUME	Full disclosure/ Comment	Report pages	Report Section
EU25		In the reporting period, there were no shock/injury cases and lethal cases among citizens, caused by contact with the company's assets		
EU28		●	259	Appendix
EU29		The Concern's data gathering system is unable to provide such consolidated data for 2012. The Concern plans to disclose information of EU29 in its future Reports		
EU30		●	259	Appendix

## SYSTEM OF PUBLIC REPORTING INDICATORS AT ROSENERGOATOM

Indicator	Item	Report Section/Chapter
<b>Efficiency of mainline activities</b>		
<b>Providing electrical power to the nation</b>		
1.1.1. Generation of electrical power by NPPs	1.1.1.1. Share of electrical power generated by nuclear plants, to total production of electrical power in Russia	3.2. Electrical power production by Russian NPPs. Generating capacity
	1.1.1.2. Power generation of nuclear plants in the reporting year	3.2. Electrical power production by Russian NPPs. Generating capacity
1.1.2. Use of installed nuclear plant capacity	1.1.2.1. Installed capacity use factor of NPPs	3.2. Electrical power production by Russian NPPs. Generating capacity
1.2.1. Increasing capacity of power units	1.2.1.1. Target for increase of equivalent capacity	3.4. Developing generation potential
	1.2.1.3. Number of retrofitted VVER-1000 units (in reporting period, and total)	3.4. Developing generation potential
	1.2.1.4. Number of retrofitted RMBK units (in reporting period, and total)	3.4. Developing generation potential
1.2.2. Service life of power units	1.2.2.1. Number of power units with service life extended to 15 years during the reporting period	3.4. Developing generation potential
	1.2.2.2. Number of nuclear power units with working document prepared for service life extension, upgrade and retrofitting	3.4. Developing generation potential
1.2.3. Power units operation mode	1.2.3.5. Total reduced time of planned repairs, after rescheduling, including through: · fewer repair days · rescheduled repair without change in total repair days	3.5. Maintenance and repair of NPPs in Russia. Deployment of Rosatom Production System
	1.2.3.7. Availability ratio	3.2. Electrical power production by Russian NPPs. Generating capacity
1.3.1. Power units built and commissioned in Russia	1.3.1.1. Number of power unit construction projects in Russia	3.4. Developing generation potential
<b>Securing leadership for Russian companies on the global markets</b>		
2.1.1. Financial stability	2.1.1.1. Gross profit	5. Financial situation and performance
	2.1.1.2. Total profit tax charged and paid	5. Financial situation and performance
	2.1.1.3. Net operating profit after taxes (NOPAT)	5. Financial situation and performance

Indicator	Item	Report Section/Chapter
2.1.2. Production efficiency	2.1.1.4. Incomes (total sold products, works, and services)	5. Financial situation and performance
	2.1.2.1. Labour efficiency	5. Financial situation and performance
	2.1.2.2. Own production efficiency (added value)	5. Financial situation and performance
2.1.3. Financial robustness	2.1.3.1. Borrowed funds to equity	5. Financial situation and performance
	2.1.3.2. Government funds	5. Financial situation and performance
2.2.1. Positions of Russian engineering on global NPP construction market	2.2.1.1. Number of power plant projects outside of Russia (in the reporting period)	3.4. Developing generation potential
2.3.1. Investments in equity during the reporting period	2.3.1.1. Total spending under the investment policy (stating share of funds used to update plants and technology)	5.2. Investment activities
<b>Assurance of nuclear and radiation safety</b>		
4.1.1. Projects to create national systems to process RW and spent nuclear fuel	4.1.1.1. Passed legislation to support creation of treatment and storage for RW and used nuclear fuel	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
4.1.4. Emergency response and readiness	4.1.4.1. Description of reliable safety barriers for nuclear- and radiation-hazardous sites and their life cycle planning	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
	4.1.4.2. Description of the emergency response system, including improvement of safety control monitoring systems at nuclear power facilities, organization of professional rescue teams	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
	4.1.4.3. Description of public alert and communication systems	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
	4.1.4.4. Description of protection system for employees, citizens, and areas in radiation emergencies	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
4.1.5. Assuring physical protection of nuclear power facilities	4.1.5.1. Description of up-to-date engineering and technological systems of control and personnel access management	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
4.2.2. Non-compliance during handling of nuclear and radiation hazardous materials	4.2.2.1. Number of registered cases in nuclear power facilities by International Nuclear Events System (INES)	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
4.3.1. Decommissioning	4.3.1.1. Number of decommissioned nuclear- and radiation-hazardous sites	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
4.4.1. Reclamation of contaminated territories	4.4.1.1. Area of reclaimed contaminated territories	6.2. Environmental impact

Indicator	Item	Report Section/Chapter
<b>Creating innovative nuclear technologies and promoting them to various sectors of the economy</b>		
5.1.1. Inventions related to use of nuclear power	5.1.1.1. Number of patents, utility models, and industrial samples	3.6. Innovation activities
	5.1.2.3. R&D total spending	3.6. Innovation activities
5.2.2. Participation in implemented international innovation projects	5.2.2.1. Participation in implemented international innovation projects (INRFC, ITER, Generation-IV, FAIR)	3.7. International Activities
5.3.1. VVER-TOI	5.3.1.1. Description of work accomplished in the reporting year	3.6. Innovation activities
	5.3.1.2. Progress report	3.6. Innovation activities
5.3.3. Floating NPP	5.3.3.1. Description of work accomplished in the reporting year	3.6. Innovation activities
5.4.3. Line of fast-neutron reactors	5.4.3.1. Description of work accomplished in the reporting year	3.6. Innovation activities
5.2.2. Radiation technologies	5.2.2.2. Description of plans for radiation technology development (targets, tasks, efficiency)	3.6. Innovation activities
<b>Creating efficient management mechanisms for the nuclear industry</b>		
6.1.2. Implementation of "Rosatom's Production System" project	6.1.2.1. Results of implemented programme to raise production efficiency (reduced area of preparation shops; shorter production cycle; fewer defects per specific components; lower manufacturing cost of specific equipment; greater output in and product positions).	3.5. Maintenance and repair of NPPs in Russia. Deployment of Rosatom Production System
	6.1.2.2. Economy from implemented production development programmes and cost cutting in business units	3.5. Maintenance and repair of NPPs in Russia. Deployment of Rosatom Production System
6.1.3. Reorganizing financial and economic management	6.1.3.1. Evaluation of reorganization results (evaluation of targets achieved)	4. Management system
6.1.5. Purchase management	6.1.5.1. Tools used to ensure more open and transparent purchasing.	4.8. Purchase management
	6.1.5.2. Total economy after conducted open tender purchasing procedures (% and rubles)	4.8. Purchase management
6.1.6. Developing in-house communication	6.1.6.1. Projects to develop communication channels between executives and employees	6.8. Interaction with stakeholders
6.1.8. Risk Management	4.5. Risk Management	4.5. Risk Management
6.1.9. IT-enabled management	6.1.9.1. List of IT implementation projects	4.9. Information technologies
6.1.11. Control of financing and business activities		4.4. Internal control and auditing. Combating Theft and Fraud
<b>Making development of the nuclear power industry publicly acceptable</b>		
7.1.1. Public reports of the Concern and its units	7.1.1.1. Compliance with international requirements for non-financial reports and interaction with stakeholders	Information about the Annual Report

Indicator	Item	Report Section/Chapter
	7.1.1.2. Stakeholder interaction while preparing public reports	6.8. Interaction with stakeholders
	7.1.1.3. Compliance with corporate requirements to public reports	Information about the Annual Report
7.1.2. Industry information resources	7.1.2.1. Number of information centres	6.8. Interaction with stakeholders
	7.1.2.2. Public and culture activities (museums, popular science, career consulting, and other)	6.8. Interaction with stakeholders
	7.1.2.3. Industry-level mass media	6.8. Interaction with stakeholders
9.1.2. Employee training	9.1.2.1. Share of employees periodically subject to efficiency assessment and career growth	6.3. HR Management
	9.1.2.3. Spending on employee training	6.3. HR Management
9.1.3. Building and using human reserves	9.1.3.1. Number of employees in staff reserve	6.3. HR Management
	9.1.3.2. Share of employees appointed to open positions from the staff reserve	6.3. HR Management
<b>Efficiency in sustainable growth</b>		
<b>Environmental impact (impact on the environment, environmental protection)</b>		
11.1.4. Initiatives to reduce hazardous atmospheric emissions, results	11.1.4.1. Information on initiatives to reduce hazardous atmospheric emissions	6.2. Environmental impact
11.1.5. Initiatives to reduce hazardous discharge to water bodies, results	11.1.5.1. Information on initiatives to reduce hazardous discharge to water bodies.	6.2. Environmental impact
	11.1.5.2. Quantitative data on reduced hazardous discharge to water bodies.	6.2. Environmental impact
11.1.11. Environment management systems adopted in structural units	11.1.11.1. Number of structural units certified for compliance under ISO 14001	6.2. Environmental impact
11.2.5. Consumption of water for own needs	11.2.5.1. Consumption of water for own needs	6.2. Environmental impact
11.3.15. Payments for air polluting emissions from permanent and mobile sources, waste dumped to above- and underground water, buried production and consumption waste	11.3.15.1. Payments for air polluting emissions from permanent and mobile sources, waste dumped to above- and underground water, buried production and consumption waste	6.2. Environmental impact
11.5.1. Radionuclide emissions to atmosphere	11.5.1.1. Total radionuclide emissions to atmosphere	6.2. Environmental impact
11.5.2. Radionuclide discharge with wastewater	11.5.2.1. Total radionuclide discharge with wastewater	6.2. Environmental impact
	11.5.2.2. Total background in radionuclide-bearing water	6.2. Environmental impact
11.5.4. Radionuclide polluted areas	11.5.4.1. Area of radionuclide polluted areas	6.2. Environmental impact

