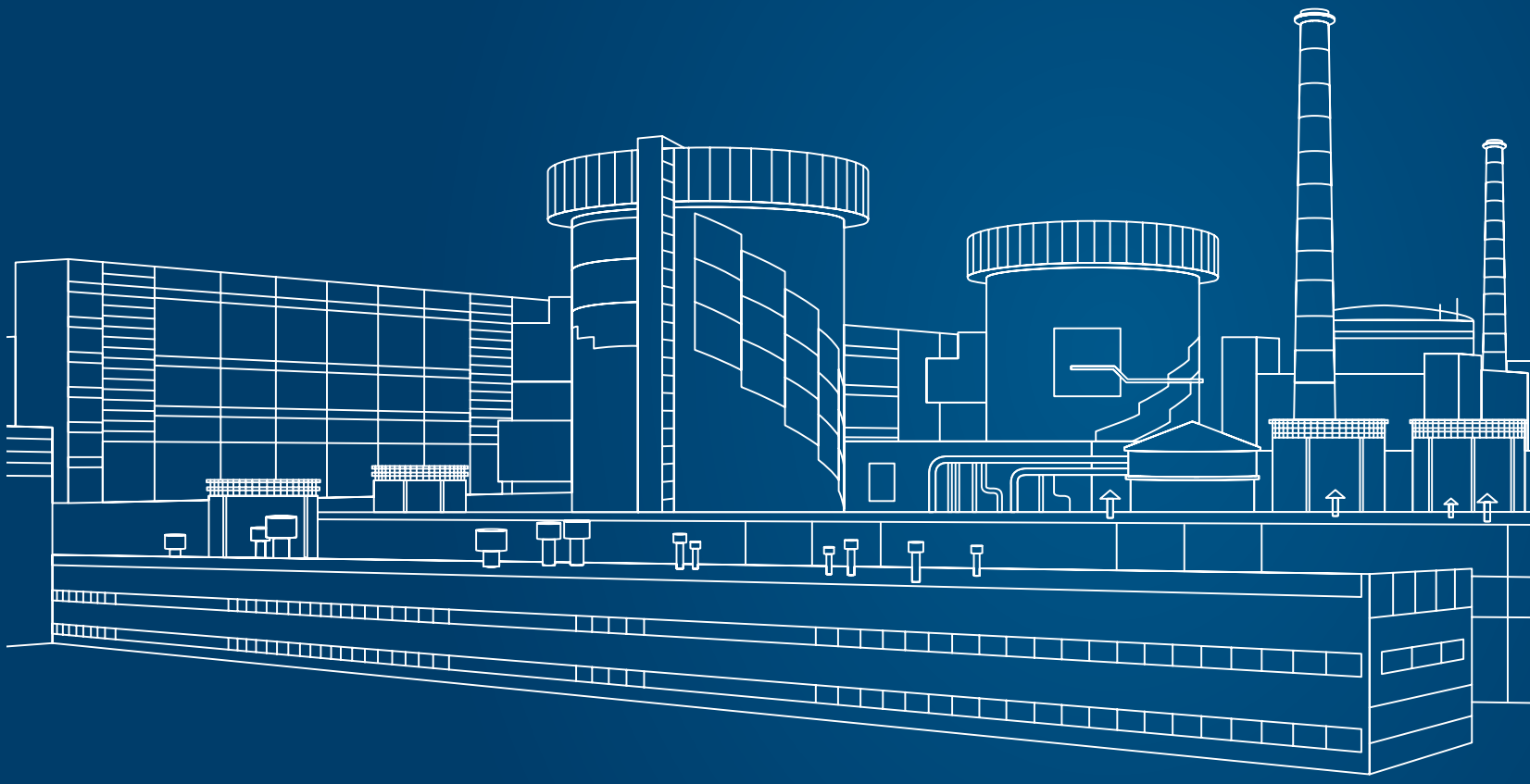
ROSENERGOATOM

2011

Annual Report

ROSENERGOATOM CONCERN OJSC



ROSATOM

Our Mission

Concern Rosenergoatom OJSC (hereinafter – Rosenergoatom) sees its mission in providing consumers with electricity and heat generated at Rosenergoatom NPPs, while maintaining guaranteed safety as the highest priority of its operations.

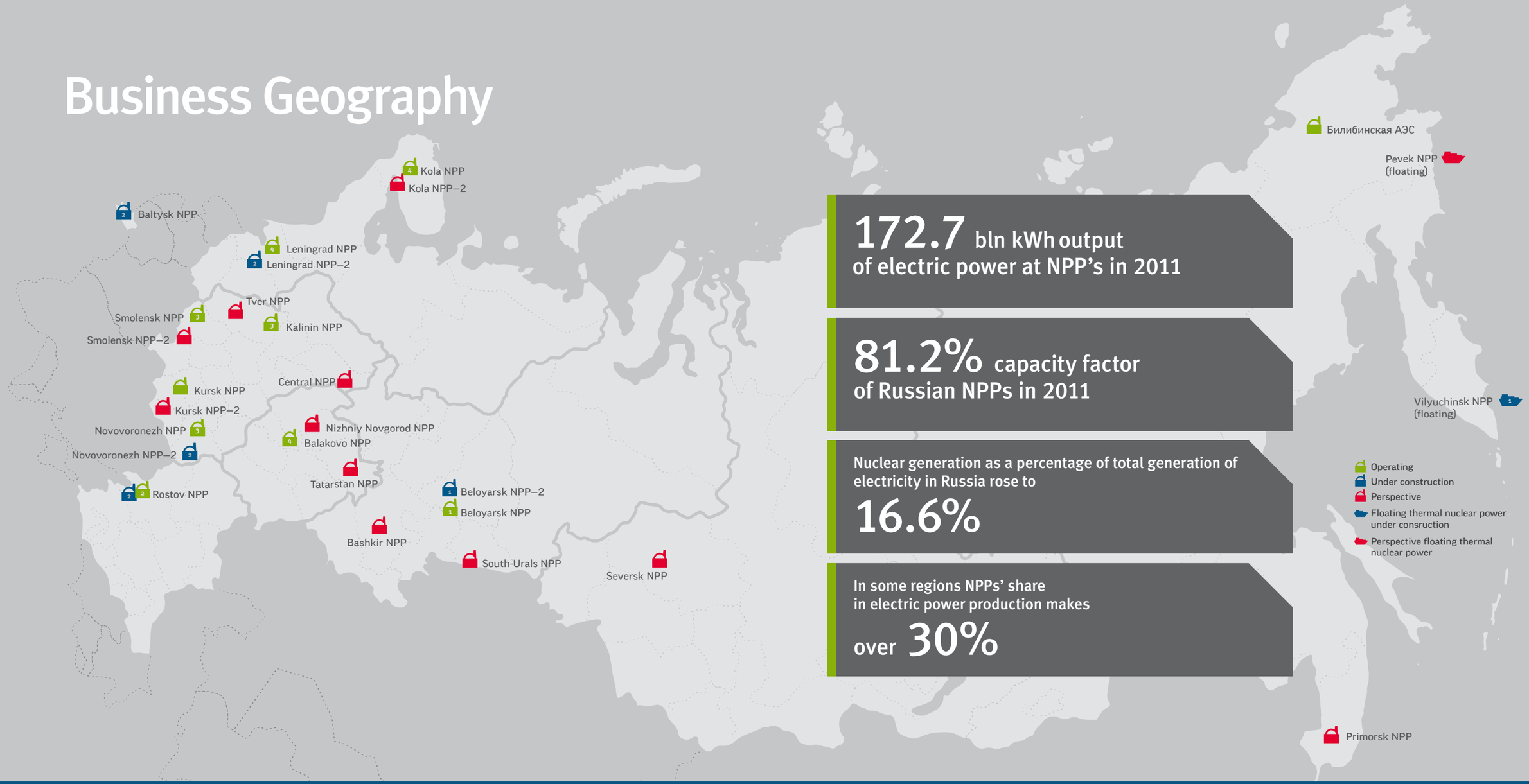
Rosenergoatom core values are the energy security of Russia, the security and safety of citizens, and environmental protection.

Rosenergoatom adheres to the following principles when performing its main line of business (operation of NPPs):

- nuclear, radiation, industrial, fire, environmental safety and labor protection;
- unconditional compliance with the legislation of the Russian Federation, meeting the requirements of federal safety rules and standards, and compliance with industry standards;
- cost-effective generation of electricity and heat;
- improving the safety culture.

As a nuclear operator, Rosenergoatom bears full responsibility for nuclear and radiation safety at all stages of the NPP life cycle.

Business Geography

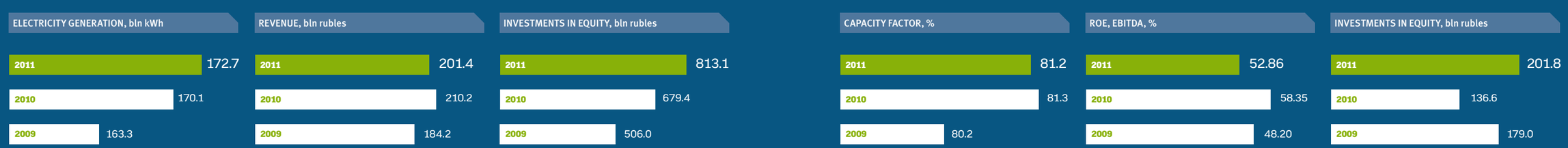


172.7 bln kWh output of electric power at NPP's in 2011

81.2% capacity factor of Russian NPPs in 2011

Nuclear generation as a percentage of total generation of electricity in Russia rose to **16.6%**

In some regions NPPs' share in electric power production makes over **30%**



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Concern Rosenergoatom OJSC is one of the largest businesses in Russian electric power generation industry, and Russia's only organization whose mainline business functions are those of nuclear plant operator. The structure of Concern Rosenergoatom OJSC includes as branches such units as active nuclear plants, directorates of nuclear plant construction projects, and a science research and engineering center for emergency response activities at nuclear plants, a construction design branch unit, and a production engineering unit.

Statement
GRI Application Level Check

GRI hereby states that **OJSC Concern Rosenergoatom** has presented its report "Annual sustainable development report of OJSC Concern Rosenergoatom " (2012) to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level B+.

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.

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

Amsterdam, 29 June 2012

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

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 19 June 2012. GRI explicitly excludes the statement being applied to any later changes to such material.*

ABOUT THIS ANNUAL REPORT

DISCLAIMER

Information included in this Annual Report of Rosenergoatom Concern OJSC (hereinafter - the "Annual Report") contains, among other things, estimates and other forecast figures related to future events or future financial activities of Open Joint-Stock Company Concern for Production of Electric and Thermal Energy at Nuclear Power Plants (hereinafter – the "Rosenergoatom" or the "Concern"). Such statements are predictive by nature, and may ultimately differ from actual events or results. Since 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, the competitive environment, risks related to the operations of Rosenergoatom inside and outside Russia, changes in technologies and the market situation in the nuclear power industry, and other factors relevant to the business of the Concern.

PRIORITY ISSUE

After the events at the Fukushima Nuclear Power Plant in Japan that brought public focus onto the nuclear power industry, the priorities for this Annual Report are issues of public importance such as ensuring the safety of nuclear power plants (NPPs), both those already existing and those under construction in Russia and abroad, and the safety of NPP designs; compliance with requirements of national and international control; nuclear and radiation safety; environmental and social impact in the areas in which the company is present.

STATEMENT OF GRI COMPLIANCE LEVEL

This Annual Report of Rosenergoatom for 2011, as for three previous years, is an integrated report that combines the usual Annual Report and the sustainable development report filed by the company.

The scope of the Report covers Rosenergoatom, including its branch companies (NPPs). This Annual Report discloses comprehensive financial, business, and production-related information about the Concern's core activities and their impacts on business, environment, and public relations.

To write this Report, we used the requirements of the GRI and Technical Protocol; to ensure that the Report's items remain up-to-date and relevant, we held a dialogue with the stakeholders to discuss the draft concept of the Annual Report.

This Report discloses key performance figures for the period from January 01 to December 31, 2011, and outlooks for the Concern's future development, to secure effective achievement of strategic goals, and to lay the foundation for long-term sustainable development.

The Concern's Annual Report was written in the light of the Sustainable Development Reporting Manual published by the Global Reporting Initiative organization (GRI, version G3.1), GRI industry-oriented addendum for electric power industry, AA1000 series of standards published by the International Institute of Social and Ethical Accountability, Recommendations of the Russian Union of Industrialists and Entrepreneurs (RSPP) on managerial practices and corporate non-financial reports (Key Performance Indicators), and Executive Order of the Federal Financial Markets Service (FFMS) of Russia No. 11-46/pz-n of October 04, 2011 (new version of the Information Disclosure Regulation), and recommendations in the Corporate Code of Conduct (attachment to Executive Order of Federal Commission for the Securities Market (FCSM) No. 421/r of April 04, 2002).

Like the previous Annual Report, this Report has passed the third-party assurance procedure that among other things confirmed its compliance with the standards of the Sustainable Development Reporting Manual published by the Global Reporting Initiative organization, and AA1000 series of standards published by the International Institute of Social and Ethical Accountability.

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

		C	C+	B	B+	A	A+
Mandatory	Self Declared				V		Report externally assured
Optional	Third Party Checked				V		
	GRI Checked				V		

To present the Annual Report's key indicators that explain the Concern's activities in the sphere of corporate responsibility, a GRI assurance chart is available as Appendix No. 1.

For additional updates on the activities, please visit www.rosenergoatom.ru.

ADDRESS OF THE CHAIRMAN OF THE BOARD OF DIRECTORS

DEAR COLLEAGUES, PARTNERS, AND FRIENDS,

You are reading the 2011 Annual Report of Rosenergoatom Concern OJSC – the generating company of ROSATOM.

As we disclose the operation figures of the largest business in the power division of the nuclear industry and the nation's largest generating company, we consider them in the context of the development strategy of Russia's entire nuclear power industry.

Under the strategy, the Concern's key development priorities are to raise the share and efficiency of nuclear generation in Russia, to close the nuclear fuel cycle, and to continue our international expansion, including maintenance of VVER power units in other nations.

In 2011, the Concern successfully handled its key tasks assigned by the industry's executive management, and demonstrated considerable potential for further growth.

Today, Rosenergoatom sells to the National Power Grid 17% of all electric power used in Russia, and acts as a factor that guarantees national security in energy.

In 2011, the capacity factor of our power units exceeded 80%. During 2000–2011, this figure rose by 10%, which is equivalent to the generation of 15 billion additional kWh, or 1.5% of total electric power consumption in Russia. This was possible thanks to our deliberate efforts to raise the efficiency rate of our operating power units.

One of our important programs is to retrofit active power units and extend their service life. In 2011, large-scale retrofits were successfully accomplished at the power units of Kola NPP and Novovoronezh NPP.

This program has covered 17 power units since it began. A total installed capacity gained through our service-life extension efforts was 9,802 MW as of January 01, 2012. As a result, the safety level of the power units is now considerably higher and compliant with the national regulations and International Atomic Energy Agency (IAEA) recommendations for modern nuclear plants.

Implementation of the program to build new generating facilities for NPPs has continued – this is the largest program in the entire post-Soviet era. In November 2011, Power Unit No. 4 of Kalinin NPP successfully gained first power and began production. At present Russia is building nine new power units: BN-800 at Beloyarsk NPP, two VVER-1000 units at Rostov NPP, VVER-1200 power units on the new sites of Leningrad NPP-2 and Novovoronezh NPP-2 (two on each site), and Baltic NPP. Construction of FNPP (floating co-generation nuclear power plant) remains a unique project worldwide.

After the Fukushima accident in Japan, some nations have reconsidered their nuclear power programs, but the fears that the accident in Japan can cancel all plans to build nuclear plants proved groundless. Rosenergoatom used a balanced and serious approach to examine the consequences of the accident, and undertook a whole series of additional efforts to ensure safety in extraordinary circumstances. A peer review mission by WANO (World Association of Nuclear Operators) and the IAEA's OSART Mission were convincing arguments that confirmed safe and reliable operation of the Russian power reactors.

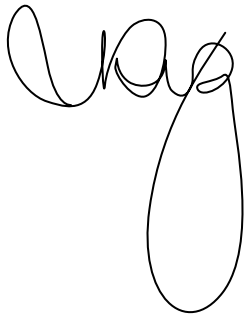
Most nuclear power plants in Russia are critical local employers, and their operation supports hundreds of thousands of people. Each gigawatt of installed nuclear capacity creates more than one thousand skilled jobs, with considerable influence on the average paycheck, and therefore, quality of living in the community.

All our nuclear power plants are major taxpayers in their host regions, and their tax contributions are vital for local budgets. In 2011, the Russian federal government received 7.4 billion rubles, while municipalities and Administrative Subjects received 10.9 billion rubles.

The 2020 strategy for the development of the nuclear power industry envisages further increase in the share of nuclear generation in total national energy production. Last year, the Government began working on a long-term strategy for the Russian nuclear power industry up to the middle of this century. I believe we have all we need to support the development of nuclear generation in Russia: high levels of professionalism, modern safe and reliable equipment, and of course, our good traditions of honest and committed work.

Alexander Lokshin

Chairman of the Board of Directors, Rosenergoatom Concern OJSC; First Deputy Director General – Director of Directorate for Nuclear Power Complex, State Atomic Energy Corporation ROSATOM



ADDRESS OF THE GENERAL DIRECTOR

DEAR COLLEAGUES AND PARTNERS,

Offered for your perusal is the 2011 Annual Report of Rosenergoatom Concern OJSC.

True to our tradition of open and transparent operation, we disclose various figures related to our production, financing, and social policies. This document is our attempt to throw as much light as possible on issues of high public interest in Rosenergoatom and its nuclear power plants, the safety level of our power units, our activities in electricity generation and sales, purchased products and services, and our environmental and social policies.

Safety is Priority Subject in our 2011 Annual Report. In this, we confidently follow our three directions; as a power generating company within ROSATOM, the Concern works to strengthen Russia's energy security; as an operator, we ensure safe operation of our NPPs; and as a socially responsible business, we ensure social security and development in our host regions.

The reporting year was one of momentous events and substantial achievements for Rosenergoatom. Our nuclear plants produced 172.7 billion kWh of electric energy, or 1.5% above the 2010 figure. This is the best result in the entire history of the Concern and Russia's nuclear power industry. In 2011, we had yet another achievement: by mid-December, our simultaneous generation capacity was 25 GW, with electric energy supplied by Kalinin NPP Power Unit No. 4.

Our repairs planned for 2011 were completed in full. Total repair time reduction was 123 days, including 70.5 days as a result of our implemented ROSATOM's Production System (RPS).

As in previous years, in 2011 we ensured safe and reliable operation of NPPs that are part of the nation's United Power Grid. No incidents were reported that would have such consequences as radiation hazards or loss of nuclear materials and substances; just as we had no cases of personnel exposure to above-standard radiation level (18 mSv/year). For the past 13 years, none of Russia's NPPs has had an event that qualified above Level 1 on the International Nuclear Event Scale (INES).

After the events in Japan, Rosenergoatom deployed an additional large-scale audit of all active Russian NPPs, and we analyzed our NPP projects, both operating and under construction, for stability in an emergency similar to the Fukushima event. This analysis helped us to work out and implement a whole new series of extra steps to ensure the safety of nuclear power plants in an emergency. For example, we purchased equipment for all operating plants that ensures safe unit shutdown and cooldown in the absence of off-site sources of power and water. For all power units now under construction, designs meet the most stringent international safety standards.

The efficiency of measures taken by Rosenergoatom was confirmed by the peer review carried out by the World Association of Nuclear Operators (WANO) and the IAEA's OSART mission at Smolensk NPP. True to our openness policy, we decided to welcome the OSART Mission in 2014 at Kola NPP, and in 2015 at Novovoronezh NPP.

While busy addressing the issue of energy security of the nation, we continue our projects to build new and retrofit existing power units.

A momentous event of the year for the entire nuclear industry was the completed construction and first power of the fourth power unit at Kalinin NPP. Construction is underway on the Phase Two power units at Rostov NPP (Units No. 3 and 4), Novovoronezh NPP-2, Leningrad NPP-2, Baltic NPP, power unit with fast neutron reactor BN-800 at Beloyarsk NPP. Construction of FNPP has continued.

In 2011, a large-scale upgrade was carried out at Smolensk NPP Power Unit No. 1, Kola NPP Power Unit No. 3, and Novovoronezh NPP Power Unit No. 5. The company obtained Rostechnadzor (Federal Environmental, Industrial and Nuclear Supervision Service of Russia) licenses to build Baltic NPP and to site Nizhniy Novgorod NPP, licenses to extend operation of Novovoronezh NPP Power Unit No. 5, and Kola NPP Power Unit No. 3.

Specific sections of this Annual Report discuss the Concern's social policy as regards its employees, and its policy to develop its territories of presence. For us, being in touch with our staff, improving their working conditions and raising social standards are tasks of no less importance than greater business efficiency. In fact, the two directions are interrelated.

In 2011, Rosenergoatom employed 34,617 individuals. According to experts, just the construction projects alone will employ an additional 9,000 personnel in the decade to come. Here, our claim to become Russia's best employer is reasonable and justified. To address the human resource problem, in 2011 the Concern developed a program for recruitment, employment and training until 2020.

In 2011, Rosenergoatom invested some 2.9 billion rubles in its social policy activities. For all our employees we purchased voluntary medical insurance and insurance against occupational injuries. We spend much on health rehabilitation and improvement treatment of our employees, under our housing improvement program, and a series of other programs.

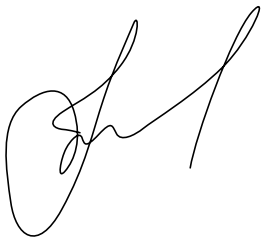
I would like to mention our program of personnel training, advanced training, and managerial competence development. We are confident that our investments in the employees' career growth are investments to secure a stable and successful future for both the Concern and Russia as a nation.

You can find this information and a lot more within the pages of our Annual Report.

The results of our activities confirm the great scope of our accomplishments. Ensuring safe and accident-free operation of our nuclear power plants has always been our top priority. The achievements of 2011 are the result of efforts and contributions by tens of thousands of our employees everywhere, to whom I extend our sincere gratitude for their honest work.

Yevgeny Romanov

General Director,
Rosenergoatom Concern OJSC



2011 CALENDAR OF KEY CORPORATE EVENTS

JANUARY

Kalinin NPP Power Unit No. 4 successfully completed the containment strength and integrity tests. The sealed enclosure system test is a key stage that confirmed the quality of construction and installation after the containment around the power unit's reactor hall was built.

On January 21, the Federal Environmental, Industrial and Nuclear Supervision Service of Russia (Rostechnadzor) issued 5-year licenses to Rosenergoatom to place Power Units No. 1 and 2 of Nizhniy Novgorod NPP in Navashino District (Nizhny Novgorod Oblast).

FEBRUARY

February 7 to 10, Smolensk NPP hosted a training workshop on "Human Factor Management" as part of preparations for the IAEA OSART mission.

February 14 to 18, Smolensk NPP held a workshop on issues of periodic assessment and probabilistic safety analysis of NPPs. The workshop was part of preparation activities for IAEA OSART mission.

MARCH

On March 11, ROSATOM created an industry-level rapid-response HQ to monitor and analyze the events during the Fukushima NPP accident. The HQ was formed with representatives of Rosenergoatom Concern OJSC top management.

On March 14, as instructed by the national government, V.G. Asmolov, First Deputy General Director of Rosenergoatom Concern OJSC and V.F. Strizhov, Deputy Director, Nuclear Safety Institute of the Russian Academy of Sciences (IBRAE RAS), left for Tokyo to provide consulting assistance to Japanese nuclear experts and to collect current data on the developments at Fukushima NPP.

On March 19, Yuzhno-Sakhalinsk welcomed a meeting presided over by the Prime Minister Vladimir Putin, where V.G. Asmolov, First Deputy General Director, Rosenergoatom, spoke of the Fukushima damaged reactors and their potential impact on the radiation situation in the Russian Far East.

On March 28, all active Russian NPPs completed target audits that established compliance with design safety requirements under probable beyond design basis accidents based on the facilities' location region specifics.

March 30, Federal State Institution Glavgosekspertiza registered and returned to Rosenergoatom its affirmative statement by the government expert panel that approved the project document pack for construction of power units No. 1 and 2 of Baltic NPP.

APRIL

By April 06, all Russian NPPs conducted emergency drills that emulated scenarios of loss of power and loss of ultimate heat sink.

April 09 to 22, expert teams of the WANO visited nuclear power plants in Russia as part of peer review mission at Rosenergoatom. The mission proved the Russian nuclear community's commitment to the ideas of WANO, and emphasized their continuous efforts to improve operation conditions at nuclear power plants. The audit demonstrated that the facilities, equipment, and resources designated by Rosenergoatom Concern OJSC to combat emergencies, combined with the team for urgent assistance to nuclear power plants (OPAS) ensure serious support to emergency response activities.

March 30 to April 30, all Russian NPPs passed public audits, in an effort to educate the public about NPP safety systems and radiation monitoring, both at NPP, and within the 30-km surveillance zone, and about the working conditions and culture at the NPP. In addition, as part of the public audits program, 12 tours were organized for printed and digital media representatives to Russian NPPs. During the month, Russian NPPs were visited by more than 240 reporters, including more than 40 from other nations. Media tours and public audits of NPPs involved a total of 900 persons.

The main phase of a large-scale upgrade of Smolensk NPP Power Unit No. 1 was concluded, in an effort to make the plant safer in compliance with current Russian and international regulations. Part of the work is to be accomplished in 2012.

During March-April, all operating NPPs were inspected to check protection against external impacts of natural and man-induced origin.

MAY

Baltijskiy Zavod JSC in St. Petersburg received two steam-turbine sets ТК-35/38-3,4 manufactured by Kaluga Turbine Works OJSC for the floating co-generation nuclear power plant "Academik Lomonosov" currently under construction. Baltijskiy Zavod JSC dockyards began construction of the world's first floating nuclear power unit in May 2009.

May 24, Kalinin NPP Power Unit No. 4 finished loading the reactor core with a total 163 dummy fuel assemblies. The dummy core loading is a vital part of pre-startup and adjustment activities before hydraulic testing and circulation flushing of the primary circuit.

27 May, Kalinin NPP Power Unit No. 4 successfully completed running-in (i.e. at least 6 hours in operation) of the electric motors for each of the four main circulating pumps (MCPs) – critical equipment of the reactor hall that circulate the coolant in the primary circuit of the NPP.

JUNE

June 15, Power Unit No. 3 of Kola NPP power unit concluded large-scale upgrade activities. Rostechnadzor extended the effect of the power unit's operation license till February 07, 2016.

JULY

July 08, Kalinin NPP Power Unit No. 4 entered the pre-startup phase – pressure tests of the primary circuit and circulation flushing.

July 18, Kola NPP closed the fortnight-long nuclear and radiation safety audit by Rostechnadzor specialists. The audit registered a high level of safety as the result of large-scale upgrading of the NPP.

AUGUST

In June through August, for compliance with the ENSREG approach, all Russian NPPs were subjected to additional analysis for protection against external impacts. Between June 15 and August 15, Rosenergoatom filed reports to Rostechnadzor on protection of operating Russian NPPs against extreme external impacts and their combinations, and preparedness of the plants to manage beyond design basis accidents, including severe ones.

On August 1, E.V. Romanov assumed the office of General Director at Rosenergoatom (from 2008 to 2011, S.A. Obozov was the General Director at the Concern).

SEPTEMBER

September 6 to 22, a team of nuclear safety experts from the International Atomic Energy Agency (IAEA) audited the operational safety of Smolensk NPP at the request of the Russian Federation Government. The detailed audit covered operation, maintenance, and repairs of the power units, radiation protection and water chemistry, personnel training and certification, management, organisational structure, administration, use of operating experience, and technical assistance. During their activities at the plant, the IAEA OSART mission experts pointed out a whole series of facts that indicate a developed safety culture, a high level of personal motivation, and managerial readiness for long-term improvement efforts.

On September 12, the power unit of NPP Busher (Iran) joined the grid. Rosenergoatom Concern OJSC specialists were involved in the startup, pre-operation inspection of the power unit, stress tests, and technical assistance mission of the WANO Moscow Center.

September 30, Power Unit No. 2 of Balakovo NPP was commissioned for commercial operation at capacity 104% N_{nom}.

September 18, Novovoronezh NPP Power Unit No. 5 joined the grid after activities to extent its service life, and testing of recently installed systems and equipment. Safety of the upgraded Novovoronezh NPP Power Unit No. 5 improved considerably.

OCTOBER

At 21:53 on October 23, loading of the reactor core of Kalinin NPP Power Unit No. 4 was completed, with 163 fuel assemblies (fuel bundles) installed as per the design.

October 24 to 25, Shenzhen (China) welcomed the WANO General Assembly convened to reform the WANO.
The General Assembly took momentous managerial decisions: V.G. Asmolov, First Deputy General Director of Rosenergoatom Concern OJSC was elected President of the WANO for 2011–2013; General Director E.V. Romanov was elected to the Management Council of the WANO. The next WANO General Assembly is scheduled to meet in Moscow in 2013.

The Russian nuclear community hosted a science and technology conference at Smolensk NPP: "Nuclear Power Industry and Russia's Energy Security". Discussion focused on the development of the nuclear power industry in Russia and worldwide following the Fukushima event.

NOVEMBER

At 16:40 on November 08, Kalinin NPP Power Unit No. 4 accomplished its activities to achieve minimum controlled power level (MCL) of its reactor.
The controlled chain reaction began: standard ionization chambers registered the first neutrons in the process.

November 09 to 11, Novovoronezh NPP held a full-scale comprehensive emergency drill (CED) with an emergency NPP assistance team. The CED checked the unit's preparedness to respond to extreme impacts. Third-party experts, including foreign observers, confirmed a high level of preparedness to respond to beyond design basis accidents, and praised the actions taken by Rosenergoatom personnel.

November 17, the company received a Rostechnadzor license to build Power Unit No. 1 of Baltic NPP.

November 22, the company signed a construction contract with NIAEP JSC to build Baltic NPP.

November 22, Kalinin NPP Power Unit No. 4 was connected to the grid in a test mode.

By Directive No. 1937-r of 03.11.2011, the Russian Federation Government approved the plan to build Nizhny Novgorod NPP; Power Unit No. 1 is to be commissioned in 2019, and Power Unit No. 2 in 2021.

DECEMBER

ROSATOM decided to implement the VVER-TOI project on the Nizhniy Novgorod NPP site.

Rosenergoatom attended an extended session of Rostechnadzor that examined and discussed the Concern's reports on analysis of protection of operating Russian NPPs against extreme external impacts and their combinations.

December 12, Kalinin NPP Power Unit No. 4 increased power up to 50% of its rated value.

December 13, a Project Company – Akkuyu Power Plant Electric Production Company (AKKUYU NGS ELEKTRIK URETIM ANONIM SIRKETI) was incorporated in the Republic of Turkey, with Rosenergoatom among the stockholders.

December 14, the company registered its highest level of simultaneous generation at 25 GW (including electric power from Kalinin NPP Power Unit No. 4, working below its capacity at the time).

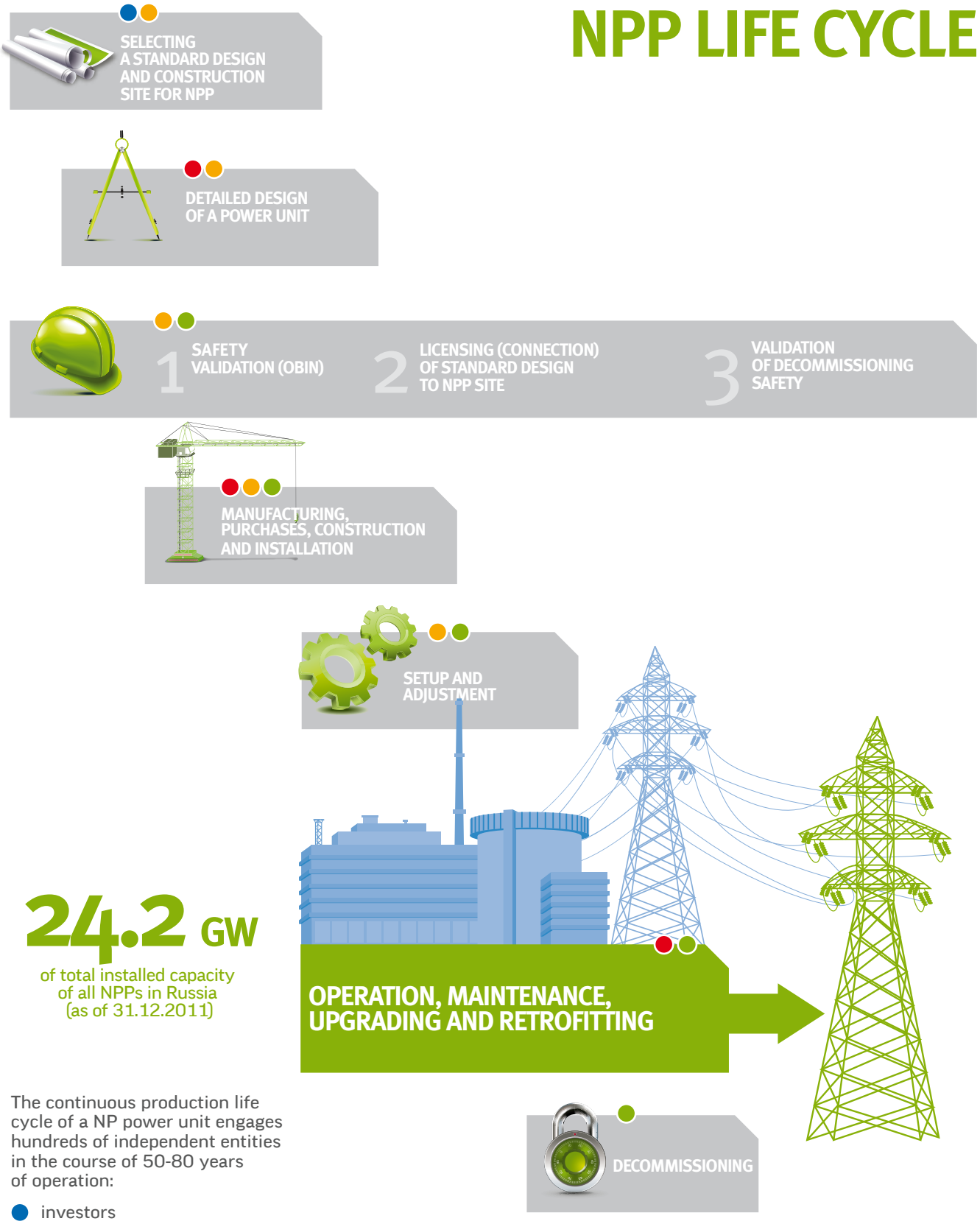
December 19: 35 years since Kursk NPP Power Unit No. 1 was commissioned.

December 24: 10 years since Rostov NPP Power Unit No. 1 was commissioned.

OVERVIEW

1

NPP LIFE CYCLE



24.2 GW

of total installed capacity of all NPPs in Russia (as of 31.12.2011)

The continuous production life cycle of a NP power unit engages hundreds of independent entities in the course of 50-80 years of operation:

- investors
- suppliers
- engineering
- operation

1.1. GENERAL INFORMATION

Rosenergoatom is one of the largest electricity generation companies in Russia, and Russia's only entity functions as a nuclear power plant operator.

As branch companies, the Concern has integrated operating nuclear plants, directorates of NPPs under construction, and a research center for NPP emergency response activities, a design branch, and a technology branch company. Rosenergoatom maintains a representative office in the People's Republic of China.

The core businesses of Rosenergoatom are the generation of electric and thermal energy at its nuclear power plants, as well as execution of functions of the operator of nuclear installations (nuclear plants), radiation sources and nuclear materials and radioactive substances, in accordance with the procedure established in the Russian Federation.

On December 19, 2011, as the registered capital of Rosenergoatom was increased with additionally issued stock, ROSATOM became the Concern's second stockholder, the first being Atomenergoprom JSC.

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 the Operating Organization 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 power plants, as regards selection of construction sites, design, construction, commissioning, operation, decommissioning, and other operating functions.

The same Decree ruled that the assets of nuclear plants currently in operation, under construction, design, or under care and maintenance, 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 power 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 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.

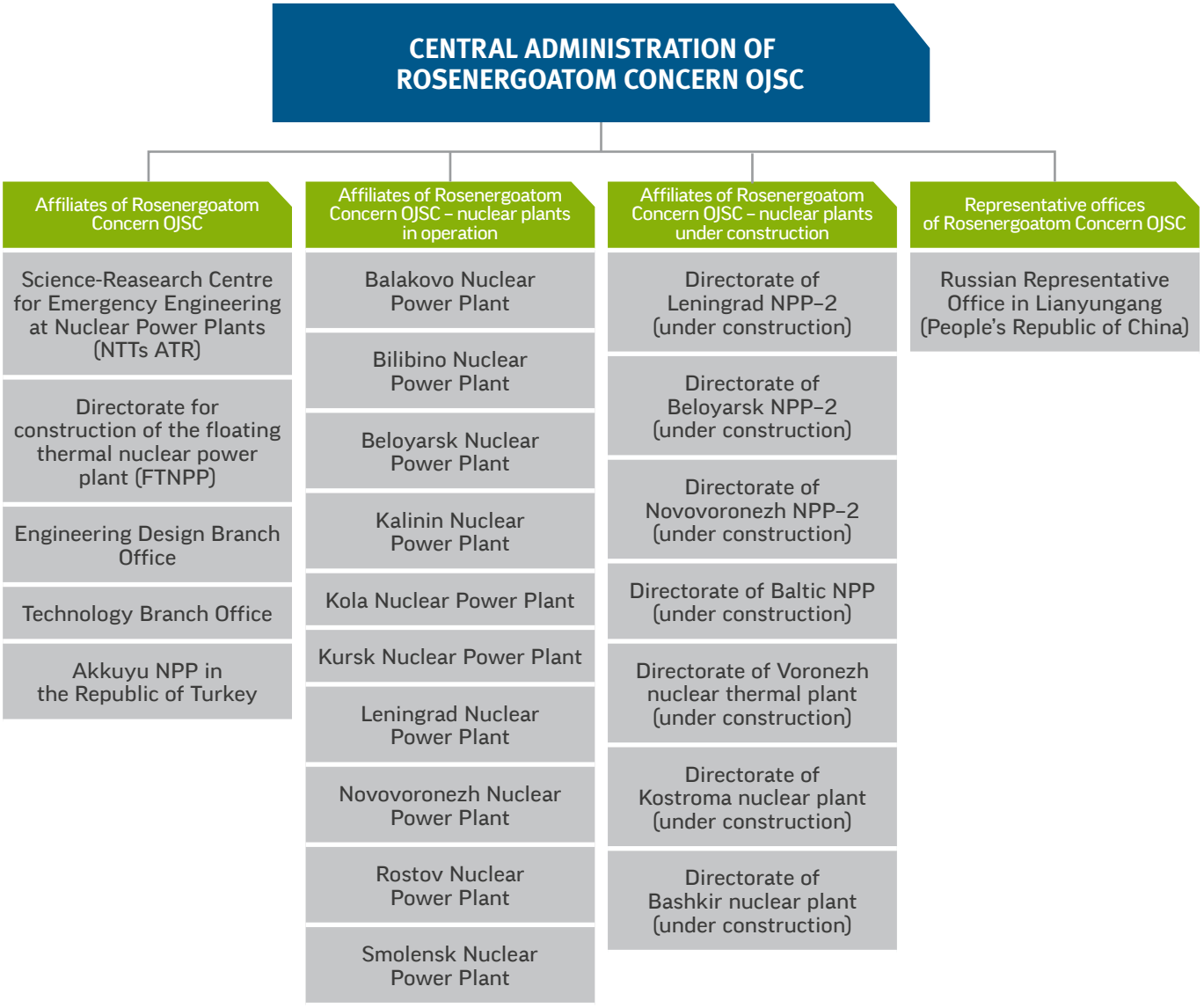
To assist further development of the nuclear power industry and to restructure the nuclear power complex in the Russian Federation, as instructed by Presidential Decree No. 556 of April 27, 2007, the Federal Government issued Resolution No. 319 of May 26, 2007, under which Atomenergoprom OJSC was incorporated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

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, of which ROSATOM is the sole stockholder.

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 became another stockholder of Rosenergoatom Concern OJSC, together with Atomenergoprom OJSC.

1.3. CORPORATE STRUCTURE



1.4. CORPORATE SUBSIDIARIES

ENTITY	DECLARED CORPORATE GOAL
AKKUYU NGS ELEKTRIK URETIM ANONIM SIRKETI	Generation and sale of electricity from Akkuyu NPP (not currently happening as the NPP has not yet been commissioned)
Energoatominvest LLC	Organising passenger and cargo shipments, creating and operation of public catering outlets, consumer services, retailing, advertising, and hospitality services, provided to Rosenergoatom affiliates
Atomenergoremont LLC	Ensuring operating ability of NPPs, primarily through works and services to the operator during repair, retrofitting, and upgrade of NPPs
Elektrogorsk Science Research Center for Nuclear Plant Safety OJSC	R&D to raise safety and economic efficiency of NPPs
Atomenergosbit OJSC	Supporting and ensuring reliable supply of electricity (power) to enterprises of the nuclear sector, and to partner enterprises
Baltic NPP OJSC	Incorporated to raise investments, including internationally, and finance the construction of Baltic NPP
PSR OJSC	An industry-level centre for the development of ROSATOM's Production Syustem; provides services of production consulting, and training for employees in new approaches to the production process.
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
Atomtekhexport CJSC	Provider of engineering services for construction, commissioning, and operation of facilities for thermal and nuclear power industry inside and outside of Russia
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.
Dom Housing Complex LLC	Hospitality services, transportation services
Beloyarsk NPP-2 OJSC	Investments in construction, machinery, and mechanisms used to build Beloyarsk NPP Power Unit No. 4; concrete mix transportation and pouring.
FINPROMATOM CJSC	Purchase of main production equipment for NPP power units; data gathering and analysis on power conservation at NPPs.

DEVELOPMENT STRATEGY AND OUTLOOKS

2

Increased proportion of nuclear generation

2011	2016	2020
16.6% share of total electric power generation in Russia	**18.0%** share of total electric power generation in Russia	**20.0%** share of total electric power generation in Russia

ECONOMIC GROWTH

- Growth of the nuclear power sector has a **multiplier effect on other sectors of the economy**, and contributes to overall economic growth

GROWTH OF BUSINESS OUTSIDE OF RUSSIA

- Construction, security, and standart compliance of Russian-made generation units are a **prerequisite to business development outside the country**

POWER SECURITY AND ENVIRONMENTAL PROTECTION

- Construction of nuclear plants helps to **diversify power sources**
- Nuclear power generation does not create emission of CO_2 and pollutants (NOx, etc.)

SCIENCE AND TECHNOLOGY

- The nuclear industry is science-intensive, and its growth boosts Russia's **leadership in science and technology**
- Growth in the nuclear industry depends directly on nuclear generation as its uppermost component

2.1. MISSION

Rosenergoatom sees its mission as bringing consumers the electric and thermal power produced by Russian nuclear power plants, with guaranteed safety as its top business priority.

The highest values of Rosenergoatom are national energy security, protection and safety for the general public, and environmental protection.

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

- ensuring nuclear, radiation, industrial, fire and environmental safety, and labor protection;
- unconditional compliance with Russian Federal Law, observing Federal safety rules and regulations, and adherence to corporate standards;
- business efficiency in generation of electric and thermal energy by NPPs;
- ongoing improvements in corporate safety culture.

As a corporate operator, Rosenergoatom assumes total responsibility for ensuring nuclear and radiation safety at all stages of the NPP life cycle.

2.2. BUSINESS MODEL

KEY PARTNERS

- TVEL OJSC, Federal State Unitary Enterprise GHK, Federal State Unitary Enterprise PO Mayak
- OJSC AEP, OJSC SBbAEP, OJSC NIAEP
- Manufacturers in the machine building industrial complex
- SO UPS OJSC, OJSC Trading System Administrator of Whosale Electricity Market Transactions, OJSC Financial Settling Center

KEY PROCESSES

- Operation of active nuclear plants
- Construction of new generation units
- Sales of electrical and thermal energy

KEY RESOURCES*

- 32 power units in nuclear plants, with total capacity 24.2 GW*
- Human resorces
- Materials and inventory
- Equipment
- Nuclear fuel

PRODUCT POSITIONING

Generating electrical power, thermal power, and capacity, of good quality and to meet the preset targets of balanced supply of electric energy to the whosale market

MARKETING AND NETWORKING

- Power Resellers Purchasing Project
- Reaching out to foreign markets
- Deployment of new capacity

SALES CHANNEL

- Power selling units of the Concern
- Atomenergosbyt
- Importer – Inter RAO UES (CJSC)

CONSUMERS

- Major manufacturers
- Secure suppliers
- Electrical power resellers
- Importer – Inter RAO UES (CJSC)

COSTS

4% Cost of materials, works and services
7% Cost of labor
12% Cost of power resources and fuel
10% General production costs
10% Other production-related costs
8% Depreciation
36% Sectoral reserves
5% Business expenses and administrative costs
2% Miscellaneous
2% Profit tax
4% Net profit

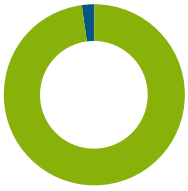
RESULT OF ACTIVITIES

Maximised revenues concidering the technological load limits of nuclear plant units

Guaranteed gross revenues needed to ensure reliable and safe operation of the nuclear plants

Implementation of the Nuclear Power Industry Development programme

REVENUES



98 % Electrical power and capacity
2 % Other

*as result for December 31, 2011

2.3. KEY STRATEGIC GOALS AND INITIATIVES

1 **Ensuring safe, efficient, and reliable operation of existing NPPs, nuclear and radiation safety of nuclear power facilities, protection of employees, the general public, and the environment.**

2 **Raising the share of nuclear generation by 2020 to 20-22% of total electricity produced in Russia,** by increasing installed capacity and generation of nuclear power, with ensured safety levels.

3 **Improving efficiency of NPPs:**

- Higher capacity factor and load availability factor (L_{AF}) for NPPs;
- Improving efficiency of repair routines;
- Improving efficiency of fuel consumption;
- Lower operation costs, cost management;
- Launching projects based on VVER-TOI.

4 **Improving efficiency of capital construction projects, higher competence of developer client:**

- Better efficiency of purchases through consolidated purchasing, efficient inventory management, and optimized logistics;
- Improved efficiency in the capital construction management system;
- Series construction to the VVER-TOI Project.

5 **Growth of international operations:**

- Building NPPs abroad using the BOO (Build – Own – Operate) model;
- Exporting electricity to Europe, and building pertinent assets;
- Services to power units VVER outside of Russia;
- Creating infrastructure for the nuclear power industry in nations that previously had no nuclear power.

6 **Implementing the program to close the nuclear fuel cycle (NFC):**

- R&D and building fast neutron reactors (BN).

In light of the targets approved by ROSATOM, key mid-term objectives up to 2016 are::

- **Share of electricity produced by NPPs in Russia of more than**
  18%
- **Assumed fixed costs per 1 MWh: not above**
  250 rubles
- **Cost of building per standard-design twin-unit NPP:**
  156 bln rubles
  (in 2010 prices)
- **Labour efficiency –**
  13.1 mln rubles/ employee

The strategy of Rosenergoatom is part and parcel of the energy business strategy of ROSATOM, which in turn rests on the Russian Federal Energy Strategy up to 2030, other federal documents, and fundamental documents of ROSATOM.

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: these are the Concern's key development priorities.

ROSENERGOATOM STRATEGY

PRODUCE AND SELL WITH PROFIT

GROWTH ON BOTH DOMESTIC AND FOREIGN MARKETS

LONG-TERM RESOURCE SECURITY OF THE SECTOR THROUGH A CLOSED NUCLEAR FUEL CYCLE

IN ACCORDANCE WITH THE STRATEGY OF ROSATOM STATE CORPORATION AS A TECHNOLOGY-BASE COMPANY

Supplying power to our **clients worldwide** and ensure **growth** of stockholder business based on **safe and competitive Russian nuclear technologies**

- Understanding the market's needs

- Contribute to the business growth target
- Create demand for other products of nuclear fuel cycle

- Cost per kW of power produced by a new NPP in Russia is lower than power generated by other means
- Competitive edge compared to suppliers on international markets

PERFORMANCE IN KEY ACTIVITIES

3

24.2 GW

of total installed capacity of all NPPs in Russia

(as of 31.12.2011)

17%

of total sales of electric power at the EPWM

12%

of total sales of capacity power at the EPWM

172.7 billion KWH

Record-breaking electric power generation

SAFETY AS PRIORITY

For Concern Rosenergoatom OJSC as an operator, ensuring safe operation of nuclear plants is top priority

During the recent 13 years there has been no non-compliance above INES scale Level 1 (no threat to citizens and the environment)

Construction of new power units

99.6%

The target to build NP power units achieved

In 2011, work was under way to build

11 power units for nuclear plants

Upgrading and retrofitting

17 power units

with total installed capacity

9,802 MW

were preserved between 2001 and 31.12.2011, while upgraded power units are safer

Generation increase

81.2%

was installed capacity use ratio for NPPs in 2011

Additional generation reached

2,615.9 million kWh

thanks to reduced repair time

3.1. ROSENERGOATOM CONCERN OJSC: POSITION IN THE INDUSTRY

The core business of Rosenergoatom is the generation of electric and thermal energy at its nuclear power plants. One of the strategic goals of the Concern as a constituent enterprise of ROSATOM is efficient production and sale of electricity generated by its NPPs. In 2011, as before, the company ensured one of its top priorities in business: safe and reliable operation of NPPs at all stages of the life cycle.