Indicator	Item	Report Section/Chapter
	11.5.4.2. Gamma-radiation dose in polluted areas	6.2. Environmental impact
<b>Social and employment relations (labour organization and respect for labour)</b>		
12.1.4. Share of employees under 35 years of age	12.1.4.1. Share of employees under 35 y.o.	6.3.HR Management
12.1.5. Average employee age (by categories)	12.1.5.1. Average employee age (by categories, excluding part-time and off-staff)	6.3.HR Management
12.1.8. Average paycheck compared to labour market average	12.1.8.1. Average paycheck in the company compared to labour market average	6.6. Developing areas of presence
12.3.3. Number of employees with non-government pension plans	12.3.3.1. Number of employees with non-government pension plans.	6.5. Social policy
12.3.4. Total spending on personnel	12.3.4.1. Total spending on personnel	6.3. HR Management
12.3.5. Total spending on social programmes for employees	12.3.5.1. Total spending on social programmes for employees	6.5. Social policy
12.3.6. Social payments annually per employee	12.3.6.1. Social payments annually per employee	6.5. Social policy
12.3.7. Spending on additional health insurance	12.3.7.1. Spending on additional health insurance	6.5. Social policy
12.4.5. Control of personnel exposure to radiation	12.4.5.1. Annual average effective exposure per of personnel to radiation	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
	12.4.5.2. Number of cases with exceeded officially regulated irradiation limit.	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
	12.4.5.4. Share of total number of employees subject to individual monitoring, on the ARMIR system list	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
	12.4.5.5. Share of employees exposed to negligible risk of radiation	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
	12.4.5.6. Share of employees exposed to life-long radiation risk	3.3. Ensuring Safety of Russian Nuclear Plants. Radiation Impacts on Personnel and General Public
<b>Influence on the social and economic situation in the areas of presence. Interaction with the public</b>		
13.2.1. Preparing ZATO development programmes	13.2.1.1. Preparing ZATO development programmes	6.6. Developing areas of presence
13.4.1. Charity projects, related spending	13.4.1.1. Charity projects and related total spending	6.7. Charity and sponsorship
<b>Ethical practices and public regulation</b>		
14.4.2. Organization format for ethics practices	14.4.2.1. Existence of Code of Ethics	6.3. HR Management

## AUDITOR'S OPINION ON NON-FINANCIAL REPORTS



### NON-FINANCIAL ASSURANCE REPORT OVER 2012 ANNUAL REPORT

#### To the Management of Open Joint Stock Company Russian concern for Electric and Thermal Energy Production at Nuclear Power Plants ("JSC Concern Rosenergoatom").

We have performed assurance procedures<sup>1</sup> to provide independent assurance on the below-mentioned aspects of the 2012 Annual report of JSC Concern Rosenergoatom.

#### Subject matter

Qualitative and quantitative data disclosed in the JSC Concern Rosenergoatom 2012 Annual report on the following aspects:

- The 2012 environmental, workforce, safety and socio-economic performance indicators and data contained in the Table of the Global reporting Initiative Sustainability Reporting Guidelines standard disclosures.

The scope of our work was restricted to the Selected Information for the year ended 31 December 2012 and does not extend to information in respect of earlier periods or to any other information in the Annual Report.

#### Criteria

We assessed the Selected Information using JSC Concern Rosenergoatom Reporting Criteria as set out in the Annual Report and the Global Reporting Initiative ("GRI") Sustainability Reporting Framework, including version 3.1 of the Sustainability Reporting Guidelines and GRI Electric Utilities Sector Supplement released in April 2009 (collectively, "GRI G3.1"). We believe that these criteria are appropriate given the purpose of our assurance engagement.

#### Responsibility and Methodology

The accuracy and completeness of sustainability performance indicators are subject to inherent limitations given their nature and methods for determining, calculating and estimating such data. Our independent assurance report should therefore be read in connection with JSC Concern Rosenergoatom's internal sustainability reporting guidelines, definitions and procedures on the reporting of its sustainability related performance.

The Management of JSC Concern Rosenergoatom is responsible for both the subject matter and the criteria.

Our responsibility is to provide a conclusion on the subject matter based on our assurance procedures in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information", approved in December 2003 by the International Auditing and Assurance Standards Board (IAASB) and AA1000 Assurance Standard published by Institute of Social and Ethical Accountability in 2003.

#### Main Assurance Procedures

Our assurance procedures included the following work:

<sup>1</sup> Term "assurance" hereafter is not used as defined in the Federal Law №307-FZ of 30.12.2008 "On Auditing Activities" (edition of 28.12.2010).

PricewaterhouseCoopers Russia B.V.,  
White Square Office Center, Butyrsky Val 10, Moscow, Russia, 125047  
Telephone: +7 (495) 967-6000, Fax: +7 (495) 967-6001, www.pwc.ru

#### Site visits:

- Interviewing personnel of JSC Concern Rosenergoatom responsible for internal sustainability reporting and data collection to determine the understanding and application of JSC Concern Rosenergoatom internal sustainability reporting guidelines;
- Visiting Crisis Centre (branch of JSC Concern Rosenergoatom) in Moscow, Russia.
- Participation in the dialogs with stakeholders held 31 January and 9 April 2013 and Annual report draft public hearings dated 17 May 2013.

#### Assessment of the quantitative data:

- Performing tests on a sample basis of evidence supporting data in the Table of the Global reporting Initiative Sustainability Reporting Guidelines standard disclosures standard disclosures and performance indicators in JSC Concern Rosenergoatom Annual report concerning completeness, accuracy, adequacy and consistency.

#### Review of the documentation and analysis of relevant policies and basic principles:

- Reviewing the relevant documentation on a sample basis, including JSC Concern Rosenergoatom internal policies, management and reporting structures and documentation.

#### Review of the JSC Concern Rosenergoatom Annual report:

- Review of the JSC Concern Rosenergoatom Annual report against the criteria of the GRI G3.1 Application level requirements.

#### Conclusions

Based on our work described in this report and the assessment of the Criteria:

- Nothing has come to our attention that causes us to believe that the performance indicators and data mentioned in the subject matter and disclosed in the Annual report of JSC Concern Rosenergoatom and in the Table of the Global reporting Initiative Sustainability Reporting Guidelines standard disclosures does not give a fair picture of JSC Concern Rosenergoatom's performance; and
- Nothing has come to our attention that causes us to believe that the JSC Concern Rosenergoatom 2012 Annual report does not meet the requirements of the GRI G3.1 Application Level of "A+".

Moscow, Russian Federation, 2013

## STATEMENT BY THE ROSENERGOATOM INTERNAL CONTROL AND AUDITS DEPARTMENT ON THE RESULTS OF AN INTERNAL AUDIT TO EXAMINE ROSENERGOATOM'S PROCESS OF GENERATING PUBLIC REPORTS

An internal audit to examine Rosenergoatom Concern OJSC process of generating Public Annual Reports was performed in compliance with the Procedure to Arrange and Conduct Internal Audits of Business Processes Used in Rosenergoatom Concern OJSC, its affiliates and subordinate organizations, approved by Order of Rosatom State Corporation No. 9/436-P of May 14, 2012, in the light of the requirements stated in Public Reporting Policy of Rosatom State Corporation, approved by Rosatom State Corporation Order No. 1/403-P of May 13, 2011, Uniform Standard of Public Annual Reports of Rosenergoatom Concern OJSC approved by Rosenergoatom Concern OJSC Order No. 9/526-P of June 06, 2012, fundamental provisions of the GRI Guidance on Reporting in Sustaining Development (version G3), AA1000 series of international standards, and the recommendations issued by the Russian Union of Industrialists and Entrepreneurs (RSPP) to be adopted as guidance in managerial practices and corporate non-financial reports.

By Executive Order No. 9/1271-P issued by General Director of Rosenergoatom Concern OJSC on December 28, 2012 "Organization of Activities to Prepare Annual Reports of Rosenergoatom Concern OJSC", the preparation and presentation of information is the function of the executive officers in structural subdivisions that are part of the task force formed to prepare the report (with D.L. Tkebuchava, First Deputy General Director, as the task force leader).