In 2011, Rosenergoatom showed technical stability, competitiveness, and significant potential for further growth. The company achieved its highest-ever output of electric power: 172.68 billion kWh.

24.2 GW

Total installed capacity NPP (as result for December 31, 2011)

LIST OF THE REGIONS OF THE COMPANY PRESENCE

Region	NPP	Number of power units	Энергоблоки в стадии строительства
Saratov Oblast	Balakovo NPP	4	
Sverdlovsk Oblast	Beloyarsk NPP	3 (2 ultimately shut down for decommissioning)	
	Beloyarsk NPP-2		1
Chukotka Autonomous Okrug	Bilibino NPP	4	
Tver Oblast	Kalinin NPP	3*	
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 ultimately shut down for decommissioning)	
	Novovoronezh NPP-2		2
Rostov Oblast	Rostov NPP	2	2
Smolensk Oblast	Smolensk NPP	3	
Kaliningrad Oblast	Baltic NPP		2
Kamchatka Krai, Vilyuchinsk	FTNPP		1

* Power Unit No. 4 of Kalinin NPP with installed capacity 1,000 MW is to be commissioned in 2012. In 2011, the power unit operated below its full designed capacity.

The main advantages of the nuclear power industry as compared to other electricity generation technologies

The main advantages of the nuclear power industry are low and stable (compared to fuel costs) prices of electric energy, and minimised environmental impact.

Oil prices have grown considerably in recent years. This causes price increases for electricity generated by thermal plants burning fossil fuels.

According to the Organization for Economic Cooperation and Development (OECD), nuclear power is much cheaper than that produced from oil, coal or gas, since the related production and transportation costs are quite high. Compared to coal and gas, if the costs of production and transportation are low for fossil fuel, the price of nuclear electricity is approximately the same.

Experts around the world have recognised nuclear power plants to be safer and more environmentally-friendly than other conventional power generation technologies. Nuclear power plants now have been designed and built with next-generation reactors, where guaranteed operational safety is a top priority. At the same time, the use of NPPs to produce electricity helps to reduce atmospheric emissions of hazardous oxides of nitrogen and sulfur. In addition, nuclear fuel is recyclable.

17%*

share in total sales of electricity on the EPWM

12%*

share in total sales of power on the EPWM

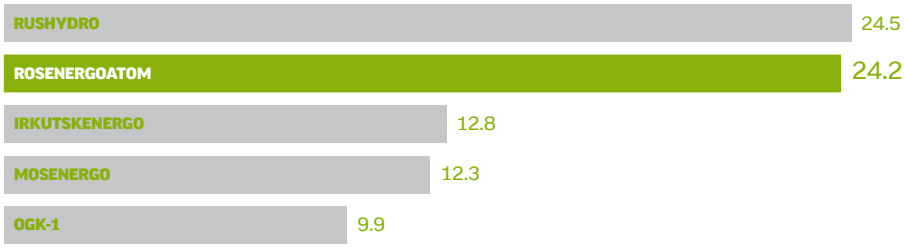
PRODUCT MARKET

Rosenergoatom Concern OJSC is one of the largest power generators on the electricity and power wholesale market (EPWM). In 2011, its share in total sales of electricity on the EPWM was about 17%*, power – 12%*.

KEY COMPETITORS

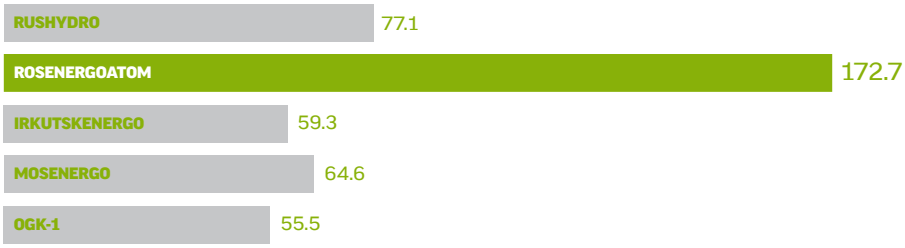
At present, Rosenergoatom leads Russian and foreign generating companies on such indicators as installed capacity and electricity generation.

THE CONCERN'S POSITION ON INSTALLED CAPACITY, 2011 DATA, GW



Figures from official corporate websites; subsidiaries and controlled business excluded

THE CONCERN'S POSITION ON GENERATION OF ELECTRICITY, 2011 DATA, BILLION KWH



Figures from official corporate websites

* The data are for Russia's UES; power regions beyond the national grid are not included.

NUMBER OF REACTORS; ELECTRICITY SOLD DURING 2009–2011 WORLDWIDE

		2009		2010		2011	
	Nation	Number of reactors*	Electricity sold** (billion kWh)	Number of reactors*	Electricity sold** (billion kWh)	Number of reactors*	Electricity sold** (billion kWh)
1	USA	104	796.9	104	807.1	104	790.4
2	France	59	391.7	59	410.1	58	423.5
3	Japan	56	263.0	54	280.2	54	156.2
4	**Russia**	**31**	**152.8**	**32**	**159.4**	**32*** **	**161.6**
5	South Korea	20	141.1	21	141.9	21	147.8
6	India	18	14.7	19	20.5	20	29.0
7	UK	19	62.9	19	56.9	19	62.7
8	Canada	18	85.1	18	85.5	18	88.3
9	Germany	17	127.7	17	133.0	17	102.3
10	China	11	65.7	13	71.0	16	82.6
	TOTAL	**440**	**2 558.1**	**442**	**2 629.8**	**448**	**2 517.7**

* Number of reactors: all reactors with "operating" status in any period of the reporting year.
** Data on electricity sold to the grid. All electricity produced, including for own needs, in case of the Russian NPPs, during 2009, 2010 and 2011, respectively, was: 163.3, 170.1, and 172.7 billion kWh.
*** Excluded Power Unit No. 4 of Kalinin NPP, which during 2011 operated below its capacity.

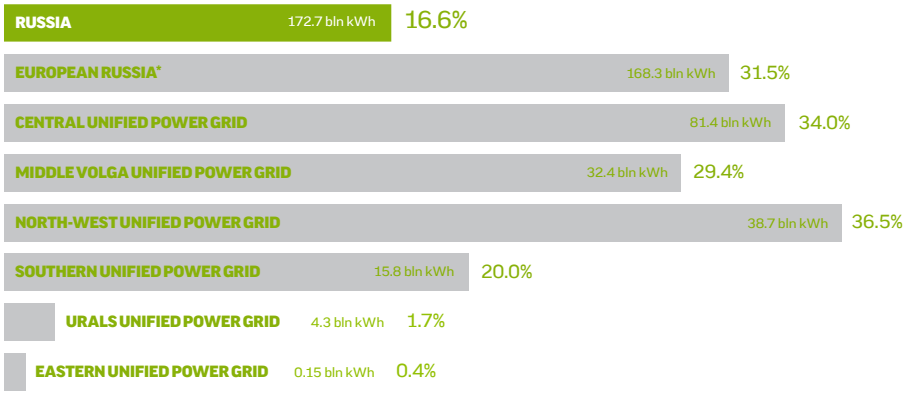
as high as

36.5%

Contribution by NPPs to total electricity generation in some areas

CONTRIBUTION TO RUSSIA'S ENERGY SECURITY

SHARE OF NPPS IN ELECTRICITY GENERATION FOR RUSSIAN UNITED NATIONAL POWER GRID IN 2011



* Central Unified Power Grid, Middle Volga Unified Power Grid, North-West Unified Power Grid, Southern Unified Power Grid.

PRODUCT CONSUMERS

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

The list and number of buyers of electricity and power 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 EPWM Commercial Operator (JSC Trading System Administrator of Wholesale Electricity Market Transactions) every year, as part of the central contract-signing campaign on the EPWM (or more frequently, if any serious changes are made to regulations that set the working procedures for the EPWM 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 electricity and power 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 electricity and power sold by the Concern on the ECWM is mainly regular, although certain departures may be caused by either season-based fluctuations in electricity needs, or water-level conditions that affect generation of hydro electricity sold to the National Power Grid.

161.6
bln kWh

Actual sales of electricity from the NPPs in 2011

3.5
bln kWh

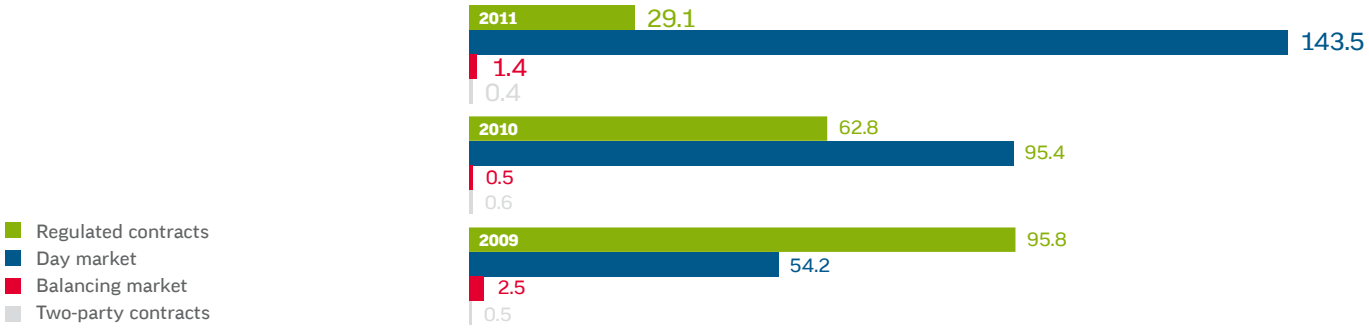
Total additional sales of electricity from nuclear power plants in 2011

SALES PERFORMANCE

Actual sales of electricity from the NPPs in 2011 amounted to 161.6 billion kWh, of which 161.5 billion kWh (or 99.9%) was sold on the EPWM, and 0.1 billion kWh on the retail market (by Bilibino NPP). Target sales of nuclear electricity recorded in the balance sheet of the Federal Tariffs Service (FTS) is 158.1 billion kWh. Total additional sales of electricity from nuclear power plants were 3.5 billion kWh, or 2.2%.

In 2011, electricity was sold under regulated contracts, on the day market, and on the balancing market; capacity was sold under regulated contracts and power sale contracts, for power from generating equipment at nuclear and hydro plants. Payments for electricity and power supplied under regulated contracts, and capacity from generating equipment at nuclear and hydro plants, were effected at the tariffs set by the FTS for Rosenergoatom for 2011.

STRUCTURE OF ELECTRICITY SOLD BY THE CONCERN ON THE EPWM DURING 2009–2011 (BILLION KWH)



Actual revenues received by Rosenergoatom from electricity and power sold in 2011, amounted to 198,788 mln rubles Extra proceeds compared to those stated in the 2011 budget was 4,802 mln rubles (actual revenues being 2.5% above target).

After 2011, average weighed annual selling price of nuclear electricity on the day market was 912 rubles/MWh.

198.8
bln rubles

Actual revenues received from electricity and power sold in 2011

912
rubles/MWh

average weighed annual selling price of nuclear electricity on the day market in 2011

MAIN TRENDS OF MARKET DEVELOPMENT

In 2010, Rosenergoatom assumed responsibility for selling power 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. Power of Unit No. 2 Rostov NPP under such contract was first sold in 2011; for 2013, the plan is to sell power of Unit No. 4 Kalinin NPP; for this, during 2012, Rosenergoatom is going to pass all relevant certification procedures for the equipment of Unit No. 4 Kalinin NPP, to receive certificates from SO UPS JSC.

In 2011, a bidding procedure was used to select power for sales during 2012. All power declared during the selection procedure will be sold in 2012 at the market prices set as a result of the selection, and considering the markup calculated by the FTS to ensure that Rosenergoatom has sufficient funds for safe operation of its NPPs, and further investments.

In addition, during 2012, the Russian Federation Government is expected to take a decision on whether or not the markup should be canceled starting from 2013; the markup is calculated by the FTS and added to the selling price to ensure that Rosenergoatom has sufficient funds for safe operation of its NPPs, and further investments.

3.2. GENERATION OF ELECTRICITY BY RUSSIA'S NPPS. GENERATING CAPACITIES

1.5%

growth of generation of electricity in 2011

GENERATION

In 2011, generation amounted to 172,681.3 mln kWh, or 101.5% of 2010 generation. Growth of actual generation compared to the previous year was mainly caused by:

- generally reduced days of repairs on the power units, by 123 days;
- lower restrictions from the grid, on installed capacity (2,890.4 mln kWh in 2011, 4,292.8 mln kWh in 2010);
- generation of electricity at Kalinin NPP Power Unit No. 4 (first test connection to the grid was on November 22, 2011, with 170.7 mln kWh produced).

101.7%

FTS balance compliance in 2011

FTS BALANCE COMPLIANCE

In 2011, the balance required by the FTS was 169,870.5 mln kWh; the result was 101.7% of the target.

Generating Capacities

BALAKOVO NPP

4,000 MW
INSTALLED CAPACITY

32,417.5 mln kWh
ELECTRICITY PRODUCED IN 2011

106.3%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

92.5%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 36

BELOYARSK NPP

600 MW
INSTALLED CAPACITY

4,249.8 mln kWh
ELECTRICITY PRODUCED IN 2011

110.7%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

80.9%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 38

BILIBINO NPP

48 MW
INSTALLED CAPACITY

153.1 mln kWh
ELECTRICITY PRODUCED IN 2011

88.8%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

36.4%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 40

KALININ NPP

3,000 MW*
INSTALLED CAPACITY

23,441.9 mln kWh
ELECTRICITY PRODUCED IN 2011

102.7%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

88.6%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 42

KOLA NPP

1,760 MW
INSTALLED CAPACITY

10,554.5 mln kWh
ELECTRICITY PRODUCED IN 2011

95.1%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

68.5%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 44

* Kalinin NPP Power Unit No. 4 with an installed capacity of 1,000 MW is due to begin operations in 2012.

81.2%

capacity factor
in 2011

CAPACITY FACTOR, AVAILABILITY FACTOR

In 2011, capacity factor was 81.2%, or 0.1% below the 2010 figure; the availability factor was 82.8%, or 0.4% below the 2010 figure.

SHARE OF GENERATION

Nuclear generation as a percentage of total generation of electricity in Russia rose to 16.6%.

82.8%

availability factor
in 2011

KURSK NPP

4,000 MW
INSTALLED CAPACITY

29,035.5 mln kWh
ELECTRICITY PRODUCED IN 2011

101.1%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

82.9%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 46

LENINGRAD NPP

4,000 MW
INSTALLED CAPACITY

28,107.8 mln kWh
ELECTRICITY PRODUCED IN 2011

97.0%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

80.2%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 48

NOVOVORONEZH NPP

1,834 MW
INSTALLED CAPACITY

8,396.2 mln kWh
ELECTRICITY PRODUCED IN 2011

84.5%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

52.3%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 50

ROSTOV NPP

2,000 MW
INSTALLED CAPACITY

15,803.7 mln kWh
ELECTRICITY PRODUCED IN 2011

106.6%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

90.2%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 52

SMOLENSK NPP

3,000 MW
INSTALLED CAPACITY

20,521.3 mln kWh
ELECTRICITY PRODUCED IN 2011

107.2%
COMPARED TO RUSSIA FTS BALANCE TARGET IN 2011

78.1%
CAPACITY FACTOR IN 2011

FOR MORE INFORMATION PLEASE SEE PAGE 54

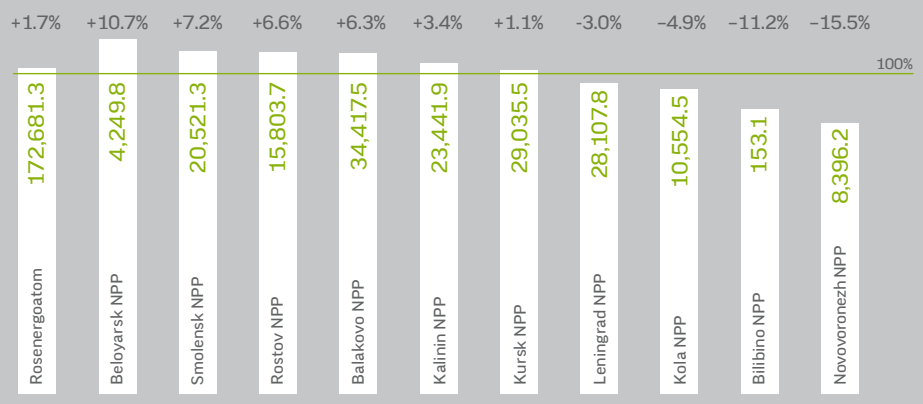
Electricity Generation by NPPs in Russia: Keys and Facts

FTS BALANCE COMPLIANCE IN ELECTRICITY GENERATION BY RUSSIAN NPPS DURING 2011, %, MLN KWH

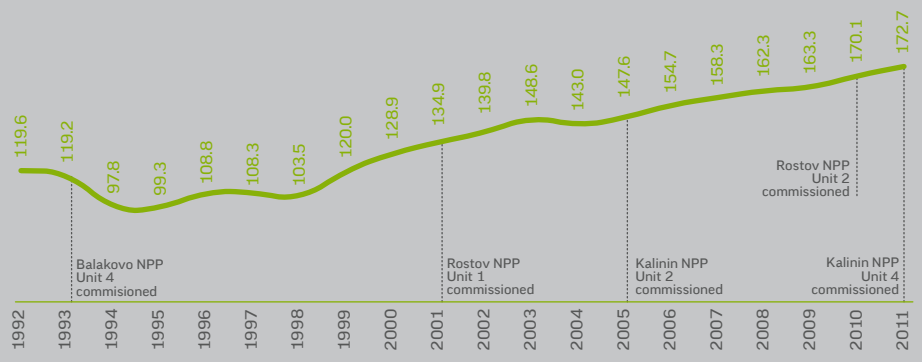
6 NPPs

from ten NPPs achieved above the FTS target in generation of electricity during 2011:

- 1,933.5 mln kWh – Balakovo NPP
- 411.8 mln kWh – Beloyarsk NPP
- 776.9 mln kWh – Kalinin NPP (including Power Unit No. 4)
- 302.5 mln kWh – Kursk NPP
- 976.7 mln kWh – Rostov NPP
- 1,376.3 mln kWh – Smolensk NPP



ELECTRICITY GENERATION BY NPPS IN RUSSIA, billion kWh



172.7 bln kWh

output of electric power at NPP's in 2011

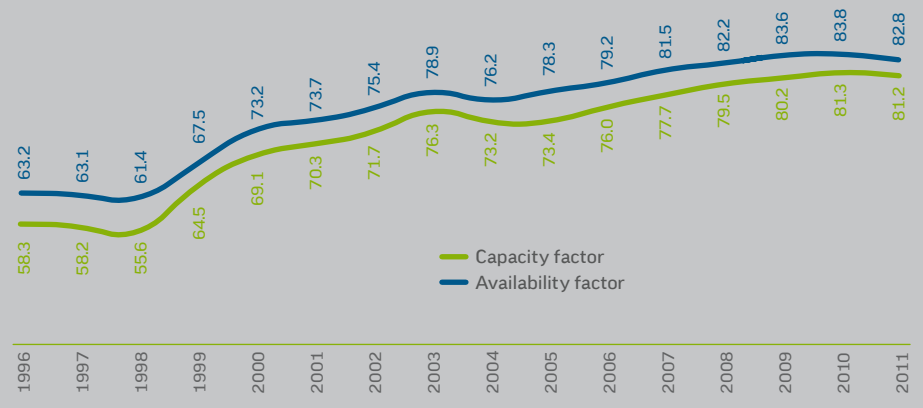
CAPACITY FACTOR AND AVAILABILITY FACTOR OF RUSSIAN NPPS, %

81.2%

capacity factor in 2011

82.8%

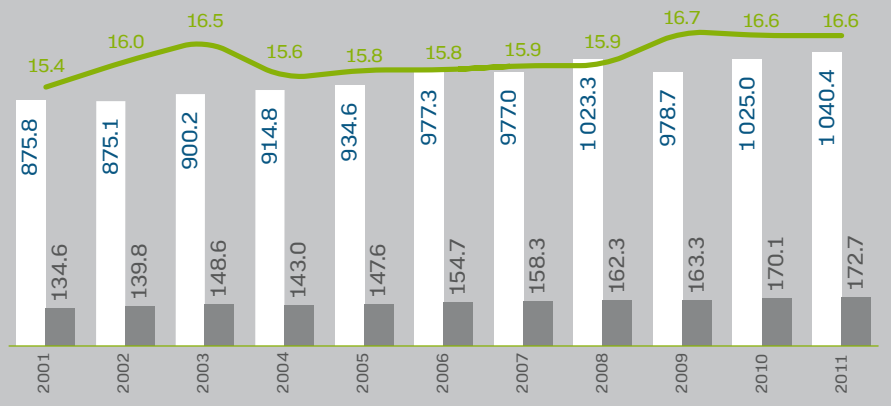
availability factor in 2011



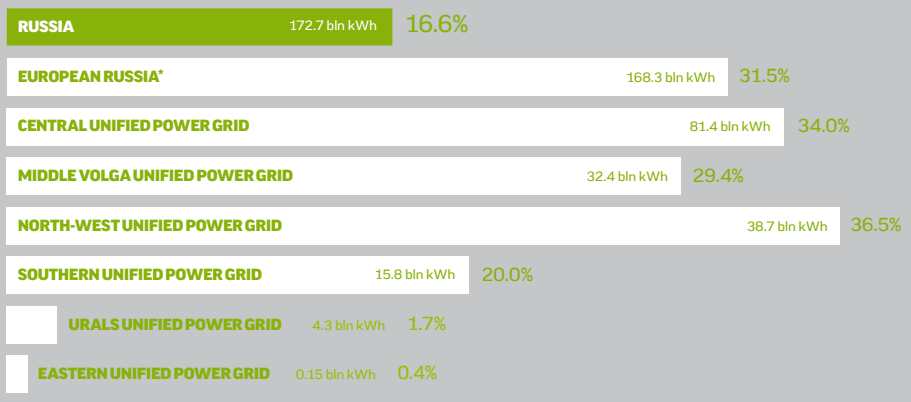
16.6%

percentage of total generation of electricity by NPPs in Russia in 2011

DYNAMICS OF NUCLEAR GENERATION AS A PERCENTAGE OF TOTAL GENERATION IN RUSSIA



SHARE OF NPPS IN ELECTRICITY GENERATION FOR RUSSIAN UNITED NATIONAL POWER GRID IN 2011



36.5%

Contribution by NPPs to total electricity generation in some areas

* Central Unified Power Grid, Middle Volga Unified Power Grid, North-West Unified Power Grid, Southern Unified Power Grid.

TIME LINE OF ACTUAL LOADS ON RUSSIAN NPPS DURING 2011, MW

BALAKOVO NPP

BALAKOVO NPP OPERATING POWER UNITS

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned 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			

Location:

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

Balakovo NPP – Russia's largest producer of electricity. In 2011, Balakovo NPP produced more than 32 billion kWh of electricity, or one fourth of the total electricity generation in the Volga Federal District.

The NPP operates VVER-1000 (project V-320) reactors. In terms of thermal design, each power unit in Balakovo NPP is a double-circuit unit. Each standard power unit is a stand-alone detached structure that consists of a reactor hall, turbine hall, deaeration rack, and a room for electrical equipment. The equipment for the first circuit is placed together with the reactor within the containment – a tight reinforced concrete shell lines with steel sheets on the inside. Circulation water for the NPP comes from a cooling reservoir. Between the cooling pond and main buildings of the power units, there are modular pump stations and service water pipelines.

Under the industry-level "Program to Increase Electricity Generation by Operating Nuclear Power Units during 2011–2015", Power Unit No. 2 of Balakovo NPP in October 2011 began commercial operation at 104% of its designed capacity level. For Power Units No. 1, 3 and 4, permits have been obtained for pilot commercial operation at 104% of nominal power level.

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, and 2005–2009).

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

565.3
bln kWh
of electric energy has generated at Balakovo NPP since its Power Unit No. 1 was commissioned

2011 OPERATION RESULTS

18.8%
of the total electricity generated by the Concern produced at Balakovo NPP in 2011

PERFORMANCE OF BALAKOVO NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	32,417.5
Compared to 2010	%	102.2
Compared to Russia FTS balance target	%	106.3
Capacity factor in 2011,	%	92.5
Compared to 2010	%	102.2

BELOYARSK NPP

OPERATING POWER UNITS OF BELOYARSK NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned on
3	BN-600	600	08.04.1980

TOTAL INSTALLED CAPACITY – 600 MW

Location:

Sverdlovsk Oblast,
3 km from the satellite city of Zarechny;
45 km from the Oblast capital – Yekaterinburg.

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.

The electricity produced by Beloyarsk NPP amounts to about 10% of the total electric energy in the Sverdlovsk Power Grid.

151.6
bln kWh
of electric energy has generated at Beloyarsk NPP since its Power Unit No. 1 was commissioned

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 defuelled 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.

Power Unit No. 3 with fast neutron reactor BN-600 has a three-circuit thermal diagram: primary and secondary circuits use sodium as the coolant, with water used in tertiary circuit. Heat from the core is removed with three independent circulation circuits, each consisting of one main circulating pump for the secondary circuit, "sodium-water" steam generator, and 200 MWe turbine generator.

BN-600 reactor and primary circuit have an integrated configuration with the core and equipment of the primary circuit housed in the same shell.

The reactor is in a full-strength guard tank that prevents escape of sodium in the event that the reactor pressure vessel fails.

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

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

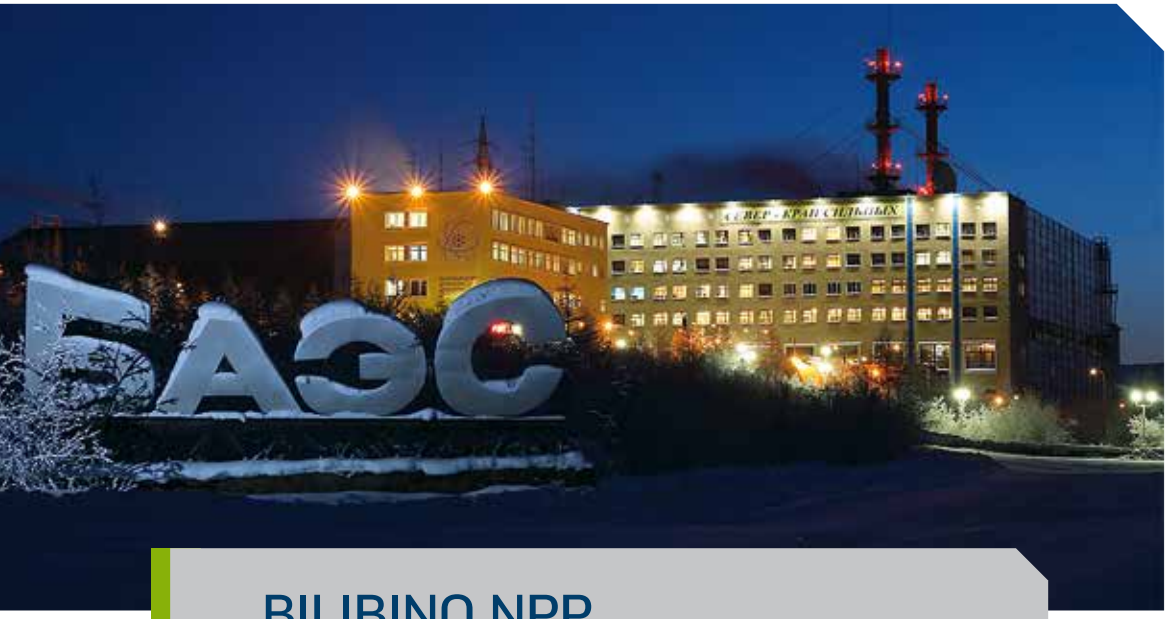
In terms of safety and reliability, BN-600 is among the best nuclear reactors in the world.
Construction of Beloyarsk NPP Power Unit No. 4 with fast neutron reactor BN-800 for a capacity of 880 MW is on-going.
It is expected to address the following problems:
- creating production technology to make mixed uranium-plutonium fuel (MOX-fuel) by the time the power unit is started;
- creating industrial technologies to recycle irradiated fuel, and make new fuel rods of it (recycling technology).

2011 OPERATION RESULTS

2.5%
of the total electricity generated by the Concern produced at Beloyarsk NPP in 2011

PERFORMANCE OF BELOYARSK NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	4,249.8
Compared to 2010	%	108.1
Compared to Russia FTS balance target	%	110.7
Capacity factor in 2011	%	80.9
Compared to 2010	%	108.1



BILIBINO NPP

OPERATING POWER UNITS OF BILIBINO NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned on
1	EGP-6	12	12.01.1974
2	EGP-6	12	30.12.1974
3	EGP-6	12	22.12.1975
4	EGP-6	12	27.12.1976
TOTAL INSTALLED CAPACITY – 48 MW			

Location:

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

Bilibino NPP produces about 80% of the electricity generated in the isolated Chaun-Bilibino Power Grid (CBPG); it is the only option and source of thermal energy in the town of Bilibino.

8.8
bln kWh
of electric energy has generated at Bilibino NPP since its Power Unit No. 1 was commissioned

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:

- above-standard robustness combined with maximum ease of maintenance and control;
- above-standard protection of the reactor unit against emergency damage;
- systematic use of the reactor unit in variable load mode;
- modular design ensuring optimised weight and size of installed equipment to minimise customisation and installation activities.

The reactor unit's thermal power capacity was designed to meet the requirement that the electric power capacity of one power unit, considering the small total capacity of the CBPG, cannot exceed 12 MW. Should such a unit unexpectedly go off-line, this cannot collapse the grid. Considering the export of steam for heating, the needed steam output of the reactor unit was set to be 95.5 tons/hour at a feed water temperature of 107°C, and this corresponds to a reactor unit thermal power capacity of 62 MW.

After analysing the specifics of design, technical and economic performance, and operational experience, it was decided that Bilibino NPP should use water-graphite channel reactors with tubular fuel rods in its reactor units, based on improved design and heat export modes of its prototype reactors: NPP 1 (in the city of Obninsk) and phase 1 of the Beloyarsk NPP. The reactor is known as EGP-6 (power, graphite, loop-type).

The installed electric power capacity of Bilibino NPP is 48 MW, while the plant exports up to 67 GCal/h of heat to consumers. At air temperatures as low as –50°C, the NPP operates in heat-exporting mode and can export 100 GCal/h while the electricity generation is reduced to 38 MW.

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

THE REACTOR UNIT CONTAINS A WHOLE SERIES OF INNOVATIONS

1) Unlike AM and AMB type units, the reactor's main circuit uses natural circulation of the coolant both at any capacity level up to nominal, and in startup and cooldown modes. Use of natural circulation of the coolant has the following advantages:
- high operating robustness combined with simple maintenance of the parts of the coolant circulation system;
- much simpler reactor circuit, as there is no pumping equipment.

2) The design of the natural circulation system uses solutions never previously adopted for steam-generation circuits of reactor units:
- multi-loop reactor circuit design;
- manifold system to remove the steam-water mix from fuel assemblies;
- feed and boiler water are mixed with a jet pump profile.

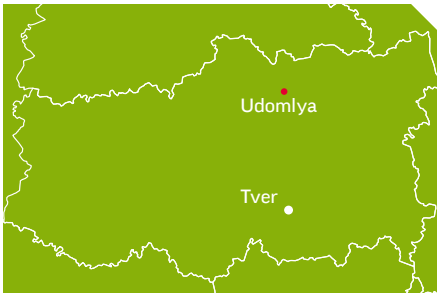
2011 OPERATION RESULTS

0.1%
of the total electricity generated by the Concern produced at Bilibino NPP in 2011

PERFORMANCE OF BILIBINO NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	153.1
Compared to 2010	%	90.2
Compared to Russia FTS balance target	%	88.8
Capacity factor in 2011	%	36.4
Compared to 2010	%	90.2

KALININ NPP



OPERATING POWER UNITS OF KALININ NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned on
1	VVER-1000	1,000	09.05.1984
2	VVER-1000	1,000	03.12.1986
3	VVER-1000	1,000	16.12.2004

TOTAL INSTALLED CAPACITY – 3,000 MW*

Location:

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

Kalinin NPP produces 70% of the total electricity generated 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.

* Kalinin NPP Power Unit No. 4 with an installed capacity of 1,000 MW is due to begin operations in 2012. In 2011, the power unit was operating below its designed capacity.

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

Kalinin NPP consists of two phases. Phase 1 includes two power units, each with an installed capacity of 1,000 MW, placed in double-wall containments housing reactor halls. Auxiliary buildings and structures connect to the main building via a system of bridges and catwalks. Power Units No. 1 and 2 were built in 1984 and 1986.

Phase 2 construction of Power Units No. 3 and 4 began in 1984. Kalinin NPP Unit No. 3 was commissioned on December 16, 2004, and began commercial operation on November 8, 2005. Power unit No. 3 is a standalone building that has expansions for service facilities of Phase 1.

In 2007, the Company obtained a Rostechnadzor license and resumed activities to build Kalinin NPP Power Unit No. 4. On November 22, 2011, Kalinin NPP Power Unit No. 4 joined the grid, and during 2011 it was at the stage of gaining 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 nominal power level.

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

389.1 bln kWh

of electric energy has generated at Kalinin NPP since its Power Unit No. 1 was commissioned

2011 OPERATION RESULTS

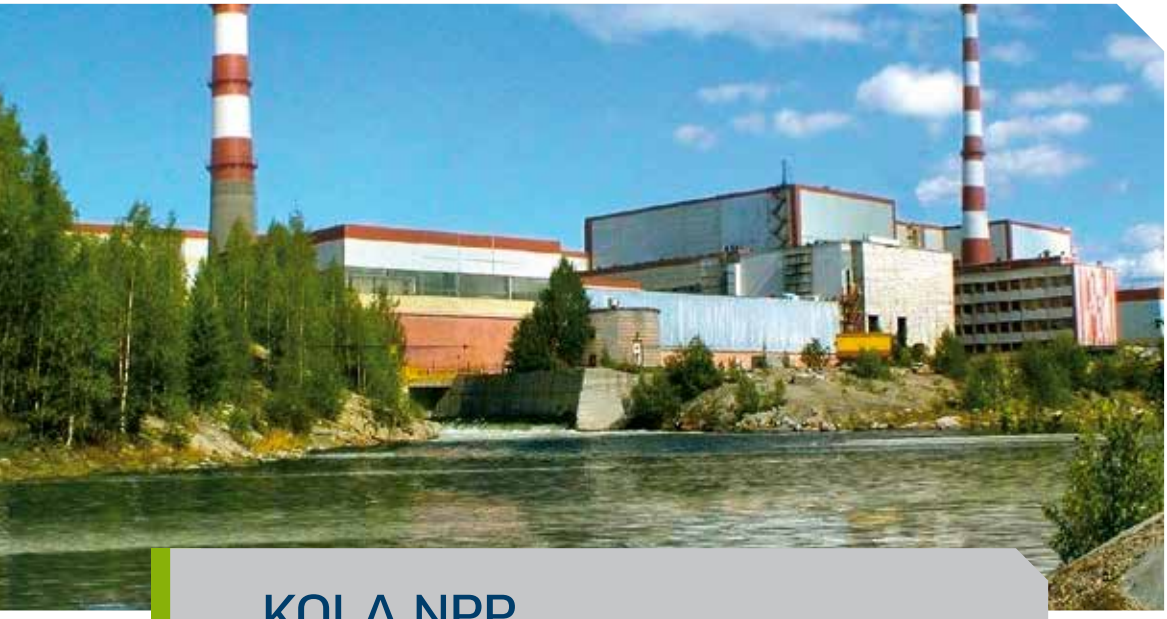
13.6%

of the total electricity generated by the Concern produced at Kalinin NPP in 2011

PERFORMANCE OF KALININ NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	23,441.9 (incl. output of Power Unit No. 4 – 170.7)
Compared to 2010	%	103.9*
Compared to Russia FTS balance target	%	102.7*
Capacity factor in 2011	%	88.6*
Compared to 2010	%	103.9*

* excl. output of Power Unit No. 4



KOLA NPP

OPERATING POWER UNITS OF KOLA NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned 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			

Location:

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

Kola NPP – Russia's first nuclear plant beyond the Arctic Circle.

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

Kola NPP exports power to the Kolenergo (Murmansk Oblast) and Karelenergo (Republic of Karelia) grids.

Structurally, the plant is divided into Phase 1 (Power Units No. 1 and 2) and Phase 2 (Power Units No. 3 and 4) due to differences in the design of VVER-440 reactors of project V-230 (units No. 1 and 2) and V-213 (units No. 3 and 4).

During 1991–2005, Phase 1 was overhauled, and as a result its service life was extended by an additional 15 years in accordance with the new nuclear safety regulations. In 2007, work began to overhaul units No. 3 and 4. In 2011, the company obtained a Rostechnadzor license to extend the operational period of Power Unit No. 3. Under the industry-level "Programme to Increase Generation of Electrical Power by Active Nuclear Units during 2011–2015", Kola NPP Power Unit No. 4 completed pilot commercial operation, and activities are underway to obtain a license for commercial operation at 107% of its nominal power level; Kola NPP Power Unit No. 3 is currently prepping for pilot commercial operation at 107% of its nominal power level.

At present, the Kola NPP power units are run in restricted mode due to reduced consumption and limited transit of electricity.

349.1 bln kWh

of electric energy has generated at Kola NPP since its Power Unit No. 1 was commissioned

2011 OPERATION RESULTS

6.1%

of the total electricity generated by the Concern produced at Kola NPP in 2011

PERFORMANCE OF KOLA NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	10,554.5
Compared to 2010	%	98.9
Compared to Russia FTS balance target	%	95.1
Capacity factor in 2011	%	68.5
Compared to 2010	%	98.9

KURSK NPP

OPERATING POWER UNITS OF KURSK NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned 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			

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.

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

Kursk NPP uses channel-type boiling-water reactors with the graphite moderator and water as the coolant. Such reactors are designed to generate saturated steam at a pressure of 7.0 MPa.

Kursk NPP is a single-circuit plant: steam sent to the turbines is generated directly inside the reactor when the passing coolant comes to the boil. Used as the coolant, common purified water moves over a closed circuit. To cool used steam in the turbine condensers, water is taken from the cooling reservoir which has a surface area of 21.5 km^2.

730.0 bln kWh

of electric energy has generated at Kursk NPP since its Power Unit No. 1 was commissioned

The plant has two construction phases: Phase 1 with Power Units No. 1 and 2, and Phase 2 with units No. 3 and 4. Power Unit No. 5 of Phase three is currently under care and maintenance.

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

2011 OPERATION RESULTS

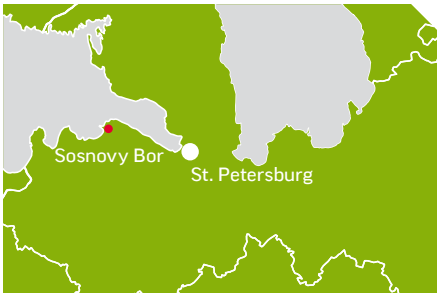
16.8%

of the total electricity generated by the Concern produced at Kursk NPP in 2011

PERFORMANCE OF KURSK NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	29,035.5
Compared to 2010	%	101.2
Compared to Russia FTS balance target	%	101.1
Capacity factor in 2011	%	82.9
Compared to 2010	%	101.2

LENINGRAD NPP



OPERATING POWER UNITS OF LENINGRAD NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned 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			

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 electricity in 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.

At present, Leningrad NPP uses channel-type boiling-water reactors with the graphite moderator and water as the coolant. This reactor is designed to generate saturated steam at a pressure of 7.0 MPa.

Leningrad NPP was the nation's first plant to receive RBMK-1000 reactors. The operating life for each power unit was estimated at 30 years, but after overhaul the service life was extended for 15 years for each of the four power units in accordance with the licenses issued by Rostechnadzor.

846.8 bln kWh

of electric energy has generated at Leningrad NPP since its Power Unit No. 1 was commissioned

Construction of the spent nuclear fuel container storage facilities was completed in 2011 (NFCS). To be commissioned in 2012, the NFCS facilities will make it possible to export accumulated spent nuclear fuel from the site of Leningrad NPP; along with other steps, this will protect against situations similar to that at Fukushima NPP.

Considering the future decommissioning of currently operating power units, in August 2007, work began to build Leningrad NPP-2. The replacement power units with upgraded water-water power 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 Russian North-East up to the end of the 21st century.

2011 OPERATION RESULTS

16,3 %

of the total electricity generated by the Concern produced at Leningrad NPP in 2011

PERFORMANCE OF LENINGRAD NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	28,107.8
Compared to 2010	%	102.0
Compared to Russia FTS balance target	%	97.0
Capacity factor in 2011	%	80.2
Compared to 2010	%	102.0

NOVOVORONEZH NPP

OPERATING POWER UNITS OF NOVOVORONEZH NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned 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

Location:

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

Novovoronezh NPP is one of the oldest entities in the Russian nuclear power industry. Novovoronezh NPP Power Unit No. 1 was commissioned 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.

459.1
bln kWh
of electric energy has generated at Novovoronezh NPP since its Power Unit No. 1 was commissioned

Power Unit No. 5 received an unprecedented scope of maintenance: upgraded control and protections systems, emergency core cooling systems and emergency power supply, upgrade of active elements of the safety system and radiation monitoring systems; additional safety systems and normal operation systems were installed; the power unit received systems of diagnostics, and a safety/hardware pack to enhance controlling safety systems and normal operation systems; and some thermal mechanical and electrical equipment was replaced.

Novovoronezh NPP meets all needs of the entire Voronezh Oblast in electricity, and up to 90% of heating needs of Novovoronezh.

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

Each of the currently operating reactors is a pilot: prototype for standard-design water-water power reactors: VVER-440 and VVER-1000.

The plant had four construction phases: Phase 1 was Power Unit No. 1 (VVER-210 in 1964), Phase 2 brought Power Unit No. 2 (VVER-365 in 1969), Phase 3 built Power Units No. 3 and 4 (VVER-440 in 1971 and 1972), and Phase 4 built Power Unit No. 5 (VVER-1000 in 1980).

In 1984, after 20 years in operation, Power Unit No. 1 was decommissioned, followed by the retirement of unit No. 2 in 1990. Three power units now remain in operation.

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 Rostechnadzor. On September 22, 2011, following unique repairs and upgrades, Russia's first one-million kilowatt unit with a VVER reactor was restarted.

As a result of these efforts, Novovoronezh NPP power unit of No. 5, originally of the second generation, now belongs to the third generation of nuclear power plants. It is fully compliant with modern Russian requirements and IAEA recommendations.

2011 OPERATION RESULTS

4.9%
of the total electricity generated by the Concern produced at Novovoronezh NPP in 2011

PERFORMANCE OF NOVOVORONEZH NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	8,396.2
Compared to 2010	%	71.3
Compared to Russia FTS balance target	%	84.5
Capacity factor in 2011	%	52.3
Compared to 2010	%	71.4

ROSTOV NPP

OPERATING POWER UNITS OF ROSTOV NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned on
1	VVER-1000	1,000	30.03.2001
2	VVER-1000	1,000	16.03.2010

TOTAL INSTALLED CAPACITY – 2,000 MW

Location:

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

Rostov NPP is a major power provider in Southern Russia. The plant accounts for 40% of the total electricity generation in the Rostov Oblast. From Rostov NPP, electricity is exported over ETL-500 (Electricity Transmission Line) to the Volgograd Oblast and Rostov Oblast, Krasnodar Krai and Stavropol Krai, and over two ETL-220 lines to the town of Volgodonsk.

Rostov NPP is one of a series of uniform nuclear plants designed with VVER-1000 reactors that meet the requirements of production line construction. The NPP's entire capacity was intended to cover the needs of the united power grid of Northern Caucasus.

Large-scale construction of the Rostov NPP began in October 1979.

In 1990, construction of the NPP was suspended, and the plant was left under care and maintenance, with Power Unit No. 1 available at 95% and No. 2 at 30%; a foundation plate was made for Power Unit No. 3, and a foundation pit excavated for Power Unit No. 4.

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.

Efforts to complete construction of Power Unit No. 2 with VVER-1000 reactor resumed in 2002. Large-scale work started in 2006. In 2010, Power Unit No. 2 was commissioned and put into operation.

Under the industry-level "Programme to Increase Generation of Electrical Power by Active Nuclear Units during 2011–2015", Rostov NPP power unit No. 1 is now at the pilot commercial operation stage, at 104% of its designed power level.

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

94.3
bln kWh
of electric energy has generated at Rostov NPP since its Power Unit No. 1 was commissioned

2011 OPERATION RESULTS

9.2%
of the total electricity generated by the Concern produced at Rostov NPP in 2011

PERFORMANCE OF ROSTOV NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	15,803.7
Compared to 2010	%	127.3
Compared to Russia FTS balance target	%	106.6
Capacity factor in 2011	%	90.2
Compared to 2010	%	101.2

SMOLENSK NPP

OPERATING POWER UNITS SMOLENSK NPP

Power Unit No.	Type of reactor	Installed capacity, MW	Commissioned 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

Location:

Smolensk Oblast,
3 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 electric energy, or more than 80% of the total electricity generated by all Smolensk power plants.

506.2
bln kWh
of electric energy has generated at Smolensk NPP since its Power Unit No. 1 was commissioned

Smolensk NPP uses three power units with RBMK-1000 reactors. Phase 1 is a second-generation plant with RBMK-1000 reactors; Phase 2 is a third-generation design.

Smolensk NPP has won the industry-level contest "Russia's Best NPP" several times (in 1992 and 1993), and in 1999 entered the top three. 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.

In 2009, Smolensk NPP received a compliance certificate in the environmental management system under national standard GOST R ISO 14001-2007, and named Russia's best NPP in "Physical Protection" nomination.

In 2011, Smolensk NPP won the contest "Russia's Best NPP" based on the operation results of year 2010, and was named the best NPP in safety culture.

In 2011, under the program to extend service life of facilities, Power Unit No. 1 received capital repairs and was fully upgraded.

In 2011, Smolensk NPP:
- confirmed compliance of its management system in occupational safety and employee health, under international standard OHSAS 18001:2007, and compliance of its environment management system with national standard GOST R ISO 14001-2007;
- was named the Concern's best plant in safety culture;
- received an "Employees' Confidence Certificate" after an audit by the Federal Labour Inspectorate for Smolensk Oblast.

Between September 5 and 22, 2011, Smolensk NPP welcomed the IAEA's OSART mission that came on invitation from the Russian Federal Government and ROSATOM. Competent experts from many countries examined operational safety at the nuclear plant for compliance with international standards.

Based on objective expert opinions, Smolensk NPP was recognised as compliant with applicable IAEA standards and safety regulations. Ten good practices found by the OSART Mission were recommended to be adopted by nuclear plants worldwide.

2011 OPERATION RESULTS

11.9%
of the total electricity generated by the Concern produced at Smolensk NPP in 2011

PERFORMANCE OF SMOLENSK NPP IN 2011

Indicators	Unit	Value
Electricity produced in 2011	mln kWh	20,521.3
Compared to 2010	%	98.5
Compared to Russia FTS balance target	%	107.2
Capacity factor in 2011	%	78.1
Compared to 2010	%	98.5

3.3. ENSURING RUSSIA'S NPP SAFETY. RADIATION IMPACT ON PERSONNEL AND GENERAL PUBLIC

As an operating organization, Rosenergoatom sees safe operation of NPPs as a top priority.

The Concern holds operating licenses for all NPP power units, issued by Rostechnadzor based on positive opinions of expert reviews and audits of all NPP power units, conducted by government supervision authorities.

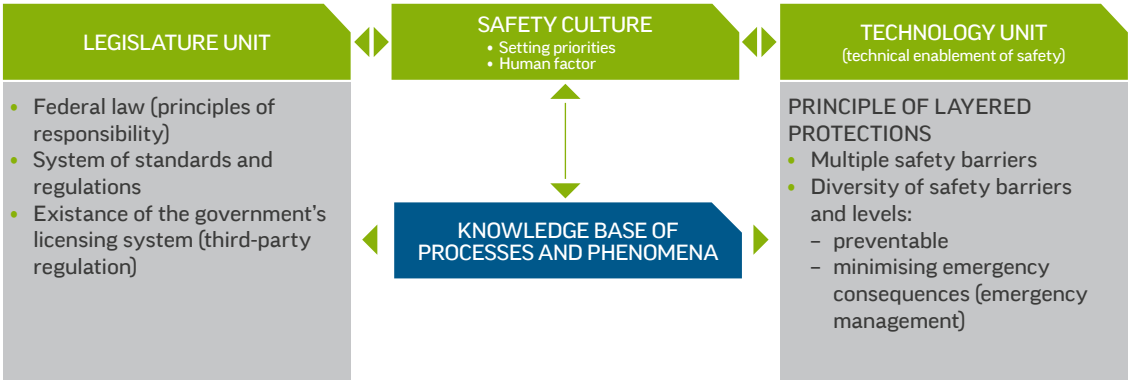
Rosenergoatom employees, whose function is to ensure the safety of nuclear energy, have passed examinations in working safety and practical skills according to regulated procedures, and are authorised by the government agency for safety regulation to perform their respective functions.