The pivotal issues in the actual procedure used to organize the process of preparing public reports of Rosenergoatom Concern OJSC include: working out the concept of the annual public report; topic-specific dialogues with stakeholders; expert examination of the annual public report's concept by the Public Reporting Committee of Rosatom State Corporation; approval of the annual public report by General Director of Rosenergoatom Concern OJSC; collecting materials to prepare the text of the report; writing the draft of the Annual Report; expert examination of the draft annual public report by the Public Reporting Committee of Rosatom State Corporation; final changes to the draft annual public report; conclusion by the Standing Technical Panel of Rosenergoatom Concern OJSC; coordination of the text of the annual public report with the Deputies of General Director and Accountant General; approval of the final version of the of the annual public report by General Director of Rosenergoatom Concern OJSC.

The audit:

- Assessed the efficiency of the internal control system as regards the process of public report generation (including analysis of regulation and formal description of key processes related to generation of public reports; efficiency analysis of adopted key control procedures that ensure reliable generation of public reports);
- checked compliance with the public report generation procedure under the effective legislation and corporate standard requirements that regulate the business process of public report generation;
- issued recommendations on steps to improve the internal control system as public reports are generated.

The results of the audit yielded out conclusion that the system of internal controls over the process of public reports are efficient, and the procedure to generate public reports by Rosenergoatom Concern OJSC is compliant with the relevant legislation, Rosatom State Corporation's Policy in public reporting, and Rosenergoatom's internal corporate standards regulating the business process of public report generation.

Director,  
Department of Internal Control and Audits,  
Controller General

V.V. Tatarchuk

## BUSINESS/FINANCIAL ACCOUNTING STATEMENTS

Accounting Balance Sheet Statement  
As of December 31, 2012Organization: **Rosenergoatom Concern OJSC**

OKUD Form	Codes		
Date (year, month, day)	2012	12	31
By OKPO	08844275		
Taxpayer ID	INN		
Type of economic activities: <u>Generation of electric power by nuclear plants</u>	By OKVED		
Form of incorporation/ownership	By		
<u>Open Joint-Stock Company (owned by the Federal Government)</u>	12247	12	
Units of measurement: 000 rubles	By OKOPF/OKFS		
Location (address): <u>109507, Moscow, ul. Ferganskaya, 25</u>	By OKEI		
	384 (385)		

Comments	Item description	Code	December 31, 2012	December 31, 2011	December 31, 2010
	<b>ASSETS</b>				
1-1; 1-2; 1-3; 1-6; 1-7	<b>1. NON-CURRENT ASSETS</b>				
1-4; 1-5	Intangible assets	1110	1,112,416	965,164	1,018,175
	Results of research and development	1120	6,236,231	2,830,335	1,985,578
	Intangible R&D assets	1130	-	-	-
	Material R&D assets	1140	-	-	-
	Fixed assets	1150	933,571,888	818,139,578	628,475,510
2-1; 2-3; 2-4; 2-5; 2-6	- Buildings, machines, equipment, and other fixed assets	1151	354,938,386	265,767,507	244,270,930
2-2	- Construction in progress invested in fixed assets	1152	410,323,886	365,856,916	252,718,809
	- Advance payments to suppliers and contractors for capital construction, suppliers of fixed asset items	1153	168,309,616	186,515,155	131,485,771
	Yield-bearing investments in material values	1160	194,438	17,956	-
3-1; 3-2; 3-3	Financial investments	1170	38,983,069	38,686,715	20,546,548
	Deferred tax assets	1180	-	-	-
	Miscellaneous non-current assets	1190	14,743,658	14,303,068	11,037,813
	Section 1 subtotal:	1100	994,841,700	874,942,816	663,063,624
	<b>II. CURRENT ASSETS</b>				
	Inventory	1210	39,170,331	32,497,369	24,121,957
	Materials, stock, and similar assets	1211	38,460,633	32,397,331	24,106,242
	Costs of production in progress	1212	-	-	4,710
	Finished products and resellable stock	1213	704,728	89,579	2,213
	Shipped goods	1214	-	-	913
	Deferred costs	1215	-	-	-
	Unclaimed collectible revenues	1216	-	-	-
	Miscellaneous inventory and costs	1217	4,970	10,459	7,849
	Value Added Tax on values purchased	1220	1,680,680	1,749,350	2,381,623
5-1; 5-2	Accounts receivable	1230	43,801,336	50,197,485	39,668,522
	Long-term accounts receivable, total	1231	4,804,039	7,262,994	8,013,706
	Settlements with buyers and customers	1232	12,548	7,909	1,774,162
	Advance payments issued	1233	-	-	31,607
	Miscellaneous debtors	1234	4,791,491	7,255,085	6,207,937
	Short-term accounts receivable, total	1235	38,997,297	42,934,491	31,654,816
	Settlements with buyers and customers	1236	16,290,387	14,679,768	10,890,886
	Advance payments issued	1237	7,941,777	6,430,056	8,858,638
	Miscellaneous debtors	1238	14,765,133	21,824,667	11,905,292
3-1; 3-2; 3-3	Financial investments (except cash equivalents)	1240	6,721,002	29,500	11,175,000
27-1	Cash and equivalents	1250	1,548,816	5,246,628	955,602

Miscellaneous current assets	1260	61,969	70,488	182,277
Section II subtotal:	1200	92,984,134	89,790,820	78,484,981
Bottom line	1600	1,087,825,834	964,733,636	741,548,605

Form 0710001 - Page 2

Comments	Item description	Code	December 31, 2012	December 31, 2011	December 31, 2010
	<b>LIABILITIES</b>				
	<b>III. EQUITY AND PROVISIONS</b>				
	Registered capital (share capital, registered fund, partners' contributions)	1310	530,011,527	530,011,527	461,515,003
	Own stock repurchased from stockholders	1320	(-)	(-)	(-)
	Revalued non-current assets	1340	-	-	-
	Surplus capital (not revalued)	1350	314	-	-
	Reserve capital	1360	145,322,811	170,951,971	125,321,661
25-1	Provisions established under legal requirements	1361	143,720,122	169,349,282	124,806,194
	Provisions established under incorporation documents	1362	1,602,689	1,602,689	515,467
25-2	Retained profits (unrecovered loss)	1370	179,373,958	110,257,243	90,714,309
	Section III subtotal	1300	854,708,610	811,220,741	677,550,937
	<b>IV. LONG-TERM LIABILITIES</b>				
14-2	Borrowed funds	1410	60,178,290	44,000,000	15,516,623
	Deferred tax liabilities	1420	1,018,119	758,606	105,453
7-1	Appraisal-related liabilities	1430	4,823,016	1,802,328	-
	Miscellaneous liabilities	1450	13,756,370	10,730,275	2,756,082
	Section IV subtotal	1400	79,775,795	57,291,209	18,378,158
14-2; 14-3	<b>V. SHORT-TERM LIABILITIES</b>				
	Borrowed funds	1510	22,138,794	19,065,202	3,649,504
5-3; 5-4	Accounts payable	1520	42,694,181	47,043,486	35,177,223
	Suppliers and contractors	1521	29,829,810	29,135,230	16,275,976
	Advance payments received	1522	22,459	5,999	311,281
	Owed to employees	1523	846,873	789,584	685,688
	Owed to government off-budget funds	1524	300,073	147,139	97,241
5-5	Debts in taxes and duties	1525	1,946,896	1,695,403	1,182,489
	Miscellaneous creditors	1526	9,748,070	15,270,131	16,624,548
10	Deferred revenues	1530	1,754,188	1,927,461	1,881,835
7-2	Appraisal-related liabilities	1540	6,674,722	6,313,537	4,910,912
	Settlements with incorporators (registered capital fund)	1545	80,079,544	21,872,000	-
	Miscellaneous liabilities	1550	-	-	-
	Section V subtotal	1500	153,341,429	96,221,686	45,619,474
	<b>Bottom line</b>	<b>1700</b>	<b>1,087,825,834</b>	<b>964,733,636</b>	<b>741,548,605</b>

Profit and Loss Statement  
As of December 31, 2012

Organization: <b>Rosenergoatom Concern OJSC</b>	Codes
OKUD Form	710002
Date (year, month, day)	2012 12 31
By OKPO	08844275
Taxpayer ID	INN
Type of economic activities: <b>Generation of electric power by nuclear plants</b>	By OKVED
Form of incorporation/ownership	By OKOPF/OKFS
<b>Open Joint-Stock Company (owned by the Federal Government)</b>	12247 12
Units of measurement: 000 rubles	By OKEI
	384 (385)