In 2011, Rosenergoatom Concern OJSC purchased insurance to cover 100% of all types of civil liability as required by the Russian Federation law, and to meet the requirements for the Concern's subsidiaries to receive operating licenses for power units, hydraulic structures, and hazardous industrial facilities.

All NPP power units in Russia operate on the conditions of their respective Rostechnadzor licenses.

In 2011, Rostechnadzor did not suspend the effect of any of these operating licenses due to non-compliance with the license conditions.

FUNDAMENTAL SAFETY PRINCIPLES



In 2011, the nuclear power plants of Rosenergoatom worked reliably, and the required safety level was maintained unconditionally. No incidents occurred that would cause radiation hazard consequences or qualify under the Regulation "Procedure of Distribution and Non-Compliance Registration in Nuclear Plant Operation" as a loss of nuclear materials or radioactive substances.

No failures of safety system components have been reported, which can cause loss of safety functions. In all cases of reactor shutdown and unloading, safety systems were fully available, and guaranteed safe transition of the reactors to subcritical state or to the required capacity level.

There has not been an accident that qualifies above Level 1 on the INES scale registered for 13 years. In 2011, two incidents arose that qualified as Level 1 by INES (no threat to the general public and the environment). In 2010, three such incidents were reported.

In 2011, a total of 46 incidents occurred in the operation of NPP power units (of which four were at the Kalinin NPP Power Unit No. 4 that is currently operating below capacity).

Safety enforcement activities planned for 2010 were fully implemented; compliance with the conditions of applicable licenses was ensured.

Safety Culture

DEFINITION OF SAFETY CULTURE

Range of characteristics and relations in corporate entities and individuals, which determines that NNP safety problems are given full attention as top priority issues

INSAG-4

Qualification and psychological preparedness of all individuals, where safety assurance for the nuclear plant is an objective of priority and inner need that causes awareness of responsibility and self-control during all safety-impacting operations

OPB 88/97

PRINCIPLES OF SAFETY ASSURANCE AT RUSSIAN NPPS

COMMITMENT AT THE POLITICAL LEVEL	COMMITMENT AT THE MANAGEMENT LEVEL	COMMITMENT AT THE INDIVIDUAL LEVEL
safety policy statement	determination of responsibility	critical stance
manegement structure	determining and monitoring of safety practices	strictly regulated and balanced approach
resources	qualification and preparation	socialibity
self-regulation	incentives and penalties	
	audits, analytical surveys and comparisons	

HUMAN FACTOR TOOLS USED TO PREVENT ERRORS

5 top qualities

RESPONSIBILITY
CRITICAL STANCE
SCRUPULOSITY
SOCIABILITY
LEARNING CAPABILITY

6 error-preventing tools

COMMUNICATIONS
ACTION CONTROL
BRIEFINGS
INSTRUCTIONS
OPERATION EXPERIENCE
CRITICAL APPROACH

HUMAN FACTOR AS BARRIER OF MULTI-TIERED PROTECTIONS

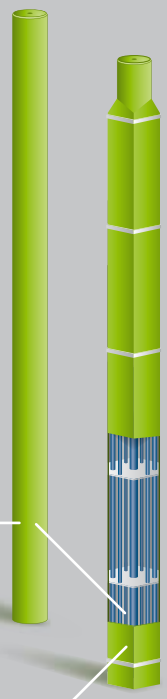
design	procedure	behavior
PROVIDE	**IMPROVE**	**INSTRUCT**
integrity of barriers	working procedures	communications
availability of SIS	normal operation procedures	instructions
modernization	emergency procedures	action control
equipment		operation experience
		critical approach

Multi-tiered protections as NPP safety strategy

NPP SAFETY BARRIERS

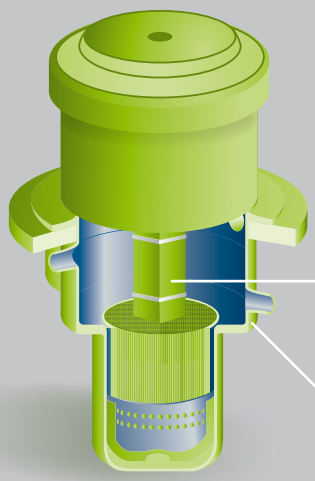
1th barrier – fuel pellet (matrix)

The fuel is formed into ceramic pellets at more than 1,200°C which prevents fission products escaping under fuel rod cladding tube.



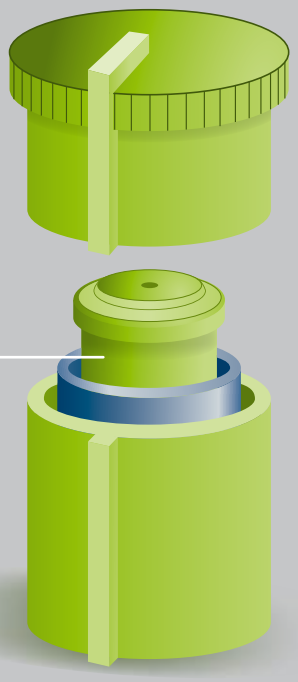
2nd barrier – Leak-tight cladding of fuel rod

Leak-tight cladding tube of fuel rod (fuel element) is highly corrosion resistant because it is manufactured of high purity zirconium for nuclear applications. The cladding tube holds its shape at the temperatures higher than 1,000°C and its leak-tight design prevents fission products release into coolant.



3rd barrier – Reactor vessel with primary circuit pipelines

Reactor vessel designed for 160 atm working pressure is made of 200 mm steel. It prevents fission products release into containment.



4th barrier – Containment

VVER-1000 and equipment of primary circuit containing radioactive coolant are covered by protective shell made of pre-stressed reinforced concrete and called leak-tigh containment or just containment. It provides safety of a power unit in case of LOCA.

CONTROL OF THE NPP SAFETY

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

Vital activities include comprehensive audits of NPP safety, with the following key objectives:

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

In 2011, the Concern's commissions ran five comprehensive audits to examine nuclear, radiation, fire, environmental and industrial safety at nuclear power plants with VVER reactors at Kalinin, Balakovo, Novovoronezh, Rostov and Kola NPPs.

ROSATOM conducted three integrated audits of the Kursk and Novovoronezh NPPs.

Rostechnadzor conducted integrated audits of the Kola and Bilibino NPPs.

19 international audits were conducted as part of activities to oversee safety protocols at nuclear plants in 2011, including a peer review by WANO; the IAEA's OSART mission to Smolensk NPP; peer reviews at Balakovo, Bilibino and Novovoronezh NPPs; international insurance audits at Novovoronezh and Beloyarsk NPPs; and a check of operational availability at the Bushehr NPP in Iran.

All domestic and international audits published their reports stating compliance of the NPP in operation with the Russian and international applicable standards and regulations.

19
international audits
were conducted as part of activities to oversee safety protocols at nuclear plants in 2011

Safety of NPPs: Indicators and Facts

SAFETY ASSURANCE PRINCIPLES OF NUCLEAR FACILITIES

- **A UNIFORM POLICY IN BUSINESS AND ENGINEERING, WITH SAFETY AS AN UNCONDITIONAL PRIORITY**
- **ENSURING ADEQUATE SKILLS, DISCIPLINE, AND ORGANISATION OF THE CONCERN'S PERSONNEL**
- **CREATING COMMITMENT TO THE PRINCIPLES OF SAFETY CULTURE AMONG EMPLOYEES OF THE CONCERN**
- **DECISIONS BASED ON TRIED AND TRUSTED METHODS, AN INTEGRATED APPROACH, ENGINEERING AND ECONOMIC EFFICIENCY**
- **RECOGNISING THE FACT THAT AS THE OPERATOR, THE CONCERN'S RESPONSIBILITY FOR THE NPP SAFETY**

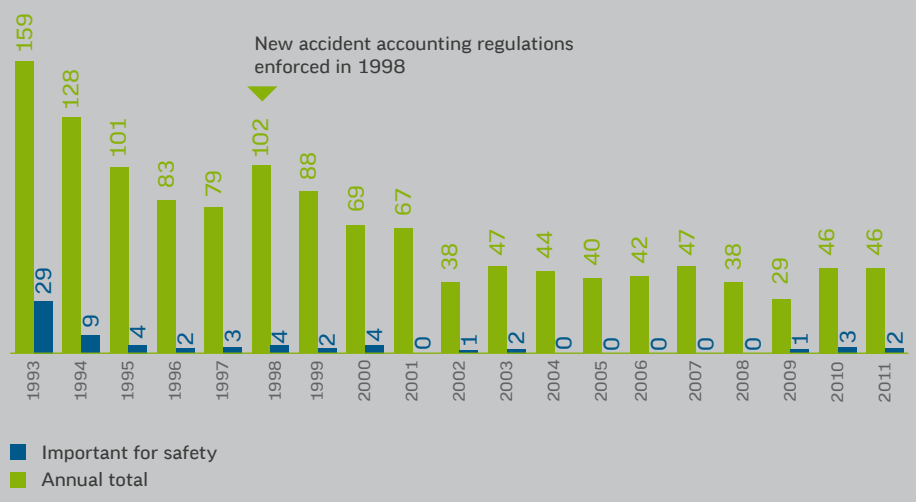
OPERATIONAL EVENTS AT RUSSIAN NPP IN 2011

	Incidents				
	Off scale	INES scale level			
NPP		0	1	2	Total
Balakovo	2	2	1	0	5
Beloyarsk	0	0	0	0	0
Bilibino	1	2	0	0	3
Kalinin	1	1+4*	1	0	3+4*
Kola	5	4	0	0	9
Kursk	1	4	0	0	5
Leningrad	1	3	0	0	4
Novovoronezh	1	7	0	0	8
Rostov	2	1	0	0	3
Smolensk	0	2	0	0	2
ALL NPPS	**14**	**26+4***	**2**	**0**	**42+4***

* Kalinin NPP Power Unit No. 4 operated below designed capacity.

OPERATIONAL EVENTS AT NPPS

In 2011, two incidents arose that qualified as Level 1 by INES (no threat to the general public and the environment).



ADDITIONAL ANALYSIS OF PROTECTION OF RUSSIAN NPPS

In the light of the events in the spring of 2011 in Japan (earthquake and tsunami) that caused the accident at Fukushima NPP, the Concern analysed the causes of the accident and conducted comprehensive audits of Russian NPPs to estimate their preparedness for such extreme events.

By March 28, 2011, all operating Russian NPPs had passed specific audits for compliance with their respective designed safety requirements for scenarios of potential development of beyond design basis accidents, considering the specifics of the facilities' location.

In June through August, 2011, Rosenergoatom, acting based on ENSREG methodology, conducted additional analyses to assess protection of all Russian NPPs against external impacts

By April 06, 2011, all Russian NPPs had conducted emergency response drills using scenarios of station blackout and loss heat removal to the ultimate heat sink.

In March and April 2011, Rosenergoatom audited all operating nuclear power plants, with the aim of assessing their degree of protection against external impacts of natural and man-induced origin.

ADDITIONAL ANALYSES TO ASSESS PROTECTION BASED ON ENSREG METHODOLOGY

ANALYSIS OF PROTECTION AGAINST SEISMIC IMPACTS ENVISAGED IN THE DESIGN OF THE NPPS (DESIGN BASIS AND SAFE SHUTDOWN EARTHQUAKES)

ANALYSIS OF PROTECTION AGAINST FLOOD BY VARIOUS CAUSES (UNUSUALLY HIGH WATER LEVEL, SEA/LAKE OFFSHORE IMPACTS – TSUNAMI, STORM, ETC., OFF-NORMAL SITUATIONS AT HYDRAULIC STRUCTURES, EXTREME RAINFALL), ENVISAGED IN THE DESIGN OF NPPS

ANALYSIS OF PROTECTION AGAINST EXTERNAL IMPACTS, TYPICAL OF THE AREA AND SITE OF THE NPPS, OF THE INTENSITY ENVISAGED IN THE DESIGN OF THE NPPS

ANALYSIS OF PROTECTION OF NPPS AGAINST EARTHQUAKES IN EXCESS OF THOSE ENVISAGED IN THE DESIGN (THE NUCLEAR PLANT'S ABILITY TO MANAGE OPERATIONAL EVENTS, INCLUDING ACCIDENTS CAUSED BY EXTREME EARTHQUAKES)

ANALYSIS OF PLAUSIBILITY OF FLOODING IN EXCESS OF THOSE ENVISAGED IN THE DESIGN OF THE NPPS, AND ANALYSIS OF PROTECTION OF NPPS AGAINST SUCH FLOODS, IF PHYSICALLY NOT RULED OUT

ANALYSIS OF PROTECTION OF NPPS AGAINST EXTERNAL IMPACTS, IN EXCESS OF THOSE ENVISAGED IN THE PROJECT DESIGN (THE NUCLEAR PLANT'S ABILITY TO MANAGE OPERATIONAL EVENTS, INCLUDING ACCIDENTS CAUSED BY EXTREME EXTERNAL IMPACTS)

ANALYSIS OF PROTECTION OF NPP AGAINST SPECIFIC COMBINATIONS OF EXTERNAL IMPACTS SELECTED BY EXPERTS (SUCH AS EXTREME SNOW LOADS PLUS EXTREME WIND SPEEDS)

Between June 15 and August 15, 2011, Rosenergoatom submitted to Rostechnadzor its reports with the results of analyses of protection of operating Russian NPPs against extreme external impacts and combinations thereof, and preparedness of NPPs to manage beyond design basis accidents, including severe accidents.

From September to November 2011, Rostechnadzor reviewed the reports, and discussed the results with Rosenergoatom at an extended session at Rostechnadzor in December 2011.

EFFORTS OF ROSENERGOATOM TO PROTECT NPPS AGAINST EXTREME EXTERNAL IMPACTS ALLOW:

- DETAILING GEOLOGICAL AND ENGINEERING CONDITIONS AT CERTAIN NUCLEAR PLANT SITES
- CONCLUDING SUBSTANTIATION OF SEISMIC STABILITY OF SAFETY IMPORTANT NPP COMPONENTS, AND RESISTANCE TO OTHER EXTERNAL FACTORS (SUCH AS TORNADOS AND EXTREME SNOW LOADS)
- OUTFITTING THE NPP POWER UNITS WITH EMERGENCY PROTECTION FEATURES TO WITHSTAND SEISMIC IMPACTS
- CONCLUDING ANALYSIS OF IMPACTS ON NUCLEAR PLANT SAFETY OF EXTERNAL IMPACTS WITH INTENSITY ABOVE VALUES CONSIDERED IN THE DESIGN BASES

The implementation of the planned activities will fully align the facilities with lessons learned from the Fukushima accident, and raise the protection level of Russian NPPs to respond to extreme external impacts of natural and man-induced origin.

Based on the results of analyses to assess preparedness of NPPs to manage beyond design basis accidents, Rosenergoatom has planned the following activities:

1. SHORT-TERM ACTIVITIES (2012–2014):

- outfitting all NPPs to manage beyond design basis accidents that cause total loss of power and/or heat removal to the ultimate heat sink, namely: additional devices, including mobile power sources to feed deenergized system components involved in heating removal, and mobile pumps, dry pipes, and tank trucks, additional water intake points to take cooling water from reservoirs and tanks, enabling, if necessary, an off-standard circuit to supply cooling water to the reactor cores (steam generators), SNF pools and storage facilities, thus preventing the accident involving a loss of the heat removal to the ultimate heat sink to elevate to a severe stage;
- implementing a set of activities to improve reliability of communications in the event of a beyond design basis accident, such as: adoption of an integral radio system within the NPP, creating mobile reserve land stations for satellite systems, upgrade/creation of mobile control points for emergency response managers, and head of the team for assistance to nuclear plants (OPAS);
- experimental calculation to justify possible passive (air-based) cooling of the reactor cores of power units with RBMK reactors;
- activities to reduce quantities of spent nuclear fuel on NPP sites, namely commissioning of facilities for cutting and storing spent nuclear fuel at Leningrad, Kursk and Smolensk NPPs, and for shipping spent nuclear fuel off-site for long-term storage.

Key conclusions on the results of additional audits to assess Russian nuclear power plants for stability to extreme external impacts

- Nuclear power plants are designed and sited in areas exposed to the risk of design basis earthquakes of magnitude 4 to 6 on the MSK-64 scale.
- Availability and robustness of the electricity supply systems for the nuclear plants have been confirmed. 112 fixed and mobile diesel generators have been tested.
- Heat removal from the reactor cores in emergency operation is ensured by emergency cooling systems: availability of 520 pumps has been confirmed.
- Measures to prevent escalation of the accident have been taken at all nuclear power plants, as well as compensatory measures, both previously implemented and additional ones.
- Plant personnel have been trained and are prepared to act and prevent potential accidents, and eliminate the consequences of beyond design basis accidents.
- Safety of nuclear power plants is compliant with the requirements of the Federal standards and regulations, and is ensured through retrofitting and implementation of compensatory measures.

2. MEDIUM-TERM ACTIVITIES (2015–2017):

- upgrading as necessary the power supply systems for normal operation and the emergency power supply systems to improve reliability of in-house power supply of the plants, including replacement of thyristor converters and reversible engine generators to static converters; replacing batteries with ones of higher capacity; links between open switchyards to enable mutual backup, etc.;
- individual NPPs to plan additional steps to improve the reliability of in-house power supply from the grid, and efforts to provide standby (additional) systems to cool standard emergency diesel generators, to be activated on failure of main diesel generator cooling systems;
- equipping all nuclear plants with devices that ensure replenishment of tanks in case of a loss of heat removal to the ultimate heat sink; for example, upgrading the close-loop firewater pipeline system, providing connection points for fire engines and tanks, at all nuclear power plants;
- developing and adoption of alternative methods to supply water to reactor cores (for plants that use RBMK reactors) and spent fuel pools;
- amending and modifying analysis of beyond design basis accidents, and conducting Level 1 probabilistic safety analyses, considering external impacts and devices implemented at the power units, including a probability of simultaneous accident development at multiple power units of an integrated NPP – for all nuclear plants;
- finalising the beyond design basis accident management guides as regards management of accidents caused by loss of power supply and/or loss of heat removal to the ultimate heat sink, including probable simultaneous accident development at multiple power units of an integrated NPP.

3. LONG-TERM ACTIVITIES (UP TO 2025) TO ENSURE OFF-SHIPMENT OF SPENT NUCLEAR FUEL POWER FROM BELOYARSK NPP UNITS NO. 1 AND 2 FOR LONG-TERM STORAGE.

Once implemented, the activities developed by Rosenergoatom to ensure nuclear plant preparedness to manage accidents involving station blackout and/or loss of heat removal to the ultimate heat sink, will help to reduce the risk of a beyond design basis accident, including those simultaneously occurring at all power units of a multi-unit plant, to elevate to a severe stage.

Based on the assessment of protection of Russian NPPs against external impacts of natural and man-induced origin, the following conclusions have been made:

- the nuclear plants currently in operation in the Russian Federation have demonstrated compliance with the national law and federal standards and regulations in the field of the use of atomic energy;
- basing on results of additional analyses of protection of operating NPPs in Russia against extreme external impacts, the Concern has developed short-, mid- and long-term measures to improve safety of its nuclear power plants, which are justified and sufficient.

ADDITIONAL MEASURES TO IMPROVE NUCLEAR PLANT SAFETY

Since the Fukushima events of one year ago, Russian nuclear power plants have implemented **additional measures to improve their safety**:

- targeted audits and analyses have been used to assess the safety of operating NPPs in cases of extreme impacts of natural and man-induced origin;
- analysis of emergency procedures, including as regards sufficiency of actions by the plant personnel to manage accidents associated with external impacts;
- unscheduled emergency drills for the personnel at all NPPs, using scenarios of beyond design basis accidents caused by extreme external impacts. Preparedness of the plant personnel, force and capabilities to efficiently control their respective power units in case of beyond design basis accidents has been confirmed;
- the number of scheduled regular emergency drills for the personnel to act in beyond design basis accidents caused by extreme external impacts has been doubled;
- additional analyses of beyond design basis accidents at nuclear power plants, considering impact from neighboring power units, and in the light of the Fukushima lessons have been conducted;
- for each NPP, an analysis has been conducted to assess sufficiency of existing service water sources, with reserves (additional sources) identified;
- the nuclear plants have signed contracts with respective support organizations for additional research and analysis of documents on seismic micro-zoning of NPPs;
- purchase and delivery of additional equipment has been ensured for nuclear plants to use as means to mitigate the consequences of extreme external impacts of natural and man-induced origin. Such additional means must be protected against extreme external impacts.

Analysis of protections of nuclear plants in Russia has confirmed that the original design is sufficient to protect our nuclear power plants against extreme external impacts of natural and man-induced origin.

W A N O

In 2011, Russian nuclear plants underwent a peer review by WANO led by Jacques Rigoldo, Technical Director of Electricite de France. The auditors concluded that “the equipment and resources commanded by Rosenergoatom ensure serious support to activities for emergency response.” The specialists of WANO also stated that “since the Fukushima accident, all Russian nuclear plants have taken active steps to improve their emergency preparedness and emergency drills to act in circumstances of a beyond design basis accident.”

RADIATION IMPACT ON PERSONNEL AND GENERAL PUBLIC

In 2011 as in previous years, the nuclear power plants had no incidents that involved radiation consequences.

Proceeding from the globally recognized radiation safety principles, the Concern has consistently pursued a policy of implementing and enforcing the optimised radiation protection methodology at its nuclear plants, which requires that individual radiation exposure should be maintained as low as reasonably achievable, considering existing economic and social factors.

As a result of purposeful efforts to work out and implement a set of administrative and technical measures, the nuclear power plants have continued the trend of reducing collective and average individual radiation exposure doses of both plant personnel and seconded staff to nuclear power plants. Since January 01, 2000, collective exposure doses at Russia's nuclear power plants have decreased twice of the previous levels.

In 2011, individual exposure doses of the personnel decreased compared to the previous year.

In 2011 there were no cases in which personnel were exposed to doses above the reference level of 18 mSv/year; there are no employees with an accumulated individual exposure dose during 2006–2011 in excess of the base dose limit of 100 mSv.

Current dose burdens of the plant personnel at plants with VVER, BN and EGP reactors are now at the optimum level that is comparable to that of foreign NPPs. At the plants with RBMK reactors, due to their design features, dose burdens of the personnel are 4-5 times higher than those at VVER, BN and EGP reactors. The Concern intends to continue reducing dose burdens of the RBMK personnel, and to maintain those of the personnel who work at VVER, BN and EGP reactors at the achieved current level.

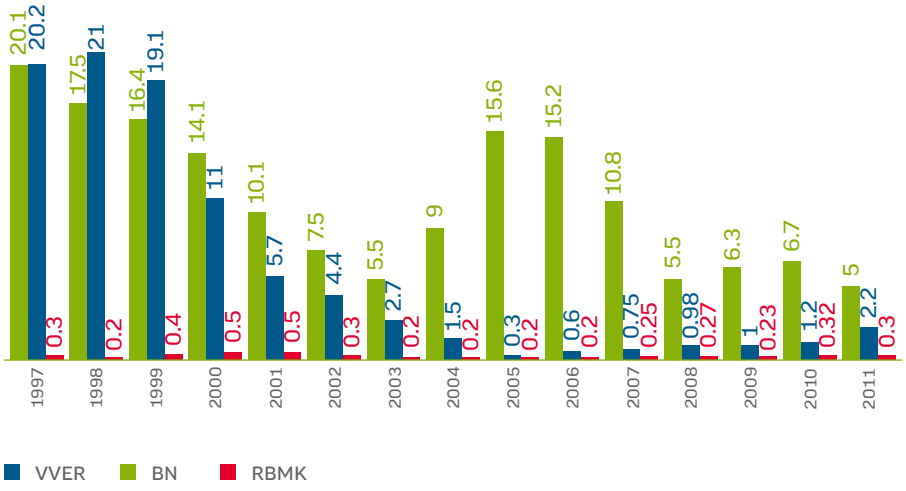
Individual radiation risk among personnel, evaluated with ARMS NPP, shows that only about 2% of nuclear plant personnel are exposed to individual lifetime radiation risks that are higher than a value of 10^{-3} annually, established by the radiation safety standards.

Considering the achieved safety level at nuclear plants in normal operation mode, standard rates of permissible releases and permissible discharges of radioactive substances to the environment are set at a level when the exposure for individuals in a critical group of the general public in the nuclear power plant location region is negligible (less than the minimum significance exposure dose 10 μSv/year), i.e. the radiation risk for the general public is guaranteed to be unconditionally acceptable (under 10^{-6} annually).

In 2011 as in previous years, the nuclear power plants had no cases of unauthorized radionuclide releases to the environment

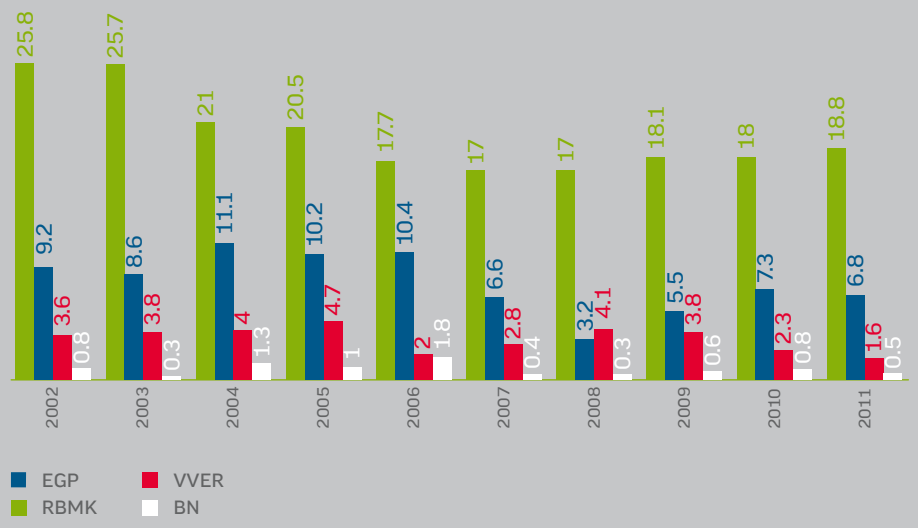
In 2011 as in previous years, the nuclear power plants had no cases of unauthorized radionuclide releases to the environment. Actual gas-aerosol releases and liquid discharges remained far below permissible rates, just as they have been for years.

CHANGES IN "MOVING" AVERAGE VALUES (PERCENTAGE OF PERMISSIBLE) OF RADIONUCLIDE DISCHARGE FROM THE NUCLEAR PLANT, WITH UNBALANCED WATER AT NPPS, IN 1995–2011, BY TYPES OF REACTOR INSTALLATIONS



Radiation Impact: Indicators and Facts

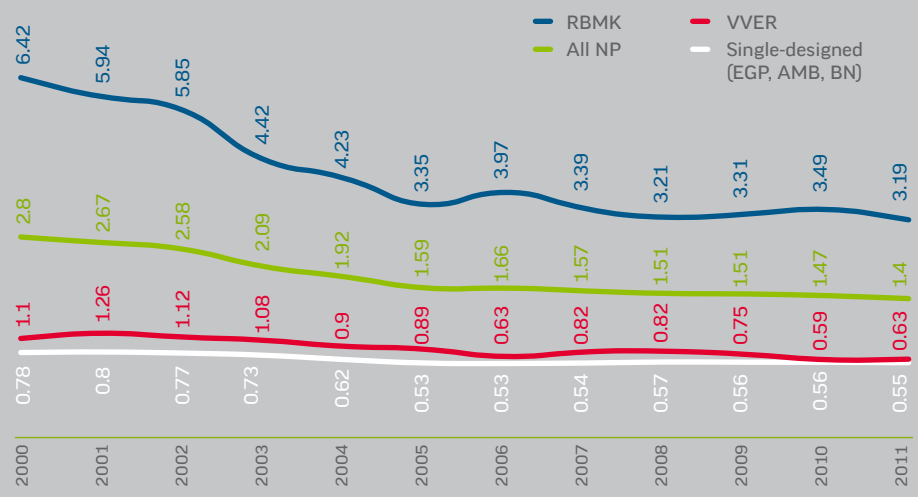
RELEASES OF INERT RADIOACTIVE GASES (PERCENTAGE OF PERMISSIBLE LEVEL)



Considering the achieved safety level at nuclear plants in normal operation mode,

standard rates of permissible releases and permissible discharges of radioactive substances to the environment are set at a level less than the minimum significance (10 μSv/year).

COLLECTIVE EXPOSURE DOSES TO PERSONNEL AT ALL POWER UNITS, BY REACTOR TYPE, PERSON-SV/UNIT



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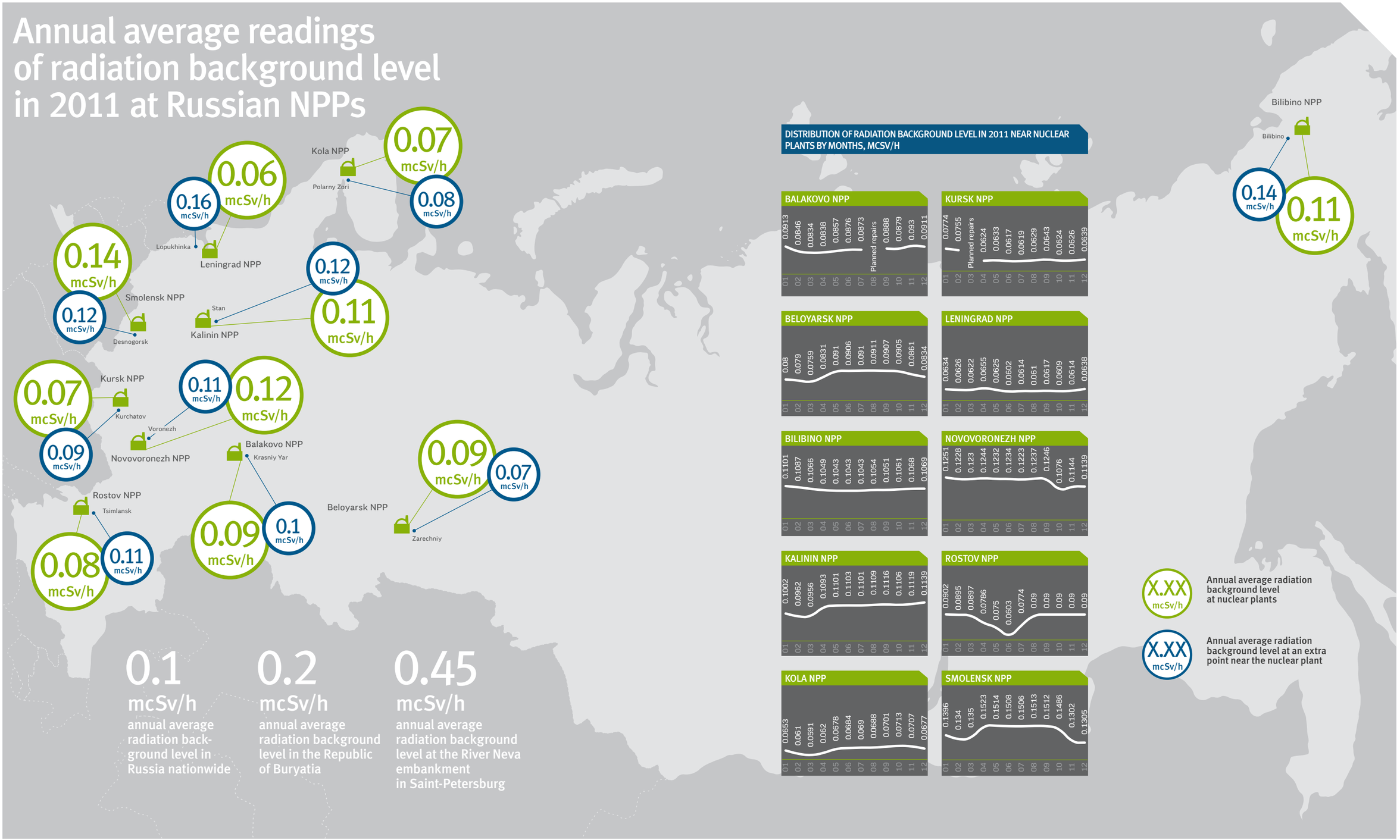
Annual average readings of radiation background level in 2011 at Russian NPPs



RADIATION MONITORING

The radiation monitoring of the environment around nuclear plant sites is done by measuring a dose rate of gamma-radiation and sampling at control points of a permanent observation station network; following this the samples are processed, and their activity and radionuclide structure measured in the laboratory.

An analysis of information that describes the radiation impact of nuclear plants on the environment confirms the fact that the operation of nuclear power units remains stable and safe

The radiation monitoring of the environment around nuclear plant sites is done by the nuclear plants' radiation monitoring units accredited for compliance with the requirements of the Federal Agency for Technical Regulation and Metrology. The organization of radiation monitoring (scope, frequency, monitoring points, personnel, record keeping) at NPPs is prescribed in the radiation monitoring regulations that are coordinated with Regional Offices of the Federal Medical and Biological Agency.

In addition, Regional Offices of Federal Hygiene and Epidemiology Supervision Agency conduct independent random radiation monitoring of the natural environment and locally made foodstuffs.

Based on the situation with radiation safety and the results of radiation monitoring at nuclear plants and around them during 2011, the conclusions are as follows:

- the Concern's nuclear plants have shown a long-term reduction trend in personnel radiation exposure;
- main dose limits are observed by all nuclear plants;
- radiation background in the nuclear plant location regions was the same as in the surrounding / neighboring regions;
- content and specific activity of radionuclides in environmental objects, gamma-radiation doses in the controlled area and surveillance zone did not exceed zero background;
- exposure of the general public to radionuclide releases and discharges from the NPPs to the environment in normal operation mode did not exceed the minimum significance dose;
- nuclear plant operation has not caused an increase in averaged annual exposure dose within monitored areas, nor any noticeable exposure of the general public.

An analysis of information that describes the radiation impact of nuclear plants on the environment confirms the fact that the operation of nuclear power units remains stable and safe, and that the protective barriers in place to prevent spread of radioactive substances are efficient.

MODES OF RADIATION MONITORING OF THE ENVIRONMENT IN THE VICINITY OF A NPP

CONTINUOUS MONITORING BY THE HARDWARE OF THE AUTOMATED RADIATION MONITORING SYSTEM (ARMS)

CONTINUOUS ACTIVITY MONITORING OF GAS-AEROSOL ATMOSPHERIC EMISSIONS AND LIQUID DISCHARGES TO WATER BODIES, BY THE HARDWARE OF ARMS (MONITORING OF RADIONUCLIDE SOURCES INGRESS IN THE ENVIRONMENT) DIRECTLY AT THE NPP

ONGOING MONITORING OF GAMMA-RADIATION IN FIELD

PERIODIC MONITORING OF GAMMA-RADIATION DOSES IN FIELD USING PORTABLE INSTRUMENTS AND MOBILE LABORATORY EQUIPMENT

PERIODIC MONITORING OF RADIONUCLIDE COMPOSITION OF SAMPLES TAKEN FROM THE ENVIRONMENT USING LABORATORY EQUIPMENT

NON-PROLIFERATION OF NUCLEAR MATERIALS

The nuclear non-proliferation regime at the nuclear power plants is ensured by the Concern's system of nuclear materials control and accounting (MPC&A).

The Concern's MPC&A functions in total compliance with the international and Russian requirements, and is monitored by ROSATOM and Rostechnadzor.

The Concern's MPC&A includes a whole set of administrative measures and engineered features that ensure accounting, monitoring, detection, and recording of losses, prevention of unauthorized operations with nuclear fuel at every stage of its handling at the NPPs, from delivery of fresh fuel through spent fuel off-shipment from the plant. The system is based on timely recording of each delivery, movement or off-shipment of nuclear materials, and of changes in quantity of nuclear material in nuclear fuel as it is used in the reactor to generate electric and thermal energy. All such activities are registered in the nuclear plant's operating and accounting documents, and form the basis for reports submitted to the state material control and accounting system and to ROSATOM.

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

For the purposes of nuclear fuel control and accounting, at the places of storage and use of fuel assemblies, a physical inventory of nuclear materials is taken every year to determine their actual 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.

RADIOACTIVE WASTE AND SPENT NUCLEAR FUEL MANAGEMENT

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

All NPPs prepare and implement administrative and technical measures that reduce an amount of RW sent to storage facilities.

The Concern has a "Working Programme for Radioactive Waste Management at the Concern's Nuclear Power Plants in 2011 and until 2015." The main objective of the Working Programme is to comprehensively address the problems of safe management of radioactive waste at NPPs, including regulatory, engineering, technological, and environmental support of RW management, selection and development of modern technologies, implementation of processing facilities and reprocessing units, and ensuring safe storage. Guidelines have been established for radioactive waste to be received from the Concern's nuclear power plants in 2011–2012.

The Concern has a concept for the radioactive waste management system as part of the National Radioactive Waste Management System.

The main goal of the concept is to create a RW management system that would reduce the operator's related costs during the entire life-cycle of RW, while ensuring safe and economically efficient operation of NPPs.

In 2011, the Concern's NPPs sent to storage facilities 3,651 m^3 of solid radioactive waste (SRW) (2% less than in 2010), and generated 940,204 m^3 of drain water (11.4% less than in 2010).

Investments to develop RW management technologies amounted to:

- Balakovo NPP: retrofitting cells of RW storage facilities in the special-purpose building. Target: 23.4 mln rubles, used: 28.9 mln rubles;
- Kursk NPP: LRW reprocessing facility, SRW storage facility-III, and dump site. Target: 984.38 mln rubles, used: 290.44 mln rubles;
- Leningrad NPP: RW storage and reprocessing facilities. Target: 1,689.4 mln rubles, used: 1,163.2 mln rubles
- Smolensk NPP: radwaste reprocessing facility. Target: 1,910.01 mln rubles, used: 1,766.6 mln rubles.

Total for RW management facilities: target: 4,607.18 mln rubles, used: 3,249.13 mln rubles.

The main direction in the management of spent nuclear fuel was to organize its safe handling at nuclear plants and prepare to ship off all spent nuclear fuel from NPP sites for processing or long-term storage, to central storage facilities of Federal State Unitary Enterprise Mining and Chemical Combine.

In 2011, the Concern conducted an in-depth safety analysis of spent fuel storage facilities, considering the consequences of probable severe accidents.

FIRE SAFETY

In 2011, the Concern ensured fire safety in the following key directions:

- increased firefighting capability at nuclear plants, as required under applicable regulations;
- technical upgrades of automatic systems for fire detection, extinguishing, and public information in case of fire;
- training of the plant personnel to respond to fires;
- implementing activities scheduled under the "2008–2012 Plan to Improve Fire Safety and Upgrade Fire Protection Systems at NPPs."

more than
200
fire prevention activities
were carried out at NPPs in 2011

In 2011, more than 200 fire prevention activities were carried out as required under applicable fire safety documents.

To protect nuclear plants against wild fires, all plants have administrative and technical action plans for the spring and summer seasons, with activities to remove surrounding trees and bushes and build fire-breaks around the premises; fire drills were conducted as scheduled.

To protect nuclear plants against fires in 2011, the Concern purchased 24 fire engines to equip the firefighting teams of the Federal Firefighting Service who is in charge of the nuclear power plants; the vehicles are also used by the teams formed by the nuclear plants proper.

INDUSTRIAL AND TECHNICAL SAFETY

As part of the activities to ensure nuclear plant safety, the Concern pays much attention to the industrial safety of the hazardous industrial facilities operated within the nuclear power plants.

The Federal Registry lists 224 hazardous industrial facilities owned by the Concern. The Concern holds licenses for operation of chemical, explosion and fire hazardous facilities.

In 2011, the Concern's hazardous industrial facilities experienced no accidents

The Concern's employees involved in the operation of hazardous industrial facilities have done training and have been certificated in industrial safety by the relevant panels of Rostechnadzor and the Concern.

For all hazardous industrial facilities in operation, the Concern has purchased insurance of the third party liability for damage to life, health, or property, or damage to the environment as a result of an accident.

All hazardous industrial facilities have the required industrial safety declarations, action plans to confine and eliminate emergencies, and plans to prevent and eliminate oil and petrochemical spillages.

To ensure unconditional enforcement of industrial safety regulations for hazardous industrial facilities, the Concern develops on an annual basis industrial safety schedules, with activities designed to prevent accidents and incidents at the facilities, improve the situation with industrial safety, and prevent environmental damage. Scheduled activities are supported with all resources needed to implement them.

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

To enforce applicable federal standards and regulations in the use of atomic energy:

- technical supervision of equipment and structures at nuclear plants is organised and implemented;
- technical examination of equipment is carried out as scheduled;
- activities have been implemented to extend the safe operation life of equipment, buildings and structures at NPPs;
- safety of processes is monitored continuously.

In 2011, the Concern's hazardous industrial facilities experienced no accidents.

PHYSICAL PROTECTION

In 2011, there were no cases of unauthorized intrusion to the premises of any nuclear power plant.

Supervisory and controlling agencies conducted 68 inspections in 2011, with the conclusion that Rosenergoatom undertakes systematic practical efforts to ensure the physical protection and anti-terrorist protection of its nuclear facilities.

420
control audits,
28 drills and
1,383 training sessions
with assistance from government law enforcement agencies were been in 2011

By issuing and extending its licenses, Rostechnadzor confirmed that Rosenergoatom and its nuclear plants are able to ensure the physical protection of nuclear materials, nuclear installations, nuclear materials and radioactive substances storage facilities.

In general, as a positive factor, the supervisory agencies note the new practical approaches to the physical protection, such as:

- comprehensive uniform approach to addressing the issues of outfitting when solving tasks of upgrading and modernizing physical protection features (PPF) and adopting modern engineering features of physical protection;
- self-control and monitoring of situation with the PPF;
- uniform PPF components under master project solutions to develop the physical protection system.

In addition, the agencies praised Rosenergoatom for positive experience in the following areas:

- efforts to improve the service conditions for units and departmental guard force of the Ministry of Interior of the Russian Federal in charge of NPPs;
- engaging specialist entities to maintain the hardware of physical protection systems at nuclear plants;
- organising methodological activities to enforce the provisions of regulations, in particular in certification of hardware used for physical protection, working out criteria to evaluate efficiency of the physical protection systems in nuclear plants.

about
47,000
individuals
and **900** equipment items
were envolved

In the area of physical protection and anti-terrorist resistance of nuclear plants, in 2011 there were 420 control audits, 28 drills, and 1,383 training sessions with assistance from government law enforcement agencies; the activities involved about 47,000 individuals, and 900 equipment items.

EMERGENCY PLANNING. EMERGENCY PREPAREDNESS

In order to plan, ensure preparedness, and implement activities for the protection of personnel and nuclear plant premises against accidents of natural and man-induced 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 eliminate emergencies.

Structurally, the Concern's emergency prevention and response system is a subsystem within the Industry-Level Emergency Prevention and Elimination System of ROSATOM and functions in interaction with regional and municipal subsystems of the Uniform Federal Emergency Prevention and Elimination System in whose boundaries the nuclear power plants operate.

The Concern's emergency prevention and elimination system structurally encompasses coordination bodies, permanent managerial bodies, routine management bodies and controls, plus the Concern's systems of communication, notification and information support.

The Concern's Crisis Center is the main information and management element in the Concern's emergency prevention and elimination system. As one of its main tasks, the Crisis Center is there to monitor nuclear plant safety systems and assess their response availability, to interact with the response services of ROSATOM and Rostechnadzor, create working conditions and assist the team for emergency assistance to nuclear plants (OPAS).

The information services of the Crisis Center enable joint activities and decision-making by NPP experts, OPAS team members and experts who work in the Crisis Center and Technical Assistance Centers (TAC). A protected management HQ established by the Concern in 2010 has communication equipment, hardware-software complexes, and is used as the back-up site to ensure operation of the Crisis Center and OPAS team.

As an important component of its Emergency Prevention and Elimination System, the Concern has established TAC units of the Crisis Center and the OPAS in its leading entities for research and design. In the course of emergency response, the TAC units provide science and technology support to the OPAS; this includes analysis, escalation forecasting, and accident extent estimates, issuing recommendations on accident management and consequence elimination, assessment of radiological consequences, preparing recommendations on measures to protection personnel and general public. Involved in addressing issues of emergency response, TAC experts that include researchers, engineers and designers of nuclear reactors, and leading specialists in radiation safety, help to raise the quality and ensure rapid decision-making by the OPAS.

To confine and eliminate accidents and emergencies, each nuclear power plant has formed groups that include contracted rescue teams and government-owned forces with all necessary equipment and assets. In order to equip the rescue forces with equipment and consumables needed in case of a nuclear plant accident, a central reserve storage has been created, to provide emergency sets of tools, material, medicines, personal protective equipment, special tools and devices, and means of communication.

To maintain and improve the skills of both managerial and production staff of nuclear plants, employees are regularly trained in methods of protection and response to emergency. Training is provided by the schools of the Ministry of the Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disasters, or EMERCOM (including the Civil Defense Academy), advance training centers of ROSATOM, and training units within the nuclear power plants. Emergency response drills and exercises are another specific type of training activities.

In 2011, OPAS was involved in:

- integrated joint-force emergency response exercise at Novovoronezh NPP;
- emergency response drills at Rostov, Balakovo, Beloyarsk , Leningrad and Novovoronezh plant sites.

Importantly, drills and training sessions use full-scale simulators to emulate accident scenarios; an ARMS simulator is used to represent the radiation situation. The results are communicated to emergency centers of the respective nuclear plants, and Crisis Center, and the TAC. All this helps experts in NPP emergency centers, the Crisis Center, and the TAC, to analyse the situation dynamically, in simulated real-life conditions.

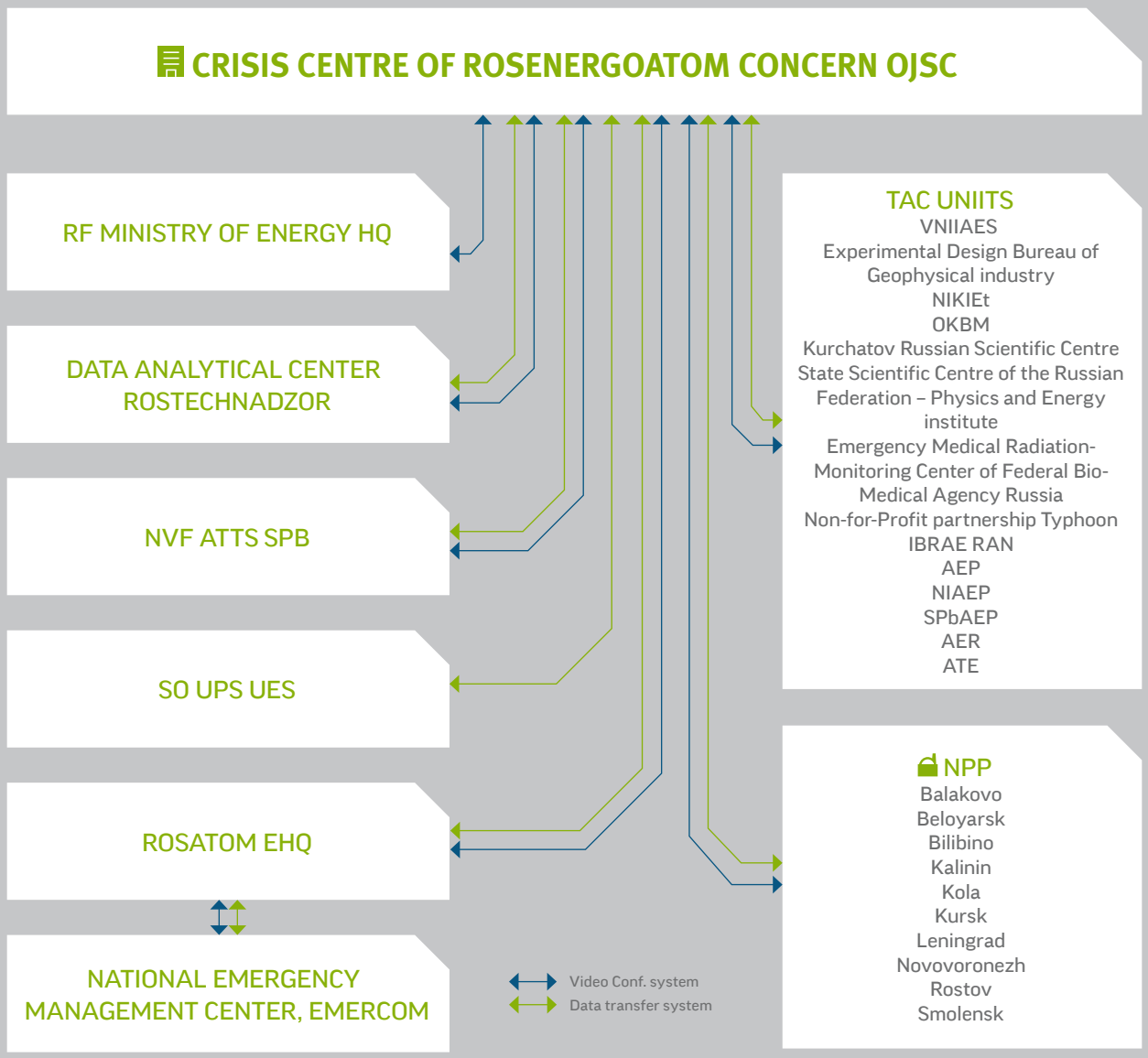
The Concern's emergency prevention and elimination system is compliant with all requirements presented to the parties of the Federal Emergency Response System; in fact, it is one of the best links in the Federal Emergency Response System. Working experience as observers during emergency-response drills, and knowledge of existing emergency preparedness systems created by operators outside of Russia, have demonstrated that the emergency prevention and elimination system created and used in the Concern is on the level with the best global practices.