Comments	Item description	Code	2012	Previous year
11-1; 11-2	Revenues	2110	200,526,125	201,405,029
6-1; 11-1	Sales costs	2120	(124,411,445)	(109,354,539)
	Gross profit/loss	2100	76,114,680	92,050,490
6-1	Commercial expenses	2210	(20,262)	(18,459)
6-1	Administrative costs	2220	(61,975,969)	(83,204,431)
	Profit/loss after sales	2200	14,118,449	8,827,600
	Gains from interest held in other corporate entities	2310	14,322	58,201
	Interest receivable	2320	1,963,781	2,286,105
	Interest payable	2330	(718,469)	(154,854)
11-3	Miscellaneous incomes	2340	5,890,456	6,522,237
11-3	Miscellaneous expenses	2350	(18,082,019)	(15,994,703)
	Profit/loss before tax	2300	3,186,520	1,544,586
	Current profit tax	2410	(4,800,939)	(3,736,466)
	Including fixed tax liability/assets	2421	(4,359,262)	(4,080,701)
13-1; 13-2; 13-3	Change in deferred tax liability	2430	(1,183,460)	(1,242,591)
13-1; 13-2; 13-3	Change in deferred tax assets	2450	987,834	589,439
	Other	2460	(38,625)	(68,380)
	Net profit/loss	2400	(1,848,670)	(2,913,412)

Comments	Item description	Code	2012	Previous year
	REFERENCE:			
	Result of miscellaneous operations not included in the net profit/loss of the period	2520	70,965,719	24,938,709
	Consolidated financial result of the period	2500	69,117,049	22,025,297
	Base profit/loss per share of stock	2900	(0)	(0)

Cash Flow Statement  
for 2012

Organization: <b>Rosenergoatom Concern OJSC</b>	Codes
OKUD Form	0710004
Date (year, month, day)	2012 12 31
By OKPO	08844275
Taxpayer ID	INN
Type of economic activities: <b>Generation of electric power by nuclear plants</b>	By OKVED
Form of incorporation/ownership	By OKOPF/OKFS
<b>Open Joint-Stock Company (owned by the Federal Government)</b>	12247 12
Units of measurement: 000 rubles/000,000 rubles (strike what does not apply)	By OKEI
	384

Item	Code	2012	2011
<b>Cash flow from current operations</b>			
Revenues – total	4110	206,308,819	200,418,629
Including:			
- from sold products, works, services	4111	196,703,609	197,588,197
- payments in lease, rent, royalty fees, commission fees, and similar amounts	4112	288,733	304,807
- resold financial investments	4113	-	-
- miscellaneous revenues	4119	9,316,477	2,525,625
Payments, total	4120	131,247,525	121,068,671
Including:			
- to suppliers/ contractors, for materials, products, works, services	4121	82,705,549	72,087,578
- to employees	4122	23,203,221	21,457,891
- interest payable on debentures	4123	447,673	-
- profit tax	4124	6,521,926	3,083,111
- miscellaneous payments	4129	18,369,156	24,440,091
Balance of cash flow from current operations	4100	75,061,294	79,349,958
<b>Cash flow from investments</b>			
Revenues – total	4210	123,967,999	172,708,478
Including:			
- from sold non-current assets (except financial investments)	4211	111,595	363,925
- from sold corporate stock or holdings in other corporate entities	4212	128,817	-
- from repaid loans issued, sold debentures (claim rights to third parties)	4213	121,614,772	170,156,433
- dividends, interest on financial debt investments, and similar revenues from holdings in other corporate entities	4214	1,727,664	2,056,536
- miscellaneous revenues	4219	385,151	131,584
Payments – total	4220	279,700,653	381,998,046
Including:			
- to purchase, create, upgrade, retrofit and setup non-current assets	4221	144,925,500	195,562,317
- to purchase corporate stock or holdings in other corporate entities	4222	270,911	22,746,011
- to purchase debentures (claim rights to third parties), issue loans to third parties	4223	126,935,596	159,154,104
- interest payable on debentures included in the price of an investment asset	4224	4,580,813	1,174,339
- miscellaneous payments	4229	2,987,833	3,361,274
Balance of cash flow from investments	4200	(155,732,654)	(209,289,567)

Form 0710004 Page 2

Item	Code	2012	2011
<b>Cash flow from financial operations</b>			
Revenues – total	4310	120,721,893	153,373,214
Including			
- Received loans and credits	4311	62,514,349	63,000,000
- Cash investments	4312	-	-
- from issued stock or increased holdings	4313	58,207,544	90,368,524
- from issued bonds, promissory notes, security debentures, etc.	4314	-	-
- government budget allocations, and other government financing	4315	-	4,690
- miscellaneous revenues	4319	-	-
Payments – total	4320	43,711,060	19,141,539
Including			
- to incorporators/stockholder to finance buyout of stock/holdings in the corporate capital, or their retirement from the corporation	4321	-	-
- Paid as dividends and otherwise to distribute profits among owners/ partners	4322	-	-
- redemption/buyout of promissory notes and other securities, repayment of loans and credits	4323	43,711,060	19,140,530
- Miscellaneous payments	4329	-	1,009
Balance of cash flow from financial operations	4300	77,010,833	134,231,675
<b>Balance of cash flow for the reporting period</b>	4400	(3,660,527)	4,292,066
<b>Balance of cash and equivalents at the beginning of the reporting period</b>	4450	5,241,407	948,091
<b>Balance of cash and equivalents at the end of the reporting period</b>	4500	1,548,765	5,241,407
Impact by change of foreign currency exchange rate to the ruble	4490	(32,115)	1,250

**Equity Dynamics Statement  
for 2012**

Organization: Rosenergoatom Concern OJSC

Taxpayer ID

Type of economic activities: Generation of electric power  
by nuclear plants

Form of incorporation/ownership

Open Joint-Stock Company (owned by the Federal  
Government)

Units of measurement: 000 rubles

		Codes	
OKUD Form		0710002	
Date (year, month, day)	2012   12   31		
By OKPO		08844275	
INN		7721632827	
By OKVED		40.10.13	
By OKOPF/OKFS	12247   12		
By OKEI		384	

**1. Cash flow**

Item	Code	Registered capital	Own stock redeemed from stockholder	Surplus capital	Reserve capital	Retained profit/ uncovered loss	Total
Size of capital as of December 31, 2010	3100	461,515,003	-	-	125,321,661	90,714,309	677,550,973
<b>For year 2011</b>							
Increment in capital, total	3210	68,496,524	-	-	69,481,797	-	137,978,321
Including, net profit	3211	X	X	X	X	-	-
Revaluation of assets	3212	X	X	-	X	-	-
Incomes recognized directly as capital increment	3213	X	X	-	X	-	-
Additional issue of stock	3214	68,496,524	-	-	X	X	68,496,524
Increase in par value of stock	3215	-	-	-	X	-	-
Re-organization of corporate entity	3216	-	-	-	-	-	-
Engaged industry-level reserves for purposes of investment	3217	X	X	X	69,481,797	-	69,481,797

Form 0710023 - Page 2

Item	Code	Registered capital	Own stock redeemed from stockholder	Surplus capital	Reserve capital	Retained profit/ uncovered loss	Total
Decrement in capital, total	3220	-	-	-	-	(4,308,553)	(4,308,553)
Including, loss	3221	X	X	X	X	(2,913,412)	(2,913,412)
Revaluation of assets	3222	X	X	-	X	-	-
Expenses recognized directly as capital decrement	3223	X	X	-	X	(1,395,141)	(1,395,141)
Decrease in par value of stock	3224	-	-	-	X	-	-
Decrease in number of stock	3225	-	-	-	X	-	-
Re-organization of corporate entity	3226	-	-	-	-	-	-
Dividends	3227	X	X	X	X	-	-
Change in surplus capital	3230	X	X	-	-	-	X
Change in reserve capital	3240	X	X	X	(23,851,487)	23,851,487	X
Size of capital as of December 31, 2011	3200	530,011,527	-	-	170,951,971	110,257,243	811,220,741
For year 2012							
Increment in capital, total	3310	-	-	-	45,814,550	-	45,814,550
Including, net profit	3311	X	X	X	X	-	-
Revaluation of assets	3312	X	X	-	X	-	-
Incomes recognized directly as capital increment	3313	-	-	-	-	-	-
Additional issue of stock	3314	-	-	-	X	X	-
Increase in par value of stock	3315	-	-	-	X	-	-
Re-organization of corporate	3316	-	-	-	-	-	-

entity							
Engaged industry-level reserves for purposes of investment	3317	X	X	X	45,814,550	-	45,814,550
Decrement in capital, total	3320	-	-	-	-	(2,326,995)	(2,326,995)
Including, loss	3321	X	X	X	X	(1,848,670)	(1,848,670)
Revaluation of assets	3322	X	X	-	X	-	-
Expenses recognized directly as capital decrement	3323	-	-	-	X	(478,325)	(478,325)
Decrease in par value of stock	3324	-	-	-	X	-	-
Decrease in number of stock	3325	-	-	-	X	-	-
Re-organization of corporate entity	3326	-	-	-	-	-	-
Dividends	3327	X	X	X	X	-	-
Change in surplus capital	3330	X	X	314	-	-	X
Change in reserve capital	3340	X	X	X	(71,443,710)	71,443,710	X
Size of capital as of December 31, 2010	3300	530,011,527	-	314	145,322,811	179,373,958	854,708,610

## AUDITOR'S REPORT CERTIFYING ANNUAL BUSINESS ACCOUNTING STATEMENTS

To: Stockholders  
of Joint Stock Company  
"Russian Concern for Production  
of Electrical and Thermal Energy  
at Nuclear Power Plants"

### Audited entity

Corporate name:

Joint Stock Company "Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants" (Rosenergoatom Concern OJSC, Rosenergoatom).

Location:

109507, Moscow, ul. Ferganskaya, 25.

Statutory registration:

Registered by Federal Tax Service, Interdistrict Tax Inspectorate No. 46 in the city of Moscow, on September 17, 2008; certificate: series 77 No. 010416448. Record of September 17, 2008 in the Unified State Register of Legal Entities, Primary State Registration Number 5087746119951.

### Auditor

Corporate name:

Financial and Business Consultants Limited Liability Company (FBK LLC).

Location:

101990, Moscow, ul. Myasnitskaya, 44/1, Bldg. 2AB.

Statutory registration:

Registered by Moscow Chamber of Registration, on November 15, 1993, certificate: series YuZ 3 No. 484.583 RP. Record of July 24, 2002, in the Unified State Register of Legal Entities, Primary State Registration Number 1027700058286.

Membership in self-regulated association of auditors:

Russian Chamber of Auditors Not-for-Profit Partnership.

ID record in the registry of the self-regulated association of auditors:

Certificate of association in Russian Chamber of Auditors Not-for-profit Partnership, No. 5353, ORNZ (Primary Registration Entry Number) 10201039470.

We have reviewed the attached accounting statements filed for 2012 by Rosenergoatom, Concern OJSC comprising its Accounting Balance Sheet Statement as of December 31, 2012, its Profit and Loss Statement, its Equity Dynamics Statement, and its Cash Flow Statement, and comments to the Accounting Balance Sheet Statement and Profit and Loss Statement, and an explanatory memorandum.

### The Audited Entity's responsibility for its accounting reports

The Audited Entity's management shall assume ultimate responsibility for the aforementioned financial statements and reports, and shall ensure that they are prepared reliably, accurately, and in compliance with Russian Accounting Standards, and shall enforce the internal control system as may be required to prepare financial statements free of any material misrepresentation through either fraudulence or error.

### The Auditor's responsibility

Our responsibility is to form and state our judgment as regards reliability of the said financial statements based on the review conducted by ourselves. We conducted the audit in conformity with Russian Federal auditing standards, which require that we should adhere to applicable standards of ethics, and that we should plan and conduct our audit in a manner that ensures reasonable certainty that the said financial statements are free of any material misrepresentation.

Our review consisted of auditing procedures designed to obtain auditing evidence to confirm numeric values and disclosure of information in the financial statements. Selection of such auditing procedures was based on our judgment, which in turn relied on assessment of the risk of material misrepresentation through either fraudulence or error. As we assessed such risk, we examined the corporate control system used to prepare and verify the financial statements, and the purpose of such examination was to enable selection of auditing procedures, but not to express an opinion about efficiency of the said corporate control system. Our audit also established compliance of the adopted corporate accounting policy and the grounds underlying the value indicators furnished by the management of the Audited Entity, as well as integral assessment of the filed financial reports as a whole.

We hold that the evidence collected in the course of our audit give sufficient grounds for our judgment about the financial statements as true and reliable.

### Opinion

It is our opinion that the reviewed financial statements can reliably represent all relevant aspects of the financial situation in Rosenergoatom Concern OJSC as of December 31, 2012, its financial and business performance, and its cash flows during 2012, in conformity with Russian Accounting Standards.

Vice President A.V. Tikhonovsky  
(by letter of authorization No. 4/13 issued on January 15, 2013)

## AUDITING COMMITTEE STATEMENT ON THE RESULTS OF REVIEW OF FINANCIAL AND BUSINESS ACTIVITIES OF ROSENERGOATOM CONCERN OJSC FOR 2012

Moscow

April 01, 2013

conformity with the Federal Law On Joint-Stock Companies, the Articles of Incorporation of Rosenergoatom Concern OJSC (hereinafter - the "Company"), and the Company's Regulation on the Auditing Committee, between March 14, 2012, and April 01, 2013, the Company's Auditing Committee reviewed the Company's financial and business operations during 2012.

The Auditing Committee was formed based on the Company's Sole Stockholder Resolution No. 2 of June 29, 2012, with the following designated members:

### [Petr Anatolyevich Stepayev](#)

Chairperson of the Auditing Committee, deputy head of the Department of Investment Programmes for Capital Investments, Rosatom State Corporation

### [Liudmila Nikolayevna Demidova](#)

Member of the Auditing Committee, Director of the Department of Economics and Controlling, Rosenergoatom

### [Yelena Grigoryevna Novomlinskaya](#)

Member of the Auditing Committee, Advisor to the Department of Economics and Controlling, Nuclear Energy Complex Directorate, Rosatom State Corporation

This Auditing Committee did not receive any requests from the company's stockholders or the Board of Directors calling for an extraordinary audits or reviews.

In the course of the review, the Auditing Committee randomly selected and examined documents that are related to the Company's financial and business operations, and represent essential aspects of the Company's activities.

In the course of the review, the Auditing Committee relied, among other things, on the Auditor's Report by Accountants & Business Advisers LLC (FBK LLC) on the accounting (financial) reports filed by Rosenergoatom Concern OJSC for 2012.

Based on the results of the review, we of this Auditing Committee do hereby:

State our opinion as regards reliability of the information contained in the Company's accounting (financial) reports, in all essential aspects.

We have not established in the Company's financial and business activities, any facts of non-compliance with the rules and procedures of business accounting and financial reporting under the applicable legal acts of the Russian Federation, or any other Russian Federal legislation, which might have material impact the reliability of the Company's reporting information.

Chairperson P.A. Stepayev  
Members L.N. Demidova  
E.G. Novomlinskaya

## REPORT ON THE CONCERN'S COMPLIANCE WITH PROVISIONS OF THE CORPORATE CONDUCT CODE RECOMMENDED BY THE FEDERAL FINANCIAL MARKETS SERVICE

No.	Provision of the Corporate Conduct Code	Compliant	Comment
<b>General Meeting of Stockholders</b>			
1	Stockholders are notified about a scheduled General Meeting at least 30 days before it convenes, regardless of its order of business, unless the law requires a longer period of notice	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
2	Stockholders have the opportunity to read the list of persons entitled to attend the General Meeting from the day of notice about the scheduled General Meeting and until its official closure if convened by attendance, or until the last date to accept ballots if by absentee vote	Compliant	
3	Stockholders have the opportunity to read handout information (materials) through digital communications, incl. the Internet prior to General Meetings	Compliant	
4	Stockholders have the opportunity to propose an issue for the order of business of the General Meeting, or to demand that the General Meeting be convened, without presenting a record from the stockholder registry, if their stock holding rights are registered in a stockholder registry system; but if their rights are registered on a deposit account, a statement of such deposit account shall suffice to exercise the said stockholder right.	Compliant	
5	The Articles of Incorporation or other documents of a Concern shall regulate that the Concern's General Director, officers of the Administration, Directors, Auditing Panel members, and Auditor appear mandatory to attend General Meetings of Stockholders	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
6	Nominees shall appear before the General Meeting of Stockholders convened to deliberate election of the Board, General Director, officers of the Administration, Auditing Panel members, and designate the Auditor for the Concern	Not compliant	Under Russian law, the Concern need not summon such individuals to its General Meetings
7	The Concern's in-house documents shall regulate a check-in procedure for persons arriving to attend the General Meeting	Not compliant	
<b>Board of Directors</b>			
8	The Concern's Articles of Incorporation shall authorize the Board of Directors to approve the Concern's financial and business plan annually	Compliant	Articles of Incorporation, par. 12.2.2
9	A Board-approved procedure for risk management must exist in the Concern	Not compliant	Risk management procedure regulated in CEO-approved corporate documents