IAEA
International Atomic Energy Agency

As a momentous step and as a part of international efforts to understand, discuss, and use the lessons learned after the Fukushima accident, the Ministerial Conference on nuclear safety convened by the IAEA in Vienna in 2011, was attended by the Concern's top management. The Conference pronounced a Declaration that set the path towards future changes in international law following the Fukushima accident.

Some of the planned efforts include an increasing role for the IAEA, and the need for "universal compliance" with international law, but it also envisages greater responsibility for national governments, the need to improve the respective national emergency response mechanisms, and better coordination between the government, the operator, the regulator, and international agencies in case of an accident. The Declaration also emphasises the importance of rapid exchange of information in case of an accident.

Integrated Information Space



As of today, the Crisis Center of Concern Rosenergoatom OJSC is one of the largest both in Europe and worldwide

Its operating methods and the range of IT systems used to gather, process, and transmit data from nuclear plants are becoming a prototype for numerous international analogs. The Center's main objective is to ensure emergency response readiness of the Concern and the quick response team to assist nuclear plants.

3.4. DEVELOPING THE ELECTRICITY GENERATION POTENTIAL OF NPPS

In accordance with Russia's 2030 Energy Strategy and the 2020 Federal Master Plan for Deployment of Electricity Generation Facilities, with 2030 outlook, by 2020 a share of nuclear generation in the national energy mix is expected to reach 21-22%

In 2011, work was underway to build eleven new nuclear power units.

The cost of building a standard-design twin-unit nuclear plant by project design pack AES-2006 is 194.4 billion rubles (VAT excl.) in 2008 prices (according to "Scenario Terms and Assumptions for 2011–2023, Case of Capital Investment Planning", approved by ROSATOM).

In 2011, design process was underway for the following units with issued construction licenses:

- No. 3 and 4 Leningrad NPP-2;
- No. 1 and 2 Nizhniy Novgorod NPP;
- No. 1 and 2 Central NPP (site monitoring);
- No. 1 and 2 Seversk NPP (site monitoring).

The peak achievement of 2011 was that unit No. 4 of Kalinin NPP joined the grid

In the reporting year, investment concepts and declarations of investment were approved to build power units:

- No. 1 and 2 Kursk NPP-2 ("VVER-TOI" design);
- No. 5 Beloyarsk NPP (BN-1200).

The company approved investment concepts and started working out declarations of investment for power units:

- No. 1 and 2 Smolensk NPP-2;
- No. 1 and 2 Bashkortostan NPP.

Unconditional compliance with these requirements is a prerequisite to permit to site and build nuclear power units.

CONSTRUCTION OF NEW NPP UNITS

NPP	Power unit	Type of power unit	Scheduled to join the grid	Key outcomes
Kalinin NPP	No. 4	VVER-1000	2011	November 22, 2011 the first test connection to the grid was established.
Rostov NPP	No. 3	VVER-1000	2014	Floors at elevation 19.34 made in the reactor hall. Concrete foundation walls made for the turbine unit inside the turbine hall; circulating water ducts were installed.
	No. 4	VVER-1000	2017	Walls built to elevation 6.60 in the reactor hall. Rack base built for electrical hardware in the turbine hall.
Beloyarsk NPP	No. 4	BN-800	2014	Guard tank of the reactor installed and tested; 30 steam generator sets PGK-272 installed on respective bases.
Novovoronezh NPP-2	No. 1	VVER-1200 (project AES-2006)	2014	Installation of polar crane started in the reactor hall, turbine generator in the turbine hall.
	No. 2	VVER-1200 (project AES-2006)	2015	Core melt trap installed.
Leningrad NPP-2	No. 1	VVER-1200 (project AES-2006)	2015	Core melt trap installed. Containment built to elevation 4.8 m.
	No. 2	VVER-1200 (project AES-2006)	2016	Interior structures built to elevation - 4.450 m. in the turbine building of the power unit, walls built to elevation +7.700.
Baltic NPP	No. 1	VVER-1200 (project AES-2006)	2016	Concrete mix unit and 15 KV overhead power line commissioned to supply power to logistic base.
	No. 2	VVER-1200 (project AES-2006)	2018	Terrain leveling underway.
FNPP (floating nuclear co-generation plant)	FPU		2016	Construction of a floating power unit (FPU) continued at Baltijskiy Zavod in St. Petersburg. Two steam turbine units (STU) brought to the site from Kaluga Turbine Works. Electrical and mechanical, building and finishing operations were underway on the FPU proper.

COST STRUCTURE OF NPP CONSTRUCTION

50% Equipment purchasing
30% Construction and instalation
10% Project design and surveying
10% Startup, adjusment, and commisioning

Planned activities to build nuclear power units in 2011 were fulfilled by

99.6%

LIST OF FACTORS, PROCESSES AND PHENOMENA TO BE CONSIDERED IN SELECTING A NPP CONSTRUCTION SITE

HYDROMETEOROLOGICAL, GEOLOGICAL PROCESSES AND PHENOMENA

Flood, tsunami, earthquake

FACTORS CAUSING EXTERNAL MAN-INDUCED IMPACTS

Impact from aircraft crash or other projectiles; external fire; explosion at the facility

GEOLOGICAL ENGINEERING PROCESSES AND PHENOMENA

Release of explosive, flammable, toxic vapors, gases and aerosols into the air, explosion of airborne clouds, corrosive liquid dumps to surface and ground water; electromagnetic radiation; oil and petrochemical product spillages in rivers and in offshore water; breach of natural or artificial water reservoirs

Safety Requirements for Selecting New Construction Sites for Nuclear Power Units

A site is considered suitable to build a nuclear plant if all of the following are met*:

- it is possible to ensure safe operation of the NPP, considering processes, phenomena, and factors of natural and man-induced origin;
- it is possible to ensure public safety and protect the environment against radiation impact during normal operation and design basis accidents;
- exposure to radiation is limited in case of beyond design basis accidents.

* Pursuant to effective Federal Standards and Rules NP-032-01 "Siting of Nuclear Power Plants. Main Safety Criteria and Requirements", and previously effective Rules and Standards for Nuclear Power Industry PNAE G-03-33-93 "Siting of Nuclear Power Plants. Main Safety Criteria and Requirements"

UPGRADING AND SERVICE LIFE EXTENSION OF POWER UNITS

Upgrading existing NPP power units is among the Concern's key priorities.

Upgrading the Concern's NPPs is carried out in accordance with the industry-level regulations.

ACTIVITIES TO UPGRADE NPPS SEEK TO ACHIEVE THE FOLLOWING MAIN OBJECTIVES

ENSURING SAFE AND STABLE OPERATION OF EXISTING NPPS IN COMPLIANCE WITH CRITERIA AND PROVISIONS OF EFFECTIVE STANDARDS AND REGULATIONS IN THE FIELD OF THE USE OF ATOMIC ENERGY

EXTENDING THE OPERATING LIFE OF POWER UNITS BEYOND THEIR ASSIGNED SERVICE LIVES

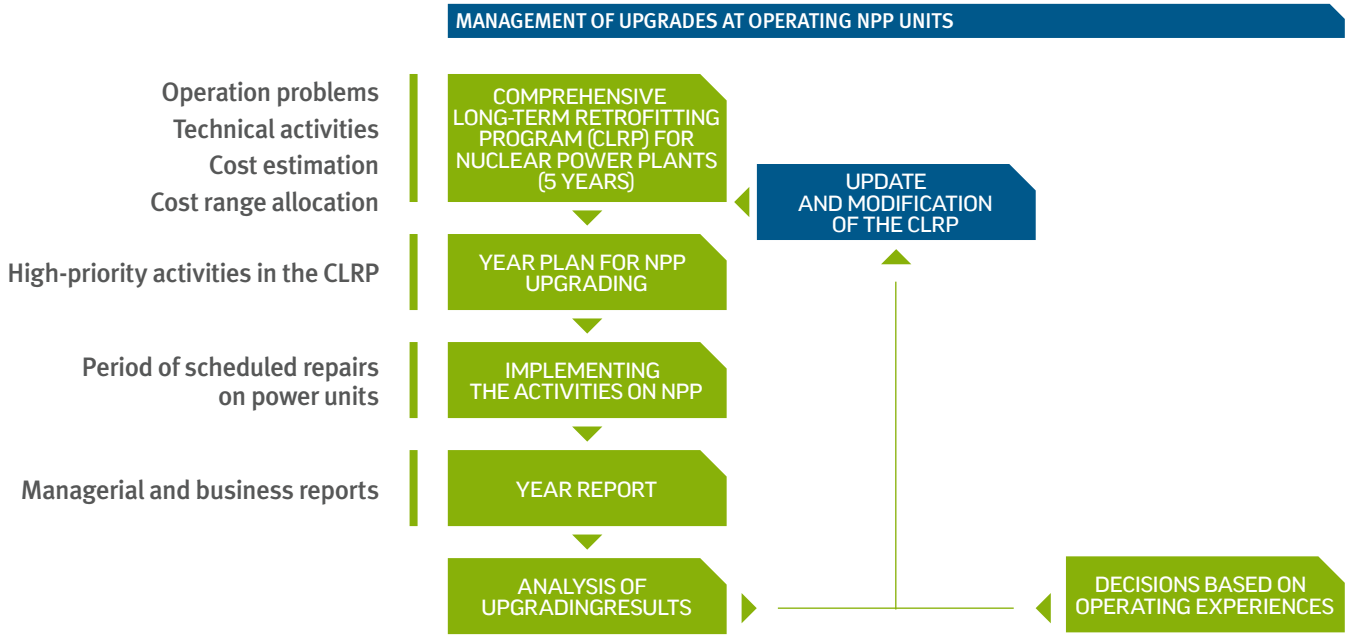
HIGHER GENERATION OF ELECTRIC AND THERMAL ENERGY BY EXISTING NUCLEAR POWER UNITS

HIGHER ROBUSTNESS AND ECONOMIC EFFICIENCY OF ACTIVE NPPS AS A COMPETITIVE EDGE ON THE ECWM

The Concern's uniform technical policy in NPP upgrading envisages:

- working out and implementing long-term upgrading plans aligned with safety assessments and operation licenses issued to nuclear plants;
- optimised nuclear plant upgrading through assessed value of contributions by planned activities to safety and economic efficiency;
- cutting the costs of NPP upgrading through priority activities that ensure higher output and/or economic efficiency.

Nuclear plants are upgraded through implemented procedures of long-, medium- and short-term (current) planning of activities.



As of December 31, 2011, activities had been accomplished to extend the service life of

17

power units at nuclear plants, with a total installed capacity

9,802 MW

Extending the service life of power units of existing NPPs beyond their assigned service life is a priority at this stage in the evolution of the Russian nuclear power industry. It is also the most efficient direction for financial investments in order to maintain generating capacity and improve NPP safety.

Russia's 2030 Master Plan for Deployment of the Electricity Generation Facilities, approved by the Federal Government on June 03, 2010, and the Long-Term (2009–2015) Activities Program of the State Atomic Energy Corporation ROSATOM, approved by Federal Government Resolution No. 705 of September 20, 2008, require that the service life of existing power units in nuclear plants be extended.

In accordance with applicable standards and regulations, NPP power unit service life management is practiced as represented in the diagram at the page 87.

The economically justified 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.

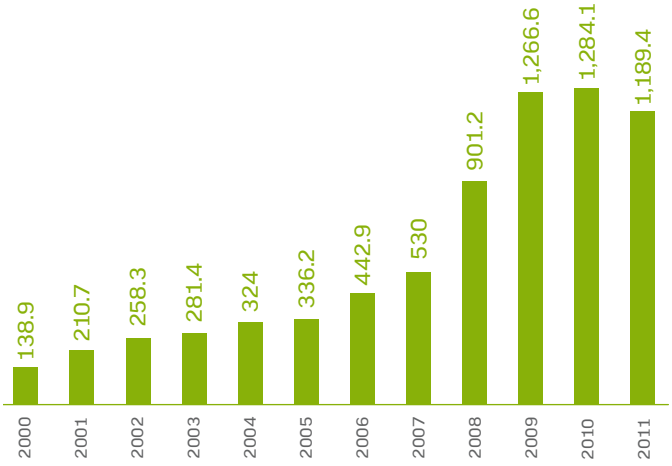
Main results of efforts to extend the service life of NPP power units in 2011:

- Rostechnadzor licenses received for extended operation of units No. 3 Kola NPP and No. 5 Novovoronezh NPP;
- Main stage of large-scale retrofitting of power unit No. 1 Smolensk NPP was completed as part of an investment project to extend the service life.

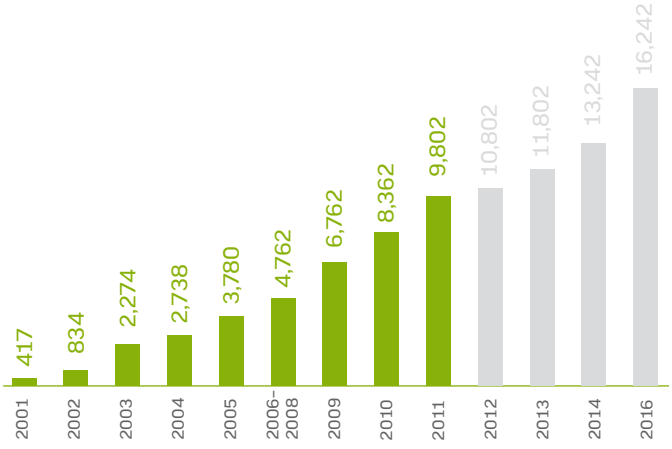
EXTENDING SERVICE LIFE OF POWER UNITS

NPP	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Leningrad	RBMK-1000	RBMK-1000	RBMK-1000	RBMK-1000	
Kursk	RBMK-1000	RBMK-1000			
Bilibino	EGP-6	EGP-6	EGP-6	EGP-6	
Beloyarsk			BN-600		
Kola	VVER-440	VVER-440	VVER-440		
Novovoronezh			VVER-440	VVER-440	VVER-1000

COSTS OF NPP UPGRADE IN DYNAMICS, US$ MILLIONS



NPP GENERATING CAPACITY PRESERVED THROUGH EXTENDED SERVICE LIFE



Thanks to the implemented program to increase generation, since 2007, the Concern realized

2,100 MW,

as growth of equivalent power capacity; this resulted in additionally generated

59.7 bln kWh

PROGRAM TO INCREASE POWER GENERATION

At present, a program is underway designed to increase generation of electricity at operating nuclear power units operated by Rosenergoatom. The extra generation program has the following key objectives:

- achieving 139.6 billion kWh of additionally generated electricity during 2007–2015;
- achieving a capacity factor of 85.8% and availability factor of 86.9%, compared to the best ratios outside of Russia.

In 2011, activities to increase efficiency of turbines in Smolensk, Leningrad and Kursk NPP were part of the program to increase generation of electricity.

Under a sub-program to increase thermal capacity of power units with VVER reactors, power unit No. 2 of Balakovo NPP began commercial operation at 104% of designed capacity NNOM.; test operation continued at 104% of capacity NNOM by Power Units No. 1, 3 and 4 in Balakovo NPP, and power unit No. 1 in Rostov NPP; a stage of test operation was run at 107% of capacity NNOM. by Power Unit No. 4 of Kola NPP.

Management of service life extension for nuclear plant power units

Stage 1

ROSENERGOATOM CONCERN OJSC ADMINISTRATIVE DOCUMENTS

- Document list for comprehensive examination
- General program for comprehensive examination
- Comprehensive examination
- Safety assessment
- Summary report on CE outcome
- List of elements for replacement
- List of elements requiring additional examination
- Desicion to clear elements for operation as a result of activities
- Consolidated plan of activities

PRE-PROJECT STAGE

- Economic effienciency estimate
- Project design assigment

INVESTMENT PROJECT

Stage 2

PROGRAM OF POWER UNIT PREPARATION FOR PROJECT DESIGN EXAMINATION

- Implementation of activities included in the investment project
- Writing the in-depth safety report assessment report
- Stages (design, preparation, construction, estimates, maintenance, regulation compliance, inspections)
- Requests to implement activities
- Contract tender procedures
- Contract signing
- Contract execution
- Reports and statements
- Document pack submitted, request license, one year before expiry of the current service life

OBTAINING LICENSE FOR PROJECT DESIGN EXAMINATION

3.5. MAINTENANCE AND REPAIRS OF NPPS IN RUSSIA. IMPLEMENTED RPS

Repairs of NPP systems and equipment are a major component activity for Rosenergoatom, intended to ensure safe and efficient operation of power units between repairs.

The main reserves in targets for generation of thermal and electricity, and to raise the competitive ability of the nuclear power generation industry lie in repair optimisation.

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 industrial and fire safety.

KEY RESULTS OF THE 2011 REPAIRS CAMPAIGN

The 2011 repair campaign, in terms of support to electricity generation and repair cost cutting, was fulfilled as planned.

In 2011, 36 repairs were carried out at operating NPP power units; the actual total duration was 1,986 days, although the total planned duration was 2,109 days according to the approved annual repair schedule for nuclear power units. Therefore the total economy in scheduled repairs in 2011 amounted to 123 days.

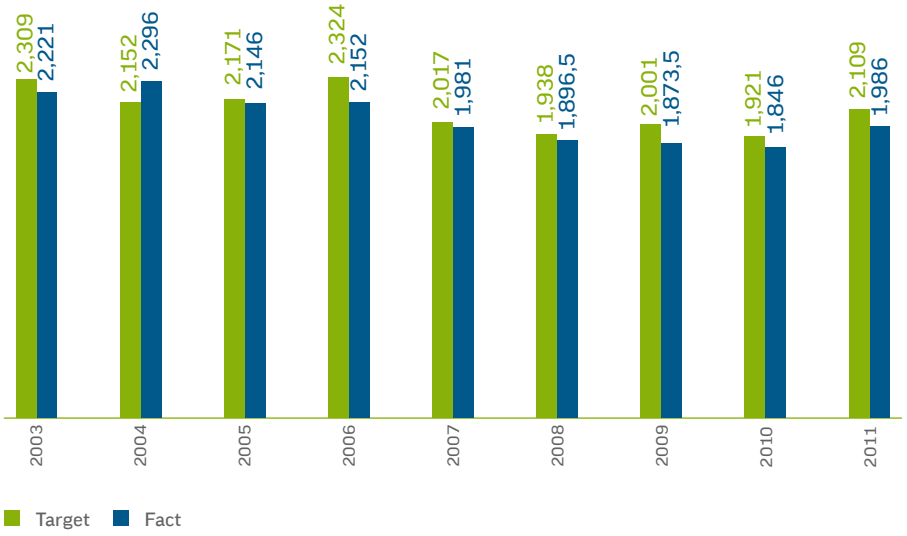
In 2011, there were 14 cases of unscheduled repairs at power units, with a total duration of 43 days, or 44.8% of the 2010 level.

According to the approved schedule, a total duration of repairs at NPP power units in 2012 amounted to 1,803 days (calendar days).

In 2011 the actual total duration of repair campaign was

1,986 days

RESULTS OF THE 2011 REPAIR CAMPAIGN, DAYS



S/no	NPP, power unit (PU), repair class	Target (days)	Fact (days)	Financial effect (mln rubles)	Extra generation (mln kWh)	Доп. выработка (млн кВт•ч)
		ECONOMY DUE TO REDUCED REPAIR TIME ON NPP EQUIPMENT IN 2011				
1	Balakovo, PU No. 1	current repair*	6	0	92.7	127.8
2	Balakovo, PU No. 1	mid-life repair	60	49.5	200.5	212.1
3	Balakovo, PU No. 2	overhaul	70	51	366.1	430.5
4	Balakovo, PU No. 3	current repair *	6	0	117.0	145.2
5	Balakovo, PU No. 4	current repair *	6	0	110.0	139.9
6	Balakovo, PU No. 4	overhaul	45	40	64.5	82.5
7	Beloyarsk, PU No. 3	overhaul	72	53	162.5	191.6
8	Beloyarsk, PU No. 3	current repair	20	14.5	48.6	57.8
9	Kalinin, PU No. 1	mid-life repair	50	43	109.2	131.8
10	Kalinin, PU No. 3	current repair *	6	0	130.2	143.0
11	Kola, PU No. 1	mid-life repair	45	37	3.9	4.9
12	Kursk, PU No. 1 TG-1-39 days (plan 50 days)	current repair	21	15	68.7,(R+TG2), 109.1,(TG1)	67.7 116.6
13	Kursk, PU No. 2	overhaul	100	83	293.8	316.9
14	Novovoronezh, PU No. 3	mid-life repair	45	42.5	3.4	4.5
15	Rostov, PU No. 1	overhaul	55	42.5	193.8	206.2
16	Rostov, PU No. 2	mid-life repair	42	33	167.4	154.2
17	Smolensk, PU No. 2	current repair	21	18.5	17.7	16.3
18	Smolensk, PU No. 3	overhaul	100	91	99.2	66.4
	TOTAL	**770**	**613.5**	**2,358.3**	**2,615.9**	**2 615,9**

* By joint decisions of ROSATOM and Rostechnadzor regarding of power units operation in excess of 12 months, PPR-2011 was not carried out..

Thanks to its implemented Production System, ROSATOM in 2011 achieved additional generation of

1,190.9
mln kWh,

with a financial effect of

1,043.3
mln rubles

IMPLEMENTATION OF ROSATOM'S PRODUCTION SYSTEM

All NPPs in Russia have continued implementation of the ROSATOM's Production System (RPS); in 2011, achieved reduction of repairs times was 70.5 days, compared to the target reduction of 69 days.

Each NPP in Russia designated production areas to implement the RPS. In the course of implementation, the entities prepared detailed daily repair schedules, shift assignment logs, and daily assignments; adhesive labels were made to mark equipment and spare parts.

For 2012, targets have been approved for RPS development as regards NPP repairs for the employees of Rosenergoatom Concern OJSC and Atomenergoremont; according to this, repair time for power units is going to be reduced by 43 days.

3.6. ENERGY EFFICIENCY REPORT

Rosenergoatom is mindful of energy saving and greater energy efficiency.

By the end of 2011, all operating NPPs had completed their activities in energy conservation audits and infrared mapping of buildings on their premises. In addition, during the second half of 2011, work was done actively to prepare program for energy conservation and greater energy efficiency at nuclear plants.

The following are the main priorities for improving energy efficiency under the current programs:

- administrative activities, including building awareness and energy conservation habits in employees; further advancement of specialists in energy saving;
- activities to improve robustness and increase generation of electricity;
- activities to use less electricity for own needs;
- activities for more reliable and better use of thermal energy;
- activities to use less thermal energy for own needs;
- activities to use less service water and potable water;
- activities for better accounting of thermal energy.

Part of the activities was added to the program from the list of mandatory energy conservation and high efficiency activities for the nuclear industry as specifically instructed in Executive Order to ROSATOM, No. 1/626-P of December 24, 2010, "Centralizing Efforts for Energy Saving and Higher Efficiency in the Nuclear Industry".

When activities are selected for the program, priority is given to those that can achieve at least a 3-5% effect in energy conservation or ones with a breakeven point of 5-6 years or sooner.

CONSUMPTION OF ENERGY RESOURCES

Indicators	2010		2011	
	Quantity	Thd rubles	Quantity	Thd rubles
Atomic energy (in form of fuel), FAs, pcs	4,592	21,780,410	4,876	28,436,955
Water, 000 m^3	367,660	1,281,693	1,110,793	609,832
Thermal energy, 000 GCal	4,397	1,408,604	3,667	1,183,125
Electric energy, 000 kWh	10,285,419	6,244,890	10,874,306	5,965,818
Automotive gasoline, tons	602	16,287	392	14,202
Diesel fuel, tons	1,997	43,938	1,992	65,877
Fuel oil, tons	22,723	229,245	13,135	141,776
Electromagnetic energy	Not purchased	Not purchased	Not purchased	Not purchased
Crude petroleum, tons	Not purchased	Not purchased	Not purchased	Not purchased
Natural gas, m^3	Not purchased	Not purchased	Not purchased	Not purchased
Coal, tons	Not purchased	Not purchased	Not purchased	Not purchased
Shale oil, tons	Not purchased	Not purchased	Not purchased	Not purchased
Peat, tons	Not purchased	Not purchased	Not purchased	Not purchased

ENERGY EFFICIENCY REPORT

For 2012, plans have been approved for the Concern to obtain an integrated certificate as a user of fuel and energy resources, to accomplish activities to work out a consolidated program for energy saving and higher energy efficiency of operating NPPs (individual activities included in the said program are going to be accomplished already in 2012).

ENERGY SAVED THROUGH ACTIVITIES TO REDUCE ENERGY CONSUMPTION AND IMPROVE ENERGY EFFICIENCY

Objective	Actually used in 2009	Used in 2010 (on terms comparable to 2009)	Used in 2011 (on terms comparable to 2009)	Economy in 2011, compared to 2010
Thermal energy, thd joules				
consumption for in-house needs	13,663.54	15,659.95	12,112.67	3,547.28
consumption for business needs	1,976.38	2,720.84	1,656.57	1,064.27
Water, thd m³				
consumption for in-house needs	1,071,916.19	1,360,000.74	924,169.23	435,831.51
consumption for business needs	8,942.31	7,659.13	8,220.26	–561.13**
Electric energy, thd kWh				
consumption for in-house needs	10,637,679.40	10,189,023.61	9,826,445.10	362,578.51
consumption for business needs	94,813.60	96,395.55	87,715.00	8,680.55

* Economy of power resources was calculated as instructed in Executive Order to ROSATOM, No. 1/676-P of 09.08.2011, "Methodology to Calculate Economy of Funds through Reduced Consumption of Energy Resources at Nuclear Plants of Rosenergoatom Concern OJSC".
** The lower economy of water in 2011 (compared to 2009) was due to power units commissioned into operation.

3.7. KEY DIRECTIONS IN INNOVATION

One of the main objectives for innovative development of the business units of ROSATOM is to make their products and services more competitive on nuclear power market by upgrading existing production processes and retrofitting production facilities. Efforts to improve existing technologies and adoption of innovative technologies are prerequisites for further development of a nuclear power generation system that adheres to the principles of safety and sustainable development.

All research and development initiated by Rosenergoatom are applied by nature and aimed at addressing real-life current needs of its nuclear power plants, and identifying future objectives in the Concern's production and technology.

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

CORPORATE PROJECT TO UPGRADE DESIGN TECHNOLOGY

IN 2011, THE FOLLOWING ACTIVITIES WERE PART OF THE CORPORATE PROJECT TO UPGRADE DESIGN TECHNOLOGY:

DEVELOP DISCRETE REINFORCEMENT OF CONCRETE AND ADAPT IT TO AES-2006 DESIGN SOLUTIONS

PREPARE RECOMMENDATIONS ON THE USE OF CHEMICAL ADDITIVES IN HIGH-DENSITY AND SUPER-HIGH-DENSITY CONCRETE, TO ACCELERATE SETTING; AND RELATED METHOD TO ASSESS THEIR EFFICIENCY

BUILDING A CATALOG OF STANDARD SUPPORT STRUCTURES FOR NPP PIPELINES BASED ON RUSSIAN AND INTERNATIONAL WORKING EXPERIENCES

DEVELOPING HIGH-STABILITY STEEL FOR PRESSURE VESSELS OF NEXT-GENERATION REACTORS

Extending the service life of the critical equipment is a major direction in the Concern's innovative activities, and the basis of its competitive ability. The Concern's engineering design branch company coordinates and organizes R&D, and holds contracts to develop new steel intended to be used for the pressure vessels of next-generation reactors. After 2011, industrial adoption of the new steel grades is completed. Improved steel grade 15X2MFA-A is going to be used for pressure vessels of the next-generation reactor VVER-TOI. The manufacturing plants of ROSATOM have entered the stage of preparing billets for steelmaking; welders are getting familiar with the new welding technology before construction of the VVER-TOI reactor pressure vessel.

DESIGNING THE NEXT-GENERATION REACTORS

Project ID	Description	Expected outcome
NPP-2006	Next-generation NPP design with improved performance, economy, and safety	Achieving top reliability and safety, with optimised capital investments in NPP construction.
VVER-TOI	Creating a standard optimized and informatized power unit using VVER technology based on AES-2006 design	• Cutting project costs by 20% compared to Novovoronezh NPP-2 (AES-2006 project); • Construction time reduced from 60 to 40 months; • Operating costs 10% lower compared to power unit No. 4 of Balakovo NPP – Russia's best unit in this parameter; • Modern IT environment created to design power unit projects; • Submitting and securing approval of a set of updated legal bills based on global best practices in NPP construction and operation.
Fast neutron reactors	Designing fast neutron reactors as a basis for implementing a new technology platform for the nuclear power industry based on closed NFC	More efficient use of natural uranium and recycled spent nuclear fuel: efficiency in the use of natural uranium by 2030 is expected to be at least 30 times higher than in 2009; termination of accumulation of spent nuclear fuel in storage facilities.
FNPP	Design and construction of floating co-generation nuclear plants	Power supplies to areas without central power sources, in extreme operating conditions.

Floating Thermal and Electricity Nuclear Power Plant (FNPP)

FNPP is a new class of power sources based on Russian technologies of nuclear shipbuilding. The goal is to supply reliable heat and electricity to remote areas in the Arctic and the Russian Far East throughout the year.

In 2011, the Concern continued construction of the world's first floating nuclear power plant with a capacity of 70 MW, with two reactor units KLT-40S.

The main floating power unit (FPU) "Academik Lomonosov" was built at Baltijskiy Zavod JSC (St. Petersburg). In 2011, all power equipment for the FPU was delivered to the FPU building facility. Its workshops assembled the steam-generating units of the reactors and manufactured the metal-water protection tanks; its steam-turbine units were mounted on the FPU. The complete set of the cores was made for the first fuel load of the reactors.

The dockyard of Baltijskiy Zavod continues hull-building, finishing, and installation, and now 92% of all hull structures are completed. Work is underway to make and install the onboard systems.

In parallel with construction of the main FPU, activities are underway to prepare and coordinate documents for licenses and permits to build onshore and hydraulic structures on the FNPP site in Vilyuchinsk, Kamchatka.

The plan for 2012 is to conclude building of the FPU hull structures, and to have subcontractors install the main equipment of the reactor compartment: metal-water protection tanks, and reactor units; after this, preparations will begin on the FNPP deployment site.

AES-2006

The large-scale program to build nuclear plants determined that in very short time the company should have a design of a nuclear plant with technical and commercial performance superior to earlier projects with VVER units. The project received the code name AES-2006. In terms of safety, AES-2006 project assumes compliance with the Russian regulations on science research and engineering, and as close as possible adherence to the IAEA recommendations. The project's pivotal feature is that passive safety systems are used additionally to enhance conventional active safety systems. The project envisages protections against earthquakes, tsunamis, tornadoes, and aircraft crash. Examples of improvements include a double-wall containment around the reactor hall; a core melt trap under the reactor pressure vessel; and a passive system to remove residual heat. The project is designed on the basis of plants with VVER units that have proved their robustness after a thousand reactor-years of trouble-free operation.

At present, within the frameworks of AES-2006 project Leningrad NPP-2, Novovoronezh NPP-2, and Baltic NPP are being build.

At all stages of the life cycle of the nuclear plants designed based on the AES-2006 concept, engineering design branch company of Rosenergoatom was engaged in 2011 in engineering, design, research, and project validation, seeking to ensure safe, reliable, and efficient operation of nuclear installations, radiation sources, nuclear materials and radioactive substances storage facilities.

VVER-TOI Project

VVER-TOI is the sequel to the AES-2006 project. By achieving its planned parameters, a VVER-TOI power unit will secure considerable competitive advantages compared to foreign-made units. The VVER-TOI project will be implemented on construction sites in Nizhny Novgorod NPP, Kola NPP-2, and Kursk NPP-2.

In 2011, the VVER-TOI project produced the following results:

- the concept for common information space and management of the power unit's digital model at all stages of the life cycle has been finalised;
- an economic model has been developed to represent each stage of the power unit's life cycle;
- the system has been successfully demonstrated that models the processes of NPP construction and optimisation in real time, using a 3D-6D digital model of the NPP: with the Virtual Prototyping Center software pack, anyone interested can now take a virtual trip of inside the plant to see any stage of its construction.

Fast Neutron Reactors

The main objective of the activities is to implement the program "New Technology Platform: Closed Nuclear Fuel Cycle and Fast Neutron Reactors".

The strategic role of fast neutron reactors for growth of the Russian nuclear power is stated in the Federal Target Program "Nuclear Power Technologies of the Next Generation in 2010–2015 and until 2020." To date, the Russian nuclear industry has accumulated unique practical experience in creating and continuous successful operation of fast neutron reactors. This forms the basis for the nuclear power industry's future transition to the closed nuclear fuel cycle that ensures the most efficient use of uranium resources and a solution to environmental issues caused by disposal of spent nuclear fuel and radwaste.

In 2006, Beloyarsk NPP resumed construction of power unit No. 4 rated for 880 MW with a fast neutron reactor BN-800 (scheduled to begin operation in 2014).

Construction of the BN-800 is intended to address problem issues of closing the NFC:

- creating industrial technology to produce mixed uranium and plutonium fuel (MOX-fuel) by the time the power unit begins operation;
- creating industrial technologies to recycle irradiated fuel to make it usable in new fuel rods (recycling technologies).

With these problems solved, it will be possible to largely close the NFC, increase efficiency of fuel consumption tenfold, and proportionately reduce the amount of radioactive waste. In addition, solving the above problems will help to utilise fuel after thermal neutron reactors and keep up with commissioning of operation fast-neutron reactors.

Such technologies are valuable because they ensure:

- total independence from a raw-material fuel base;
- exceptionally high environmental safety for the nuclear power industry;
- efficient brake on rising prices for electricity.

2011 RESULTS

The financing limit used to build Power Unit No. 4 of Beloyarsk NPP amounted to 16,314.81 mln rubles, with the following accomplished:

- construction of the reactor hall to elevation +45.0 m – 90% complete;
- construction of the turbine hall to elevation +34.0 m – 70% complete;
- installation and testing of the reactor's guard tank – 100% complete;
- activities done as planned to substantiate the design of power unit with fast neutron reactor BN-800.

In addition, in 2011 research and development continued on the project for large-capacity fast neutron reactor BN-1200.

Once practically implemented, closed fuel cycle technology will raise the nuclear power industry to a higher level of safety, making it much more environmentally-friendly, economic, and efficient.

Scheduled for the 2020s, construction of the first series of fast neutron reactors with competitive economic performance and industrial structure of the closed nuclear fuel cycle will create the conditions needed to implement the government's program to build a large-scale national nuclear power industry at a new quality level.

R&D FINANCING MECHANISM

Based on "ROSATOM's 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, which are officially coordinated and approved. The finally approved spending target is stated in the respective section of the Investment Programme for the planning year.

During 2009–2011, R&D financing (including the VVER-TOI project) under investment program of Rosenergoatom was 4.8, 8.7, and 8.9 billion rubles, respectively. Financing came from the nuclear plants development reserve fund (about 20%) and from Rosenergoatom profits (about 80%).

KEY RESULTS OF SCIENCE RESEARCH AND ACTIVITIES TO PROTECT INTELLECTUAL PROPERTY IN 2011

4,049.7
mln rubles
amounted the cost of R&D with positive results

119
patents
holds by the Concern of which
113 are for Leningrad NPP,
4 for Kursk NPP,
2 for Smolensk NPP

49.6
mln rubles
were paid to the Concerns's employees as remuneration for inventions, and
5.2 mln rubles
for created utility models

6
title documents
were issued to protect intellectual property assets

3.8. INTERNATIONAL ACTIVITIES

ROSENERGOATOM WAS ENGAGED IN THE FOLLOWING INTERNATIONAL ACTIVITIES

CREATING FAVORABLE EXTERNAL CONDITIONS TO SUPPORT THE CONCERN'S OPERATION AND GROWTH

INFORMATION AND RESOURCE SUPPORT OF EFFORTS TO MAKE NUCLEAR PLANT OPERATION SAFER AND MORE RELIABLE, USING FOREIGN EXPERIENCES AND TECHNOLOGIES

FULFILLING INTERNATIONAL OBLIGATIONS ASSUMED IN THE FIELD OF THE NUCLEAR POWER INDUSTRY

BUSINESS EXPANSION OUTSIDE OF RUSSIA

In terms of international business, 2011 was a landmark year for the entire global nuclear power industry. Japanese nuclear plants were not the only ones put to the test by the earthquake and the tsunami in March 2011. Once again, the Fukushima event turned the global community's focus towards issues of nuclear safety.

Major international organisations – WANO, IAEA, World Nuclear Association, European Nuclear Society – have held and plan in future a whole range of activities on the post-Fukushima agenda. Operators worldwide, including Rosenergoatom, have conducted additional stability assessments of their nuclear plants for various combinations of adverse external events.

In October 2011, the General Assembly of WANO (in Shenzhen, China) approved recommendations issued by the post-Fukushima Panel for Reform under WANO (the Mitchell Panel). These recommendations read as follows:

- expanding the WANO program of emergency response;
- implementing a modern global strategy of general corporate response to events in the nuclear industry;
- improving the efficiency of peer audits and other programs;
- greater transparency of the nuclear power industry as a way to gain public interest and respect;
- self-improvement and self-renovation of the WANO.

The WANO has scheduled its next General Assembly to convene in Moscow in 2013.

Signs of international recognition and high regard for the Russian nuclear power industry in the world include the following:

- V.G. Asmolov, First Deputy General Director of Rosenergoatom, was elected President of the WANO;
- E.V. Romanov, General Director of Rosenergoatom, was elected permanent member of the Global Council of Managers of the WANO.
- N.M. Sorokin, Deputy General Director of Rosenergoatom, was given the WANO's "The Nuclear Excellence Award."

In 2012, the Concern is going to cooperate with WANO Moscow Center in the following new areas:

- implementation of joint project "Prepare and Convene 2013 General Assembly in Moscow";
- implementation of joint project "Creating Regional Crisis Center for nuclear plants with VVER reactors, based on the Crisis Center of Rosenergoatom Concern OJSC";
- implementation of joint project "Rotating Staff of Rosenergoatom Concern OJSC in WANO Regional Office in Moscow";
- participation of the Concern's experts in three international project groups of WANO ("Severe Accident Management", "Radiation Safety", "Developing Criteria for Peer Reviews"), who enforce recommendations of the Mitchell Panel;
- V.G. Asmolov as President of the WANO being in charge of the WANO Supervisory Panel for enforcement of the Mitchell Panel recommendations.

Thus, international cooperation in 2011 was particularly intensive. Cooperation on science and technology alone included 244 events, of which 30 were large-scale, including:

- General Assembly of the WANO, 5th meeting to discuss the work in frames of the Convention on Nuclear Safety;
- General Conference of the IAEA;
- Ministerial Conference on nuclear safety under the IAEA aegis;
- Meeting of the International Nuclear Safety Advisory Group (INSAG).

19
international inspections
took place in 2011

160

mln rubles

purchased and imported equipment and services by Rosenergoatom in frames of its foreign trade activities in 2011

In 2011, 19 international inspections took place, including a corporate peer review of the Concern by WANO, OSART mission at Smolensk NPP, international insurance inspection visits to Novovoronezh and Beloyarsk NPP, peer reviews of Balakovo, Bilibino and Novovoronezh NPP, and an audit of operational readiness at Bushehr NPP.

During the reporting year, the Concern attended 23 meetings of managing committees and councils with its key partners such as WANO, EDF, NAEC Energoatom, and others.

In 2011, in frames of its foreign trade activities, Rosenergoatom purchased and imported equipment and services worth approximately 160 mln rubles.

9.5

mln euros

were accomplished under technical assistance programs of TACIS (EC)

IN 2011, WORK WAS DONE IN THE FOLLOWING NEW DIRECTIONS:

CONTRACT TO PROVIDE SERVICES OF TECHNICAL CLIENT, SIGNED BETWEEN ROSENERGOATOM CONCERN OJSC AND AKKUYU POWER PLANT ELECTRICITY PRODUCTION COMPANY, **WITH A CONTRACT PRICE OF 612,439,586.36 RUBLES.**

CONTRACT TO PROVIDE SERVICES OF ENGINEERING CONSULTING TO SUPPORT OPERATION OF THE CHINESE EXPERIMENTAL FAST REACTOR (CEFR). UNDER THE CONTRACT, A CONSULTANT IS PERMANENTLY PRESENT ONSITE IN CHINA. IN JULY 2011, THE PLANT SUCCESSFULLY JOINED THE GRID AT 40% CAPACITY.

TO PROVIDE TECHNICAL SUPPORT ONSITE AT BUSHEHR NPP, 22 SPECIALISTS WERE DISPATCHED FROM THE CONCERN'S NUCLEAR PLANTS. **IN JUNE, ATOMTEKHEXPORT WAS AUDITED TO ASSESS ITS READINESS FOR OPERATION OF POWER UNIT NO. 1 AT BUSHER NPP;** IN OCTOBER, CONCERN'S SPECIALISTS PARTICIPATED IN AN EXPERT GROUP ON STRESS TESTING BUSHEHR NPP. THE CONCERN'S SPECIALISTS ALSO PARTICIPATED IN THE TECHNICAL SUPPORT MISSION OF WANO MOSCOW CENTER AT BUSHER NPP. BUSHER NPP WAS STARTED FOR POWER GENERATION ON SEPTEMBER 12, 2011.

ENTERING THE TENDER FOR A SERVICE CONTRACT TO EXTEND THE SERVICE LIFE OF NPP KOZLODUY (BULGARIA): A CONSORTIUM WAS FORMED INCLUDING ROSENERGOATOM AND EDF; SUBCONTRACTORS WERE ENGAGED (ATOMTEKHENERGO CJSC, ATOMENERGOMASH OJSC, OKB GIDROPRESS, AND RISK ENGINEERING). ON AUGUST 24, 2011, A BID WAS FILED TO ENTER THE TENDER. TECHNICAL AND FINANCIAL OFFERS, AS WELL AS KEY CONTRACT TERMS WERE AGREED WITH THE CLIENT.

AS INTENDED TO DEVELOP ITS FOREIGN TRADE CONCEPT, ROSATOM **DEPLOYED NEW MARKETING DIRECTIONS: VIETNAM, VENEZUELA, EGYPT, JORDAN, ARGENTINA, ANGOLA, AND TURKEY.**

In international programs for nuclear safety, in 2011 projects continued in cooperation with the European Commission (TACIS) with Nordic Countries: Finland, Sweden, and Norway. Overall, 30 projects were accomplished under technical assistance programs in 2011, of which 13 were under TACIS (EC) for total of 9.5 m euros, and 17 projects under cooperation programs with Nordic Countries, for total of 1.1 mln euros.

Twenty tax exemption certificates were issued by the Technical Assistance Committee, and the resulting savings amounted to 27.7 mln rubles.

27.7
mln rubles
amounted resulting savings from the work of Technical Assistance Committee by tax exemption

In organisation and support of international activities in 2011, the work was done in the following sections: receptions, business traveling, consulting, and translation. In 2011, there were 130 receptions, with 836 invited specialists, and 177 business trips to 33 countries.

International activities on the systemic principles help to address the following objectives:

- ensuring performance under effective international contracts with foreign partners;
- maintaining and strengthening the Concern's positive international image as a major global operator whose business is founded on tried and trusted universally accepted approaches and solutions;
- supporting the marketing activities of ROSATOM outside of Russia;
- purchasing all required services, equipment, and advanced technologies;
- accessing advanced international experiences in management and technologies, and information about growing trends on the international electricity market;
- increasing exports of operation engineering services.

GOVERNANCE SYSTEM

4

Corporate governance

31

Board meetings held in 2011

- Targets and performance indicators determined
- Investment program approved for 2011 for total of 221,671 million rubles.

Risk management

Total impact by risks on target performance indicators of the mid-term program

has remained within the availability limits established by the State Corporation

Implementation of comprehensive IT system

Corporate resource management system (the CRM on SAP platform) covers

over 1,000 users

Improvement of internal controls

78

control events

conducted in 2011

- efforts minimize non-compliance enhanced
- risks mitigated
- financial discipline at facilities raised

Transparent purchasing

90%

public purchases

34%

share of purchases, from electronic trading sites

4.1. COMPOSITION AND STRUCTURE OF GOVERNING BODIES

Under the Federal Law On Joint-Stock Companies, the governance structure of Rosenergoatom 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.

Information about the activities of Rosenergoatom is disclosed at the corporate website: www.rosenergoatom.ru.

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

CONCERN'S GOVERNANCE STRUCTURE

STOCKHOLDER STRUCTURE

On December 19, 2011, as Rosenergoatom increased its registered capital through placement of additional stock, ROSATOM became a stockholder in Rosenergoatom.

STOCKHOLDERS OF THE CONCERN ARE:

STATE ATOMIC ENERGY CORPORATION ROSATOM (ROSATOM), HOLDING IN THE REGISTERED CAPITAL 3.9632%,
WEBSITE URL: HTTP://WWW.ROSATOM.RU.

OPEN JOINT-STOCK COMPANY ATOMIC ENERGY POWER CORPORATION (ATOMENERGOPROM JSC), HOLDING IN THE REGISTERED CAPITAL 96.0368%,
WEBSITE URL HTTP://WWW.ATOMENERGOPROM.RU. ATOMENERGOPROM JSC IS OWNED BY ROSATOM AS THE SOLE STOCKHOLDER.

REGISTERED CAPITAL

Between January 01 and December 31, 2011, the Concern's registered capital increased by 68,496,524,000 rubles, from the 461,515,003,474 rubles to 530,011,527,474 rubles; the capital is divided into 530,011,527,474 common shares with par value one (1) ruble.

In addition to the common shares already placed, Rosenergoatom has the right to issue 338,253,716,953 additional common shares with par value one (1) ruble each.

Also by request of Atomenergoprom JSC as the Sole Stockholder of Rosenergoatom, Resolution No. 16 of October 17, 2011, the FFMS of Russia on November 22, 2011, registered its decision to place additional issue of 300,000,000,000 registered common stock, at 1 ruble per share.

A total of 830,011,527,474 stock shares was issued, whereof 551,883,527,474 stocks were paid at a price of 1 ruble each, while 278,128,000,000 remained outstanding.

As of December 31, 2011, in payment of the placed stock, ROSATOM received 21,872,000,000 rubles, and thus ROSATOM owns 3.9632% stock in the Concern's registered capital.

On February 09, 2011, the Sole Stockholder of Rosenergoatom decided to increase the registered capital of Rosenergoatom by issuing additional stock. The number of shares placed through the issue is three hundred billion (300,000,000,000. The price of additionally placed stock was: one (1) ruble per share. On April 12, 2011, the resolution to place additional stock was registered by the FFMS of Russia. Atomenergoprom JSC as the Sole Stockholder of Rosenergoatom paid 68,496,524,000 rubles for the stock placed. The Concern's report on issued securities was registered in the FFMS of Russia on September 27, 2011.

On October 12, 2011, the Federal Tax Service made a record in the Unified State Register of Legal Entities, to register modification No. 10 to the Articles of Incorporation of Rosenergoatom, following changes in the registered capital of Rosenergoatom.

As of December 31, 2011, the registered capital of Rosenergoatom amounted to 530,011,527,474 rubles, divided into 530,011,527,474 common shares, each with par value one (1) ruble.

INFORMATION ABOUT THE AUDITOR AND REGISTRAR

Auditor

By decision of Atomenergoprom JSC as the Sole Stockholder Rosenergoatom Concern OJSC, Resolution No. 14 of June 30, 2011, Accountants and Business Advisers Limited Liability Company was designated as Auditor for Rosenergoatom Concern OJSC.

Registrar

By decision of the Board of Directors of Rosenergoatom Concern OJSC (Minutes No. 11), Registrar R.O.S.T. JSC was designated as registration agent for Rosenergoatom Concern OJSC.

Under Contract signed on September 29, 2011 between Rosenergoatom Concern OJSC and Registrar R.O.S.T. JSC, starting from October 10, 2011, keeping the registry of holders of registered securities issued by Rosenergoatom Concern OJSC is the function of Registrar R.O.S.T. JSC.

Details of the registry keeper for Rosenergoatom Concern OJSC:
- 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.

THE BOARD OF DIRECTORS MEMBERSHIP STRUCTURE

before 01.08.2011

100% Executive Directors

after 01.08.2011

80% Executive Directors

20% Non-Executive Directors

DIRECTORS OF THE BOARD

The Board of Directors in 2011 had four non-executive Directors (not employed by Rosenergoatom Concern OJSC). The Board had no independent Directors (as defined in the Russian Code of Corporate Conduct and recommended by the FFMS). As of late 2011, 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, no changes occurred in the structure of the Board of Directors.

STRUCTURE OF THE CONCERN'S GOVERNING BODIES, BY GENDER AND AGE

Item,%	Board of Directors			Directorate		
	Male	Female	Total	Male	Female	Total
	5 (100%)	0	5 (100%)	23 (92%)	2 (8%)	25 (100%)
30 y.o. and younger	0	0	0	0	0	0
31 to 50 y.o.	1 (20%)	0	1 (20%)	4 (17.4%)	0	4 (16%)
51 y.o. and older	4 (80%)	0	4 (80%)	19 (82.6%)	2 (100%)	21 (84%)
TOTAL	**5 (100%)**	**0**	**5 (100%)**	**23 (100%)**	**2 (100%)**	**25 (100%)**

AS OF DECEMBER 31, 2011, THE BOARD HAD THE FOLLOWING DIRECTORS:

ALEKSANDR MARKOVICH LOKSHIN

Board Chairman, Rosenergoatom Concern OJSC, First Deputy General Director, Director Nuclear Energy Complex Directorate 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 Concern OJSC.

2008–2010 – Deputy General Director, State Atomic Energy Corporation ROSATOM.

2010–2011 – Deputy General Director, Director, Nuclear Energy Complex, Directorate, State Atomic Energy Corporation ROSATOM.

Since 2011 – First Deputy General Director, Director, Nuclear Energy Complex, Directorate, State Atomic Energy Corporation ROSATOM.

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, State Atomic Energy Corporation ROSATOM

Born in 1954.

Graduate of Tomsk Polytechnic Institute.

2007–2008 – Deputy Head of the Federal Environmental, Industrial and Nuclear Supervision Service of Russia.

November 2008 to June 2010 – Deputy Inspector General, State Atomic Energy Corporation ROSATOM.

Since July 2010 – Inspector General, State Atomic Energy Corporation ROSATOM.

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 State Atomic Energy Corporation ROSATOM

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, State Atomic Energy Corporation ROSATOM.

Since April 2011 – Deputy General Director, Director of the Unit for Development and International Business at State Atomic Energy Corporation ROSATOM, 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.

SERGEY ALEKSANDROVICH OBOZOV

Board Director, Rosenergoatom Concern OJSC, Director for Development of ROSATOM's Production System (RPS), State Atomic Energy Corporation ROSATOM

Born in 1960.

Graduate of Gorky Polytechnic Institute, Academy of National Economy under the Russian Federal Government, and Volga-Vyatka Region Academy of Public Service under the President of the Russian Federation.

Master of Public Management. Doctor of Economics.

2005–2006 – Deputy General Director, Director, Branch Company Federal State Unitary Enterprise Rosenergoatom Concern OJSC "Directorate, Construction of Floating Co-generation Nuclear Power Plants", acting General Director, Federal State Unitary Enterprise Rosenergoatom Concern OJSC.

2006–2008 – Deputy Director, Atomenergoprom JSC, General Director, Federal State Unitary Enterprise Rosenergoatom Concern OJSC, General Director Energoatom Concern OJSC.

2008–2011 – General Director, Rosenergoatom Concern OJSC.

Since August 2011 – Director for Development of ROSATOM's Production System (RPS), State Atomic Energy Corporation ROSATOM.

Holding in the registered capital of Rosenergoatom Concern OJSC: none.

Holding of common stock issued by Rosenergoatom Concern OJSC: none.

BORIS GEORGIYEVICH SILIN

Board Director, Rosenergoatom Concern OJSC, Advisor to of Nuclear Energy Complex Directorate, 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).

May 2008 to January 2010 – head of Department, Deputy Director of Department for Nuclear Power Complex of State Atomic Energy Corporation ROSATOM.

Since February 2010 – Advisor, Nuclear Energy Complex Directorate, State Atomic Energy Corporation ROSATOM.

Holding in the registered capital of Rosenergoatom Concern OJSC: none.

Holding of common stock issued by Rosenergoatom Concern OJSC: none.

SOLE EXECUTIVE BODY

Chief Executive Officer of Rosenergoatom Concern OJSC is the General Director.

By decision of Atomenergoprom JSC as the Sole Stockholder of Rosenergoatom Concern OJSC, Resolution No. 15 of July 29, 2011, Mr. Yevgeny Romanov was elected General Director of Rosenergoatom Concern OJSC on August 01, 2011.

Mr. Sergey Obozov left the office after his transfer to State Atomic Energy Corporation ROSATOM.

AUDITING COMMITTEE

By decision of Atomenergoprom JSC as the Sole Stockholder, No. 14 of June 30, 2011, the Auditing Committee of Rosenergoatom Concern OJSC 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 Program in ROSATOM
Yelena Grigoryevna Novomlinskaya	Auditing Committee Member, Advisor to Management for Economics and Controlling, Directorate for Nuclear Energy Complex , ROSATOM
Liudmila Nikolayevna Demidova	Auditing Committee Member, Director of Economics and Controlling, Rosenergoatom

IN 2011, THE DIRECTORATE CONSISTED OF THE FOLLOWING MEMBERS:

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.

Since March 2010 – General Director of Rostekhnologii – Metallurgy.

Since August 01, 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 Center "Kurchatov Institute".

2003 – Deputy Minister for Nuclear Energy, Russian Federation.

2004–2006 – Director-coordinator, Russian Science Center "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)

In 2011, elected President of the World Association of Nuclear Operators (WANO).

Decorated with Order of Fortitude (1997), Order of Honor (2009).

ALLA IGOREVNA ARKHANGELSKAYA

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.

VLADIMIR YURYEVICH MYASNIKOV

Financial Director, Head Treasury

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.

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.

Since 2010 – Deputy General Director, Director for Engineering Project Management, Rosenergoatom Concern OJSC.

Honorary title "Distinguished Contributor to Power Industry 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).

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.

NIKOLAY MIKHAYLOVICH SOROKIN

Deputy General Director – Inspector General

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).

VIKTOR NIKOLAYEVICH SUCHKOV

Deputy General Director, Director for capital construction

Born in 1953.

Graduate of Leningrad Polytechnical Institute.

2001–2008 – head of Section for Technical Supervision over Industrial Construction, Deputy Chief Engineer, Head of Section for Technical Supervision over Industrial Construction, Capital Construction Management, Chief Engineer of Capital Construction Management, Deputy Director for Capital Construction – head of Capital Construction Management in Kalinin nuclear plant, Branch Company of Energoatom Concern OJSC.

Since 2009 – Deputy General Director, Director for Capital Construction, Rosenergoatom Concern OJSC.

Decorated with medal "For Valour in Labour" (1986).

JUMBERI LEONTOVICH TKEBUCHAVA

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

Born in 1953.

Graduate of Moscow Mining Institute.

1998–2004 – Vice President, OAO Oil Company Slavneft.

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.

Since 2009 – Deputy General Director, Director for HR Management, Social and Administrative Issues, Rosenergoatom Concern OJSC.

ALEKSANDR ALEXEEVICH KHVALKO

Deputy General Director – Sales Director

Born in 1964.

Graduate of Saratov Institute of Economics.

Doctor of Economics.

2002–2007 – head of Department for Federal Wholesale Energy Market and electricity 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.

ALEKSANDR VIKTOROVICH SHUTIKOV

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

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.

GALINA IVANOVNA SHUPLETSOVA

Accountant General

Born in 1939.

Graduate of Irkutsk Institute of National Economy.

Since 1999 – Deputy Accountant General of Department for Accounts and Reports, Deputy Head of Department for financial and business accounting, Deputy head of Financial Department, Accountant General – head of Department for Accounts and Reports, Accountant General, Federal State Unitary Enterprise Rosenergoatom Concern OJSC, Accountant General, Energoatom Concern OJSC.

Since 2009 – Accountant General Rosenergoatom Concern OJSC.

VIKTOR IGOREVICH IGNATOV

Deputy General Director, Director, "Balakovo 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).

MIKHAIL VASILYEVICH BAKANOV

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

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.

FARIT TIMUROVICH TUKHVETOV

Deputy General Director, Director, "Bilibino 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 Center, 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).

LEONID IVANOVICH MARTYNOVCHENKO

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

Born in 1947 r.

Graduate of Leningrad Polytechnic Institute.

2003–2007 – Deputy Inspector General, Federal State Unitary Enterprise Rosenergoatom Concern OJSC.

2007–2008 – Deputy General Director, Director, "Kalinin Nuclear Plant", Branch Company of Federal State Unitary Enterprise Rosenergoatom Concern OJSC, Deputy General Director, Director, "Kalinin nuclear plant", Branch Company of Energoatom Concern OJSC.

Since 2009 – Deputy General Director, Director, "Kalinin Nuclear Plant", Branch Company of Rosenergoatom Concern OJSC.

Honorary title "Distinguished Contributor to power industry of the Russian Federation" (2010), Decorated with order metal "Services to Homeland" II degree (1996).

VASILIY VASILYEVICH OMELCHUK

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

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).

VYACHESLAV ALEKSANDROVICH FEDYUKIN

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

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 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

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.

VLADIMIR PETROVICH POVAROV

Deputy General Director, Director, "Novovoronezh 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).

ALEKSANDR VASILYEVICH PALAMARCHUK

Deputy General Director, Director, "Rostov Nuclear Plant", 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 Concern OJSC, 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.

Since 2010 – Deputy General Director, Director, "Rostov Nuclear Plant", Branch Company of Rosenergoatom Concern OJSC (following change of name in 2010)

Decorated with order metal "Services to Homeland" II degree (2003), order medal "Services to Homeland" I degree (2007).

ANDREY YUVENALYEVICH PETROV

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

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).

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 JSC.

2005–2006 – Project Director, International Industrial Bank JSC.

2006–2007 – Project Engineer, AKO BARSS Group JSC.

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.

4.2. CORPORATE MANAGEMENT SYSTEM

PRINCIPLES OF CORPORATE MANAGEMENT

Within the Concern, corporate management is understood as general management of the entity's activities exercised by the Concern's General Meeting of Stockholders and the Board of Directors, which includes a set of relations with the Concern's executive officers and other stakeholders (employees, clients, partners, contractors, government agencies with regulatory and supervising functions, bodies of executive government) as regards:

- setting strategic goals for the Concern and efficient system of management;
- creating incentives to ensure that the Concern's executive bodies and employees do their necessary and best to achieve strategic goals;
- striking a balance between the interests of stockholders, the Board of Directors, executive officers, and other stakeholders;
- enforcing Russian Federal law, the Concern's Articles of Incorporation, and corporate documents.

The Concern adheres to the fundamental principles of corporate management as laid out by the Organisation for Economic Cooperation and Development, according to which a corporate management system must ensure

PRINCIPLES OF CORPORATE MANAGEMENT

EQUAL TREATMENT OF STOCKHOLDERS

OBSERVING LEGALLY PROTECTED RIGHTS OF STAKEHOLDERS

TIMELY AND ACCURATE DISCLOSURE OF INFORMATION ON ALL MATERIAL ISSUES RELATED TO THE CONCERN, INCLUDING ITS FINANCIAL SITUATION, PERFORMANCE, OWNERSHIP, AND MANAGEMENT

STRATEGIC MANAGEMENT, EFFICIENT CONTROL OF THE CONCERN'S MANAGEMENT BY ITS GENERAL MEETING OF STOCKHOLDERS AND THE BOARD OF DIRECTORS

The primary issues under the jurisdiction of the General Meeting of Stockholders:

- re-organising the Concern;
- election and amotion of Directors on the Board;
- forming and retiring the Concern's Sole Executive Body;
- election and amotion of members of the Auditing Committee;
- approving the Concern's Auditor;
- approving the Annual Report, annual financial statements, including profit and loss statement, and distribution of profits, including payment/declaration of dividends, and the Concern's losses;
- decisions to approve transactions of Concern and major transactions;
- adoption of corporate documents to regulate the work of the Concern's bodies of management and the Auditing Committee;
- deciding fees and compensations payable to the Board Directors and Auditing Committee members.

The primary issues under the jurisdiction of the Board of Directors:

- designating priority activities for the Concern;
- approving annual plans, budgets, and estimates for the Concern's operation;
- establishing target funds and other funds for the Concern;
- approving major transactions related to purchase or sale of the Concern's assets worth 25 to 50 percent of book value of the Concern's assets;
- approving corporate transactions;
- deciding the terms of contract signed with the Concern's General Director;
- decision to call for unscheduled review or audit by an in-house or external auditor;
- at the General Director's presentation, designation of the heads of the Concern's Branch Companies, except temporary (acting) heads of Branch Companies;
- approving the Concern's organisational structure and any changes thereto.

REPORT ON THE BOARD'S WORK ON PRIORITY ACTIVITIES

In conformity with the Concern's Articles of Incorporation, the Board of Directors exercises general management of the Concern's activities, and determines its priority activities. In 2011, no changes occurred on the Board as set against 2010.

As it examines the results of the Concern's operation during the past year, and its performance indicators, the Board of Directors must also evaluate its own efficiency.

In the reporting year, the Board of Directors convened in 31 meetings.

The Board's work was within its jurisdiction as described in the "On Joint-Stock Companies" Federal Act, the Concern's Articles of Incorporation, and Regulation on the Board of Directors.

Acting within the scope of its authority, the Board in 2011:

- determined key operation parameters for the Concern in the approved budget;
- set targets for financial and business activities in 2011, and efficiency criteria for the Concern;
- in the Concern's investment activities, the Board approved: 2011 Investment Programme worth 221,671 In rubles, with breakdown by financing sources, including investment product to build Power Unit No. 2 of Baltic NPP.

The following decisions of the Board during the reporting year qualify as ones to re-organise the system of corporate management:

- approval of the Concern's organisation structure;
- creating the Concern's Russian Representative Office in Lianyungang, People's Republic of China;
- creating the Concern's Branch Company NPP Akkuyu in the Republic of Turkey.

The Board of Directors sees the results of the Concern's development on priority activities during 2011 as a success. Detailed information about the Concern's development and results is included in the respective sections of the Annual Report.

List of main company acts relating to corporate management:

1. Regulation on Procedure of Interaction with ROSATOM State Corporation (Exec. Order to the Concern, No. 523 of April 29, 2010);
2. The Concern's Procedure of Interaction with Subsidiary and Controlled Entities (Exec. Order to the Concern, No. 1703 of October 21, 2010);
3. Regulation on business monitors in entities within the Concern's scope of governance (Exec. Order to the Concern, No. 9/36-P of January 19, 2012);
4. Methodological Guidance on Preparing Annual Reports in the Concern's Subsidiary Companies (Exec. Order to the Concern, No. 9/113-P of February 07, 2012);
5. Regulation on Mandatory Disclosure of Information (Concern's Board Minutes No. 32 of December 07, 2009);
6. Regulation on the Board of Directors and Auditing Committee in the Concern (the Sole Stockholder's Resolution No. 8 of December 22, 2009).

A report on Concern's compliance with the Corporate Conduct Code recommended by the Federal Service for Financial Markets is enclosed as the Appendix.

REPORT ON DIVIDENDS PAID

The Concern has adopted a Code of Ethics which, among other things, is an attempt to prevent conflicts of interests among individuals on its bodies of management.

By the Sole Stockholder's decision No. 14, of June 30, 2011, no dividends were paid after 2010.

INFORMATION ABOUT MAJOR TRANSACTIONS, AND TRANSACTIONS OF THE CONCERN

No major transactions or transactions of the Concern took place in 2011 that would be subject to approval by the Concern's bodies of management.

CRITERIA AND AMOUNTS OF REMUNERATION PAID TO THE GENERAL DIRECTOR AND THE DIRECTORS OF THE BOARD

Under the Company's Articles of Incorporation, Directors on the Board, by decision of the General Meeting of Stockholders, may be entitled to remuneration. In 2011, no remuneration was calculated or paid to the Board Directors.

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

Total remuneration paid in 2011 to key executive personnel amounted to 485.9 mln rubles.

Key executive personnel are understood as: top-ranking executive officers (General Director, Deputies), and other officers vested with authority and responsibility in matters of planning, governance, and control of corporate activities.

Key performance indicators are adopted by ROSATOM for the Concern as a whole, and included in the chart of the Concern's General Director. Based on composition principles, the indicators are found for achievement of the General Director's performance figures, then translated to executive officers of all levels.

PERFORMANCE RATIOS OF THE CONCERN IN 2011, AS WRITTEN IN THE GENERAL DIRECTOR'S CHART

Indicator	Performance indicator composition
Budget-related	1. EBITDA 2. Assumed fixed costs
Functional	3. Investment program to extent of total spending 4. Product manufacturing 5. Total generation of electricity 6. Non-compliance records (not above 1 record per 1 unit/year)
Project-related	7. Unit No. 4 of Kalinin NPP commissioned for generation
Cut-off	8. No incidents above Level 2 on the INES scale

4.3. PROPERTY MANAGEMENT

PROPOTION OF LAND PLOTS OWNED AND LEASED

LAND STRUCTURE BY AREA

As of December 31, 2011, the Concern actually used land in 826 plots with a total area 21,197 hectares, of which:

- 561 land plots with a total area of 6,725 ha were legally owned by the Concern, including 9 plots purchased under sales contracts signed in 2011, 10 plots emerging as a result of previously held, of which 2 plots were at the stage of government registration;
- 265 plots with a total area of 14,472 ha, rented by the Concern, including 78 plots leased during the reporting period, of which 7 plots were at the stage of government registration.

As of December 31, 2011, the Concern owned 6,937 units of real estate assets, of which for 6,720 the Concern has registered the title, with 217 units at the stage of registration.

4.4. SYSTEM OF KEY EFFICIENCY RATIOS. EMPLOYEE EVALUATION AND REMUNERATION

Since 2009, Rosenergoatom has used a system to assess employee efficiency based on annually calculated Key Performance Indicators (KPI).

The deliverable of the KPI system is that the most strategically vital objectives can be achieved, and employee remuneration is proportionate to resulting KPI at the end of the year.

Annually, ROSATOM builds for the coming year a list of indicators that must be on top managers' KPI charts at every unit within ROSATOM; it also sets targets for the indicators, and recommends methods to calculate the resulting values of the indicators. Under decomposition principles, indicators are built that ensure that the KPI are achieved by the Concern's General Director, and then they are translated to top executives of every level.

The purpose of the system of Key Performance Indicators and motivation is for all employees to focus their efforts on achieving what is most valuable for their organisation, and for remuneration to be in proportion with their respective KPI.

Apart from the motivational function, the KPI also foster a culture of efficiency among corporate employees, with all their efforts evaluated through ultimate benefits.

In 2011, the Concern continued with this project. The system helps the Concern achieve its objectives, and ensure attainment of its strategic goals.

After 2011, all Key Performance Indicators were achieved.

In addition, in 2010 Rosenergoatom began implementation of a system that manages the employees' working efficiency. Under the system, the heads of structural units set individual objectives for their subordinates, in activities not listed in the KPI chart of the respective executive officer.

The procedure to remunerate employees is regulated by the following documents:
- Standard Regulation on remuneration of employees in the Branch Companies;
- Regulation on remuneration of employees at administrative headquarters.

The amount of remuneration depends on the position level (with differentiation factors), type of job functions, and the level of assigned Key Performance Indicators (KPI).

The minimum paycheck for an employee in a Branch Company in 2011 was 5,800 rubles before July 01, 2011 (with the government-regulated minimum was being 4,330 rubles), and 6,800 rubles after July 01, 2011 (against a 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). The system of incentives is based on bonuses for achieved KPI, where each indicator has a weighted value assigned in the total bonus. The total bonus is calculated from the annual total of base salaries for each position, adjusted by the applicable coefficient; the upper limit depends on the position rank, and may be as high as 260% provided that the target KPI is achieved. Bonuses are only paid when threshold KPI values are attained, and these too are determined in the individual KPI chart. If the results are considerably above target, even higher bonuses can be paid.

AMOUNT OF REMUNERATION BY EMPLOYEE CATEGORIES, 000 RUBLES/YEAR

	Employee category	Base salary	KPI achievement bonus
2010	Managerial	393.6 up	137.7 up
	Specialists	200 up	40 up
	Shop floor	69.6 up	7 up
2011	Managerial	393.6 up	137.7 up
	Specialists	200 up	40 up
	Shop floor	75.6 up	7.5 up

4.5. RISK MANAGEMENT

For efficient management and sustainable development, ROSATOM by decision of its top management began in 2010 efforts to create a Corporate Risk Management System (CRMS), which assumes integration of risk management experiences accumulated by the entities within the ROSATOM State Corporation into the overall corporate system that ensures comprehensive control of risks related to technical issues, technologies, operations, investments, and other aspects.

The main goals and objectives in developing the corporate risk management policy include:

- support for the implemented strategy of ROSATOM through risk management;
- timely identification of emerging risks, evaluation and mitigation of threats able to impact the operation results of ROSATOM and its constituents;
- adopting procedures for continuous monitoring and alerting;
- naming risk owners and their responsibilities;
- integrating risk management processes into managerial decision-making processes, to ensure optimised use of resources through control of balance between risk and gains;
- providing information support to executives and employees of ROSATOM and its constituents, enabling managerial decisions, and finding opportunities to optimise risk management processes.

Following the decision to deploy the CRMS in all ROSATOM units in 2011, the Concern created a Risk Management Office. In 2012, it is expected to merge into the Office for Strategic Planning and Risk Management.

After this change, the corporate hierarchy of risk detection and approval of related control strategy will appear as represented below.

After analysing emerging risks and opportunities, and considering the specifics of the Concern's business as a company that generates electric and thermal energy at its nuclear plants, key risks were identified that may affect attainment of the Concern's key performance indicators.

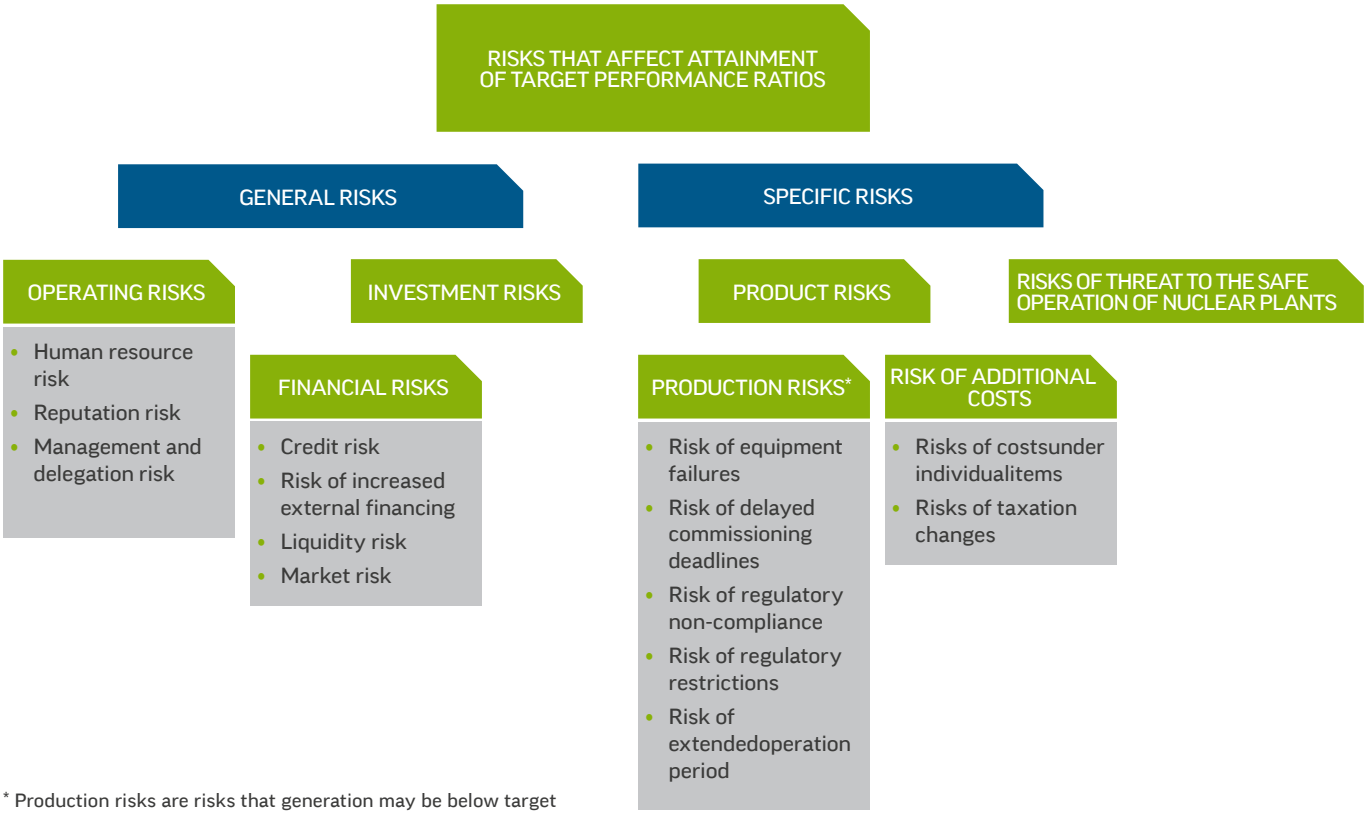
Quantity-based evaluation of risks in the implementation of the Concern's medium-term program approved by ROSATOM for 2012–2016 demonstrated that their combined impact on the program's target indicators is within the range of readiness adopted by ROSATOM.

This situation is ensured by the Concern's risk management activities.

ROLES AND RESPONSIBILITIES OF MANAGEMENT BODIES IN THE RISK MANAGEMENT SYSTEM

Body of management	Function/responsibillity
General Director	Approves risk management structure, assesses the results of activities for critical risk management
Risk Control panel	Coordination of the development plan with the Risk Management Strategy, monitor risks, coordinates activities for critical rick management
Management for strategic planning and rick management	Methodological support to parties involved in Risk Management Strategy, works out updates of the Risk Pyramid, recommendations on risk limitation activities
Risk owners	Identify and previously estimate risks; work out and implement risk management activities, and monitor existing risks
Department of internal control and audits	Identifies risks in the course of internal audits; independent assessment of Risk Management Strategy overall functioning in the Concern

CLASSIFICATION OF KEY RISKS THAT MAY AFFECT THE CONCERN'S ABILITY TO ACHIEVE TARGET KEY PERFORMANCE RATIOS



* Production risks are risks that generation may be below target

KEY RISKS AND MEASURES TO PREVENT/MINIMISE THEM

Risk	Description	Measures to prevent/minimise
Specific risks		
1. Risks of threat to the safe operation of NPPs	Risks of threat to nuclear, radiation, and security of NPPs at all stages of the life cycle	Done as part of annually approved programs to ensure: nuclear, radiation, technical, and fire safety and physical protection of NPPs.
2. Operating risks	Risks of reduced generation (below target figures) and equipment not ready to assume load, due to internal and external factors.	Done as part of comprehensive long-term program of NPP upgrade, prepared for 5 years and updated annually as individual operation problems are resolved and new ones emerge.
3. Commodity risks	Risks of changing prices of electricity and power in Russia, changes in market procedures.	Done as part of annually approved programs to optimise market operations, considering its changing rules of functioning.
4. Risks of higher operation costs for NPPs	Possible increase in electricity generation costs, changes to tax law.	Optimising costs, relations with regulators, work in lobbying groups.
General risks		
5. Financial risks:		Observing the financial policy of ROSATOM, efforts to secure contracts with banker's guarantees; a panel has been formed to handle receivables/payables, a credit risk panel formed that is used to control credit risks when decisions are taken on issues related to securing contractor performance under contracts signed after purchase procedures in compliance with the Uniform Industry-Level Purchasing Standard of ROSATOM.
• Liquidity risk	Risk of cash deficiency to perform corporate obligations	
• Credit risk	Risk that contractors fail to act as and when agreed	
• Interest rate risk	Risk of changes in interest rates	
• Currency rate risks	Possible adverse change of foreign exchange rates	
6. Investment risks (failure to see through the investment plan)	Right-shift risk (deadline delay) or risk of project abandonment for any external or internal factors	Building, updating, and monitoring the construction program as per regulatory documents of ROSATOM, Ministry of Energy of the Russian Federation.
7. Operating risks	Risks of losing control, reputation risks, risk of insufficiently skilled personnel.	Building a system of strict process control. Efforts to improve the industry's public image: transparence and public awareness about nuclear plant operation. Training and advancement of personnel, creating conditions for career growth, honing skills, efforts to build HR reserve, recruiting graduates of relevant schools.

In 2011 special attention was paid to a thorough analysis of what caused the Fukushima accident in Japan, to see if adequate measures have been taken to prevent similar developments in Russia. After this analysis, it was admitted that additional inspections were needed to examine safety and protections in active Russian nuclear plants (for details, see Section 3.3. "Safety of Russian Nuclear Power Plants. Radiation Impact on Employees and General Public).

As regards minimising potential financial damage from immutable risks (that defy all control) and unforeseen adverse events, the Concern practices comprehensive insurance of property interests in its different activities.

The use of the insurance mechanism helps to stabilise corporate growth and ensures the most favorable conditions and risk mitigation in the course of main operations, with guaranteed compensation of third-party damage as a result of the Concern's core business activities.

In 2011, the Concern insured all mandatory civil liability. A contract was signed as required under the 1963 Vienna Convention on Civil Liability for Nuclear Damage, with the insurance carrier's limit of 5.9 billion rubles.

Contracts have been signed to insure the Concern's civil liability has been signed for damage to third-party life, health, and property through operation of hazardous industrial facilities and hydraulic structures, as well as contracts for mandatory insurance of civil liability of motor vehicle owners.

To improve tariffs for risks as insurance contracts are signed for the Concern's civil liability in case of nuclear damage, and risks reinsured in international nuclear insurance pools, international insurance inspections visited and examined the power units in Leningrad, Novovoronezh and Beloyarsk NPPs.

After international insurance inspections, the Concern's risks in nuclear damages were reinsured with major international nuclear insurance pools.

The Concern's main production assets are insured against fire, and by asset groups with liability "for all risks", typical for each specific group, with minimum exceptions. In 2011, an amount of 134.9 mln rubles was collected in insurance compensations under asset insurance contracts.

A program of integrated insurance protection of the Concern for 2012 is effective.

The action plan agreed with ROSATOM for development of the risk management system in the Concern in 2012 envisages further efforts to build the corporate structure and risk management processes, and further integration of the CRMS with planning and decision-making processes (including under mid-term program for 2012–2016, budget planning for 2013, etc.), identifying new risks and updating persistent risks, monitoring and assessment of potential impact by the risks on the Concern's key performance indicators; and control of preparing and implementing activities to prevent and minimise risks.

4.6. QUALITY MANAGEMENT

The main priority is to ensure nuclear and radiation safety of all nuclear plants used and built by the Rosenergoatom.

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

The results of activities during 2011 were:

- organised and conducted assessment and certification audits of the Concern's QAS, by certification bodies of ANO Atomsertifika and TUV Thuringen e.V. ANO Atomsertifika concluded the certification procedure by issuing compliance certificate that confirmed compliance of the Concern's QAS (No. ROSS RU.0001.01AE00.77.11.0030). The certificate's scope of application covers Balakovo NPP, Novovoronezh NPP-1, Novovoronezh NPP-2, Leningrad NPP, Smolensk NPP, Kalinin NPP, Design Branch Company, and the Concern's central administration. TUV Thuringen e.V. concluded the certification system, and it will issue the certificate in 2012;
- ten inspections of equipment manufacturers, two inspections of incoming equipment control organisation at the Concern's nuclear plants, and two inspections of construction quality at NPPs, by general contractors;
- scheduled reviews to assess efficiency of activities at NPQAP (O) and NPQAP (E), Bilibino NPP, Rostov NPP (NPQAP – Nuclear Plant Quality Assurance Programme);
- 22 draft operator's requirement specifications prepared (ORS) for main product range groups of NPP equipment, draft specifications for manufacturers that make equipment for NPPs.

Main plans for quality management in 2012:

- extend the scope of certificates by TUV Thuringen e.V. and ANO Atomsertifika to all Branch Companies of the Concern;
- through improved work with authorised organizations, and implementation of ORS in bidding procedures, achieve substantial (over 75%) increase in successful pass rates on first presentation during incoming control of manufactured equipment at nuclear plants;
- conduct at least 12 inspections of manufacturers of equipment vital for NPP safety, and at least three inspections of organisation of incoming control of equipment at the Concern's nuclear plants, at least three inspections of authorised organizations for compliance with the operator's requirements to equipment compliance assessment procedures;
- analyse the procedures, develop and enact a standard regulation on incoming control of materials and equipment, at both active nuclear plants, and at ones under construction.

4.7. INTERNAL CONTROL AND AUDIT

Improving the Concern's internal control system built into the industry's vertically integrated one is an objective of paramount importance for the development of the nuclear power generation complex. Activities by the Department of Internal Control and Audits in 2011 enhanced activities to minimise non-compliance, lowered risks, and improved financial discipline at objects of control.

In 2011, the Company addressed critical tasks, including:

- expanding the control scope through audits and reviews of accounting and managerial processes;
- adopting new forms and methods for control activities;
- ensuring timely detection of causes underlying serious departures and latent losses in resources;
- post-control monitoring, with individuals responsible for non-compliance identified and subjected to disciplinary penalties;
- enforcing main provisions of the Comprehensive program to combat theft and fraud within ROSATOM and organizations within its scope of management (2010-2011).

Inspections were used under the Comprehensive program to combat theft and fraud within ROSATOM, responding to reports received over a hot line.

With Senior Auditors – internal controllers of active nuclear plants – 78 control activities were conducted in the following directions:

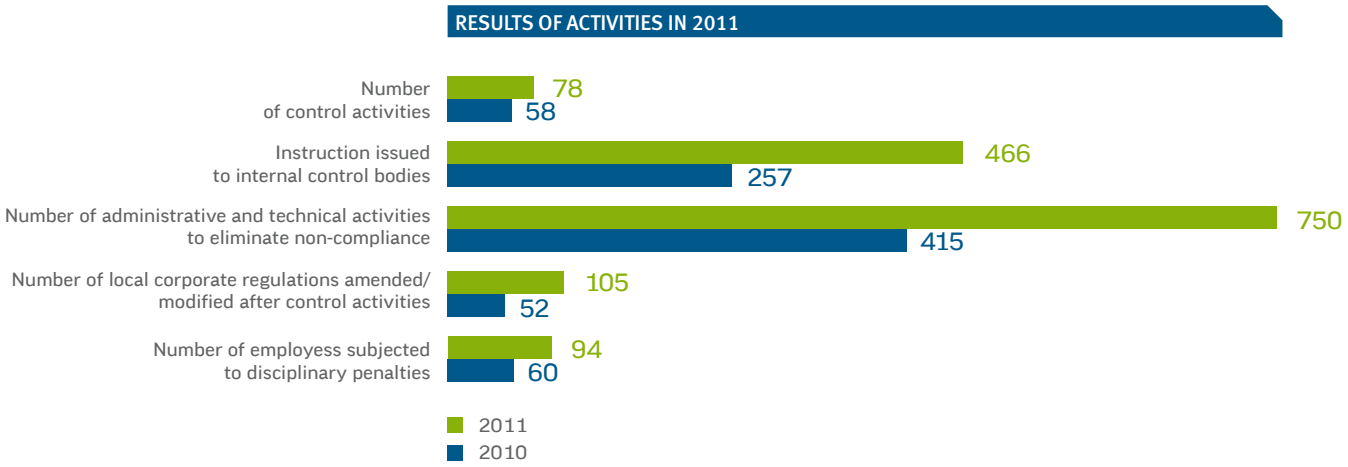
- legal and substantial financial operations and managerial decisions;
- use of reserve funds to decommission nuclear plants;
- enforcement of decisions by the government's controlling and supervisory agencies;
- incoming quality control of equipment delivered to nuclear plants;
- R&D;
- purchasing activities;
- financial asset accounting, and situation with accounts receivable;
- audit of the internal control system for financial statements;
- audit of corporate regulations, including anti-corruption review by experts.

The following were adopted as guidance: Policy on internal control of ROSATOM and its constituents; procedure to plan and conduct internal audits of business processes in ROSATOM and its constituents; structure of process group "Internal Control and Internal Audit".

PLANS FOR THE FUTURE

Within the functional strategy of the "Internal Control and Internal Audit" group during 2012–2013, the Company is going to address issues of methodology and functionality (administrative and HR), at every level of the Concern's hierarchy in internal control and auditing: the central administration, its Branch Companies, subsidiaries, and controlled entities.

The following were named as key tasks for 2012: control of efficient use of resources, identifying and analysing risks that may have a material adverse impact on achievement of the goals of the Concern and its Branch Companies, in financial, business, and managerial activities, as well as analysis of the internal control system in individual structural units of the central administration of the Concern's, its Branch Companies, subsidiaries, and controlled entities.



4.8. PROCUREMENT MANAGEMENT

The Rosenergoatom conducts purchasing in conformity with ROSATOM's Uniform Industry-Level Procurement Standard, which regulates relations related to purchases for the needs of ROSATOM, in order to ensure efficient use of funds, openness, transparency of placed orders, and the required safety level in operation of nuclear industry facilities.

To optimise and improve efficiency of the mechanisms used to purchase products, works, and services, as instructed in Executive Order to ROSATOM No. 434 of June 01, 2010 "System of Permitting Instances for Procurement Activities in the Nuclear Industry", the Concern has formed a Standing Procurement Panel, vested with the function of a collegiate authorising body that determines a uniform policy and organises purchasing in the Concern, its Branch Companies, and subsidiaries.

To conform with the Uniform Industry-Level Procurement Standard of ROSATOM, the Concern has written and enacted administrative documents that regulate procurement activities and the procedure of interaction between the head office, Branch Companies, subsidiaries and affiliates.

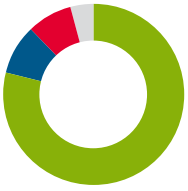
In 2011, procurement activities were regulated with the following Executive Orders to enforce the Uniform Industry-Level Procurement Standard ROSATOM:

- No. 1205 of November 13, 2009 "Adoption of Uniform Industry-Level Procurement Standard";
- No. 999 of August 03, 2010 "Forming a Standing Procurement Panel at Rosenergoatom Concern OJSC";
- No. 1284 of September 30, 2010 "Effect of the Uniform Industry-Level Purchasing Standard of ROSATOM State Corporation";
- No. 9/984-P of September 08, 2011 "Modifications to Rosenergoatom Concern OJSC Executive Order No. 1295 of September 30, 2010".

Information on all current procurement procedures (except from the Sole Supplier, and purchases containing information that constitutes a state secret) is openly published on the procurement website of ROSATOM – zakupki.rosatom.ru, thus enabling a wide range of parties to join bidding procedures.

The Uniform Industry-Level Procurement Standard is designed to promote fair-play competition, and assumes no preference for local suppliers. Analysis of purchasing procedures during in 2011 shows that the proportion of purchases for active NPPs from local suppliers varied, and averaged about 21% of total purchases by Branch Companies.

PURCHASE DISTRIBUTION BY TRANSACTION TYPE



79% Open procedures
9% Obviously superior supplier
8% Supply monopoly
4% Closed procedures

For example, Rostov NPP purchased 32% of products, works, and services from local suppliers. This included mainly maintenance and servicing, transportation (OOO Volgodonsk NPP-Service), upgrade of objects and systems (OOO Avtokomplekt), repairs and installation, spare parts and components (OAO Yugelektro, OOO Installation Department No. 4 of Elektrosevkavmontazh Corporation), and furniture, hardware, and peripherals (OOO Russky Stil Stroy, OOO Vector).

Total purchases from local suppliers by Leningrad NPP in 2011 amounted to 16%, Mainly: repairs, construction, and installation (OAO Severnoye Upravleniye Stroitelstva, ZAO Speckhimmontazh, OAO Construction Installation Department No. 90, OAO Sosnovborelektromontazh), supply of uninterrupted power sources, compensators (ZAO Astiag), automotive services (OOO Leningrad NPP-Avto), and reinforced concrete structures (OOO Titanspeckont).

2011 results:

In 2011, entities regulated in their purchasing by the Concern's Standing Procurement Panel held 16,917 purchasing procedures for total of 370,153 mln rubles.

20,429 mln rubles

economic effect from competitive procurement procedures

Key performance indicators in procurement:
- transparency – 90%;
- proportion of purchases at digital exchanges – 34%.

An economic effect from competitive procurement procedures, found as the difference between the starting (lowest) price and the winner's price in the final protocol (under ROSATOM Executive Order No. 418 of May 26, 2010, "Preparing Annual Procurement Program for Structural Units, Subordinate Entities, Companies of ROSATOM, and their Subsidiaries and Affiliates"), amounted to 20,429 mln rubles, or 7% of the total value purchased through tenders.

34%

proportion of purchases at digital exchanges

PLANS FOR THE FUTURE

At present, long-term planning is underway to improve procurement efficiency. At its meeting, the Concern's budgeting subcommittee approved the concept for planning and bidding procedures, for long-term contracts in 2011–2015. The operator's requirement specifications are scheduled to be approved for one-design equipment in 22 product range groups.

At the same time, for better procurement efficiency, work is done to use larger lot values. The respective KPI has been added to the KPI certificates of the head officers in purchasing centers established in the Concern's Branch Companies.

The target for open procurement procedures for 2012 is 80%, with the planned share of purchases through digital sites being 60%. The 2012 annual purchasing program is posted openly on the official procurement website of ROSATOM.

4.9. INFORMATION TECHNOLOGIES

In 2011, IT development in the Rosenergoatom was aimed at activities under the projects of the Program for transforming the financial and economic unit and IT within ROSATOM and to ensure stable functioning of active IT systems, systems of communication and information security.

In 2011, implementation of the following key projects continued::

- design and implementation of a one-design solution for base functionality in corporate resource management based on the effective KIS solution;
- replicating a one-design HR management solution to manage the Company and its branches of second-level financial responsibility centers;
- design and implementation of a HR management master system for production companies;
- design and implementation of a real-time operation planning and management system;
- adoption of the Uniform Industry-Level System of Electronic Document Flow (UISEDF);
- design and implementation of a solution for Uniform Industry-Level System to manage regulatory and reference information in enterprises of the nuclear power complex;
- improving methods to control and assess the technical condition of the reactor core components;
- building a database on the reliability of NPPs with RBMK-1000 reactors;
- design and implementation of an automated metrology service at NPPs;
- building an information portal and providing diverse services to the Concern units;
- ensuring information security in IT systems;
- building IT infrastructure and communication systems.

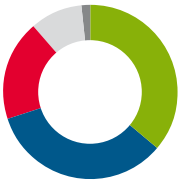
The Concern's IT systems are implemented based on the most advanced methods and technologies, software platforms from world-renowned providers: SAP, EMC Documentum, SAS, Primavera – all leaders in IT system development.

The base is the SAP platform, used to realise the following industry-oriented IT systems:

- corporate resource management (financing, purchases, business and tax accounting, contract management, maintenance and repairs, and event management);
- supplier relations management system (annual purchasing program keeping, bidding management, etc.);
- automated HR management system (base functionality, and personnel efficiency control);
- corporate asset management system for centrally controlled processes;
- unified industry-level system to control regulatory and reference information.

In 2011, the Company standardised business processes realised in IT systems, and implemented the systems in the Concern's HQ, at Leningrad NPP and Balakovo NPP (pilot cases for IT deployment).

NUMBER OF USERS IN THE INFORMATION SYSTEM



36.2% Corporate resource management system
33.8% HR management system (personnel efficiency management)
18.7% Supplier relations management system
9.8% HR management system (base functionality)
1.5% Corporate asset management system

KEY DIRECTIONS IN IT FOR 2012

To ensure stable and reliable operation of nuclear plants, financial transparency and efficient services in high-tech business, and accelerated innovation, these key directions are planned for 2012:

- structuring and standardisation of all IT activities;
- creating an integral IT space within the Concern as a component of the industry's integral IT space. The amount of information that circulates in the Concern and links it to other entities is ever-growing, resulting in multiple issues of information flow control, including its storage, security, and rapid access;
- phased transition to an integral IT infrastructure (in a broad sense this includes both server and telecom sets, and applications used by the function client);
- continuing efforts to implement the projects under the Program for transformation financial and economic unit and IT in ROSATOM, as regards replication of projects in CRM, HRM, and document flow management;
- developing and deployment of integrated real-time planning and production management, system to production and operation facilities support, engineering data management systems, both for power units operation processes and decommissioning processes.

Another important IT direction is the preservation and building up of the Concern's competencies and independence in terms of IT. This becomes even more important if one considers the limited access to expert data for nuclear plants. Hundreds of IT specialists at nuclear plants today have to support local systems that have no future under ROSATOM's transformation program. Many of those specialists have unique skills, and the Concern intends to offer them a clear program to keep them employed and involved in projects that match their competencies. Here, the most efficient method is to rely on competence centers in the activities required immediately at the nuclear power plants.

FINANCIAL SITUATION AND PERFORMANCE

5

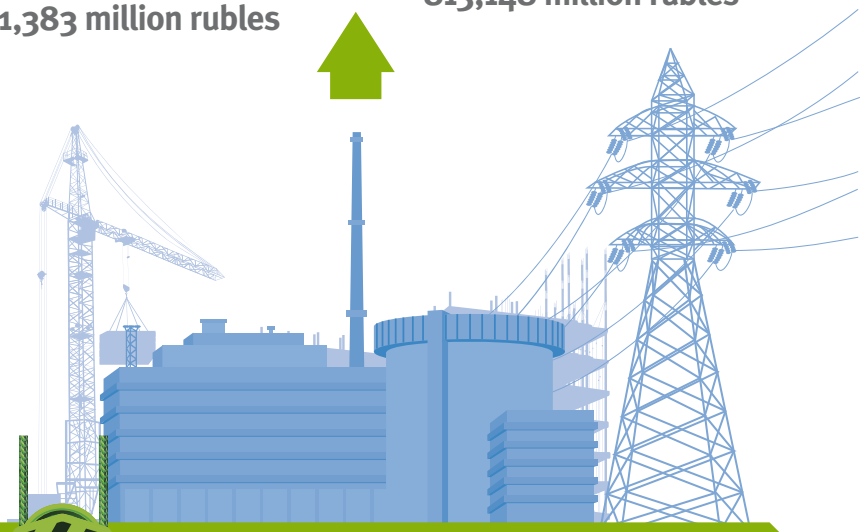
FINANCIAL RESULTS

+9.3%

more RAS revenues compared to 2009, revenues amount to 201,383 million rubles

+19.7%

more net assets compared to 2010, net assets were 813,148 million rubles



CONSTRUCTION AND UPGRADING

Investment projects to build power units, including construction of floating nuclear thermal plants, are main directions for investments.

INVESTMENT STRUCTURE IN 2011 (BILLION RUBLES)

- **148.5** projects to build power units for nuclear plants
- **32.1** other projects and activities
- **19.1** repayment of borrowed funds
- **13.3** SLE projects (service life extension)
- **8.7** RAW projects (radioactive waste)

Investments

220.9 billion rubles

actual value of the 2011 Investment Program

99.7%

of target – actual funds used as capital investments

ACTUAL TARGET TO FACT RATIO FOR FUNDS USED AS CAPITAL INVESTMENTS

2011	99.7 %
2010	92.1 %
2009	95.5 %

5.1. KEY FINANCIAL PERFORMANCE FIGURES

Revenue by Russian Accounting Standards (RAS) from the Corporation's sold products in 2011 was 201,383 mln rubles, or 9.3% more than in 2009.

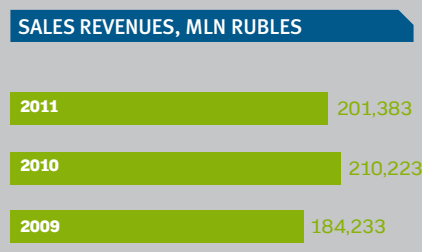
Lower revenues – down 4.2% compared to 2010 – are mainly explained by increased debts for electric energy – an increase of more than 5,688 mln rubles (including 2,500 mln rubles from JSC Financial Settling Center), the changed procedure of power sale (since January 01, 2011, under the now effective rules for electricity and power wholesale market enacted by Federal Government's Resolution No. 1172 of December 27, 2010, state that nuclear plant power is sold at negotiable prices that are now lower than the regulated price of nuclear plant power during 2010), a change in the free pricing mechanism for electricity on the day market that caused a drop in the price of electricity (since January 01, 2011, under the now effective rules for electricity and power wholesale market enacted by Federal Government's Resolution No. 1172 of December 27, 2010, state that suppliers' price quotations on the day market are built based on the volume of production minimum power; prior to that, price quotations were only based on technical minimum power).