No.	Provision of the Corporate Conduct Code	Compliant	Comment
10	The Concern's Articles of Incorporation shall authorize the Board to suspend from office a General Director elected by the General Meeting	Compliant	Articles of Incorporation, par. 12.2.20
11	The Concern's Articles of Incorporation shall authorize the Board to set requirements to qualifications and remuneration of the Concern's General Director, officers of the Administration, heads of key structural units	Compliant	Articles of Incorporation, par. 12.2.18
12	The Concern's Articles of Incorporation shall authorize the Board to approve terms of contracts signed with the General Director and officers of the Administration	Compliant	Articles of Incorporation, par. 12.2.18
13	The Concern's Articles of Incorporation or other documents shall state that the votes cast by the Directors who are General Director and officers of the Administration shall not be counted as the Board approves terms of contract with the General Director (corporate/executive manager) and the Administration	Compliant	Articles of Incorporation, par. 12.2.18
14	The Concern's Board of Directors shall have at least 3 independent Directors who so qualify under the Corporate Conduct Code	Not compliant	No independent directors elected to the Board
15	The Concern's Board of Directors shall have no individuals found guilty of business crimes or high treason, or civil offence as officers of federal or local government agencies, or penalized for business crimes or tax crime or fraud.	Compliant	
16	The Concern's Board of Directors shall have no individuals who are stockholders, General Director (manager), executive officer, or employee of a corporate competitor of this Concern	Compliant	
17	The Concern's Articles of Incorporation shall state that the Board of Directors is elected by cumulative vote	Not compliant	Procedure pursuant to par. 4 Art. 66 of "Corporations" Act
18	The Concern's internal documents shall regulate that each Director must refrain from action that may give rise to a conflict between their personal interests and those of the Concern; and should such conflict arise, they shall report the conflict to the Board	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
19	The Concern's internal documents shall regulate that each Director shall notify the Board in writing about their intent to transact with stock of the Concern where they are Directors or its subsidiaries/affiliates, and they shall report to the Concern all transactions that involve such securities	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
20	The Concern's internal documents shall regulate that the Board of Directors meet at least every six weeks	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
21	The Concern's Board of Directors shall have at least six meetings during the year for which the Concern's Annual Report is filed	Compliant	Articles of Incorporation, par. 12.2.4
22	The Concern's internal documents shall regulate the procedure of Board meetings	Compliant	Regulation on the Board, Section 7
23	The Concern's internal documents shall regulate that the Concern's transactions worth 10 and more percent of the Concern's total assets in the course of business as usual are subject to approval of the Board.	Compliant	Articles of Incorporation, par. 12.2.13

No.	Provision of the Corporate Conduct Code	Compliant	Comment
24	The Concern's internal documents shall regulate that the Board is authorized to demand information from executive bodies and head officers of the Concern's key structural units, as required to enabled the Board's functions, and liability for failure to furnish such information	Not compliant	
25	A Board Panel for strategic planning must be formed, or another Panel shall assume such function (except the Auditing Panel and HR and Remuneration Panel)	Not compliant	No Board Panels formed
26	A Board Panel shall be formed (Auditing Panel) to recommend the Concern's Auditor to the Board, and to interact with the Auditor and the Auditing Commission	Not compliant	No Board Panels formed
27	The Auditing Panel shall be formed only of independent and non-executive Directors	Not compliant	No Auditing Panel formed
28	The Auditing Panel shall report to an independent Director	Not compliant	No Auditing Panel formed
29	The Concern's internal documents shall regulate that all Auditing Panel members may access all documents and information in the Concern, provided they do not disclose confidential information	Not compliant	No Auditing Panel formed
30	A Board Panel shall be formed (HR and Remuneration Panel), with the function to determine selection criteria for candidates to the Board and plan the Concern's remuneration policy	Not compliant	No Board Panels formed
31	The HR and Remuneration Panel shall report to an independent Director	Not compliant	No HR & Remunerations Panel formed
32	The Concern's officers shall not be members of the HR and Remuneration Panel.	Not compliant	No HR & Remunerations Panel formed
33	A Board Panel for risks shall be formed, or another Panel shall assume such function (except the Auditing Panel and HR and Remuneration Panel)	Not compliant	No Board Panels formed
34	A Board Panel for shall be formed to settle corporate conflicts, or another Panel shall assume such function (except the Auditing Panel and HR and Remuneration Panel)	Not compliant	No Board Panels formed
35	The Concern's officers shall not be members of the Board Panel formed to settle corporate conflicts.	Not compliant	No Board Panel for corporate executive conflicts
36	The Board Panel formed to settle corporate conflicts shall report to an independent Director.	Not compliant	No Board Panel for corporate executive conflicts
37	The Concern shall have internal documents, approved by the Board, to regulate the procedure to form the Board Panels and their working procedures.	Not compliant	No Board Panels formed
38	The Concern's Articles of Incorporation shall regulate the procedure to determine the Board's quorum, ensuring that independent Directors are always present at Board meetings.	Not compliant	Under Russian law, the Concern need not institute this procedure
<b>Executive Bodies</b>			
39	The Concern shall have a collegiate executive body (Administration)	Not compliant	No collegiate body formed

No.	Provision of the Corporate Conduct Code	Compliant	Comment
40	The Concern's Articles of Incorporation or other documents shall contain a provision that its property transactions and loans taken are subject to approval by the Administration, unless they qualify as large transactions and part of the Concern's business as usual	Not compliant	No Administration
41	The Concern's internal documents shall regulate procedures to coordinate transactions beyond the scope of the Concern's financial and business plan.	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
42	The Concern's executive bodies shall have no individuals who are stockholders, General Director (manager), executive officer, or employee of a corporate competitor of this Concern	Compliant	
43	The Concern's executive bodies shall have no individuals found guilty of business crimes or high treason, or civil offence as officers of federal or local government agencies, or penalized for business crimes or tax crime or fraud with securities.	Compliant	
44	The Concern's Articles of Incorporation or other documents shall state that the corporate/executive manager may not assume similar functions in a competing entity, or enter any financial relations with this Concern, other than to provide services of a corporate/executive manager.	Not compliant	Under Russian law, the Concern need not institute this corporate procedure
45	The Concern's internal documents shall state that the executive officers must refrain from action that may give rise to a conflict between their personal interests and those of the Concern; and should such conflict arise, they shall report the conflict to the Board.	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
46	The Concern's Articles of Incorporation or other documents shall state selection criteria for the corporate/executive manager.	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
47	The Concern's executive bodies shall present their reports to the Board on a monthly basis.	Not compliant	
48	Contracts signed between the Concern and its General Director (corporate/executive manager) and officers of Administration, shall regulate liability for failure to observe confidentiality clauses as regards confidential and classified information.	Compliant	
<b>Corporate Secretary</b>			
49	The Concern shall employ a designated officer (corporate secretary), instructed to enforce the rules of procedure that guarantee the stockholders' rights and lawful interests on the Concern's bodies and officers.	Compliant	Functions assumed by the Concern's Board of Directors
50	The Concern's Articles of Incorporation or other documents shall regulate the procedure to designate/elect the corporate secretary, and their list of duties.	Compliant	Section 4, Regulation on the Board of Directors
51	The Concern's Articles of Incorporation shall state qualification requirements for the corporate secretary	Not compliant	Defined in Regulation on the Board of Directors
<b>Essential Corporate Acts</b>			
52	The Concern's Articles of Incorporation or other documents shall state that any large transaction is subject to approval before it is accomplished.	Compliant	Provisioned in the Articles of Incorporation (p. 11.1.14, p. 12.2.13)

No.	Provision of the Corporate Conduct Code	Compliant	Comment
53	A third-party appraiser shall be contracted to state market value of the assets to be exchanged through a large transaction.	Compliant	Third-party appraisers contracted under the Corporations Federal Act
54	The Concern's Articles of Incorporation shall regulate that when major holdings of the Concern's stock are purchased (merger), no action may be taken to protect interests of the executive bodies (or members thereof), or to damage stockholders' situation (including that until expiry of the expected time to purchase stock, the Board may not decide to issue additional stock, or securities convertible to stock, or options to purchase the Concern's stock, even if the Board has such authority under the Articles of Incorporation).	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
55	The Concern's Articles of Incorporation shall regulate that a third-party appraiser be contracted to name the current market value of stock, and possible change of its market value as a result of merger	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
56	In case of merger, the Concern's Articles of Incorporation shall not exempt the purchasing party from obligation to offer the stockholders an option to sell the Concern's common shares that they hold (issued securities convertible to common shares)	Compliant	
57	The Concern's Articles of Incorporation or other documents shall regulate that a third-party appraiser be contracted to find the stock conversion ratio in case of re-organization	Not compliant	Under Russian law, the Concern need not so mandate in its corporate documents
<b>Disclosure of Information</b>			
58	The Concern shall have a Board-approved internal document to define the Concern's rules and approaches as regards disclosure of information (Regulation on information policy)	Compliant	Rosenergoatom Regulation on public disclosure of information
59	The Concern's internal documents shall require mandatory disclosure of information about purposes of stock placement, persons who intend to purchase issued stock, incl. major holding, and whether the Concern's top executive officers are going to purchase any of the stock to be issued	Not compliant	Under Russian law, the Concern need not incorporate this Section in its corporate documents
60	The Concern's internal documents shall contain a list of information, documents, and materials to be furnished to stockholders before they deliberate the order of business at the General Meeting	Compliant	Procedure to prepare and coordinate draft resolutions of the Board and General Meeting
61	The Concern shall maintain a website and regularly publish information there.	Compliant	<a href="http://www.rosenergoatom.ru">www.rosenergoatom.ru</a> ; <a href="http://www.e-disclosure.ru/portal/company.aspx?id=18936">www.e-disclosure.ru/portal/company.aspx?id=18936</a>
62	The Concern's internal documents shall require disclosure of information about transactions between it and individuals who under the Articles of Incorporation qualify as its top executive officers, or any organizations in which its top executive officers directly or indirectly hold 20 and more percent of their registered capital, or which are otherwise controlled or influenced by such individuals.	Not compliant	Under Russian law, the Concern need not incorporate this Section in its corporate documents

No.	Provision of the Corporate Conduct Code	Compliant	Comment
63	The Concern's internal documents shall require disclosure of information about all transactions that may cause changes in the market value of the Concern's issued stock.	Not compliant	Under Russian law, the Concern need not incorporate this Section in its corporate documents
64	A Board-approved internal document shall regulate use of essential information about the Concern's activities, stock, and other securities, and related transactions, unless such information is public domain and its disclosure may cause changes in the market value of the Concern's issued stock	Not compliant	Under Russian law, the Concern need not instruct the Board to regulate use of essential information on corporate operations, issued stock, securities, and related transactions
<b>Control of financial and business activities</b>			
65	A Board-approved internal document shall regulate procedures for in-house control of its financial and business activities.	Not compliant	Under Russian law, the Concern need not install such procedures
66	The Concern shall form a special unit to enforce its internal control procedures (audit and monitoring service)	Compliant	Department of internal control and auditing in Rosenergoatom
67	The Concern's internal documents shall regulate that the members and structure of its audit and monitoring service is decided by the Board.	Not compliant	Under Russian law, the Concern need not integrate such Section in its Articles
68	The audit and monitoring service shall have no individuals found guilty of business crimes or high treason, or civil offence as officers of federal or local government agencies, or penalized for business crimes or tax crime or fraud.	Compliant	
69	The audit and monitoring service shall have no individuals who are this Concern's executive officers, or who are stockholders, General Director (manager), executive officer, or employee of a corporate competitor of this Concern.	Compliant	
70	The Concern's internal documents shall regulate the time limit for documents and materials to be furnished to its audit and monitoring service, to evaluate accomplished financial and business transactions, and liability of its executives and employees should they fail to present such in good time.	Compliant	
71	The Concern's internal documents shall regulate that the audit and monitoring service must report all non-compliance to the Auditing Committee; in its absence, to the Board	Not compliant	No Auditing Committee
72	The Concern's Articles of Incorporation shall regulate that all transactions not envisaged in the Concern's financial and business plan (unusual transactions) should be submitted to the audit and monitoring service for examination.	Not compliant	Under Russian law, the Concern need not integrate such Section in its Articles
73	The Concern's internal documents shall regulate the procedure to pre-approve unusual transactions with the Board.	Not compliant	Under Russian law, the Concern need not integrate such Section in its constitutive documents
74	A Board-approved internal document shall regulate the procedure for the Concern's Auditing Commission to review its financial and business activities.	Not compliant	Under Russian law, the Concern need not approve such corporate document

No.	Provision of the Corporate Conduct Code	Compliant	Comment
<b>Dividends</b>			
75	A Board-approved internal document shall be used by the Board as guidance to recommend size of payable dividend (Regulation on dividend policy)	Not compliant	Under Russian law, the Concern need not approve such corporate document
76	The Regulation on dividend policy shall set the procedure to calculate minimum share of the Concern's net profits to be paid out as dividends, and the terms to pay or not pay dividend on preferred stock where the dividend rate is determined by the Concern's Articles of Incorporation.	Not compliant	Under Russian law, the Concern need not approve such corporate document
77	Information about the Concern's dividend policy and changes to it shall be published in a periodical publication named in the Concern's Articles of Incorporation as one to circulate notices of its General Meetings; such information shall also be posted on the Concern's website.	Not compliant	Under Russian law, the Concern need not approve and publish such corporate document

## ACTIVE NUCLEAR POWER UNITS CONNECTED TO THE GRID

Power Plant	Unit No.	Reactor type	Electrical capacity, MW	Joined the grid
Balakovo NPP	1	VVER-1000	1,000	28.12.1985
	2	VVER-1000	1,000	08.10.1987
	3	VVER-1000	1,000	24.12.1988
	4	VVER-1000	1,000	11.04.1993
Beloyarsk NPP	3	BN-600	600	08.04.1980
Bilibino NPP	1	EGP-6	12	12.01.1974
	2	EGP-6	12	30.12.1974
	3	EGP-6	12	22.12.1975
		EGP-6	12	27.12.1976
Kalinin NPP	1	VVER-1000	1,000	09.05.1984
	2	VVER-1000	1,000	03.12.1986
	3	VVER-1000	1,000	16.12.2004
	4	VVER-1000	1,000	24.11.2011
Kola NPP	1	VVER-440	440	29.06.1973
	2	VVER-440	440	09.12.1974
	3	VVER-440	440	24.03.1981
	4	VVER-440	440	11.10.1984
Kursk NPP	1	RBMK-1000	1,000	12.12.1976
	2	RBMK-1000	1,000	28.01.1979
	3	RBMK-1000	1,000	17.10.1983
	4	RBMK-1000	1,000	02.12.1985
Leningrad NPP	1	RBMK-1000	1,000	21.12.1973
	2	RBMK-1000	1,000	11.07.1975
	3	RBMK-1000	1,000	07.12.1979
	4	RBMK-1000	1,000	09.02.1981
Novovoronezh NPP	3	VVER-440	417	12.12.1971
	4	VVER-440	417	28.12.1972
	5	VVER-1000	1,000	31.05.1980
Rostov NPP	1	VVER-1000	1,000	30.03.2001
	2	VVER-1000	1,000	16.03.2010
Smolensk NPP	1	RBMK-1000	1,000	09.12.1982
	2	RBMK-1000	1,000	31.05.1985
		RBMK-1000	1,000	17.01.1990

## INSTALLED CAPACITY AND ELECTRICAL POWER GENERATION BY RUSSIAN NUCLEAR PLANTS IN 2012, BY POWER SOURCES AND GEOGRAPHY (REGIONS OF RUSSIA)

S/no	Power Plant	Grid	Constituent Entity of the Russian Federation	Power units	Power unit type	EU1: installed capacity, MW	EU2: Generation of electrical power, billion kWh	EU30: L <sub>AF</sub> , %	EU 28: simultaneous generators going off grid, occurrences
1	Kalinin NPP	Centre	Tver Oblast	4	VVER	4,000	28,307.0	88.4	3+12*
	including power unit No.4	Centre	Tver Oblast		VVER	1,000	5,583.7	102.4	12
2	Kursk NPP	Centre	Kursk Oblast	4	RBMK	4,000	29,046.6	83.7	2
3	Novovoronezh NPP	Centre	Voronezh Oblast	3	VVER	1,834	13,292.6	83.3	3
4	Smolensk NPP	Centre	Smolensk Oblast	3	RBMK	3,000	20,478.2	79.6	3
5	Kola NPP	NW	Murmansk Oblast	4	VVER	1,760	9,945.8	81.9	1
6	Leningrad NPP	NW	Leningrad Oblast	4	RBMK	4,000	24,412.2	70.4	1
7	Rostov NPP	South	Rostov Oblast	2	VVER	2,000	15,716.5	90.7	0
8	Balakovo NPP	Volga	Saratov Oblast	4	VVER	4,000	31,666.9	91.2	2
9	Beloyarsk NPP	Urals	Sverdlovsk Oblast	1	FN	600	4,256.9	80.8	0
10	Bilibino NPP	East	Chukotka Autonomous Okrug	4	EGP-6	48	167.8	82.3	0
<b>TOTAL</b>				<b>33</b>		<b>25,242</b>	<b>177,290.4</b>	<b>83.2</b>	<b>15+12*</b>