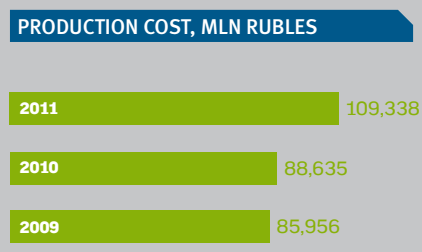
Cost dynamics (23% growth by 2010) were influenced by the following factors:

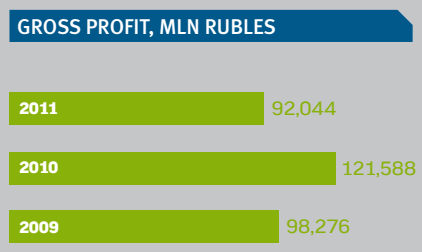
- higher material costs caused by higher costs of materials and inventory, including more spent on fuel due to higher prices of fuel assemblies and rescheduled fuel campaign, production-related services, services of infrastructure providers, following tariff increases;
- more depreciation paid now on newly commissioned fixed assets (Rostov NPP, Kalinin NPP);
- higher labour costs, following adoption of the Uniform Remuneration System;
- higher costs of insurance due to changed insurance rates (26 to 34%).

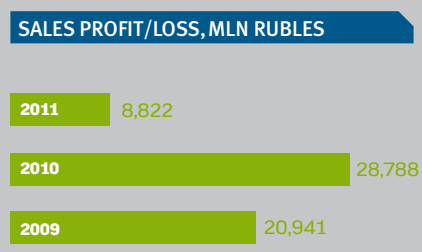
Total administrative costs of 83,204 mln rubles include provisions for capital investments under Federal Government Decree No. 68 of January 30, 2002.

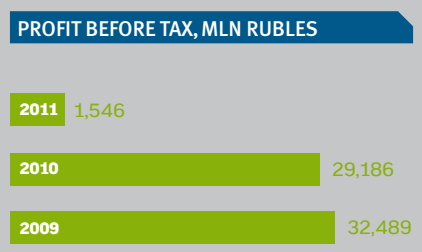
Key Financial Performance Figures: Indicators and Facts

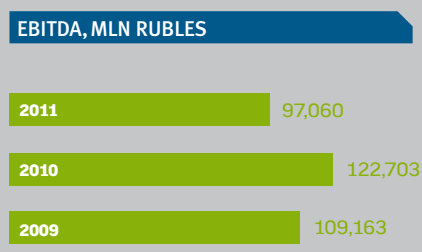








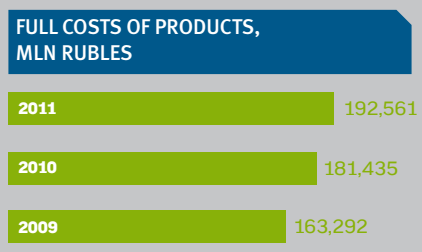


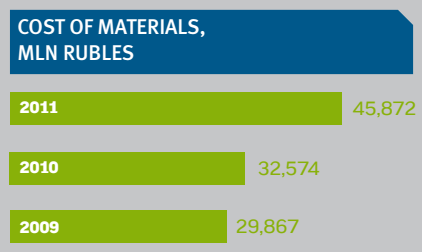


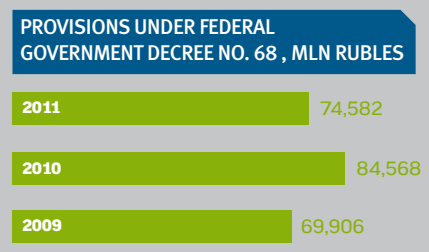
KEY FINANCIAL AND BUSINESS PERFORMANCE INDICATORS OF THE CONCERN BY RAS, MLN RUBLES

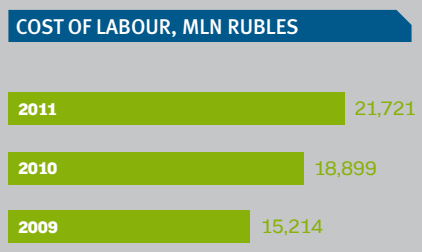
Ratio	2009	2010	2011	2011/2010, %
Sales revenues	184,232.80	210,222.70	201,382.89	95.80%
Production cost	85,956.48	88,634.80	109,338.46	123.36%
Gross profit	98,276.32	121,587.90	92,044.43	75.70%
Administrative and business costs	77,335.67	92,799.84	83,222.89	89.68%
Sales profit/loss	20,940.65	28,788.07	8,821.54	30.64%
Other incomes and expenses (balance)	11,548.85	398,175	–7,277.00	–1,827.59%
Profit before tax	32,489.50	29,186.24	1,544.54	5.29%
EBITDA	109,162.96	122,703.05	97,060.08	75.45%
Profit tax	4,968.34	6,953.57	3,736.47	53.73%
Other payables	–285,886	–488,224	–721,532	147.79%
Net profit	27,235.28	21,744.44	–2,913.45	–13.40%

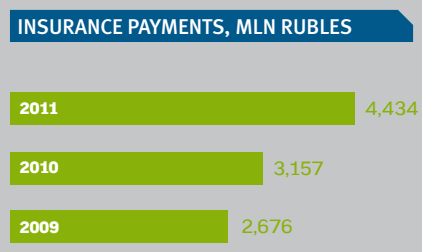
Key Financial Performance Figures: Indicators and Facts

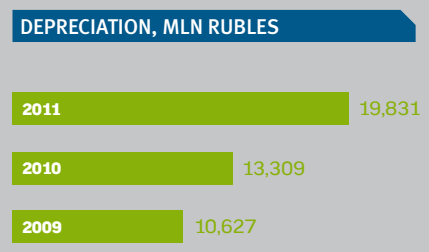












FULL COST OF PRODUCTS, WORKS AND SERVICES, MLN RUBLES

Ratio	2009	2010	2011	2011/2010, %
Total	163,292.15	181,434.63	192,561.35	106.13%
Cost of materials	29,867.10	32,574.28	45,872.35	140.82%
incl. Nuclear fuel	18,459.72	20,885.29	23,059.88	110.41%
Cost of labour	15,214.06	18,898.69	21,721.40	114.94%
Insurance payments	2,676.08	3,157.29	4,434.01	140.44%
Depreciation	10,627.32	13,309.30	19,831.01	149.00%
Provisions under Federal Government Decree No. 68 of January 30, 2002	69,905.58	84,567.75	74,582.46	88.19%
Other expenditures	35,002.01	35,241.90	26,120.12	74.12%

CASH FLOW RATIOS

Ratio	2010	2011
Cash balance at beginning of the year	5.0	0.9
Net increment (decrement) of cash in current operations	93.9	79.3
Net increment (decrement) of cash in investment activities	–137.3	–209.3
Net increment (decrement) of cash in financial activities	39.4	134.2
Total net increment (decrement) of cash	–4.0	+4.2
Value of differing currency exchange rate to the ruble	–2.3	1.3
Cash balance at year end	0.9	5.2

30%

assets increasing of the Concern

ASSET STRUCTURE

After 2011, the Concern's assets increased by 30%. Such growth in assets is explained by higher value of non-current assets (32% growth), and current assets (14% growth).

Increase in non-current assets was caused by higher book value of fixed assets (189,664 mln rubles up) (including capital investments in fixed assets, 113,138 mln rubles up), advance payments to suppliers and contractors in capital construction (55,029 mln rubles up); all this is evidence of considerable funds that the Concern has been investing in its fixed assets.

Growth of current assets by 11,306 mln rubles occurred after short-term receivables in settlements with buyers and clients rose by 10,524 mln rubles, while cash and equivalents rose by 4,291 mln rubles.

Growth of financial investments, which was 6,995 mln rubles, was the result of increment in long-term financial investments by 18,140 mln rubles, while short-term financial investments decreased by 11,146 mln rubles.

Long-term financial investments were caused by holdings in subsidiaries and affiliates. In 2011, Rosenergoatom increased its holding in the registered capital of Akkuyu Power Plant Electric Production Company, from 31.34 to 92.85% after it purchased eight million six hundred thousand (8,600,000) shares in the project company's additional issue, and became the stockholder of the project company that is building Akkuyu NPP (Turkey), established as a corporation.

Decrease in short-term financial investments occurred after loans previously issued by Atomenergoprom JSC were repaid in conformity with the Concern's financial policy.

STRUCTURE OF CAPITAL

The value of the Concern's assets at the end of the reporting period was 964,734 mln rubles, or 223,185 mln rubles more than at the period's beginning.

This growth in asset value was the result of the additional issue of the Concern's securities placed with the Sole Stockholder (Atomenergoprom JSC) for 68,496,524,000 rubles, and created 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 Reserves 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 84% (811,221 mln rubles).

The liability side in the balance sheet of Rosenergoatom during 2011 grew following increases in both equity by 20% (133,670 mln rubles) after the registered capital was increased, and created debts by 43 899 mln rubles as more borrowed funds were used.

The main components of the Concern's capital and provisions were:

- registered capital: increase of 68,496 mln rubles (14.8%) after the previous year;
- reserve capital: growth by 45,630 mln rubles (36.4%), including provisions created under Federal Government Decree No. 68 of January 30, 2002 growth by 44,543 mln rubles (35.7%);
- retained profit: growth by 19,543 mln rubles.

Increment of borrowed funds was caused by investment financing under the Concern's Consolidated Investment Program for 2011.

CASH FLOW INDICATORS

In 2011, cash was used to maintain operations at the current production level, and to expand the scope of business.

FINANCIAL INDICATORS

Net assets at the end of 2011 were 813,148 mln rubles (19.7% growth compared to 2010), or 53.4% above the registered capital. This is a positive characteristic of the financial situation, and indicates compliance with regulatory requirements to net asset value. Considering that net asset value is 283.1 billion rubles more than the registered capital, and also increased during the reporting period, this gives ground to suggest that the Concern's financial situation is well and sound.

The fixed-term liquidity ratio (representing the part of liabilities that can be repaid from the most liquid assets) decreased in 2011 by 51% due to increased short-term accounts receivable and cash, lower short-term financial investment, and substantial growth in accounts payable.

The current liquidity ratio (representing the part of liabilities in loans and credits that can be repaid with all current assets) decreased by 37%, due to growing stock in the current asset structure, and considerable growth of short-term liabilities.

The absolute liquidity ratio (representing the part of liabilities that can be repaid instantly with cash) decreased significantly, also as the result of lower short-term financial investments and a notable increase in short-term liabilities.

In 2011, inventory days decreased slightly after electricity sales costs rose. Days of receivables from buyers and clients rose from 50 to 68 – this means that it took longer to collect receivable amounts. Days of payables to suppliers and contractors remained practically unchanged.

INTERNAL CONTROL SYSTEM FOR FINANCIAL REPORTING

Rosenergoatom adopted a policy to create and enforce an internal control system for financial reports. Every year based on action plans, work is done to improve the internal control system. In 2011, the Company updated control procedure matrixes as the HQ transitioned to SAP in such processes as "Banking Transaction Accounting", "Tax Liability Accounting", "Product Sales Accounting", "Accounting of Purchased and Provided Works and Services". Work was done to examine control procedures in the Branch Companies, in business processes "Accounting of Transactions with Non-Current Assets", "Accounting of Inventory Transactions", "Accounting of Financial Investments", "Production Cost Generation". The HQ and Branch Companies (Kalinin NPP and Smolensk NPP) participated in selective efficiency evaluation of the internal control system for financial reports.

BUDGETING

To achieve KPI, the Concern uses a systematic approach to cost planning and accounting.

Every year, to ensure that the Concern's production program is fulfilled and to guarantee financing for priority directions and the development of production and business, the practice is to prepare income and expense estimates and cash flow budgets by activities within the Concern's structural units and the Concern as a whole; these become fundamental documents underlying fund spending in the Concern and its Branch Companies for the planned period.

Budgeting in the Concern is a short-term planning process (one year planning horizon with breakdown by quarters) and ongoing cash flow planning (one month as planning horizon). Products of the budgeting processes are approved budgets, estimates, and KPI targets.

The budgeting process is governed by ROSATOM's approved corporate standards that are enacted by Executive Orders to the Concern.

By a directive, ROSATOM on a quarterly basis approves a consolidation perimeter within which the Concern is regarded as consolidation group one, which builds a complete budget model.

The Board of Directors approved the Concern's budget and its financial and business targets for 2011, and the Concern's indicators as financial management center of level two: "Electric Energy".

As part of estimate planning, target indicators in the Concern's approved budget are decomposed down to the level of individual nuclear plants.

Spending is strictly within the limits communicated to the structural units, in accordance with approved consolidated income/expense estimates for production and sales, and cash flow budgets.

Production and sales estimates can be adjusted using the Concern's Production and Sales Estimate Adjustment Procedure.

Every month, expenses and payments in structural units of the Concern's HQ and Branch Company are controlled, with analysis of cash flow budget by months and consolidated estimate by quarters, identifying causes of departures of actual costs from targets to enable optimization; cost reserves are identified and used.

Approved income and expense estimates for production ensure achievement of target parameters in the Concern as a whole.

COST MANAGEMENT

In 2011, instructions from the Federal Government as regards cost reduction were two-fold:

- reducing specific operating costs by 2.5% annually from 2006 levels, under Federal Government Decree No. 705 of September 20, 2009;
- ensuring achievement of targets assigned by the Federal Government to cut assumed fixed costs.

The required reduction in assumed fixed costs was considered in the Concern's approved 2011 budget, and consequently in approved income and expense estimates for Branch Companies of Rosenergoatom – its active nuclear plants.

Key indicators stated in KPI charts for Company General Directors as a cost cutting measure were EBITDA and "Assumed fixed costs". Achieved indicators are projected to all Deputy General Directors in the Concern. Indicator "Achieved Estimate Limit in Activity-Specific Expenses" was added at the level of Branch Company Directors in 2011.

Achieving the target of lower specific operating costs helped the Concern in 2011 to lower its production costs by 627 mln rubles in comparable circumstances.

In 2006–2011, the Concern reduced production costs by more than 2.09 billion rubles in comparable prices.

The Concern was able to implement its program of fixed cost reduction in 2011 by ensuring that spending remains strictly within approved limits, as stated in budgets and consolidated estimates of incomes and expenses for production and sales. Expense control was practiced monthly; plan-to-fact analysis was used on a quarterly basis.

ECONOMICS AND FINANCIAL INDICATORS, REVENUE MODIFIERS RELATED TO MARKET SPECIFICS

Sales Revenues

The Concern's actual revenues from sales of products (works, services) in 2011 was 201,383 mln rubles, including:

- sale of electric energy: 198,788 mln rubles;
- sale thermal energy: 1,006 mln rubles;
- sale of other products: 1,385 mln rubles;
- sale of products, works, and services by auxiliary units: 204 mln rubles.

According to business accounting, the Concern's actual revenues on the EPWM in 2011, including Bilibino NPP and direct contracts, was 198,788.2 mln rubles, with own products sales (197,499.8 mln rubles) and reselling revenues (1,288.4 mln rubles). The Concern's target revenue, including Bilibino NPP in 2011, according to the sales budget, was 193,986 mln rubles. The target only included sales revenues from own products, in case of electricity against exported (not generated) electricity.

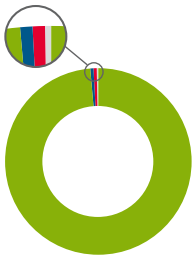
The overall difference between actual and target was +4,750.7 mln rubles or +2.5%.

The main factor underlying the positive difference between actual and target revenues was that since 2011, EPWM regulations changed with regards to accounting of electricity sold and that purchased for own needs of power plants; under the new regulation starting from 2011, what is sold on the market is generated, not exported electricity; and electricity used for power plants' own needs cannot be totaled with generated power, but fully purchased. This change to the EPWM regulations took place after the 2011 income and expense planning processes was over, and therefore this change did not find a way into the plan. This caused changes in the procedure of income and expense accounting, readjustment of own product sale revenues (+7,217.3 mln rubles) and reselling revenues (–7,217.3 mln rubles) after nine months in 2011. Due to changed EPWM regulations, the actual total of sold electricity increased compared to target, and caused revenue growth. Above-target generation of electricity, sold at a free market price, was another influence on actual revenue.

Key factors that negatively affected actual revenues of sold electricity (power) were:

- unscheduled repairs;
- power unit downtime during repairs;
- grid dispatcher restrictions of 1,462.4 mln kWh, or 0.85% of balance-sheet electricity generation, resulting in 1,038.4 mln rubles of lost revenues;
- the difference between actual parameters and ones stated in budget revenue estimates: price on the free market of electric energy (actual 909 rubles/MWh, target 945 rubles/MWh, change – 4%) and capacity (impact of index records in Q1 and April, impact by component price change on capacity).

STRUCTURE OF THE CONCERN'S ACTUAL REVENUES FROM SOLD ELECTRICITY (POWER) ON BUSINESS ACCOUNTS



98.7% **198,788 mln rubles** – revenue from sold electricity (power) on business accounts

0.5% **1,006 mln rubles** – revenue from sold thermal energy

0.7% **1,385 mln rubles** – revenue from sold other products

0.1% **204 mln rubles** – revenue from sold products, works and services by auxiliary units

Expenditures. Financial Results

The value of products, works, and services sold in 2011 was 109,338 mln rubles.

Administrative costs amounted to 83,204 mln rubles, including 74,582 mln rubles as deductions to build provisions to ensure safety of nuclear plants at all stages of the life cycle and development (under Federal Government Decree No. 68 of January 30, 2002).

After 2011 results, the profit from core operations was 8,821 mln rubles from sales. Sales ROE in 2011 was 4.4% compared to 13.7% of the same period of previous year. Lower ROE is explained by leading growth rates of actual production costs and sales costs (123.3% against the same period of the previous year) above growth rates of actual revenues from sold products (works, services) (95.8% against the same period of the previous year), which was caused by the enacted "Rules of Electricity and Power Wholesale Market" and changes to certain Federal Acts related to functioning of the wholesale market of electricity and power, approved by Federal Government Decree No. 1172 of December 27, 2010.

Even though profile operations resulted in profits, on the whole, business and financing activities of 2011 gave a negative financial result of 2,913 mln rubles. This was caused by substantial increase in other expenses, mostly in item "Raising Financial Investments to Current Market Value" (stock of INTER RAO UES (JSC) revaluated), created provisions for bad debts, and accounting policy changes as regards current expenses, approved by the Sole Stockholder's resolution.

COST STRUCTURE

Indicators	Value, mln rubles
Electric energy	106,607
Thermal energy	1,012
Other products	1,271
Products, works and services by auxiliary units	448

EBITDA

The EBITDA target for 2011 was approved at 101.9 billion rubles; actual was 97.1 billion rubles, or 95.2% of target, and 79.1% of the 2010 figure.

Considering the objective nature of factors that impacted the actual EBITDA, the Supervisory Council of ROSATOM State Corporation adjusted the EBITDA target for Rosenergoatom down to 94.8 billion rubles.

Therefore, actual 2011 results operations were 2.3 billion rubles above the target assigned by the Supervisory Council of ROSATOM.

The primary causes of a lower EBITDA compared to the target were:

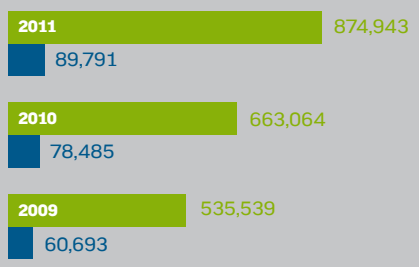
- lower revenues from sold own products following decrease in both regulated tariffs and prices on the free market of electricity, by 6.4 billion rubles;
- higher other expenses within EBITDA, due to created bad debts provision, and because by the Sole Stockholder's decision, 4 billion rubles of current corporate-level costs were now considered, although previously they were recognised on Account 84 "Retained Profit".

Key Financial Performance Figures: Indicators and Facts

LIQUIDITY RATIOS

Ratio	Standard	as of 31.12.2010	as of 31.12.2011
Current liquidity ratio	1<k≤2–2.5	1.82	1.25
Fixed-term liquidity ratio (quick ratio)	0.3 ÷ 0.8	0.59	0.30
Absolute liquidity ratio	0.1 ÷ 0.5	0.31	0.1

ASSET STRUCTURE, MLN RUBLES



DAYS OF TURNOVER

Item	2010	2011
Inventory days	150	146
Receivable days	50	68
Payable days	138	137

STRUCTURE OF THE CONCERN'S ACTUAL REVENUES FROM SOLD ELECTRICITY (POWER) ON BUSINESS ACCOUNTS, MLN RUBLES (VAT EXCL.)

TOTAL REVENUE FROM SOLD ELECTRICITY (POWER) ON BUSINESS ACCOUNTS	**198,788.2**
incl.:	
Revenue of sold own product	197,499.8
incl.:	
Bilibino NPP	1,596.4
OAO Atomenergosbyt	71.4
OAO VAES	4.0
regulated contracts (electricity)	5,780.7
regulated contracts (power)	17,370.2
day-ahead market	130,177.6
free two-party contracts	288.3
balanced market	170.6
contracts signed by new nuclear plants (capacity)	4,420.5
capacity under contracts of competitive capacity selection	37,620.1
Reselling revenues	1,288.4
incl.:	
day-ahead market	618.9
balanced market	669.5

5.2. INVESTMENT ACTIVITIES

The Rosenergoatom's investment activities through capital investments sought to implement the Long-Term (2009–2015) Program of ROSATOM, 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 ROSATOM, Atomenergoprom, and Rosenergoatom.

For better investment planning and more efficient monitoring of investment projects, the Concern commissioned a campaign to adapt the main tools of the integral investment policy of ROSATOM. The tools in questions include the Investment Committee as a collegiate body of investment-related decision-making, and the Investment Memorandum that underlies economic and financial planning. In addition, certificates are issued for investment projects included in the Concern's Investment program.

The Concern's investment activities were financed from the Concern's own funds, from assets contributed by ROSATOM, and when necessary, with loaned resources. The Concern's 2011 Investment program was officially coordinated with the Ministry of Energy of the Russian Federation for a total value of 221,671.0 mln rubles.

201,778.4
mln rubles

total value of the Concern's 2011 Investment program

99.7%
actual capital investment in 2011

Key investment areas for the reporting year included:

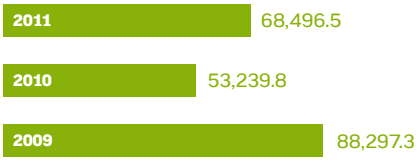
- investment projects to build NPP power units, including construction of floating nuclear co-generation plants (76% of total investment);
- projects and activities at operating nuclear power units: investment projects to extend the life of generation I and II power units, "Ensuring Safe And Stable Operation of Existing Nuclear Power Units", Program to increase electricity generation at existing NPP power units of Rosenergoatom, Program to increase the capacity factor of operating NPPs (15% of total investment);
- investment projects at facilities aimed at handling irradiated nuclear fuel and radioactive waste (5% of total investment);
- other investment projects and activities: care and maintenance of facilities, research and development, technical regulatory documents, and other pre-project activities (4% of total investment).

An actual capital investment during 2009–2011 amounted to 95.5%, 92.1%, and 99.7% of the annual target, respectively.

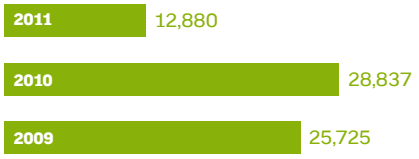
The table below describes actual execution of the Concern's investment programs by activity areas over the three recent ears.

Total investments to fixed capital in 2011 under the Investment program reached 201,778.4 mln rubles, including 191,700.2 mln rubles as capital investments to production facilities.

PROPERTY CONTRIBUTIONS BY ROSATOM, MLN RUBLES

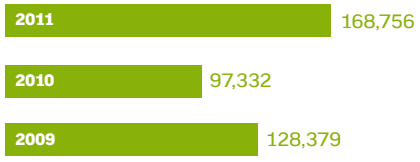


INVESTMENT PROJECTS TO EXTEND THE OPERATING LIFE OF GENERATION I AND II POWER UNITS, MLN RUBLES

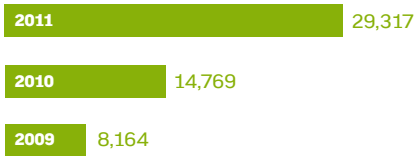


INVESTMENT PROJECTS AT FACILITIES FOR HANDLING IRRADIATED NUCLEAR FUEL AND RADIOACTIVE WASTE, MLN RUBLES

INVESTMENT PROJECTS TO BUILD NPP POWER UNITS, MLN RUBLES



OTHER INVESTMENT PROJECTS AND ACTIVITIES, MLN RUBLES



INVESTMENTS BY ACTIVITIES, MLN RUBLES (VAT EXCL.)

Description of activity	Total funds used		
	2009	2010	2011
Investment projects to extend the operating life of generation I and II power units	25,725.4	28,837.1	12,880.4
Investment projects at facilities for handling irradiated nuclear fuel and radioactive waste	9,232.8	9,443.4	9,965.5
Investment projects to build NPP power units	128,379.5	97,331.8	168,755.6
Other investment projects and activities (care and maintenance, R&D, technical regulatory documents, justification of safe and stable operation of existing units, capacity factor), incl.:	8,163.9	14,769.3	29,317.5
Program "Ensuring safe and stable operation of active power units"	4,495.4	6,124.8	18,943.4
TOTAL	**171,501.7**	**150,381.6**	**220,918.9**

SUSTAINABLE DEVELOPMENT

6

Creating skilled jobs

34,617
employed by the Concern in 2011

119 hours
of training per employee annually

9,000 individuals
to be hired for power unit
to be built in the coming decade

Labor protection

0.21
accident rate

8.0
injury rate

Active social policy

2.9 billion rubles
used in social spending during 2011

double per employee compared to the industry average

972 million rubles
invested in rehabilitation and recovery activities

SUSTAINABLE DEVELOPMENT

such that meets the need of the day but does not endanger future generations' ability to meet their respective needs.

Minimized environmental impact

Under 0.01%
share of NPPs in total atmospheric pollution by all Russian businesses for many years

- 30% reduction in generated industrial and consumption waste.
- 15% reduction in fees for negative impact on the natural environment.

1,731 million rubles
spent to protect the environment

Developing areas of presence

GW of NPP installed capacity creates
over 1,000
skilled jobs
and more than 10,000 jobs in related industries

7.4 billion rubles
paid to the Federal budget

10.9 billion rubles
paid to local governments' budgets

493.2 million rubles
spending on charity and sponsorship

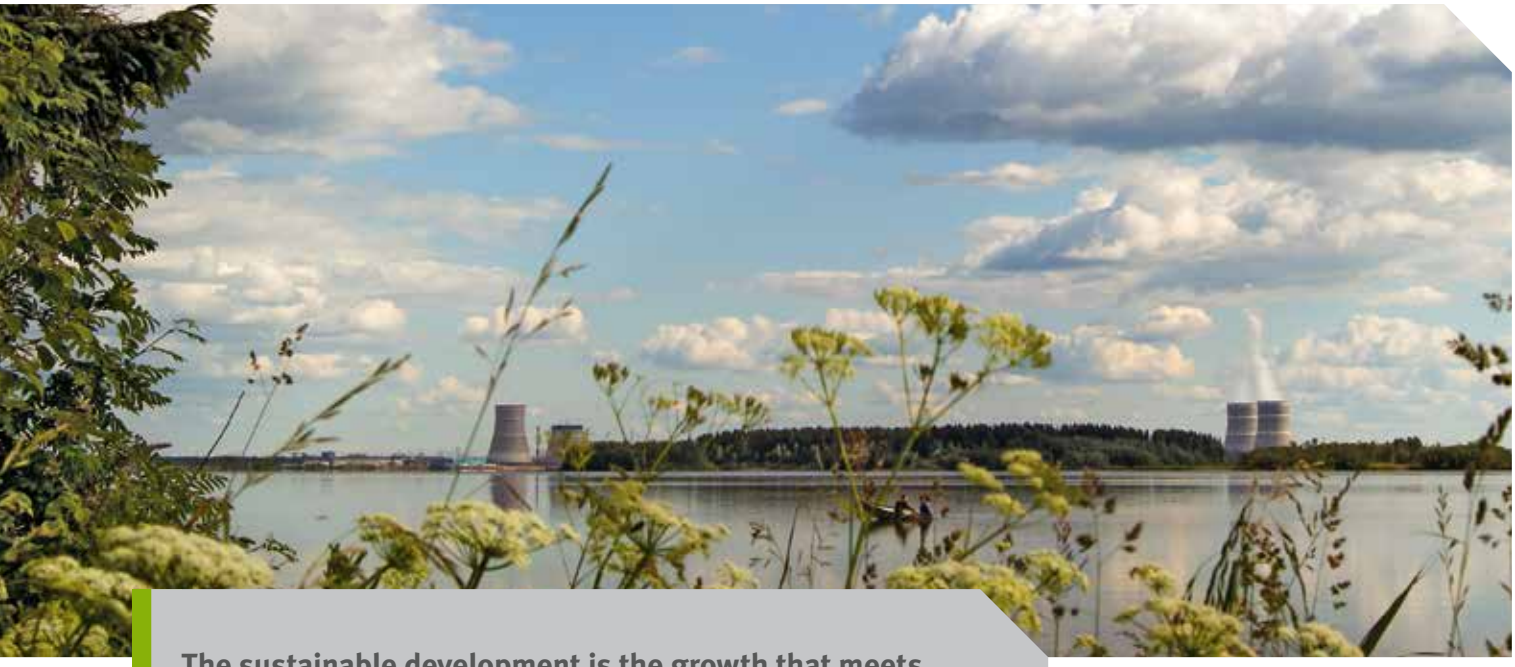
Interaction with stakeholders

In 2011,
more than 500
close-look visits to NPPs for the public, involving **10,744 individuals**

900 persons
visited nuclear plants in April 2011 as part of public audits, including **400 public opinion leaders**

public hearings took place to discuss preliminary materials on environmental impact estimates at the nuclear plants of **Rostov, Kolskiy, Novovoronezh, Kursk, and Balakovo**

6.1. THE ROSENERGOATOM'S POSITION ON SUSTAINABLE DEVELOPMENT



The sustainable development is the growth that meets currents needs while not endangering future generations' ability to meet their needs.

As a leader in the global nuclear power industry, Rosenergoatom is a critical contributor to Russia's sustainable energy supplies for the future. And as the prerequisite to such development, the Concern sees ensuring safe operation of all components in the nuclear power industry, guaranteed public safety, no impacts on the natural environment, a responsible attitude to employees and their family members, and territories hosting nuclear power plants. The sustainable development of the Russian nuclear power industry is only possible under conditions of absolute openness of the process, transparency and ongoing dialogue with all stakeholders.

Safety

Reliable and safe operation of nuclear power plants is top priority for the Concern. Safe operation is confirmed through regular audits by bodies of control (supervision), both Russian and international.

In early April 2011, all active nuclear plants in Russia conducted off-schedule emergency drills that rehearsed action plans for emergency services, plant personnel, and management. NPP personnel proved that they were ready to respond to beyond design basis accidents, to render and keep their reactor units in a safe controllable state.

During the year, Rostechnadzor inspectors audited nuclear plant's activities to ensure safety of power units, they analysed project design, operating and manufacturer's documents for compliance with safety rules and regulations, in particular, their seismic resistance and hydrogen explosion protection.

In late April, at Rosenergoatom a Corporate Peer Review by WANO was completed. Peer reviews are one of the long-term programs launched by WANO. They are voluntary, and always initiated by the reviewed party. The result of these reviews is a confidential report that represents the strong points of nuclear plant operation, and production areas with room for improvement. Until now, such expert reports have been delivered only to the audited plant and its operator, but the Concern came up with the idea that such reports should be open and accessible to all active nuclear plants in Russia.

Environmental Impact

The purpose of the Concern's environmental policy is to ensure such safety a level of its nuclear power plants' safety whereby any impact on the environment, personnel and general public in the nearest future and in the long term ensures preservation of natural habitats, maintaining their integrity and life supporting functions. As a result of the Concern's environmental policy implemented in 2011, contaminating emissions and discharges into the environment were reduced and production and consumption waste decreased by 30%, with penalties for negative environmental impact lower by 15%; all nuclear plants received their compliance certificates under ISO 14001 and GOST R ISO 14001-2007.

Working Conditions and Labour Protection

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

Social Responsibility

Operating NPps in Russia create tens of thousands of skilled jobs, and involve interests of hundreds of thousands of plant employees' family members. The Concern acts as a responsible employer by providing additional benefits, and looking after working conditions and the 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 its employees both current and retired.

Development of Host Regions

As it greatly influences the areas in which its nuclear plants are located, the Concern pays close attention to interaction with representatives of the public, federal and local government agencies, and environmental organizations.

As they built nuclear plants, the nuclear industry built not only nuclear facilities, but also infrastructure for their communities: kindergartens, schools, hospitals, housing...

At present, as new power units rise in developed areas, the Concern improves engineering utilities, builds new houses, and takes care of people's housing and heating needs.

A major taxpayer to governmental budgets at all levels, but first and foremost to the budgets of the Russian Federation Subjects, the Concern gives its host regions a chance to get on with their social program.

In addition, acting through its Branch Companies, Russian NPPs plants, the Concern arranges numerous events in sports and mass entertainment and implements socially significant projects. In 2011, the areas where nuclear plants are located hosted more than 2,800 events for local communities.

The Concern makes a significant contribution to regional energy security through the creation and fair distribution of value, and it has significant impact on local infrastructures and creates skilled jobs, including in related industries. Substantial support is given to development of healthcare, sports, culture, social welfare, and education.

Transparency and Active Dialogue with Stakeholders

By adhering to principles of transparency and active dialogue with stakeholders, the Concern seeks to communicate closely with all parties, to provide timely and relevant information on all aspects of its activities, and to respond to requests and recommendations from stakeholders. The key principles of the Concern's information policy are: timely response, accessibility, accuracy and completeness of disclosed information, with a reasonable balance between the Concern's openness and its own business interests.

Opportunities and Threats Related to Sustainable Development

The increasing need to ensure cheap and environmentally-safe electricity creates considerable long-term opportunities to develop the nuclear power industry. With the depletion of fossil fuel resources and the need to reduce our carbon dioxide footprint and greenhouse gas emissions, it is inevitable that a share of nuclear power industry should grow in the energy mix of most nations and regions. An efficient growth of the industry largely depends on how it can meet the challenges that confront it, namely: unconditional safety of all operating facilities of the nuclear power industry under all circumstances, long-term management of radioactive waste, and control over NPPs at all stages of their life cycle.

6.2. ENVIRONMENTAL IMPACT

The goal of the environmental policy of Rosenergoatom is to ensure such level of nuclear plant safety where all impacts on the environment, personnel and general public in the near future and in the long term preserves natural environment, and maintains their integrity and life support functions.

Protection of the environment and rational use of natural resources are seen as priority tasks the Concern. For compliance with environmental law, environmental services of the nuclear plants conduct continuous monitoring and assess the environmental safety situation, in order to enable timely and efficient solutions that minimise nuclear plants' environmental impact.

The main tasks for nuclear plants' environmental services include control of regulated quality standards in the environment. Principles of environmental protection, and obligations of Rosenergoatom in environmental safety and protection are stated in the Environmental Policy published on the website www.rosenergoatom.ru.

The main principles of environmental activities of Rosenergoatom include:

- reducing environmental impact of NPPs as low as reasonably achievable;
- maintaining unconditionally acceptable radiation risks for the general public residing around nuclear plants;
- rational use of natural resources;
- open and accessible information about environmental activities.

To ensure environmental safety of nuclear plants, under its Environmental Policy, Rosenergoatom in 2011 accomplished the following vital activities:

- Kalinin NPP commissioned a dump site for industrial non-radioactive waste; used water ducts are received with new advanced local treatment facilities FSD-20 and FSD-100.
- Beloyarsk NPP used a bio-reclamation technology of unialgal cultures in cooling ponds (adding Chlorella vulgaris phytoplankton culture), which helped reduce the level of water mould, and improved self-clean-up ability of the water storage, thus creating premises needed for stable ecological stability of the water body. To minimise negative impact of waste water on the environment, oil absorbing booms were installed in secondary precipitation tanks at treatment facilities for gray water on nuclear plant premises.
- At Kursk NPP, employees of the local nature reserve researched flora and fauna around the nuclear plant. The results of their work confirmed current biodiversity of flora and fauna in the riverbank protection zone around the cooling water pool for Phases I and II of Kursk NPP, as well as absence of any impact by the nuclear plant on the natural environment.
- Novovoronezh NPP upgraded circulation pumps at the modular stations of units No. 1 and 2, and replaced rotor wheels to ensure rational use and to reduce intake of water from the Don River.

MAIN INDICATORS OF ENVIRONMENTAL IMPACT

Air Polluting Emissions

A nuclear power plants' contribution to air pollution compared to other industries remains negligible.

Emissions of air pollutants from NPPs do not exceed permissible levels and are far below the limits regulated by environmental protection agencies. Most polluting emissions from nuclear plants are created by standby start-up boiler houses, health-improvement facility boilers, and back-up diesel generators that are periodically activated for scheduled testing.

In all nuclear plants, gross emissions of air pollutants did not exceed the regulated limits. In 2011, our units released 1,352 tons of air pollutants, which was 13% less than in 2010 (1,559 tons).

Below

0.01%

share of nuclear plants in pollutants released to the atmosphere by all its corporate entities in the Russian Federation

274 tons of pollutants passed through gas-treatment plants and dust traps; of this amount, 254 tons were trapped and decontaminated (about 93% efficiency).

For years, a 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 power plants are working to reduce their pollutant load on the atmosphere:

- improved technology to raise fuel combustion efficiency;
- higher quality fuel oil is used (with lower sulfur content);
- painting technologies are improving;
- efficient gas clean-up and dust-trapping equipment is put in operation.

Discharges of Pollutants into Water Bodies

Nuclear power 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.

Seawater is taken from the Baltic Sea (Koporye Bay, in the Gulf of Finland).

Fresh water is taken for these sources:

- Saratov Reservoir (Balakovo NPP);
- Beloyarsk water reservoir (Beloyarsk NPP);
- Water reservoir at stream of Bolshoy Ponneurgen (Bilibino NPP);
- Udomlya Lake (Kalinin NPP);
- Imandra Lake (Kola NPP);
- Seym River (Kursk NPP);
- Sista River, Kovashi River, Kopanskoye Lake (Leningrad NPP);
- Don River (Novovoronezh NPP);
- Tsimlyansk Reservoir (Rostov NPP);
- Desnogorsk Reservoir on the Desna River (Smolensk NPP).

Nuclear power plants have no significant impact on water sources. Water sources used by NPPs are not on the protected area list. NPPs do not impact any marshlands on the list under the Ramsar Convention on Wetlands of International Importance.

In 2011, removal of water from nuclear plants matched the water balance and quantity of generated electricity, it amounted to 94.6% of total used water; this is a good water use ratio for water resources. Water was used within limits approved by environmental protection agencies.

At all NPPs, 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 officially regulations. In 2011, just as in previous years, no departures from plant processes caused pollution of water bodies.

All water storage facilities used for service and recycled water supply to nuclear plants (except Leningrad NPP and Bilibino NPP), are on the "List of water storage facilities (including ones with holding capacity 10 million m^3), for which rules of use are enacted individually (of for multiple or cascade of water storage facilities or a water supply grid, if their use modes prevent their separate functioning)" – the List was approved by Russian Federal Government Directive No. 197-r of February 14, 2009. The use of water supply systems in Federal-level bodies of water makes a nuclear plant additionally responsible for preservation and rational use of water resources, cleanness of water protection zones, etc.

About

0.06%

share of contaminated wastewater compared to other industries in the Russian Federation (typically 3.5–4%)

In 2011, 6,732 million m^3 was discharged, a share of contaminated wastewater being about 0.06%, which is a good figure compared to other industries in the Russian Federation (typically 3.5–4%).

Discharges of contaminated wastewater are gradually being reduced, thanks to systematic activities to upgrade and retrofit wastewater treatment systems at nuclear plants.

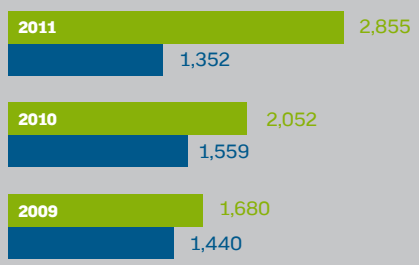
TREATMENT OF PRODUCTION AND CONSUMPTION WASTE

Nuclear power plants' environmental protection activities with respect to treatment of waste of production and consumption ("waste") are compliant with the 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 power plants generate waste of five hazard classes. In 2011, nuclear plants generated 23,871 tons of waste, or 32.4% less than in the previous year (35,305 tons).

Environmental Impact: Indicators and Facts

AIR POLLUTING EMISSIONS IN 2009–2011, TONS



EMISSIONS OF NO_x, SO_x AND OTHER IMPORTANT AIR POLLUTANTS, STATING TYPE AND MASS IN TONS

	2009	2010	2011
Sulfur dioxide	904.9	888.9	706.1
Carbon oxide	149.9	163.7	147.7
Nitrogen oxide (converted to NO_2)	190.0	251.2	215.8
Hydrocarbons (without volatile organic compounds)	41.5	81.6	70.5
Volatile organic compounds	64.5	73.5	71.1
TOTAL	**1,350.8**	**1,458.9**	**1,211.2**

COMPARISON OF ATMOSPHERIC EMISSIONS FROM THERMAL AND NUCLEAR POWER PLANTS, PER 1 GWT OF GENERATION*

Indicators	Thermal plants, 000 tons	Nuclear plants, 000 tons
Sulfur oxide (SO_x)	3	0.005
Nitrogen oxide (NO_x)	0.75	0.001
Carbon oxide (CO)	0.06	0.0001
Suspense	0.2	0.0003
Carbon dioxide gas (CO_2)	1,103	0
TOTAL	**1,107**	**0.0062**

* According to "2010 Government Report on Environmental Situation and Protection in the Russian Federation".

WATER USE, WITH BREAKDOWN BY SOURCES, MILLIONS OF CUBIC METERS

Water intake, by sources	2009	2010	2011
Potable water from natural water sources	9.5 (of which ground water - 5.5)	12.2 (of which ground water - 7.7)	10.4 (of which ground water - 6,5)
Potable water for municipal water supply systems	8.6	8.5	7.8
Fresh service water from natural bodies of water	1,779.7	1,809.6,	1,799.2
Seawater	4,882.6	5,101.3	5,297.8
TOTAL	**6,680.4**	**6,931.6**	**7,115.2**

SHARE AND TOTAL VOLUME OF REUSED AND RECYCLED WATER

	2009		2010		2011	
Water consumption	Volume, millions of m³	Share of used water, %	Volume, millions of m³	Share of used water, %	Volume, millions of m³	Share of used water, %
In water recycling systems	25,121.2	376%	21,046.1	304%	25,825.0	363%
In water reusing systems	338.5	5.1%	418.0	6.0%	407.5	5.7%

Most (about 94.5%) of waste generated in 2011 was Class 4 (low hazard) and 5 (no hazard) – 12,462 tons and 10,099 tons, respectively.

Existing waste at the beginning of 2011: 13,573.4 tons, at year's end: 14,857.6 tons. Through waste treatment activities in 2011, 4.8 tons of waste of Hazard Class 1-2 (top hazard and high hazard) was decontaminated; 1,958.5 tons of waste of Hazard Classes 3-5 (medium hazard, low hazard, and no hazard) used; 17,082 tons delivered to other businesses; 3,541 tons of waste of Hazard Classes 3-5 (medium hazard, low hazard, and no hazard) buried in proprietary facilities.

Sources of waste are auxiliary units and areas that support operation of nuclear plants.

Production processes that generate waste at NPP include:
- maintenance and repairs of buildings, structures, equipment, instruments, machines, devices, and mechanisms;
- water treatment for production and residential use;
- preparing steam and hot water for heating and other needs of nuclear plants;
- services to nuclear plant personnel, treatment of sewage water, metals and timber;
- cleaning tanks after petroleum products;
- purification and regeneration of lubricants;
- replacement of lamps.

All production and consumption waste is placed in equipped grounds, special storage facilities, and its utilisation is controlled by NPP's environmental protection services.

COSTS OF ENVIRONMENTAL PROTECTION

The costs that NPPs currently incur to protect the environment are composed of the costs of protection and rational use of water resources (including payments to contractors who receive and treat wastewater), and air, protection of the environment against impact by production and consumption waste (including payments under contracts to deliver waste to special contractors) and to reclaim disturbed and contaminated land.

No penalties or sanctions were imposed on the Concern for non-compliance with environmental law and standard regulations in 2011.

Under applicable laws, penalties must be paid for adverse impact on the environment as a form of partial compensation of damage done by the user to the environment.

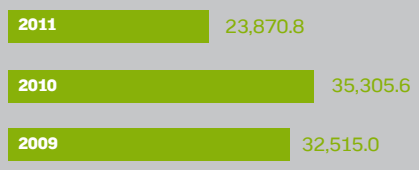
Environmental Impact: Indicators and Facts

AIR POLLUTING EMISSIONS, TONS

PRODUCTION WASTE, WITH BREAKDOWN BY CLASSES, TONS

Indicators	2009	2010	2011
Class 1	61	46	52
Class 2	44	21	78
Class 3	1,326	1,633	1,180
Class 4	24,920	20,385	12,462
Class 5	6,165	13,221	10,099

GENERATED PRODUCTION AND CONSUMPTION WASTE, TONS



PAYMENTS FOR ENVIRONMENTAL IMPACT, THD RUBLES

Description	Actually paid for the year		
	2009	2010	2011
Fees for permissible and above-quota pollutant emissions (discharge) (dumped production and consumption waste)	11,122	9,862	8,765
Funds and penalties paid to compensate damage caused through failure under the environmental law	0	0	0

COSTS OF ENVIRONMENTAL PROTECTION, MLN RUBLES

Item	2009	2010	2011
Protection and rational use of water resources	891	898	1,016
Protection of air	466	394	458
Protection of environmental against impact by production and consumption waste	366	314	257
TOTAL	**1,723**	**1,605**	**1,731**

1,731
mln rubles

total costs of environmental protection in 2011

For nuclear power plants, penalties exist for the following types of environmental impact:

- air pollutant emissions from permanent and mobile sources;
- pollutants accumulated in above-ground and underground water bodies;
- placement of production and consumption waste.

ENVIRONMENTAL RISK MANAGEMENT

Creating a base of evidence that is objective, scientifically proven, and acceptable for the public and government to prove the environmental advantages of promoting nuclear power industry is confronted with problems that are caused by the conventional approach that is based on established standards of radiation damage and available reserve before they are achieved. However, this evidence pattern fails to produce a clear assessment of the extremely limited impact by nuclear technologies on the environmental situation and public health, which have deteriorated nationwide in all areas, including around nuclear plants, both active and planned. To understand the role of radiation in such processes, we need comparative evaluation of impacts by radiation and by other industrial factors.

Today, risk analysis methodology is the most efficient scientific approach that helps to evaluate quantitatively the impact of different industrial factors on the environment and human health. Since the late 1980s, this methodology has been used successfully in all developed economies as a tool of priority and high efficiency, helping to support administrative decisions on issues of human healthcare and the environment.

During 2006–2011, IBRAE RAN used risk analysis methodology on a series of science projects; this helped with comparative analysis of radiation risks caused by active Russian NPPs, and chemical risks related to the operation of coal-fired plants, and other industrial facilities and factors, and their impact on the health of the Russian population.

Such comprehensive research to evaluate radiation and chemical risks for human health in the regions where nuclear plants exist was done for the Sverdlovsk and Voronezh Oblast, or respectively Beloyarsk and Novovoronezh NPP, after their decisions to build new power units.

The results of these risk assessments were considered to prepare the Concern's environmental policy, and to develop the environment management system (EMS) in the Concern.

In 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 environment, with individual exposure in critical group of the public around nuclear plants being negligible below the minimum dose of 10 μSv/year.

Gas-aerosol emissions from nuclear plants during the past ten years never exceeded

20%
of permissible

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 optimised. Therefore, there is no need for activities to reduce radiation impact on the environment.

ENVIRONMENTAL ACCEPTABILITY

Liquid radioactive dumps from nuclear plants during the past ten years never exceeded

5%
of permissible

The Concern has developed a program of activities in key areas, 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 always works to improve its methodological documents and corporate standards (CS) in environmental safety and protection. In order to bring environmental efforts of nuclear plants in compliance with the Russian Federal law and standard regulation on different levels, the following CS documents were prepared and enacted:

- "Main rules to organise environmental production at nuclear plants";
- "Methodological recommendations on organising environmental monitoring at nuclear plants";
- "Methodological recommendations. Technologies to reduce volumes, and methods to recycle hazardous waste generated during operation of nuclear plants", etc.

ENVIRONMENTAL AUDIT AND CERTIFICATION OF ENVIRONMENTAL MANAGEMENT SYSTEM

To achieve its goal and observe the key principles of its Environmental Policy, the Concern assumed the obligation to adopt and use the best methods of environmental management, under international and Russian standards in environmental management.

For the Concern as an operator who ensures environmentally safe production of electric 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 is commitment to the ideals of environmental protection; it is also a chance to raise its competitive ability and to better interact with stakeholders and the public.

The Concern started its activities to improve the EMS in 2004, with a pilot project at Balakovo NPP, following which it was decided to request EMS certificates for all active nuclear plants and the Concern's HQ.

In 2011, certification audits were done to examine EMS in Kalinin, Beloyarsk and Bilibino NPP. Also, previously certified EMS were audited in the Concern's HQ, and in Balakovo, Rostov, Kola, Kursk, Leningrad, Novovoronezh and Smolensk NPPs.

Certification audits were done by highly skilled specialists with both Russian and international accreditation. In the processes of certification, auditors emphasised the strenuous efforts to build and develop the EMS of the Concern as a whole, and of each operating NPP.

In October 2011, at a meeting on generation of an integral technical policy for efficient functioning of the EMS in the Concern, representatives from Kalinin NPP received an environmental compliance certificate under GOST R ISO 14001-2007; Beloyarsk NPP and Bilibino NPP received environmental compliance certificates under ISO 14001.

In 2011 all nuclear plants received their compliance certificates for their EMS under international and national standards

Therefore, in 2011 all nuclear plants received their compliance certificates for their EMS under international and national standards.

KEY 2011 RESULTS:

EMS IN ALL OPERATING NPPS AND THE CONCERN'S HQ RECEIVED THEIR CERTIFICATES OF COMPLIANCE UNDER STANDARDS ISO 14001 AND GOST R ISO 14001-2007

ENVIRONMENTAL PROTECTION ACTIVITIES IMPLEMENTED AT NUCLEAR PLANTS IN 2011 REDUCED POLLUTING EMISSIONS AND DISCHARGES TO THE ENVIRONMENT, GENERATED PRODUCTION AND CONSUMPTION WASTE DROPPED BY MORE THAN 30%, AND PAYMENTS FOR NEGATIVE IMPACT ON THE ENVIRONMENT WERE 15% LESS

6.3. HUMAN RESOURCE MANAGEMENT

Rosenergoatom acts as a responsible employer, in full conformity with labour laws of the Russian Federation. It provides additional social insurance for its employees, and looks after their working conditions and social welfare.

Corporate policy on human resources seeks to build and maintain optimised staff able to ensure safe, stable, and economically efficient operation of its nuclear plants, and to create a personnel management system that can respond rapidly and correctly to changing market needs.

Implementation of the Concern's HR policy addresses the following objectives:

- meeting in timely manner the Concern's human resources needs for employees with skills that match the requirements of applicable regulations;
- ensuring high occupational level of personnel through a system of training and advanced training of personnel, the Concern's involvement in developing qualification requirements and job description of employees in the nuclear industry, continuous monitoring of employees' competencies and skills;
- building a safety culture to ensure that the Concern's employees are prepared in skills and attitudes, where nuclear plant safety is a priority goal and commitment that result in awareness and self-control during activities that may affect safety of nuclear plant operations;
- creating and maintaining a corporate incentive system that integrates both financial and moral incentives for employees;
- creating conditions for personnel development that ensure career growth based on employees' occupational and personal attributes and the Company's needs;
- helping employees to preserve and improve their health at the Concern's sports and healthcare facilities, services of spa and resort areas under the voluntary medical insurance program for employees and their dependents; insurance against injury and disease;
- social protection of retirees through financial and other aid;
- providing housing for employees by building homes in areas where their employer companies are located; exemptions for employees who purchase permanent housing; corporate housing for temporary accommodation; full or partial rent reimbursement for tenants in employment;
- mobilising new human resources under the Concern's young employees program;
- encouraging families where more than one generation has stayed with the Company.

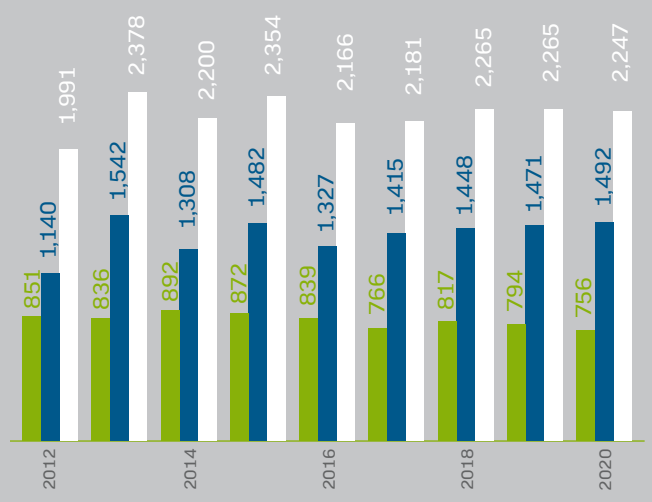
Human Resource Management: Indicators and Facts

TOTAL WORKFORCE BREAKDOWN BY OCCUPATION, EMPLOYMENT CONTRACT, AND REGION

Company	2009, persons		2009, total	2010, persons		2010, total	2011, persons		2011, total	2009–2011, persons	
	Men	Women		Men	Women		Men	Women		Full time, %	Part time, % Type: Permanent cooperation contract*
HQ administration	442	352	794	446	351	797	505	408	913	100	100
Balakovo NPP	3,170	1,151	4,321	2,859	1,060	3,919	2,771	1,023	3,794	100	100
Beloyarsk NPP	1,651	851	2,502	1,528	686	2,214	1,593	651	2,244	100	100
Bilibino NPP	495	241	736	504	234	738	486	224	710	100	100
Kalinin NPP	2,655	1,281	3,936	2,510	1,151	3,661	2,561	1,176	3,737	100	100
Kola NPP	2,261	578	2,839	2,060	546	2,606	2,029	553	2,582	100	100
Kursk NPP	3,361	1,747	5,108	3,473	1,587	5,060	3,381	1,402	4,783	100	100
Leningrad NPP	4,155	1,539	5,694	3,840	1,467	5,307	3,667	1,149	4,815	100	100
Novovoronezh NPP	2,770	866	3,636	2,515	827	3,342	2,303	760	3,063	100	100
Rostov NPP	1,291	601	1,892	1,312	553	1,865	1,402	613	2,015	100	100
Smolensk NPP	3,205	1,635	4,840	3,143	1,434	4,577	3,023	1,364	4,387	100	100
TOTAL	**25,456**	**10,842**	**35,504**	**24,190**	**9,896**	**34,086**	**23,790**	**9,352**	**32,228**	**100**	**100**

* Contracts for season-specific activities (temporary employment) are not envisaged in the Concern.

STAFF NEEDS – INDIVIDUAL EMPLOYEES



- HR needs at operating power units
- HR needs at power units under construction
- Total HR needs

The Concern's needs for highly skilled personnel grow from year to year, and new jobs are being created

SUSTAINABLE DEVELOPMENT

KEY CHARACTERISTICS OF HUMAN RESOURCES

The Concern's needs for highly skilled personnel grow from year to year, and new jobs are being created.

When new power units are built, the problem of skilled HR is resolved from both internal and external sources. Use of internal sources assumes that personnel are rotated, and a special staff pool is created at similar power units of active nuclear plants, using employees hired above the staffing standards to be trained for key positions so that nuclear plants under construction can be staffed in good time. Use of external sources assumes that the Company hires specialised graduates, retired and demobilised army personnel, and individuals who volunteer to work for the Company. The recruiting from internal sources produces financial savings and reduces the time needed to train personnel.

THE COMPANY'S ETHICAL PRACTICE

The Concern has prepared and adopted:
- A corporate Code of Ethics;
- An Ethics Regulation Panel;
- Regulations on the Authorised Ethics Officer.

All nuclear plants have formed their own Ethics Panels and elected their own Authorised Ethics Officers.

The main results of the Code of Ethics enforcement in 2011:
- 35 statements on the Code of Ethics non-compliance filed;
- 11 Authorised Ethics Officers elected;
- Employees took 72 hours of training on ethical issues;
- 36 employees trained in corporate ethics procedures;
- 5% of executive employees trained in corporate ethics procedures.

Human Resource Management: Indicators and Facts

STAFF TURNOVER, BREAKDOWN BY GENERA AND REGION*

Unit	2009	2009		2010	2010		2011	2011	
		Turnover ratio, women, %	Turnover ratio, men, %		Turnover ratio, women, %	Turnover ratio, men, %		Turnover ratio, women, %	Turnover ratio, men, %
HQ administration	9.3	4.75	4.55	9.36	4.8	4.56	9.4	4.8	4.6
Balakovo NPP	3.9	1.73	2.17	3.8	1.69	2.11	3.37	1.5	1.87
Beloyarsk NPP	1.4	0.54	0.86	1.1	0.42	0.68	4.68	1.81	2.87
Bilibino NPP	6.8	2.58	4.22	6.4	2.43	3.97	7.6	2.89	4.71
Kalinin NPP	2.3	0.82	1.48	4.5	1.62	2.88	4.84	1.74	3.1
Kola NPP	4.6	1.43	3.17	4.9	1.51	3.39	4.49	1.4	3.1
Kursk NPP	1.1	0.27	0.83	0.7	0.17	0.53	5.29	1.32	3.97
Leningrad NPP	2.3	1.12	1.18	2.4	1.17	1.23	4.59	2.29	2.3
Novovoronezh NPP	0.02	0.0018	0.0182	0.02	0.0018	0.0182	6.82	0.68	6.14
Rostov NPP	1.4	0.46	0.94	0.8	0.26	0.54	5.66	1.88	3.78
Smolensk NPP	0.5	0.21	0.29	0.5	0.21	0.29	6.15	2.62	3.53

* Turnover ratio among younger employees (under 35 y.o.) is 1.7% according to the 2011 data.

1.7%

Turnover ratio among younger employees (under 35 y.o.)

SHARE OF YOUNGER EMPLOYEES (UNDER 35 Y.O) BY CATEGORIES, %

Category	2009	2010	2011
Managerial	7.9	7.56	7.9
Specialists	24.66	26.36	28.56
Office	5.41	6.79	6.86
Shop floor	28.40	28.51	28.66

42.4 years old

Average age of the Concern's employees

AVERAGE AGE OF THE CONCERN'S EMPLOYEES

Item	2009	2010	2011
Average, years of age	42.7	42.9	42.44

ABSENT FROM WORK RATIO, %

Unit	2009	2010	2011
HQ administration	2.31	1.38	2.82
Balakovo NPP	0.45	0.49	0.35
Beloyarsk NPP	4.25	3.99	2.98
Bilibino NPP	0.50	0.40	0.50
Kalinin NPP	6.00	6.00	5.00
Kola NPP	4.80	3.60	3.10
Kursk NPP	4.00	3.80	3.40
Leningrad NPP	5.36	5.25	3.96
Novovoronezh NPP	4.43	3.85	3.69
Rostov NPP	3.00	2.00	2.00
Smolensk NPP	4.01	4.35	3.97

6.4. HR SUPPORT AND DEVELOPMENT PERSONNEL MOTIVATION AND INVOLVEMENT

According to research done in 2011, the average index of personnel involvement at nuclear plants and Atomenergoremont was 64%, or 4% above the industry average. The highest ranked factors were "Company reputation" (81%),"Physical Working Conditions" (74%), and "Colleagues" (73%). The main problem areas, according to employees, are "Career opportunities" (32%), "Employee Value" (34%), and "Paycheck" (34%), which are on the level with the industry average.

After analysing the results and working meetings to make decisions to raise personnel involvement, HQ Administration and the nuclear plants approved action plans designed to increase the efficiency of specific HR management processes and improve personnel attitudes to them.

Strategic Reserve of Electric Energy Division

In 2011, Rosenergoatom launched its program "Strategic Reserve of Electric Energy Division", which continued the ROSATOM's program to create the ROSATOM Gold Reserve.

The program is designed to educate executives who within three to five years will be able to contend for top administrative positions in the Branch Companies. All employees passed selection stages to meet qualification requirements and administrative competencies; ultimately, of the 124 for Strategic Reserve, 26 employees were selected from the Concern's HQ Administration, Branch Companies, subsidiaries and affiliates.

The reserve pool members will take a training program of four sessions, including training to develop their administrative skills and business mentality. After each session, an individual development plan will be written for each reserve pool member before the end of 2012.

In 2012, following the annual RECORD assessment campaign, new candidates will be selected for the Strategic Reserve of Electric Energy Division.

RECORD Annual Assessment

100% of Rosenergoatom Concern OJSC employees are assessed for efficiency every year.

RECORD assessment is one of the tools used to measure efficiency. In 2011, annual RECORD assessment covered 1,322 employees, while 8,559 employees had individual objectives assigned to them and in March 2012 their efficiency was measured.

100%
of Rosenergoatom Concern OJSC employees are assessed for efficiency every year

According to RECORD data from 2011, 922 employees were awarded efficiency marks on high and very high levels, and 381 employees received standard efficiency level marks. Of that number, executives distinguished 170 employees as having growth potential, and added them to the executive succession list (executive reserve).

Personnel Evaluation When Building-up Skill Pool

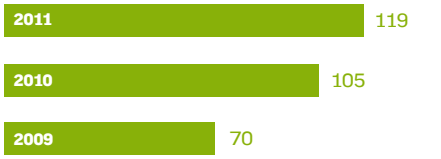
During activities for succession plans, strategic reserve selection, and position contending in 2011:

- 1,109 individuals passed remote assessment;
- 87 administrative competence measurement centers were formed; the 454 individuals who passed this examination were involved in executive succession plans, strategic reserve selection.

PERSONNEL TRAINING AND ADVANCED TRAINING

Investment in employees' career growth is investment in the future safety and prosperity of both the Concern and the nation as a whole. The Concern has a system of occupational training and retraining for personnel, using curricula prepared by training and apprenticeship units (TAU) in nuclear plants and professional education providers.

TRAINING HOURS DISTRIBUTION, PER EMPLOYEE IN NUCLEAR PLANTS, YEAR-ON-YEAR DYNAMICS



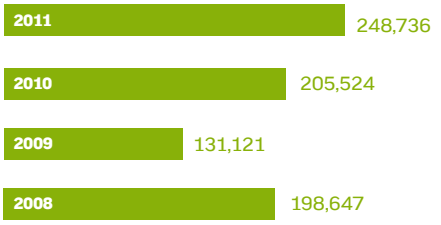
On average, each nuclear plant employee received 119 hours of training in 2011.

In-house training for nuclear plant personnel is available from TAUs or directly at nuclear plants. The system of in-house training plays an important role in ensuring that nuclear plants have access to required skills.

TAUs at nuclear plants have auxiliary equipment, including a full-scale simulator (FSS) to train practical skills of production process control.

Training is addressed to operating, servicing, and administrative employees at nuclear plants.

DISTRIBUTION OF EMPLOYEE TRAINING COSTS IN HQ ADMINISTRATION AND NPPS, ANNUALLY, THD RUBLES



Training is provided by instructors who have the necessary working experience at the NPP and are trained in psychology and education methods.

Curricula available from TAUs include theory studies in rules and regulations on the use of nuclear power, control of industrial processes of electricity generation at NPP, and practical studies on VR simulation equipment.

Each employee group at nuclear plants must take annual training under qualification maintenance programs. 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.

NUCLEAR PLANT EMPLOYEE TRAINING IN 2011, TRAINIG HOURS

Item	Total	Per employee
In-house training (in TAU and on the job)	3,095,644	96
Training hours from third-party education providers	755,536	23
Total training hours, incl.:	3,851,180	119
executive	625,680	111.7
specialists and office	1,410,676	133.3
shop-floor	1,814,824	113

In 2011, employees in nuclear plants received 3,095,644 hours of in-house training from TAUs and nuclear plant units. On the average, each employee in active nuclear plants received 96 hours of in-house training.

The Concern's employees also receive annual training from third-party occupational education providers (external training). Traditionally, the main providers of third-party education services for Rosenergoatom are schools such as CICE&T (Central Institute for Continuing Education and Training) and MEPHI National Research Nuclear University. In 2011, nuclear plant employees received 755,536 hours of third-party training, the average being 23 hours per employee of active nuclear plants.

At least 92 hours

must be recieved of training annually, including 40 hours of practical studies on simulators by operating personnel at control boards of nuclear plant units

In 2011, the Concern commissioned a new program for development of executive competencies, under which 708 employees in the Concern were involved in training by the "Administrative Minimum" catalog approved by ROSATOM.

The cost of external training for employees in NPP and HQ Administration of Rosenergoatom Concern OJSC in 2011, was 248,736,000 rubles (VAT excl.), or 7.5 thousand rubles per employee annually.

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, firefighting, basic rules of nuclear plant operation, job descriptions, and process manuals.

In 2011, the Company continued its project "Integral Standard Policy in Personnel Training to Improve Human Factor Reliability".

The project had the key objectives of identifying and sharing best experiences in personnel training, improving regulatory documents, central development and upgrade of training equipment, creating an integrated library of training materials, and promoting the role of psycho-physiological support laboratories (NPP PPSL).

In 2011, the Company developed and implemented 41 programs for NPP personnel job training, approved program to provide training equipment TAU NPP and logistical support for NPP PPSL; at the Concern's website, a resource was created to post mass-access learning materials prepared by instructors at the nuclear plants.

NPP personnel training, also including training in psychology training, is provided by specialists of NPP PPSL. By the staff list of safety-critical positions, psycho-physiological audits by NPP PPSL covered 5,938 employees in 2011. To ensure occupational reliability of the human factor, and to create attitudes that are adequate for a high culture of safety, specialists in PPSL support practical studies in FSS and provide training to develop job-critical personal features. Specialists in PPSL participate in panel work to investigate non-compliance and departures in NPP operation. In 2011, psychologists assisted with 133 investigations, and identified 36 cases impacted by the human factor. Following investigation, psychologists prepare corrective measures to prevent and avert repeated non-compliance.

ACTIVITIES OF NPP PPSL AT ALL STAGES OF PERSONNEL TRAINING

Psycho-physiological examination (PPE)

HR SELECTION AND RECRUITMENT

- qualification requirements
- medical treatment
- PPE

TRAINING FOR EMPLOYMENT POSITION

- theory training
- practical training
- on-the-job apprenticeship
- first knowledge examination
- duplicate function assistant
- issue of PPE statements to recieve Rostekhnadzor permits
- obtaining Rostekhnadzor permits
- clearance of autonomous work

One of the key activities of Rosenergoatom Concern OJSC – Training and maintaining personell skills

Staff mobilisation and training plan

MAIN PURPOSE OF PPSL ACTIVITIES

Practical solution of integrated assignments to raise and support required level of reliability

PSYCHOLOGICAL AND PEDAGOGICAL SUPPORT TO TRAINEES

- conflict and stress management
- self-control while operating equipment
- efficient communication skills
- psychological specifics of briefings
- psychological support in emergency drills
- training sessions before simulator practices

BUILDING PSYCHOLOGICAL COMMITMENT TO SAFETY AS PRIORITY IN NPP PERSONNEL AT ALL LEVELS OF NUCLEAR PLANT MANAGEMENT

Psychlogical and psycho-physiological support

HOURS OF QUALIFICATION MAINTENANCE

- for all personnel – at least 20 hours
- for control board personnel – at least 80 hours
- of which at least 36 in simulation equipment
- emergency drills

OCCIPATIONAL TRAINING

- training newly hired personnel without profile education
- re-training for special tasks

ADVANCEMENT IN QUALIFICATION

- training from third-party education providers, at least every 5 years

6.5. LABOUR PROTECTION

Ensuring safe working conditions for nuclear plant employees and contractor personnel is the Rosenergoatom's key objective in labour protection, a major priority, and one of operating principles.

INJURY STATISTICS

In 2011, the Concern's Branch Companies, active nuclear plants had 6 accidents (which included 2 deaths and 3 serious injuries).

The Concern's Branch Companies, nuclear plants under construction had 1 serious injury.

The Concern's HQ Administration had 1 accident.

In 2011, K_{ch} in the Corporation was 0.21, K_t was 8.0. No cases of occupational disease arose.

As a result of the accidents, loss amounted to 318 man/days.

NPPs under construction had one grave injury: on August 07, 2011, at Beloyarsk NPP-2 construction project, caused by the injured party's inadvertent action, who fell after a miscalculated step while a hydraulic stockpiler was in motion.

All accidents were investigated in conformity with the Labour Code of the Russian Federation, Federal Ministry of Labour Decree No. 73 of October 24, 2002 "Approval of Forms and Documents Needed to Investigate and Register Industrial Accidents", and "Regulation on Specifics of Industrial Accident Investigation in Certain Industries and Organizations."

INTERACTION IN LABOUR PROTECTION WITH CONTRACTORS

The Concern interacts with contractors engaged in active NPPs and construction projects in conformity with "Standard Regulation on Organizing Safety-Related Interaction between NPPs and Contractors Engaged in Activities on Equipment and Premises of Active Nuclear Plants", safety provisions stated in contract agreements, and also under joint activities for injury prevention.

Main formats used for joint activities are joint Labour Protection Days, contests in best safety knowledge, joint inspection audits to enforce safety regulations, and joint preventive activities.

Main cause of accidents with contactor employees was their failure to organize safe operation.

To prevent injuries, based on investigated accident cases, the Concern develops and implements additional activities: self-control, additional audits by the Concern's panels; meetings with managers of active NPPs and construction projects (regular safety meetings), special meeting chaired by the Concern's General Director, that examined comprehensively the issues of safe operation and labour protection; a set of remedial measures was worked out, now implemented at the Concern's nuclear plants.

Labour Protection: Indicators and Facts

INJURY STATISTICS AT ACTIVE NUCLEAR PLANTS IN 2011

S/no	Region	Date	Consequences	Key causes
1.	Leningrad NPP	13.03.2011	–	• Failure to comply with safety requirements to operation and equipment repairs; • Inadequate executive control over subordinate personnel.
2.	Rostov NPP	20.04.2011	Grave injury	
3.	Kola NPP	14.06.2011	Grave injury	
4.	Kursk NPP	02.07.2011	Lethal accident	
5.	Beloyarsk NPP	14.09.2011	Lethal accident	
6.	Kalinin NPP	11.10.2011	Grave injury	

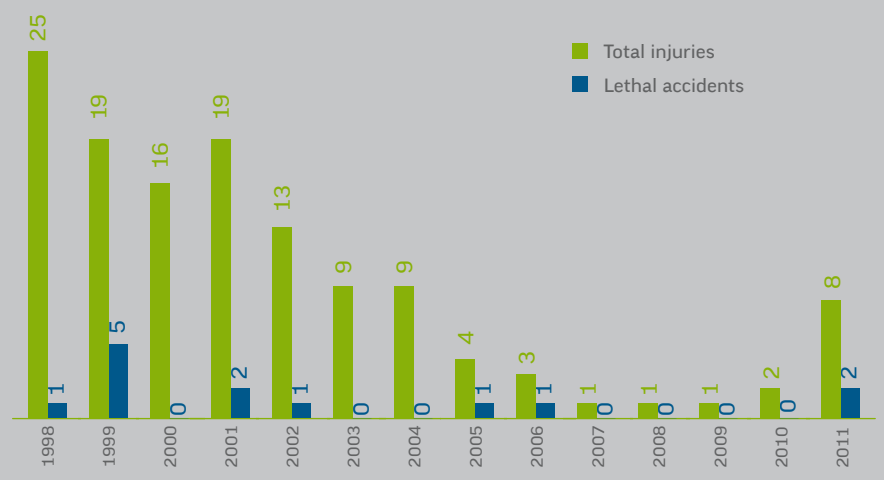
0.21

Injurity ratio (K_{ch}) in the Rosenergoatom in 2011

8.0

K_t in the Rosenergoatom in 2011

EMPLOYEE INJURY DYNAMICS IN THE CONCERN, BY YEARS



CONTRACTOR INJURY DYNAMICS, 2010–2011

SUSTAINABLE DEVELOPMENT

KEY RESULTS OF ACTIVITIES IN 2011:

- An occupational safety and health management system was implemented and successfully certified under international standard OHSAS 18001:2007 at Balakovo, Kalinin, Rostov and Smolensk NPP, and in HQ Administration;
- VNIIAES OJSC certification agent used inspection control over certified safety activities at nuclear plants and in the Concern's HQ Administration. Following this, safety control activities at the Concern's nuclear plants and in the HQ Administration were recognized as compliant with Federal law and standard safety regulations; the effect of the safety certificate was confirmed and extended.
- all nuclear plants were compliant with the labour law, as regards use of employee safety equipment.

MAIN OBJECTIVES FOR 2012:

- implement corrective action programs prepared based on analysis of injury causes in 2011.;
- adopt positive practices of injury prevention: digital safety room, training equipment and stands to improve safe working skills, full-scale use of photo and video equipment for injury prevention;
- finalize adoption of international safety and health management system under OHSAS18001:2007 at all nuclear plants.

FUNDS USED FOR SAFETY ACTIVITIES IN ACTIVE NUCLEAR PLANTS IN 2011

NPP	Staff number	Used, 000 rubles	Spending objectives
Balakovo NPP	3,794	216,251.0	• Labour protection activities under collective contract; • ensuring normal working conditions; • improving safety and labour protection; • purchase of personal protection equipment; • health foods; • purchase of detergents and disinfectants.
Beloyarsk NPP	2,244	105,747.4	
Bilibino NPP	710	23,139.6	
Kalinin NPP	3,737	354,961.0	
Kola NPP	2,582	139,629.3	
Kursk NPP	4,783	272,889.0	
Leningrad NPP	4,815	214,343.8	
Novovoronezh NPP	3,063	194,014.7	
Rostov NPP	2,015	68,336.6	
Smolensk NPP	4,387	346,250.6	
TOTAL	**32,130**	**1,935,563**	

6.6. SOCIAL POLICY

The Rosenergoatom's social policy has the purpose to create good working conditions and social welfare for the employees.

The Concern's social policy has the following priorities:

- creating favorable conditions in employee teams;
- raising life standard for all employees;
- hiring and keeping high-skilled resources;
- incentives for employees;
- development of the corporate culture;
- creating integral social space to provide key social services to employees;
- working to improve the Concern's public image.

Under the Collective Contracts, the Concern's employees are entitled to voluntary health insurance (VHI), non-government pension insurance (NPI), health-improving and sports programs. Great support is given to help recently hired and retired employees realize their potential. The benefits described in this section are standard for all full-time permanent employees in the Concern.

Today, the Concern is the nuclear industry's paragon in social aid, employment, and other issues that develop human resources. The industry average is about 40,000 rubles of social spending per employee; the Concern's figure is double that.

Social Policy: Indicators and Facts

DIRECTIONS FOR SOCIAL AID

- ALL TYPES OF FINANCIAL AND OTHER AID
- SUPPORT TO VETERANS
- NON-GOVERNMENT PENSION INSURANCE (NPI)
- MEDICAL TREATMENT IN SPAS AND RESORTS
- MASS ENTERTAINMENT AND SPORTS EVENTS
- HOUSING PROGRAMME
- WORKING WITH YOUNG PEOPLE
- VOLUNTARY GROUP INSURANCE

295.7 mln rubles

corporate spending on personal insurance contracts in 2011 for all categories of insured employees

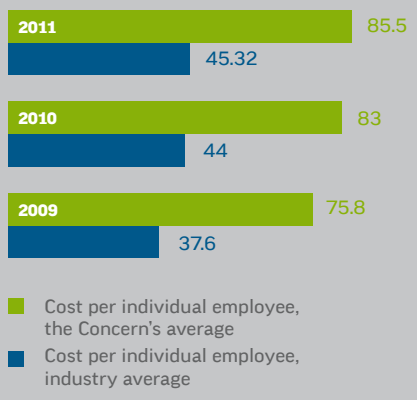
972 mln rubles

Concern's total spending on health rehabilitation and improvement in 2011

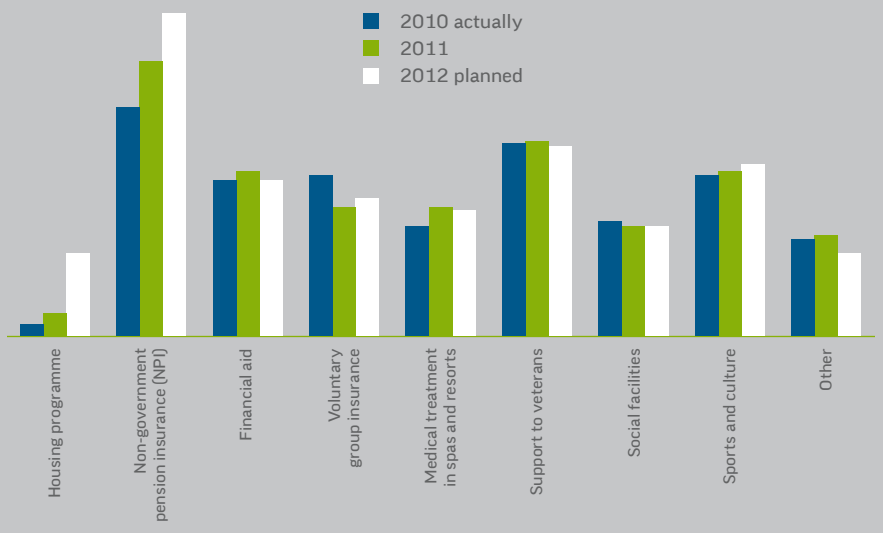
519.3 mln rubles

spended on non-government pensions in 2011

SOCIAL SPENDING, INDUSTRY AVERAGE AND THE CONCERN'S AVERAGE, THD RUBLES/EMPLOYEE, ANNUALLY



EXPENDITURES ON SOCIAL PROGRAMS BY YEAR



HEALTH PROTECTION, REHABILITATION, AND AID TO PERSONNEL

The range of health-protecting activities includes mandatory health checks (on hire, and periodical), in-depth medical examinations, clinical examination, and psycho-physiological examination. Employees receive medical services from medical offices of the Hospital of the Federal Medical and Biological Agency of Russia as regulated by the effective law, in respect of employees of the nuclear industry. Additionally, through VHI programs, 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 Saint-Petersburg.

Voluntary insurance of employees

295.7 mln rubles

corporate spending on personal insurance contracts in 2011 for all categories of insured employees

To improve insurance protection of its employees, the Concern signed contracts in 2011:

- personal voluntary health insurance, as service above local programs of mandatory health insurance, government guarantees, and budget-financed free medical services;
- personal voluntary insurance against accident.

Corporate spending on personal insurance contracts in 2011 for all categories of insured employees amounted to 295.7 mln rubles.

Health Rehabilitation

972 mln rubles

Concern's total spending on health rehabilitation and improvement in 2011

Every year, the Concern has activities for personnel rehabilitation in departmental clinics and health resort institutions. For example, in 2011, 9,651 persons received health rehabilitation and treatment in 10 clinics of the nuclear plants, under rehabilitation programs to treat cardiovascular, musculoskeletal, nervous system, gastrointestinal, and other nosologies, In addition, 7,569 individual s received health rehabilitation treatment away from home, in rehabilitation institutions and resorts in 20 health centers on the Black Sea, Mineral Waters area of Caucasus, and European Russia. The Concern's total spending on health rehabilitation and improvement in 2011 amounted to 972 mln rubles.

Aid to personnel

The mandatory employee training system deployed in Rosenergoatom assumes that employees not only improve their knowledge of safety, but gain first aid skills useful both at work and at home.

The curricula and mandatory employee training system implemented in the Concern improve employee's occupational level, and even make them more viable should they choose to leave the Company.

Retirees are entitled to allowances payable under collective contracts. In addition, the Concern gives aid to its retired employees through the Inter-Regional Organization of Rosenergoatom Veterans (MOOVK).

Mass sports and athletic workouts

To improve health and raise life standard of its employees, the Concern has always encouraged them and their family members to practice sports and various creative activities on a regular basis.

In 2011, 30 Concern-level corporate events were held, participated by more than 1,500 persons. Total number of employees who regularly practice in athletic clubs and art groups is more than 8 thousand. Three most prominent events were in the focus during the year:

- 4th winter Sports Rally of Rosenergoatom employees, held in Korobitsino (Leningrad Oblast). The Sports Rally competitions in Alpine skiing, ski racing, and poli-athlon welcomed over 200 athletes from nuclear plants of Balakovo, Beloyarsk, Kalinin, Kola, Kursk, Leningrad, Novovoronezh, Rostov, Smolensk, and representatives of the Concern's HQ Administration.
- 1st Children and Teenagers Arts Festival "We Are Your Children, Russia" was held in Desnogorsk (Smolensk NPP), and welcomed children's and youth art groups from the nuclear plants of Balakovo, Beloyarsk, Kursk, Novovoronezh, Rostov, Smolensk – over 250 persons.
- 7th Folklore Festival of the Concern's Employees "2011 Live Spring" is one of the corporate traditions, it welcomed art groups from eight nuclear plants in Russia, and the amateur choir of the Concern's HQ Administration, over 300 persons.

Achievements of the Corporation's athletes in 2011:

- Dmitriy Zherebchenko (Kursk NPP) – fencing World Cup winner, European championship winner, world cup bronze prize;
- Yulia Biryukova (Kursk NPP) – fencing silver prize winner in world championship, and European championship winner;
- Yekaterina Kazhikina (Kursk NPP) – fencing world cup, bronze prize winner, European junior championship winner.

Team victories:

- 1st place in Russian Motor-Boating Championship – team of Beloyarsk NPP;
- 1st place in team contest at Russian Carting Championship - Novovoronezh Cart team (Novovoronezh NPP);
- 1st place in 8th International Mini-Soccer Competition (Paks, Hungary) the Concern's combined team, formed of players from nuclear plants of Kola, Leningrad, Rostov;
- 2nd place in team contest at International Workers Sports Games (Albena, Bulgaria) – the Concern's combined team;
- 3rd place in 2011 Nuclear Industry Winter Sports Rally in Lesnoy – the Concern's combined team;
- 3rd place at European Junior Fencing Championship – won by Inna Deriglazova and Yekaterina Kazhikina (Kursk NPP) who competed as part of Russian national team.

1.5 thd persons

were held in 30 Concern-level corporate events in 2011

NON-GOVERNMENT PENSION INSURANCE

In 2011, as new retirees by age, 1,299 former employees of the Concern, received non-government pensions. Spending on non-government pensions amounted to 519.3 mln rubles. As of December 31, 2011, non-government pensions were paid to 13,449 retirees of the Concern. Average monthly non-government pension was 1,712 rubles, with a total of 205.9 mln rubles paid by the Non-Government Pension Fund as additional allowances to retired employees in 2011.

519.3
mln rubles
spended on non-government pensions in 2011

Since 2011, the pension co-financing program (NPI) was commissioned for employees of Rosenergoatom. The co-financing program now covers 2,506 employees of the Concern.

Changes to the Regulation on Co-financing of Non-Government Pension Insurance took effect. For employees whose retirement age begins between January 01, 2014 and December 31, 2018, and who joined the co-financing program in 2011, the Concern pays extra 1,000 rubles monthly in addition to pension savings.

NPI CO-FINANCING PROGRAM

Item	2009	2010	2011
Retired individuals	11,422	12,716	13,449
Pensions paid, mln rubles	166.4	187.4	205.9
Total paid by the Corporation to Non-Government Pension Fund for pension payments, mln rubles	528.5	453.5	519.3

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, letting them share their experiences with younger specialists, providing skilled medical assistance, and helping them with daily chores.

The Concern honors the Agreement on Social Protection for the Concern's Veterans (Retirees), under which:

- social, moral, and financial assistance is provided to veteran employees, as well as medical aid and health improvement;
- social and other programs are implemented to protect the veterans;
- veterans share experiences and skills with younger generation of employees, impart their patriotic spirit, and pass on glorious traditions of work;
- veterans are invited to work with public, including through mass media, to promote the nuclear power industry;
- inviting veterans to join feasible paid work in temporary teams on assignments of research, production, etc., and other involvement in activities, to engage their vast occupational and life experiences. For this purpose, the Concern has the Public Expert Veterans Panel formed in 2007.

In 2011, actual number of retirees in the Inter-Regional Organization of Rosenergoatom Veterans (MOOVK) grew to 15,359 persons, including 932 veterans of Chernobyl Disaster response teams, and 728 World War II veterans, war time home front veterans, and concentration camp prisoners.

In the course of cooperation between the Concern and MOOVK during 2011:

- 1,387 veterans and retirees received allowances from the Concern for health services;
- 7,602 retirees were awarded the "The Industry's Distinguished Retiree" status, 875 received "The Industry's Honored Retiree", and 1,344 the "Company's Retiree" status;
- From the funds donated by the Concern under charity contracts, MOOVK local chapters provided financial aid to their members in difficult situations, including purchase of medicines and high-tech medical aid, gifts on special dates, etc.

Creating an International Union of Nuclear Industry Veterans became an important event in the history of the Concern's veteran movement. Outside of Russia, the idea of such union was supported not only by veteran organizations, but also by operators and organizations in eight nations: Armenia, Bulgaria, Hungary, Lithuania, Ukraine, Finland, Czech Republic, and Slovakia.

Looking at the veterans movement in Rosenergoatom, one can conclude: the public entities established by the initiative of veterans are on the right organizational and methodological path. Their goal for the future is to get better and more active, serving the interests of growing nuclear power industry in Russia.

About 27%
of total employment are young people aged under 35 years old

YOUTH POLICY

Young people aged under 35 are about 27% of total employment. The Concern's management tries to create good financial, social, and residential for each young employee, who should also have opportunities for occupational and career growth. This is guaranteed by effective programs and regulations on the youth policy.

The youth policy is implemented under the long-term corporate program "Youth Policy of Rosenergoatom Concern OJSC for 2007–2009 and until 2015". The document states main directions for the Concern to address employed and pre-employment young people in communities around nuclear plants:

- occupational development for young specialists;
- social protection for young employees (benefits and guarantees to young employees, help with housing and social issues);
- career consulting for high-school and college students;
- developing corporate youth culture.

For 10 years, the Concern has operated a Coordination Council of authorized representatives from youth organizations. Youth organizations in the Concern work in the directions of R&D, welfare, and IT, corporate culture, and patriotic education. Annually, the Concern spends about 12 mln rubles to finance events and activities under its youth policy. Traditional events include conference "NPP Youth: Safety, Science, and Production", art festivals, including "Desnai", knowledge contests, and "Parliamentary Debates", occupation skill contests among young specialists, spring and summer events "Memorial Watch", and others.

UNION ACTIVITIES

The Concern's HQ Administration and Branch Companies created and run base-level trade unions that speak for the employees' interests and protect their rights, being part of the Russian Trade Union of Nuclear Power and Industry Workers; they are united as the Association of base-level trade unions at nuclear plants and the HQ Administration. The Association helps to pursue one balanced policy that represents and protects lawful rights and interests of the Concern's employees.

Standing corporate meetings (SCM) have become a traditional efficient form for the Concern's management to cooperate with the trade unions. Since 2004, they are held on a quarterly basis at one of the nuclear plant, and attended on the one part by executives and employees of the Concern's HR and social units, and on the other by chairpersons of base-level trade unions. The parties meet to discuss vital issues of employment and social policy.

In interaction between trade unions and the Concern's administration, the central event of the year was the annual corporate conference that was convened to debate and approve "Corporate Agreement of Rosenergoatom Concern OJSC in Employment and Social Relations". The document is the result of joint efforts by base-level unions and the employer. The Corporate Agreement regulates the employer-employees relations, and is basis for collective contracts later signed in all Branch Companies of the Concern. Collective contracts have been signed and are effective in all operating nuclear plants and construction projects, and in the HQ Administration.

1,387
veterans and pensioners
received the necessary treatment at the expense of Concern

6.7. DEVELOPMENT OF HOST REGIONS

Rosenergoatom has considerable influence on the communities around its nuclear plants, and spares no effort to ensure sustainable development in its host regions. The Concern emphasises interaction with public activists, government and municipal officers, local public and environmental entities.

Each GWt of nuclear plant installed capacity means

a 1,000 high-skilled jobs

The Concern contributes much to energy security of the regions, it notably assists local infrastructure, creates jobs, and gives material support to the development of healthcare, sports, culture, welfare, and education in local communities.

ECONOMIC INFLUENCE

THE CONCERN CREATED AND DISTRIBUTED ECONOMIC VALUE BY RAS, BILLION RUBLES

Item	2009	2010	2011
Created economic value	206.0	216.4	210.3
incomes (sales revenues, gains from financial investment, and sold assets)	206.0	216.4	210.3
Distributed economic value	101.2	102.3	131.2
operating costs (payments to suppliers and contractor, costs of purchased materials)	70.6	65.3	92.4
salaries and other amounts and benefits for employees	18.0	21.5	24.2
payments to capital providers	1.4	1.2	0.2
gross tax payment (excluding income tax and VAT)	10.8	13.9	14.0
investments in communities, incl. donations	0.5	0.4	0.5
Retained value	104.8	114.1	79.0

The Concern is a major taxpayer in all regions where it is present.

TAX PAYMENTS TO GOVERNMENT BUDGETS OF DIFFERENT LEVELS, MLN RUBLES

Indicators	2009	2010	2011
Federal government	588	3,892	7,399
Local government budgets and budgets of Federal Administrative Subjects	9,078	12,517	10,906

IMPROVEMENT OF HOUSING CONDITIONS FOR EMPLOYEES

In 2011, the Company commissioned a new housing program that helps employees purchase permanent housing; under the program, depending on their needs, employees can receive interest-free target loans from the Concern and pay a first mortgage installment, and/or have reimbursed part of mortgage interest payable to the bank. In addition, construction of housing for employees continued.

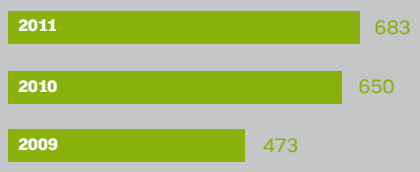
Thus, the Concern helped 683 employee families to improve their housing conditions in 2011.

CREATING QUALITY JOBS

1 GWt of nuclear plant installed capacity creates more than a thousand high-skilled jobs, and also has a great influence on the average paycheck, and therefore living standards in the host regions.

Development of Host Regions: Indicators and Facts

EMPLOYEE FAMILY MEMBERS WHOSE HOUSING CONDITIONS IMPROVED WITH THE CONCERN'S ASSISTANCE



Each GWt of nuclear plant installed capacity means

a 1,000 high-skilled jobs

683 employee family members whose housing conditions improved with the Concern's assistance

TAX AMOUNTS PAID BY THE CONCERN IN 2011, BY REGIONS AND GOVERNMENT BUDGET LEVELS, MLN RUBLES

S/no	Federal Administrative Subject	Budget level		
		Federal*	Regional	Local
1	Saratov Oblast	0.038	840.234	94.510
2	Sverdlovsk Oblast	0.758	429.145	63.872
3	Chukotka Autonomous District	0.000	224.135	42.953
4	Tver Oblast	0.369	1,104.531	100.427
5	Murmansk Oblast	0.006	682.881	142.823
6	Kursk Oblast	0.017	1,141.032	126.790
7	Leningrad Oblast	0.000	1,861.603	149.756
8	Voronezh Oblast	0.684	651.628	104.676
9	Rostov Oblast	0.004	1,848.894	70.319
10	Smolensk Oblast	1.762	675.978	107.222
11	Kostroma Oblast	0.001	5.304	30.070
12	Republic of Bashkortostan	0.000	17.972	10.572
13	Kaliningrad Oblast	0.000	9.141	2.560
14	Moscow	7,395.521	335.152	110.540
15	Moscow Oblast	0.000	0.002	1.361
16	St. Petersburg	0.000	0.600	0.000
17	Arkhangelsk Oblast	0.000	0.001	0.000
18	Kaluga Oblast	0.000	0.016	0.000
19	Nizhny Novgorod Oblast	0.000	0.037	0.000
20	Kamchatka Krai	0.000	0.044	0.000
	TOTAL	**7,399.159**	**9,828.332**	**1,158.451**

* For the federal government budget, information does not include VAT reimbursed.

AVERAGE PAYCHECK AT NPPS COMPARED TO AVERAGE PAYCHECK IN THE HOST REGIONS, RUBLES/MONTH

Unit	2009		2010		2011	
	Average paycheck at NPP	Average paycheck in NPP regions of presence	Average paycheck at NPP	Average paycheck in NPP regions of presence	Average paycheck at NPP	Average paycheck in NPP regions of presence
Balakovo NPP	34,782	13,110	42,212	14,554	47,783	14,628
Beloyarsk NPP	26,896	15,075	37064	17180	42,858	1,7828
Bilibino NPP	14,505	31,695	33,147	15,405	41,965	15,858
Kalinin NPP	34,055	14,161	44,849	14,645	51,142	15,591
Kola NPP	33,882	11,562	41,982	12,575	47,950	13,229
Kursk NPP	31,058	12,533	39,779	13,871	46,649	14,094
Leningrad NPP	33,387	18,360	40,748	21,250	48,560	24,001
Novovoronezh NPP	32,213	13,314	39,514	15,187	46,699	15,750
Rostov NPP	43,925	13,883	46,567	14,357	51,655	15,807
Smolensk NPP	34,010	13,032	40,028	14,511	47,552	14,776

INFRASTRUCTURE DEVELOPMENT. SOCIAL CONSEQUENCES

NPP	Contribution to infrastructure, and social influence in territories
Balakovo NPP, in Balakovo, Saratov Oblast	**Infrastructure improvements:** • The following was built to the title of Balakovo NPP: 541,500 m2 of housing (11, 481 flats), three schools for 5,638 students, 11 kindergartens for 3,200 children, gymnasium, medical office, polyclinic for 1,500 visitors, stores with total area 4,383 m2, public food facilities to sit 741, four pharmacies, children's health resort "Lazurny", a fire-station. • The special extra-budget fund of Balakovo NPP financed: a railroad station for 600 passengers, community hospital therapy building for 300 beds, laundry, three schools for 818 students in nearby villages, water sports facilities, pumping station, water treatment plant, and some other infrastructure units. **Social influences:** • The industry development program keeps about 4,000 persons employed at Balakovo NPP, with 1,800 more jobs in its subsidiaries and affiliates. • "Nuclear plant for the city": a modern beach complex built on the Volga; a kindergarten built under product "Kindergarten for Balakovo kids". • "Disabled children can live better": assistance for the adaptive physical culture center based at the equestrian club in the town of Natalyino, using therapeutic horseback riding, and financial assistance to pay for medical treatment. • "The Nuclear industry chooses healthy living": social programs to promote healthy living, prevention of alcohol and drug addiction, aid to problem families, children and teenagers, athletic and tourist clubs "52nd Parallel" (mountain climbing) and "Balakovo-Volga" (cycling).
Beloyarsk NPP, in Zarechny, Sverdlovsk Oblast	**Infrastructure improvements:** • 1.1 billion rubles to be invested in social facilities to be built and retrofitted in Zarechny, Sverdlovsk Oblast in the nearest future. • Modernised: motor roads, Culture Center; children's Center of Technology built; gas pipeline built to supply the urban district of Zarechny, a boulevard arranged in ulitsa Aleshchenkova; residential sewage at the city's treatment facilities. Construction of club building "Theater for Youth Audience" started. • Since 2010, Beloyarsk NPP has carried out bio-treatment of the Beloyarsk Water Reservoir, using the algae method: wholesome algae (a type of chlorella) added to water as a biological method to displace cyanobacteria that cause water molding. **Social influences:** • City Carnival held on the initiative of and with support from Beloyarsk NPP. • Beloyarsk NPP hosts a contest of research papers by students: "Kurchatov Public Studies". • Since 2009, Beloyarsk NPP has hosted the environmental action "Community in Flowers". The city is adorned with new flower beds, and the public are encouraged to be more careful about the environment.

INFRASTRUCTURE DEVELOPMENT. SOCIAL CONSEQUENCES

NPP	Contribution to infrastructure, and social influence in territories
Kalinin NPP, in Udomlya, Tver Oblast	**Infrastructure improvements:** • Kalinin NPP produces 70% of electricity generated in Tver Oblast. The plant gives 25% of commodity products sold by the Tver Oblast, and 96% of total production in the Udomlya District. • Kalinin NPP is the region's largest taxpayer. After Unit No. 4 is commissioned, tax payments will increase by 1.1 billion rubles. • In 2010, the Concern's subsidiary OAO AtomTeploElektroSet began transmission and distribution of thermal energy in Udomlya, and retrofitting the heating network. • A 51.5 km long Westside evacuation road was built that connects Udomlya with the large municipality of Bologoye. • Bridges were rebuilt in the villages of Gaynovo, Krasny May, and Manikhino. • Potable water supply arranged to the north quarters of the town of Udomlya. • In 2011, a new 92-flat block was commissioned under the Rosenergoatom Concern OJSC mortgage program. • The program to build power units No. 3 and 4 includes a whole range of social items: obstetrics building, athletic building, two schools, public information center, Russian Orthodox cathedral, water-intake structures, sewage treatment structures, central heating stations, improved main streets, estate-level utilities and landscaping, a living block remodeled to be a hotel, a 100-seat cafe, and a railroad station in Udomlya. **Social influences:** • Kalinin NPP employs over 3,000 people of various occupations, residents of Udomlya and the surrounding villages around. • Under "Health" program, annually about 4,000 employees with their children go to resorts in Tver and Novgorod, Southern Black Sea and Caucasus Mineral Waters area, for recreation and health improvement. • In Udomlya, a modern Kalinin NPP health and sports facilities opened for the general public and visitors from the villages nearby. • "Nuclear Plant Olympics 2011" for high school students. The 2010 contest awarded 32 target vouchers for students to enter prestigious universities and colleges. • "I Discover the World. My First Steps in Science". A science and education career consulting project addressed to students of grades 2-9 in secondary schools. • "Equal among Equal". Long-term social program for students of social and correctional institutions in Udomlya and the area around it.
Kola NPP, in Polyarnye Zori, Murmansk Oblast	**Infrastructure improvements:** • Ensuring normal functioning of the housing system. Construction and operation of electrical boiler house. Housing management company "Atom-ZhKH" established. • City stadium repaired. Sports facilities in the city financed and improved (alpine skiing center, ice palace, skiing track, simulator hall, multi-function hall). Free athletic clubs for children. • Assistance with building and equipment for kindergarten for 75 children. • Project to celebrate the plant's 40th anniversary (2013): capital repair of the stele on the highway entrance, reconstruction of hero pilots city square, "Kola NPP 40 Years" park to be built; repair of block porches, city square; structures of four bus stops to be replaced. **Social influences:** • Help the city's school board with modern equipment for schools and kindergartens. • Aid to War and Labour Veterans Council. • Contest of social projects for the city's businesses and organisations. • Regular volunteer cleaning activities at the city limits.