## GLOSSARY

- Core zone – Part of the reactor that houses nuclear fuel, the moderator, beta absorber, heat medium, reactive impact devices, and structural elements used to enable a controlled nuclear fission chain reaction and transmit the energy to the heat medium.
- Automated radiation control system – one that measures intensity of gas-aerosol emissions to the air and liquid discharge to surface waters.
- Automated radiation background control – a system that measures strength of exposure to gamma rays within residential communities.
- Nuclear plant – Nuclear equipment used to generate energy in preset operational modes and conditions, installed within project-defined boundaries that uses for the purpose one or more nuclear reactors and a set of related systems, devices, equipment, and buildings with personnel
- Nuclear power industry – Section of the power industry that engages nuclear energy to produce heat and electric power.
- International Atomic Energy Agency – international organization, currently of 30 member states that possess high level in science and technology. The IAEA was created to assist its member states in science and technology development, harmonizing their national regulatory and standard instruments to ensure safe, efficient, and environment-friendly use of nuclear power for peaceful application.
- Nuclear plant safety – A nuclear plant's ability, during normal and abnormal operation, including emergencies, to keep the radiation impact on its personnel, citizens and the environment within specific required limits.
- NPP unit – Part of a nuclear plant that performs its generating function to the project-defined extent.
- FN (fast-neutron reactor) – A nuclear reactor in which most fission in the nuclear fuel relies on fast neutrons.
- WANO – World Association of Nuclear Plant Operators, whose mission is to maximize the safety and reliability of nuclear plant operations worldwide through exchange of information and encouraging contacts among its members, comparing their working results and promoting best practices.
- Commissioning – A process when the systems and equipment of power unit or the entire NPP are launched, and their project compliance is checked. The process includes pre-commissioning setup, hardware and generating starts, and production test operation; it concludes when the NPP is signed off for commercial operation.
- VVER – Translates as "Water-Cooled Power Reactor". These shell-protected water-moderated power reactors use water under pressure.
- Radioactive emission – A substance (or mix) as a gas and/or aerosol, released into the environment (air) from emitting sources.
- Radiation dose – In radiation safety, a measure of impact by ionizing radiation on a biological object, typically a human. Doses can be by exposure, absorption, and equivalent.
- Uniform State System to Prevent and Eliminate Emergencies – a system designed to protect citizens and land against disasters of natural, industrial, or other nature, to provide defenses at times of peace for citizens, territories and the environment, material and cultural values of the land; the system integrates bodies of management, forces and means commanded by the federal government, the governments of constituent Subjects of the Russian Federation, local governments, organizations (including privately owned), whose functions include addressing issues of protecting the public and territories in emergencies.
- NPP life cycle – all stages of evolution that a nuclear plant passes through during its existence; this includes design, construction, commissioning, operation, and decommissioning.
- Closed nuclear fuel cycle – A nuclear fuel cycle (NFC), where spent nuclear fuel unloaded from the reactor is recycled to recover uranium and plutonium to be reused in nuclear fuel
- Unforeseen emergency – An emergency caused by triggers not considered for project-specific emergencies, or accompanied by additional, compared to project-specific emergency scenarios, failures of safety systems in excess of single failure scenario, and complicated by human error.
- Nuclear reactor protection shell – A device in a nuclear reactor designed to hold radioactive nuclides within the volume of the shell, in the event of emergency decompression of the reactor equipment.
- Safety protections – Systems (components), designed to prevent or mitigate damage to nuclear fuel storage, thermal housing, equipment, and pipelines that contain radioactive substances.
- Installed capacity use factor – Ratio of arithmetical mean capacity to installed capacity for a specific time interval.
- Emergency drill set – a set of exercise activities the Concern uses to train its management, forces, and facilities to response to an emergency.
- The Concern's Crisis Centre – A key component within the structure of emergency support to NPPs, it monitors main parameters of production, radiation, environment, and fire safety in the 24/7 mode.
- Nuclear reactor shell – A tight reservoir designed to hold the fission zone of the nuclear reactor, neutron reflector, monitoring and experimental hardware, and related cooling equipment with a flow of heat medium.
- Load availability factor – The ratio of net time in operation of a reactor unit in a calendar operation period, to the sum total of such time and duration of unscheduled repairs during period "t". Load availability factor that describes the reactor's robustness during a period free of scheduled shutdowns, numerically equals the probability of un failing operation of the unit at any random point in time in between scheduled shutdowns. The standard value for a NPP is LAF=80 %.

- Safety culture – Corporate culture where all individuals are trained, skilled, and psychologically prepared, and ensuring NPP safety becomes a priority and inherent need that results in understanding, and self-control during safety-related activities.
- Spent nuclear fuel – Nuclear fuel contaminated in the reactor's fission zone and withdrawn from it finally.
- Organization for Economic Cooperation and Development (OSART) – International economic association of developed nations adherent to the principles of representative democracy and free market economy, whose mission is to promote economic growth in the OSART member states, and raise their contributions to global economic growth and development, fighting poverty in countries that are not OSART members.
- Pre-project activities – Problems that must be solved before the decision is made to begin design, the process directly documented.
- Floating thermal nuclear power plant (FTNPP) – A Russian project to create mobile floating nuclear thermal and electric plants with small output capacity to be used in remote regions in Russia and abroad, including for the desalination of seawater.
- Radiation safety – condition when the existing and future human generations are protected against health-damaging impacts of ionizing radiation.
- Radiation monitoring – collecting information about the radiation situation at nuclear plants, in the environment, and exposure of humans.
- RBMK (large-capacity multi-channel reactor) – Channel-type, water-graphite energy reactor with electric capacity equal or above 1 GW, where water boils in duct channels, and saturated steam is supplied from separators into the turbines.
- Reactor unit – A set of NPP systems and components, designed to convert nuclear energy to heat, including a reactor and directly related systems to support its normal operation, emergency cooling, emergency protections, and safety assurance, provided compliance with mandatory auxiliary and support functions from other systems of the power plant. The limits for the reactor unit are stated specifically for each NPP in its project pack.
- Situation Crisis Centre – A centre that ensures technical, technological, information-exchange, and analytic supports to activities of the HQ of Rosatom State Corp., and involvement in information support to ongoing management of the industry both under routine conditions and in emergencies.
- Quality management system – The entire set of organizational structure, methodology, processes and resources needed for general management of quality; designed to ensure continuous improvement of operations, making the business more competitive on the domestic and global markets, the system determines any entity's competitive ability; it is part of the corporate management system.
- Radiation control system – A system that includes automated data-metering hardware sets and related auxiliary equipment, and ensures collection and processing of information on control parameters that describe radiation situation within the nuclear plant's controlled access zone, on the product site, within the health protection zone, and observation zone, in every operation mode of the nuclear plant, including standard and unforeseen emergency, and the plant's condition when the power unit is decommissioned.
- Fuel element – The key structural component in a nuclear reactor's core zone in which nuclear fuel is encapsulated.
- Conditional emergency – A scenario assuming multiple damage failures and equipment, under which nuclear plant employees and emergency services drill issues of rapid response to unusual situations at the nuclear plant, and test readiness of personnel and equipment to eliminate likely emergencies.
- Power efficiency – efficient (rational) use of energy resources, to achieve economically justified efficiency at the existing level of engineering and technology, given compliance with environmental protection regulations.
- Nuclear object – an entity that uses or stores nuclear materials on the premises or houses and/or operates a nuclear power unit or nuclear storage facilities.
- INES – International Nuclear Events Scale. It was adopted to facilitate communication and understanding between nuclear industry specialists, mass media, and the public, as regards the magnitude of events/incidents at nuclear units in terms of safety. The Scale places all events into one of its seven levels: higher-level events (4-7) are known as "emergency"; lower-level events (1-3) are "incidents". Events that are negligible in terms of safety are placed at level 0 beyond the Scale, and are known as "departures". Events irrelevant for safety and placed beyond the Scale, and are known to be "off-scale".

## ABBREVIATIONS

ASIDC – automated system of individual dosimeter control, used by personnel at a nuclear plant

ASRSC – automated system of radiation situation control

ARCS – automated radiation control system

IAEA – International Atomic Energy Agency

WANO – World Association of Nuclear plant Operators

VVER – water-water energy reactor

MCP – main circulation pipeline

PE – permissible emissions

DGU – diesel generator unit

PD – permissible discharge

PS – pollutant substances

CNFC – closed nuclear fuel cycle

ICT – information and communication technologies

IRG – inert radioactive gas

PPEEC – physical protection equipment engineering complexes

ICUF – installed capacity use factor

EDC – emergency drill complex

CEE – comprehensive emergency response exercise

SRED – science research and experimental design

EDC – experimental demonstration centre

VLAW – very low-activity waste

NPRR (group) – group for nuclear plant rapid response

OSART – organization for economic cooperation and development

SNF – spent nuclear fuel

FTNPP – floating thermal nuclear power plant

MDGU – mobile diesel generator units

MPU – mobile pumping units

ESL – extension of service life

FPU – floating power unit

RW – radioactive waste

UPEE – United system for prevention and elimination of emergencies

AMCS – access management and control system

SCC – Situation Crisis Centre (Rosatom)

RCS – radiation control centre

FE – fuel element

NPP DEU – nuclear power plant drill exercise units

LSRWS – liquid and solid radioactive waste storage

PAPS – pre-assembly preparation shop

TSC – technical service centre

FMBA – Federal Medical-Biological Agency



the 1990s, the number of people in the UK who are employed in the public sector has increased from 10.5 million to 12.5 million, and the number of people in the public sector who are employed in the health sector has increased from 2.5 million to 3.5 million (Department of Health 2000).

There are a number of reasons for this increase in the number of people employed in the public sector. One of the main reasons is the increasing demand for public services, particularly in the health sector. The population of the UK is increasing, and the number of people who are aged 65 and over is increasing rapidly. This has led to an increase in the number of people who are employed in the health sector, particularly in the areas of nursing and health care.

Another reason for the increase in the number of people employed in the public sector is the increasing demand for public services in other areas, such as education and social care. The number of people who are employed in the education sector has increased from 1.5 million in 1990 to 2.5 million in 2000, and the number of people who are employed in the social care sector has increased from 0.5 million in 1990 to 1.5 million in 2000.

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