INFRASTRUCTURE DEVELOPMENT. SOCIAL CONSEQUENCES

NPP	Contribution to infrastructure, and social influence in territories
Kursk NPP, in Kurchatov, Kursk Oblast	**Infrastructure improvements:** • Tax revenues from Kursk NPP to the city budget were 117 mln rubles (84% of all tax revenues). • Kursk NPP joined the Federal Target Program for development of single-employer communities. The city's development strategy is written with the immediate involvement of the nuclear plant's employees. • A tradition of many years: Good Samaritan Program (improvements for yards, playgrounds, outdoors sports equipment, etc.). **Social influences:** • The public can use sports facilities together with nuclear plant employees. • Free training for all residents' children in the sports schools, free attendance in choirs and dance classes. • Charity to finance city events, and activities in schools and kindergartens. • Kursk NPP initiated and participated in the All-Russia environmental marathon "Community's Green Belt". • Kursk NPP and Kursk State Polytechnic College have a social partnership program to train resources for businesses of the nuclear industry (specialty "Nuclear Electrical Plants and Units").
Rostov NPP, in Volgodonsk, Rostov Oblast	**Infrastructure improvements:** • The NPP covers over 90% of the Rostov Oblast's needs for electricity. • The machine-building cluster of Volgodonsk (about 20 businesses) thanks to recently built nuclear plant units won contracts to manufacture and supply construction equipment, nuclear power equipment, development of technologies, and diagnostic equipment. • In 2011, tax payments amounted to about 2 billion rubles, with over 70 mln rubles left in the city (six months cost of total housing systems' spending). • During construction of power unit No. 2, more than 1 billion rubles were spent to build social infrastructure in Volgodonsk and nearby rural communities. The Company built many miles of gas pipeline, motor roads, power lines, water and sewage lines, and several apartment blocks. New facilities were commissioned for healthcare, education, culture and sports. **Social influences:** • At the peak of construction activities, the nuclear plant's power unit No. 2 created over 7,000 jobs. Today, construction of power units No. 3 and 4 employs more than 5,000 individuals, and about 40 corporate contractors. • Rostov NPP co-founded the Regional Folksong Festival "Strings of Heart". • Rostov NPP jointly with the city sports committee supports the martial arts federation, and hosts contests of different levels. • Rostov NPP co-founded the "Save the Sea" action – a grass-roots movement trying to bring the problems of the Tsimlyansk Reservoir into the focus of government and public attention.

INFRASTRUCTURE DEVELOPMENT. SOCIAL CONSEQUENCES

NPP	Contribution to infrastructure, and social influence in territories
Leningrad NPP, in Sosnovy Bor, Leningrad Oblast	**Infrastructure improvements:** • The NPP covers over 90% of the Leningrad Oblast's electricity needs. • Highway A-121 repaired, with enhanced macadam pavement. • A new motor road section built, 1.7 km long, complete with drainage, along Nevsky Prospekt, from ul. Leningradskaya to ul. Molodezhnaya; a 1.4 km long motor road widened and paved, from ul. Leningradskaya to LAES-1 sea terminal. • Leningrad NPP-2 construction project will build a closed (protected) source of water supply for Sosnovy Bor, move a section of railroad, and build a bypass road. **Social influences:** • Thanks to construction of substitute capacity, jobs will be available for personnel of decommissioned power units in Leningrad NPP: by 2020, Leningrad NPP-2 will employ 3,277 individuals. • At the peak of construction, there will be 5-6,000 construction and installation jobs. • Contracts to manufacture products and equipment have been signed with many businesses both in Sosnovy Bor and in Leningrad Oblast, and other Russian regions. • Co-financing a project to build sports grounds for schools, and a football stadium for the city.
Novovoronezh NPP, in Novovoronezh, Voronezh Oblast	**Social influences:** • Program "Grass-Roots Control": proprietary project to create a public control system in the municipal housing system of Novovoronezh. • Creating and running Precinct Councils in 13 municipal districts of Novovoronezh. Project to create a system for Novovoronezh NPP to interact with local self-governments, residents of apartment blocks, on the public's initiative to restore order in the city's housing system. • Project "Good Deeds Are Rewarded" – a good Samaritan program in housing, assisted by Novovoronezh NPP. • Jointly with Novovoronezh local government, co-financing and supporting the city's football team "Atom". • Co-financing capital repair of gymnasiums in schools and in Sports Center.
Smolensk NPP, in Desnogorsk, Smolensk Oblast	**Social influences:** • Organising the City Day event. • Organising voluntary environmental clean-up campaigns in the city. • "Smolensk NPP for Children" (sponsorship for kindergartens, schools, Solnyshko social rehabilitation center, Yekimovichi township boarding school). • Project "Smolensk NPP – Regional Ecology" (environmental studies in the city's schools, environmental applied science conferences for city teachers and students, presentation of the Smolensk NPP, etc.). • "Atom Class": part of a high-school career consulting project, all city schools have equipped nuclear plant rooms with the Company's assistance, and prepared special programs for students of different age groups, to tell them about the nuclear power industry and operational principles of the nuclear plant.

6.8. CHARITY AND SPONSORSHIP

The goals of the Rosenergoatom's charitable and sponsorship programs are to perform its social duties, consolidate employees, and raise their responsibility and self-respect.

The Concern has had charitable programs 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 recipients of charity. Co-financing is one of such principles: the Concern partners up with other businesses and organisations in practically every project. In addition, the Concern's charity projects have inputs from private individuals: employees of nuclear plants and the HQ Administration.

Directions for charity and sponsorship include:

- assistance to socially disadvantaged members of the general public – orphaned children or persons in dire straights, the disabled, war and home front veterans, large families, etc.;
- program of humanitarian aid to orphanages: legal, medical, and other support for orphanages under patronage. Improving qualification of personnel, consulting. Festivals, workshops, pilgrimages and sightseeing tours for children to be better socialised;
- restoring and renovating places related to Saint Sergius of Radonezh and Seraphim of Sarov;
- support and promotion of sports and a healthy lifestyle, and patriotism;
- events to improve social and sport infrastructure in communities around the NPP, landscaping;
- support for cultural projects that promote moral values and responsibility.

Total spending on charity and sponsorship in 2011 amounted to 491 mln rubles.

DIRECTIONS OF CHARITY AND SPONSORSHIP IN 2011

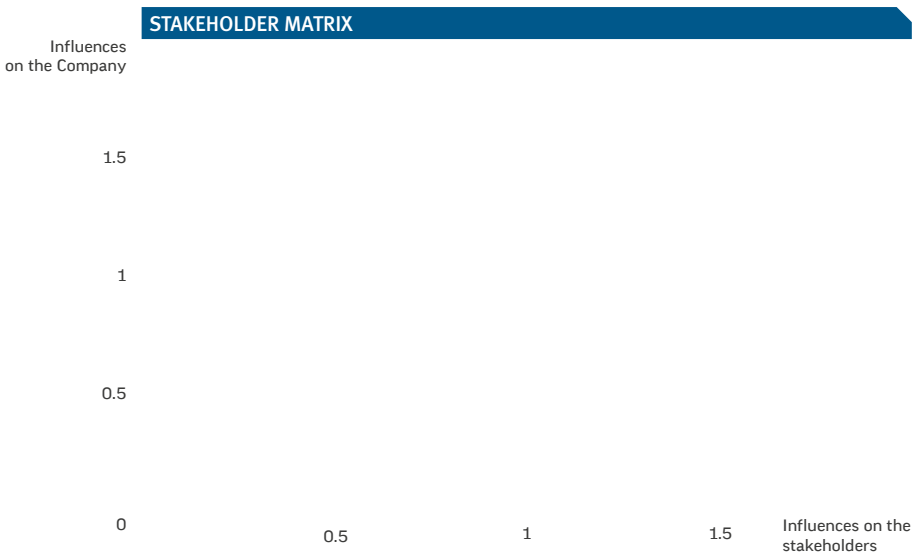
Charity and sponsorship category	Expenditure in 2011, mln rubles
Traditional events under the charity and sponsorship policy	194.5
Industry-level programs	156.7
Charitable activities and sponsorship in nuclear plant locations (including aid to retirees, persons in need, institutions for children, sports infrastructure, etc.)	142
TOTAL	**493.2**

6.9. ENGAGEMENT OF STAKEHOLDERS

The Rosenergoatom's approach to engagement of all stakeholders rests on the following principles:

- **trust and sincerity;**
- **partnership;**
- **openness and transparency;**
- **mutually beneficial cooperation;**
- **regular constructive dialog;**
- **performing all obligations assumed.**

STAKEHOLDER MATRIX



* This matrix was built based on the results of polling among the Concern's top executives.

Engagement of stakeholders

Stakeholders	Interests	Engagement procedure
Russian Federal Government Agencies	• Ensuring nuclear, radiation and environmental safety • Reliable electricity supplies • Transparent and efficient operation	• Regular information disclosure on the corporate website • Publication of environmental Annual Reports • Annual publication of open Annual Report on • ARMS system
Government Control (Supervision) Agencies	• Ensuring nuclear, radiation and environmental safety	• Public hearing and public environmental expert examination of NPP power unit construction projects • Publication of environmental Annual Reports • Publication of open Annual Report
Stockholders: ROSATOM, JSC Atomenergoprom	• Ensuring stable and safe operation of active NPP, nuclear and radiation safety • Increasing the role of nuclear plants in electricity generation on the Russian power market	• Active participation in international and industry-level forums, conferences and workshops • Publication of environmental Annual Reports • Annual publication of open Annual Report
The Concern's employees and trade unions	• Respectable paycheck • Responsible social policy • Training and career growth	• Discussing the corporate agreement and collective contracts • Standing corporate meeting • Evaluation of personnel's involvement • Regular meetings with management • Annual publication of open Annual Report
Consumers of electric energy	• Operation safety, uninterrupted supplies of electricity	• Participating in writing and changes of industry level agreements • Participating in industry level conferences and forums
International organisations, including nuclear sector	• Compliance with all international standards and regulations on safe operation of nuclear plants	• Regular audits and visits by international organizations (WANO, IAEA) • Participating in international meetings on nuclear and radiation safety
Local self-government, local communities in the regions of presence	• Active social policy in the region • Operation safety, no negative impact on the environment • Stable tax payments • Local infrastructure improvements	• Active coordination with local public and governments to prepare regional development programs • Communication through topical meetings and dialogues • Regular meetings with regional and local governments
Environmental organisations	• Operational safety • Lower negative impact on the environment during construction and operation of nuclear plants	• Public hearings and public environmental expert examination of nuclear power plant construction projects • Industry-level media, websites, PR centers, ASERC
Suppliers, contractors	• Transparent purchasing policy • Disclosure of development plans and purchasing policy	• Developing the purchasing system in the industry • Web-publication of year purchase program • Purchasing procedures through digital exchanges • Annual publication of open Annual Report
Mass media, public organisations	• Operating efficiency • Social responsibility	• Active information policy, meetings, briefings, regular comments by the management for mass media on all key events in the Company and industry

ENGAGEMENT OF STAKEHOLDERS IN 2011

Following the Fukushima accident, new formats were developed to engage with the public. In particular, all NPPs conducted public audits to enable public control over the operation of nuclear power plants.

Between March 30 and April 30, 2011, nuclear plants welcomed over

400

public opinion leaders,

accompanied by more than 250 reporters from regional and national mass media

Under the Public Audit Program in the nuclear power industry, organized by ROSATOM, all Russian NPPs were visited by specially formed public activist groups who examined the systems to ensure NPP safety, working conditions and culture at nuclear plants. The public audit groups included representatives from legislative and executive government, local self-government, public and environmental organizations, civil defense, science, medicine, education, culture, clergy, and journalists. Between March 30 and April 30, 2011, nuclear plants welcomed over 400 public opinion leaders, accompanied by more than 250 reporters from regional and national mass media.

The public audit program also arranged 12 media tours to Russian nuclear plants for printed and digital media. During one month, Russian nuclear plants were visited by more than 240 reporters, including 40 plus media representatives from Austria, Bulgaria, Turkey, Finland, Czech, Germany, France, and Japan. Among other places, foreign journalists toured to Kalinin and Rostov NPP.

In April 2011 media tours and public audits of nuclear plants involved about

900

people

Media tours and public audits of nuclear plants involved about 900 people. Participants of the media tours spoke of high degree of reliability and safety of Russian nuclear power plants.

Public audits are now one of the links to control safety and emergency readiness of nuclear power facilities in Russia.

In 2011, visits and tours to nuclear plants became more frequent, including by environmental activists. 10,744 persons participated in 500 tours. In addition, visits to nuclear plants were made by more than 200 bloggers, including media reporters, authors, photographers, public activists, scientists, and so on. They published their impressions on 225 sites. After the visits, 4,500 photos were posted. The entire audience of blog posts about the visits was more than 600,000 persons, of whom 98% left positive comments.

In 2011

10,744

persons

participated in 500 tours

Under applicable Russian law, public discussions must be arranged at all stages of documents underlying economic and other activities. Since 2011, Rosenergoatom has seen the public discussions as a public relations tool used to explain social and economic advantages of the nuclear power industry.

Not only do public hearings involve many participants – up to 1,700 persons – the public are also represented on taskforces formed to prepare public hearings. In 2011, public hearings were held on preliminary materials for environmental impact assessment of Rostov, Kola, Novovoronezh, Kursk, Balakovo NPps. Before all public hearings, roundtables are organised to meet the public and mass media. In addition, expert roundtables convene during the year to discuss nuclear plant safety as key topic.

The entire audience of blog posts about the visits was more than

600,000 persons,

of whom 98% left positive comments

In 2011, new formats emerged to work with employees and the public: General Director web reception room; the Elder Council as an attempt to make as much use as possible of the vast practical experiences of the industry's people of authority; three-level training for speakers; TV bridges for Russia's nuclear power plants to meet local self-government, public opinion leaders, veterans, young people; video reports were telecast about the Concern's momentous events; a weekly newscast ROSATOM Country, and a video content exchange system were established.

The Concern's 37,000 employees represent the interests of the nuclear power industry before their families, friends, and relations.

In 2011, public representatives visited Russian nuclear plants:

- deputies from the State Duma of the Federal Assembly of the Russian Federation visited Kursk NPP in March 2011 (and approved construction of Kursk NPP phase 2);
- deputies from the State Duma of the Federal Assembly of the Russian Federation and Members of Parliaments of the Nordic Council visited Kola NPP in April 2011 (they examined issues of safe nuclear plant operation, including utilisation of spent nuclear fuel);
- deputies from the Rostov Oblast Legislature (MPs and the Governor examined issues of NPP safety, and decided to form a Public Council on the Safe Use of Atomic Energy in the Rostov Oblast).

ENGAGEMENT OF STAKEHOLDERS IN PREPARATION OF THE ANNUAL REPORT

For greater transparency and accountability in the preparation of Annual Reports, Rosenergoatom encourages involvement of stakeholders representatives. Dialogues and public consultations on the prepared report comply with standards AA1000SES Institute of Social and Ethical Accountability, and Global Reporting Initiative (GRI, version G 3.1).

As the previous versions of the report were prepared, the Concern's management assumed certain responsibilities regarding the procedure and extent of information disclosed on various aspects of operations. Most obligations were performed in this report, in particular, the most important comments were considered recommending that the report should have additional sections on corporate culture, legal grounds of the Concern's activities, and discuss problems of ensuring technology leadership and efficient personnel management within Rosenergoatom.

As this report was prepared, the Concern engaged in three parallel dialogues with stakeholders: "Discussion of the Concept of Rosenergoatom Concern OJSC 2011 Annual Report" (January 27, 2012, in Moscow, 27 speakers), "Assuring Safety of Nuclear Plants in Russia" (April 03, 2012, in Desnogorsk, Smolensk NPP, 25 speakers), "Construction of New NPP Power Units in 2011" (April 20, 2012, in Moscow, 37 speakers).

On behalf of Rosenergoatom, the dialogues were attended by the deputy General Directors for activities, the deputy directors of active NPP and construction projects, and the directors for subsidiaries and affiliates, heads of structural units, and core specialists. Stakeholders were represented by spokesmen from the Federal and regional governments, municipalities in the Concern's regions of presence, environmentalists and trade unions, in particular Russian Trade Union of Nuclear Power and Industry Workers, environmental organizations, representatives of the mass media, and analysts.

In the course of dialogues, stakeholder spokespersons raised a number of proposals, requests, and recommendations as regards disclosure of key construction in the Concern's Annual Report.

The Concern arranged special activities to consider proposals and recommendations raised by the stakeholders during the dialogues. As a result, 17 proposals and recommendations (85%) were fully considered in this version of the Annual Report, and 3 (15%) were not. The Concern accepted a whole series of proposals to add information on NPP safety assurance, stakeholder engagement, development in the host regions. Some stakeholder initiatives (the need to review tax law and redirect taxes paid by nuclear plants to local budgets, giving preferences to the public residing within 30 km from nuclear power plants) were not considered as ones beyond the Concern's scope of competence.

Some proposals were accepted for examination, in particular:

- request for systematic and permanent interaction with the public, especially where nuclear plants are planned to be built;
- actively use methods of public civilian control over nuclear plants activities, particularly independent assessment of environmental, radiation, nuclear safety of nuclear power facilities;
- focus on hiring a local workforce and contractors on the Nizhniy Novgorod NPP construction project, due to high unemployment in the region.

The Concern's 2011 Draft Annual Report, written considering the stakeholders' comments and proposals made during the dialogues, was presented at public consulting session on May 16, 2011, attended by representatives of key stakeholders from 12 organisations.

The results of the Concern's activities in 2011 were presented by V.G. Asmolov, First Deputy General Director. S.V. Churilova, Head of Office for Communications with Government and Public, gave a report on the procedure of engagement of stakeholders.

After the event, the Company received 12 comments with proposed changes, amendments and improvements to the Draft Report.

PUBLIC ASSURANCE STATEMENT ON THE ANNUAL REPORT OF ROSENERGOATOM

Rosenergoatom Concern OJSC (Rosenergoatom) requested that we should assess its 2011 Annual Report, the completeness and relevance of information therein disclosed, and the response to stakeholders' proposals and inquiries of Rosenergoatom.

For this purpose, we and our representatives were furnished with materials for examination: minutes of the dialogues, draft and final version of the 2011 Annual Report. In addition, we were offered an opportunity to participate in public consultations that discussed the draft report, held on May 16, 2011, and in dialogues with stakeholders (January 27, 2012 in Moscow, dialogue to discuss the Annual Report concept, attended by 27 stakeholder spokespersons; April 03, 2012 in Desnogorsk, (Smolensk NPP), dialogue on "Assuring Safety of Nuclear Plants in Russia", attended by 25 stakeholder spokespersons; April 20, 2012 in Moscow, dialogue on "Construction of New NPP Power Units in 2011", attended by 37 stakeholder spokespersons). During the events, all participants and stakeholder representatives were able to state their opinions.

We do possess 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.

We are aware of and recognise it as a merit that during the procedure of public assurance of its report, Rosenergoatom 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, this statement has no objective to confirm compliance of the report 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 of the report), 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 executives and employees during this public assurance of the report.

During this public assurance of the report, we did not review the system of information gathering and analysis in Rosenergoatom; nor did we examine its reporting processes. We are unaware of any facts that would make us question any information contained in the Report. The accuracy of information and statements in the report is the responsibility of Rosenergoatom. Whether or not any data in the report is true is not an issue for this public assurance. We have not received any reward or remuneration from Rosenergoatom for our participation in the public assurance procedure.

This text has been coordinated with all signatories. Rosenergoatom 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 corporate website, and discussion of the results of an independent evaluation of the report, we do confirm the following:

- 2011 Annual Report of Rosenergoatom contains significant information, encompasses key areas of responsible business practices, and reasonably discloses information about the activities of Rosenergoatom. We express our shared positive evaluation of the report, both the format and the scope of information therein presented;
- In its report, Rosenergoatom discusses all important issues of relevance to stakeholders, including aspects of safety, efficient integrated management of nuclear plant operation, influence on the economy, society, and the environment. The report sufficiently represents activities Rosenergoatom under principles of responsible business, it discloses the meaning and social significance of strategic initiatives to develop the Russian power industry;
- In its report, Rosenergoatom adopts an integrated approach as a means to disclose as much as possible information: it states its mission, strategy, and values, its policy with respect to key stakeholders, its system of corporate governance, its achieved economic, social and environmental results through a wide range of performance indicators. The report is based on Russian and international reporting standards, and so its data can be compared to other companies.

While we speak of strong points in 2011 Annual Report of Rosenergoatom Concern OJSC, we must also draw the attention of Rosenergoatom management to the following aspects of relevance and completeness, seen as important by stakeholders, and we recommend that they should be considered in subsequent reporting cycles:

- Owing to the importance of Rosenergoatom for the Russian economy, greater emphasis should be placed on the principles and goals of sustainable growth, and the Concern's ongoing efforts to achieve such goals.
- The report covers essential aspects of risk management and related methods. Nevertheless, we recommend that in future more attention should be paid to information on management of environmental, social, and other non-financial risks.

Thus, in its report Rosenergoatom failed to respond to all questions asked by its stakeholders, but most questions were answered in the course of dialogues with stakeholders and public consultations. Therefore, we believe that further expansion of the report's scope would be unreasonable.

Interaction with stakeholders of Rosenergoatom and consideration of their comments and requests

During its activities that involved stakeholders, Rosenergoatom furnished ample information about its strategic goals and objectives for further growth, operating results after the reporting period, and assistance from Rosenergoatom to growth of its regions of presence. Having read the report and participated in the dialogues that discussed the most topical issues of the Annual Report, and public hearing on the draft Annual Report of Rosenergoatom, we do confirm its high commitment to ensure performance acceptable for the public and the environment. We observe that Rosenergoatom management is aware of the constructive attitude and the future in engagement of the stakeholders, and acts accordingly.

Response by Rosenergoatom to stakeholders' comments

Rosenergoatom responded to the stakeholders' comments by making changes and amendments to the final version, and correcting diverse technical errors and faults previously pointed out by the parties involved in the activities.

Among other things, the information in the Sections "Risk Management", "Assurance of Nuclear and Radiation Safety", "Human Resource Management" and so on was updated and added. The report placed special emphasis on and dedicated an entire section to the issues of sustainable growth. Therefore, Rosenergoatom acted as it had promised in its previous Annual Report, where it intended to include detailed and exhaustive information in its subsequent Annual Reports. In certain aspects, Rosenergoatom either promised to disclose information requested by the stakeholders in future reports, or it provided relevant grounds for non-disclosure. Thus, as the final version of the 2011 Annual Report was prepared, the management of Rosenergoatom demonstrated that it was willing and able to consider stakeholder comments and requests, and to respond to problems raised in a constructive way. We believe that Rosenergoatom has shown good progress in its growing engagement of the stakeholders, and our comments above do not diminish or disprove the report. We are hopeful that Rosenergoatom will continue to build its system of public reporting and engagement of the stakeholders. In view of the above, we state our favorable perception of the report filed by Rosenergoatom, and our support for commitment of Rosenergoatom to the principles of responsible business practices; we also acknowledge that the 2011 Report filed by Rosenergoatom passed public assurance successfully.

Baranovsky Sergey Igorevich	President, Inter-Regional Public Environmental Organisation “Green Cross”
Bolshov Leonid Aleksandrovich	Director, Institute for Safe Development of Nuclear Energy under RAS, Science Research and Coordination of Future Developments
Zhuravleva Anna Alekseevna	Head, “Council of Territories” public organisation for support of Baltic NPP Construction Project
Potsyapun Vladimir Timofeevich	Chairman, subcommittee for legal support to nuclear power industry, Panel on power industry in the State Duma of the Federal Assembly
Semchenkov Yury Mikhaylovich	Deputy Director, First Deputy Director, Kurchatov Center of Nuclear Technologies, “Kurchatov Institute”
Feoktistova Yelena Nikolayevna	Head, Center of Corporate Social Responsibility and Non-Financial Reporting, the Russian Union of Manufacturers and Entrepreneurs
Filimonov Maxim Gennadyevich	First Deputy, Editor in Chief, FGUP RAMI RIA Novosti
Fomichev Igor Alexeevich	Chairman, Russian Trade Union of Nuclear Power and Industry Workers
Khasiyev Alan Vladimirovich	Chairman, OKA Inter-Regional Environmentalist Movement
Tsybko Konstantin Valeryevich	Deputy Chairman, Federation Council, Committee for Agriculture, Food Supplies and Natural Resources
Chernigin Aleksey Pavlovich	Mayor, Town of Udomlya, Chairman, Udomlya Council of Deputies
Chudakov Mikhail Valentinovich	Director, WANO Moscow Center

CONSIDERED MOST IMPORTANT COMMENTS FROM STAKEHOLDERS

Stakeholder comment	Action
By ROSATOM	
The Concern's Annual Report should state key safety aspects for nuclear plants, and executive action following the Fukushima Daiichi accident	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and Citizens"
Provide information on compliance with uniform standards and safety measures for all Russian NPPs.	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"
The report must pay special attention to safety issues at both active NPPs and construction projects, both in and outside of Russia	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"
By Branch Companies, subsidiaries and affiliates of Rosenergoatom	
Provide information on the production cost of nuclear electricity in the Annual Report, specific figures, compared to thermal, hydro, and other sources of electric energy.	Information included in Section "Generation of electric energy by Russia's Nuclear Plants"
The Annual Report should include information on progress of the Investment program in 2011 and previous years	Information available in Section "Investment activities"
The Report must provide information on available and expected innovation technologies, and construction methods used to build NPPs	Information partially present in Section "Key directions of innovation"
Specify sufficient construction days to cover the needs of NPP construction	Information disclosed in Section "Human Resource Management"
By environmentalist organisations	
The Annual Report must include description of VVER-TOI project and compare it to competing foreign projects.	Information in Section "Key directions of innovation"
Provide information on developed and used systems of NPP safety monitoring	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"
More details needed in Section "International activities", describe interaction with international organisations, the Concern's part in international projects, etc.	Considered in Section "International activities"
The report should shed more light on international exchange of information on safety under the IAEA, and created international response force for unforeseen emergencies.	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"
Provide information on the work on interaction scenarios in a beyond design basis accident caused by natural disasters (tornado, hurricane), with local governments in the NPP host regions	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"

Stakeholder comment	Action
By the expert community	
A wider circle of stakeholders should be invited to public consultations on the Annual Report, including opponents of the nuclear power industry	Will be considered as future dialogues are arranged.
Provide information on developed and adopted systems to monitor nuclear plant safety	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"
The report should state costs of safety assurance, including upgrading	Information included in Section "Development of generation potential"
Provide information on changed safety criteria for Russian NPPs after Fukushima Daiichi developments	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"
Give comparative safety figures on Russian nuclear plants and Fukushima NPP	Information included in Section "Safety Assurance in Russian Nuclear Plants. Radiation Impact on Personnel and General Public"
By Federal and local governments	
Give comparative data on labour protection (injury statistics) in the Russian energy industry compared to the Concern	Considered in Section "Labour protection"
Information on living standards in nuclear plant communities: health, life expectancy, mortality, quality data	Stated in Sections "Environmental Impact", "Labour protection" and "Development of host regions"
State tax payments to budgets of different levels, by regions	Considered in Section "Developing areas of presence"
State average NPP paycheck in regions of presence, compared to average in the region	Considered in Section "Development of host regions"
Describe activities to promote the nuclear industry	To be considered in the next Annual Report
Describe results of the Concern's activities on employment in the regions of presence	Considered in Section "Development of host regions"
Provide information on existing programs to train skilled personnel for nuclear plant construction projects.	Information included in Section "Personnel support and development"
The Annual Report must include information on programs to build social facilities, infrastructure around NPP construction projects	Information disclosed in Section "Development of host regions"
The Annual Report must include information on the Concern's compliance under the Russian Federal law.	Each Section contains links to respective provisions of the Russian Federal law
By trade unions, public organisations, mass media	
More details on activities of the veteran association, and the international veteran association. Discuss the problem of canceled VHI for veteran employees	Considered in Section "Social policy"
Expert assistance from the Concern required in work with stakeholders in new regions	To be considered as activities are planned in new regions
Disclose cost of built power units	Considered in Section "Development of generation potential"

APPENDICES

THE CONCERN'S DETAILS AND CONTACTS

Full corporate name in russian	Открытое акционерное общество Российский концерн по производству электрической и тепловой энергии на атомных станциях
Full corporate name in english	Open Joint Stock Company "Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants"
Brief corporate name in russian	ОАО «Концерн Росэнергоатом»
Brief corporate name in english	OJSC "Concern Rosenergoatom"
Location address	25 ul. Ferganskaya, Moscow, 109507
Mailing address, website, email address, contact telephone and fax	25 ul. Ferganskaya, Moscow, 109507 website: www.rosenergoatom.ru emiail: info@rosenergoatom.ru Tel.: 8 (495) 647-41-89 Fax: 8 (499) 647-46-03
Main activities	Generation of electric and thermal energy by nuclear plants, and the functions of operator of nuclear units (nuclear plants), sources of radiation, storage facilities for nuclear materials and radioactive substances, through procedures regulated by Russian Federal law.
Information about the Auditor	By decision No. 14 of June 30, 2011 of JSC Atomenergoprom as the Sole Stockholder of Rosenergoatom Concern OJSC, Accountants and Business Advisers Limited Liability Company was designated as the Auditor for Rosenergoatom Concern OJSC.
Information about the Registrar	By decision of Rosenergoatom Concern OJSC Board of Directors (Minutes No. 11), Registrar R.O.S.T. was designated as the Registry Keeper for Rosenergoatom Concern OJSC. Under the contract signed between Rosenergoatom Concern OJSC and Registrar R.O.S.T. on September 29, 2011, keeping the Registered Securities Holder List for Rosenergoatom Concern OJSC is the function of Registrar R.O.S.T. from October 10, 2011.
Details of the Registry Keeper of Rosenergoatom Concern OJSC	full corporate name: Registrar R.O.S.T. Open Joint-Stock Company; location address: bldg. 13, 18 ul. Strominka, Moscow; license: No. 10-000-1-00264, issued by FCSM of Russia on December 03, 2002.
Stockholder Information	Stockholders of Rosenergoatom Concern OJSC are: 1. State Atomic Energy Corporation ROSATOM (ROSATOM), holder of 3.9632% in the registered capital, website URL: http://www.rosatom.ru. 2. Joint Stock Company Atomic Energy Power Corporation (JSC Atomenergoprom), holder of 96.0368% in the registered capital, website URL: http://www.atomenergoprom.ru. In turn, JSC Atomenergoprom is owned by ROSATOM as the sole stockholder.

TABLE OF STANDARD DISCLOSURES OF SUSTAINABILITY REPORTING GUIDELINES UNDER THE GLOBAL REPORTING INITIATIVE (GRI), RUME

GRI index	GRI Reporting Guidelines component	Full disclosure/ comment	Report page
1	**Strategy and Analysis**		
1.1	Statement from the most senior decisionmaker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	●	4–7
1.2	Description of key impacts, risks and opportunities	●	129–132
2	**Organization profile**		
2.1	Name of the organization	●	14, 212
2.2	Primary brands, products, and/or services	●	26–31
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures	●	16–17
2.4	Location of organization's headquarters	●	212
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	●	27, 32–33, 36–55
2.6	Nature of ownership and legal form	●	106–109, 212
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries)	●	26–31
2.8	Scale of the reporting organization	●	14–15, 16–17, 26–29, 36–55
2.9	Significant changes during the reporting period regarding size, structure, or ownership	●	14–15
2.10	Awards received in the reporting period	The Concern won no awards during the reporting period	
3	**Report Parameters**		
3.1	Reporting period (e.g., fiscal/information provided)	●	3
3.2	Date of most recent previous report	Previous report published in June 2011	
3.3	Reporting cycle	●	3
3.4	Contact point for questions regarding the report or its contents	●	212
3.5	Process for defining report content	●	3
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers)	●	3
3.7	State any specific limitations on the scope or boundary of the report	●	3
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 organizations	Information and data in the report describe the activities of the Concern and its Branch Companies.	
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	●	3
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, of business, measurement methods)	No re-statements	
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report	No significant changes	
3.12	Table identifying the location of the Standard Disclosures in the report	●	213
3.13	Policy and current practice with regard to seeking external assurance for the report	●	3, 201–211
4	**Governance, Commitments, and Engagement**		
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight	●	106–109, 110–112, 113–121

GRI index	GRI Reporting Guidelines component	Full disclosure/ comment	Report page
4.2	Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement)	●	109
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members	●	109
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	
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance)	●	123–125
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided	The Company has adopted a code of ethics that regulates conflicts of interests, among other things.	
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	–	122-123
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	●	20, 122, 158
4.9	Procedures of the highest governance body for overseeing the organization'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	●	158
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance	The Company has adopted and uses a KPI (key performance indicators) based system to assess performance of top executives	108-110
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	●	129–132
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	●	22, 158–159, 184, 190–191, 204
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations	●	184, 191
4.14	List of stakeholder groups engaged by the organization	●	201–211
4.15	Basis for identification and selection of stakeholders with whom to engage	●	201–211
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	●	201–211
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	●	201–211

	Global Reporting Initiative, G3.1	RUME	Full disclosure/ comment	Report page
	Economic Performance Indicators			
	Approach			
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. revenue 1.3. investments in equity 1.4. NOPAT 1.5. net asset value 1.6. charitable spending 1.7. paychecks and payments to employees	●	199–200, 127, 192, 194
EC3	Coverage of the organization's defined benefit plan obligations	1.8 Voluntary pension insurance	●	186, 189
EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation		●	128, 194
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation		●	136–137
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, inkind, or pro bono engagement		●	192–198
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts		●	192–198
	Environmental Performance Indicators			
	Approach			
EN1	Materials used by weight or volume		Irrelevant indicator	–
EN3	Direct energy consumption by primary energy source		●	92
EN4	Indirect use of energy, specifying initial sources		Not disclosed, to be disclosed in future	
EN5	Energy saved due to conservation and efficiency improvements		●	93
EN8	Total water withdrawal by source	2.2	●	92, 134–135, 165
EN9	Water sources significantly affected by withdrawal of water	2.2	●	163
EN10	Percentage and total volume of water recycled and reused	2.4	●	165
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		The Concern does not own/lease any lands within protected areas or areas of high biodiversity	
EN20	NO, SO, and other significant air emissions by type and weight	2.6	●	165
EN22	Total weight of waste by type and disposal method	2.8	●	167
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	The Concern has no strong impact on water bodies in terms of biodiversity.	
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	2.11	●	161–170

	Global Reporting Initiative, G3.1	RUME	Full disclosure/ comment	Report page
EN28	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations		●	168
EN30	Total environmental protection expenditures and investments by type	2.12	●	167
HR	**Human Rights Performance Indicators**			
	Approach		The Concern observes human rights; a Code of Ethics has been adopted: http://www.rosenergoatom.ru/wps/wcm/connect/rosenergoatom/site/documents	
HR4	Total number of incidents of discrimination and actions taken	3.2.2	In the reporting period, no cases of discrimination on record.	
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor		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 labor, and measures to contribute to the elimination of all forms of forced or compulsory labor		The Concern honors the RF Labour Code. No cases of coercion or forced labour on record.	
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken	3.2.3	In the reporting period, no cases of infringed rights of native or minority ethnic groups on record.	
	Labor Practices and Decent Work Performance Indicators			
	Approach			
LA1	Total workforce by employment type, employment contract, and region, broken down by gender		●	173
LA2	Total number and rate of employee turnover by age group, gender, and region		◑	175
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations		●	175
LA4	Percentage of employees covered by collective bargaining agreements	3.1.4	Collective contracts cover 100% of employees.	
LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements		The Concern honors the RF Labour Code as regards period of notice to employees before serious changes in its activities.	
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender		●	175, 181–184
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases		◑	178–180
LA9	Health and safety topics covered in formal agreements with trade unions		◑	191
LA10	Average hours of training per year per employee by gender, and by employee category	3.1.10	●	178–180

	Global Reporting Initiative, G3.1	RUME	Full disclosure/ comment	Report page
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings		●	178–180
LA12	Percentage of employees receiving regular performance and career development reviews, by gender		●	127–128, 177
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity	3.1.12	●	109
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	3.1.12	Base pay rates are gender-independent	
PR	**Product Responsibility Performance Indicators**			
	Approach			
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes		In the reporting period, there were no cases non-compliance with standard s and voluntary codes, with health and safety impacted by products and services.	
PR9	Monetary value of significant fines for noncompliance 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.	
SO	**Society Performance Indicators**			
	Approach			
SO4	Actions taken in response to incidents of corruption		Measures to prevent corruption are described in the Concern's Code of Ethics, on the corporate website http://www.rosenergoatom.ru/wps/wcm/connect/rosenergoatom/site/documents.	
SO5	Public policy positions and participation in public policy development and lobbying	3.3.4	The Concern participates in legislative activities to regulate operation of power companies and the industry as a whole.	
SO7	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes		In the reporting period, no legal suits filed against the Concern on charges of suppressed competition.	
	GRI Electric Utility Sector Supplement			
EU1	Installed capacity, broken down by primary energy source and by regulatory regime		●	27, 193-195
EU2	Net energy output broken down by primary energy source and by regulatory regime		●	26–28
EU3	Number of residential, industrial, infrastructural, and commercial client accounts		Not disclosed, because the Concern has no sales to end consumers	

	Global Reporting Initiative, G3.1	RUME	Full disclosure/ comment	Report page
EU4	Length of communication lines, above and underground		Not disclosed, as the Concern is not responsible for electric power transmission	
EU5	CO_2 (or equivalent) emissions, distributed under carbon trading		Not disclosed, because CO_2 and equivalent emissions are negligible	
EU6	Management approach to ensure short and long-term electricity availability and reliability		●	20–22
EU7	Demand-side management programs including residential, commercial, institutional and industrial programs		●	30
EU8	Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development		◑	23, 96–99
EU9	Provisions for decommissioning of nuclear power sites		1) Decommissioning (D) of nuclear- and radiation-hazardous sites is financed from D Savings Fund built with deductions from costs of sold products (electric 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.	73–74
EU16	Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors		●	56–79, 150–153
EU19	Stakeholder participation in the decision making process related to energy planning and infrastructure development		●	201–211
EU21	Contingency planning measures, disaster/emergency management plan and training programs, and recovery/ restoration plans		●	56–79
EU28	Power outage frequency		In the reporting period, no interruptions with power supply to users.	
EU29	Average power outage duration		In the reporting period, no interruptions with power supply to users.	
EU30	Average plant availability factor by energy source and by regulatory regime		●	30

SYSTEM OF PUBLIC REPORTING INDICATORS AT ROSENERGOATOM CONCERN OJSC

Indicator	Item	Report Section/ Chapter	Page
Performance of key business			
Electricity supplies to the nation			
1.1.1. Generation of electricity by NPPs	1.1.1.1. Share of electricity generated by NPPs to total production of electricity in Russia	Generation of electricity by Russia's NPPs	32–33
	1.1.1.2. Electricity generation at NPPs in the reporting year	Performance of nuclear power units	34–35, 243–245
1.1.2. Capacity factor of NPPs	1.1.2.1. Capacity factor of NPPs	Generation of electricity by Russia's NPPs	32–33
1.2.1. Increasing capacity of power units	1.2.1.1. Target for increase of equivalent capacity	Upgrade and extending service life of power units	85–86
	1.2.1.3. Number of retrofitted VVER-1000 units (in reporting period, and total)	Upgrade and extending service life of power units	84–85
	1.2.1.4. Number of retrofitted RMBK units (in reporting period, and total)	Upgrade and extending service life of power units	6–7, 84–85
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	Upgrade and extending service life of power units	6–7, 84–85
	1.2.2.2. Number of nuclear power units with working document prepared for service life extension, upgrade and retrofitting	Upgrade and extending service life of power units	6–7, 84–85
1.2.3. Operation mode of power units	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	Maintenance and repair of NPPs in Russia. RPS Implementation	88–90
	1.2.3.7. Availability factor	Performance of NPP units	244–245
1.3.1. Power units built and commissioned in Russia	1.3.1.1. Number of power unit construction projects in Russia	Construction of new NPP units	80–82
Securing leadership for Russian companies on the global markets			
2.1.1. Financial stability	2.1.1.1. Gross profit	Financial situation and performance	143
	2.1.1.2. Total profit tax charged and paid	Financial situation and performance	143
	2.1.1.3. Net operating profit after taxes (NOPAT)	Financial situation and performance	143
	2.1.1.4. Incomes (total sold products, works, and services)	Financial situation and performance	143
2.1.2. Production efficiency	2.1.2.1. Labour efficiency	Financial situation and performance	145
	2.1.2.2. Own production efficiency (added value)	Financial situation and performance	145
2.1.3. Financial stability	2.1.3.1. Borrowed funds to equity	Structure of capital	146
	2.1.3.2. Government funds	Investment activities	153–154
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)	Construction of new NPP units	80–82
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)	Investment activities	153–154

Indicator	Item	Report Section/ Chapter	Page
Assurance of nuclear and radiation safety			
4.1.1. Projects to create national systems to manage RW and spent nuclear fuel	4.1.1.1. Passed legislation to support creation of treatment and storage for RW and spent nuclear fuel	Safety Assurance at Russian Nuclear Plants. Radiation Impact on Personnel and General Public	73–74
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	6.1.2.2. Economy from implemented production development programs and cost cutting in business units	Upgrade and extending service life of power units	90
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Indicator	Item	Report Section/ Chapter	Page
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NON-FINANCIAL ASSURANCE REPORT OVER 2011 ANNUAL REPORT

To the Management of Open Joint Stock Company Russian concern for Electric and Thermal Energy Production at Nuclear Power Plants («OJSC Concern Rosenergoatom»).

We have performed assurance procedures* to provide independent assurance on the below-mentioned aspects of the 2011 Annual report of OJSC Concern Rosenergoatom.

Subject matter

Qualitative and quantitative data disclosed in the OJSC Concern Rosenergoatom 2011 Annual report on the following aspects:

- The 2011 environmental, workforce, safety and socio-economic performance indicators and data contained in the Table of the Global reporting Initiative Sustainability Reporting Guidelines standard disclosures.

Our assurance procedures are limited to the 2011 data only.

Criteria

- The defined procedures and internal reporting guidelines, by which the sustainability related information is gathered, processed and aggregated internally by OJSC Concern Rosenergoatom;
- The «Sustainability Reporting Guidelines G3.1» («GRI G3.1») published on March 2011 by the Global Reporting Initiative (GRI) and GRI Electric Utilities Sector Supplement released in April 2009.

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 OJSC Concern Rosenergoatom's internal sustainability reporting guidelines, definitions and procedures on the reporting of its sustainability related performance.

The Management of OJSC 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.

* 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).

Main Assurance Procedures

Our assurance procedures included the following work:

Site visits:

- Interviewing personnel of OJSC Concern Rosenergoatom responsible for internal sustainability reporting and data collection to determine the understanding and application of OJSC Concern Rosenergoatom internal sustainability reporting guidelines;
- Visiting Smolensk Nuclear Power Plant (branch of OJSC Concern Rosenergoatom) in Desnogorsk, Smolensk region, Russia.
- Participation in the dialogs with stakeholders held 3 and 20 April 2012 and Annual report draft public hearings dated 16 May 2012.

Assessment of the key figures:

- 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 OJSC 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 OJSC Concern Rosenergoatom internal policies, management and reporting structures and documentation.

Review of the OJSC Concern Rosenergoatom Annual report:

- Review of the OJSC 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 OJSC Concern Rosenergoatom in the Table of the Global reporting Initiative Sustainability Reporting Guidelines standard disclosures does not give a fair picture of OJSC Concern Rosenergoatom's performance; and
- Nothing has come to our attention that causes us to believe that the OJSC Concern Rosenergoatom 2011 Annual report does not meet the requirements of the GRI G3.1 Application Level of «B+».

pwc

Moscow, Russian Federation
May, 2012

BUSINESS ACCOUNTING STATEMENTS

ACCOUNTING BALANCE SHEET STATEMENT AS OF DECEMBER 31, 2011

	Form under OKUD (All-Russian Classifier of Management Documentation)	710001
	Date (yy/mm/dd)	2011 12 31
Organisation **Rosenergoatom Concern OJSC**	under OKPO (All-Russian Classifier of Businesses and Organizations)	08844275
Taxpayer Identification Number	INN	7721632827
Type of economic activities **Generation of electric energy by nuclear plants**	under OKVED (All-Russian Classifier of Types of Economic Activity)	40.10.13
Form of incorporation/ownership **Open Joint Stock Company / Owned by the Federal Government**	under OKOPF (All-Russian Classifier of Forms of Incorporation)/OKFS (Forms of Ownership)	47 12
Units of measurement: **000 rubles**	under OKEI (All-Russian Classifier of Measurement Units)	384 (385)

ФОРМА 0710001 С. 2

Comments	Item description	Code	December 31, 2011	December 31, 2010	December 31, 2009
	ASSETS				
	I. NON-CURRENT ASSETS				
1.1	Intangible assets	1110	965,164	1,018,175	732,983
1.4	Results of research and development	1120	2,830,335	1,985,578	2,081,150
	Fixed assets	1130	818,139,578	628,475,510	506,752,037
2.1	Buildings, machines, equipment, and other fixed assets	1131	265,767,507	244,270,930	153,066,263
2.2	Construction in progress invested in fixed assets	1132	365,856,916	252,718,809	220,810,747
5.1	Advance payments to suppliers and contractors for capital construction, suppliers of fixed asset items	1133	186,515,155	131,485,771	132,875,027
2.1	Yield-bearing investments in material values	1140	17,956	–	–
3.1	Financial investments	1150	38,686,715	20,546,548	16,879,995
13.1	Deferred tax assets	1160	–	–	363,257
	Miscellaneous non-current assets	1170	14,303,068	11,037,813	8,729,568
	SECTION I SUBTOTAL	**1100**	**874,942,816**	**663,063,624**	**535,538,990**

Comments	Item description	Code	December 31, 2011	December 31, 2010	December 31, 2009
	II. CURRENT ASSETS				
4.1	Inventory	1210	32,497,369	24,121,957	20,607,846
	Materials, stock, and similar assets	1211	32,397,331	24,106,242	20,562,632
	Costs of production in progress	1212	–	4,740	2,917
	Finished products and resellable stock	1213	89,579	2,213	32,336
	Shipped goods	1214	–	913	–
	Deferred costs	1215	–	–	–
	Unclaimed collectible revenues	1216	–	–	–
	Miscellaneous inventory and costs	1217	10,459	7,849	9,961
	Value Added Tax on values purchased	1220	1,749,350	2,381,623	2,511,566
5.1; 5.2	Accounts receivable	1230	50,207,269	39,683,091	31,824,848
	Long-term accounts receivable, total	1231	7,262,994	8,013,706	5,648,287
	Settlements with buyers and customers	1232	7,909	1,774,162	151,047
	Advance payments issued	1233	–	31,607	1,620
	Miscellaneous debtors	1234	7,255,085	6,207,937	5,495,620
	Short-term accounts receivable, total	1235	42,944,275	31,669,385	26,176,561
	Settlements with buyers and customers	1236	14,679,768	10,890,886	6,242,700
	Advance payments issued	1237	6,430,056	8,858,638	7,034,983
	Miscellaneous debtors	1238	21,834,451	11,919,861	12,898,878
3.1	Financial investments (except cash equivalents)	1240	29,500	11,175,000	405,000
	Cash and equivalents	1250	5,246,628	955,602	4,995,196
	Miscellaneous current assets	1260	60,704	167,708	348,790
	SECTION II SUBTOTAL:	**1200**	**89,790,820**	**78,484,981**	**60,693,246**
	BOTTOM LINE	**1600**	**964,733,636**	**741,548,605**	**596,232,236**

Comments	Item description	Code	December 31, 2011	December 31, 2010	December 31, 2009
	LIABILITIES				
	III. EQUITY AND PROVISIONS				
	Registered capital (share capital, registered fund, partners' contributions)	1310	530,011,527	461,515,003	391,562,534
	Own stock repurchased from stockholders	1320	(–)	(–)	(–)
	Revalued non-current assets	1340	–	–	–
	Surplus capital (not revalued)	1350	–	–	–
	Reserve capital	1360	170,951,971	125,321,661	86,307,573
25.1	Provisions established under legal requirements	1361	169,349,282	124,806,194	86,080,753
	Provisions established under incorporation documents	1362	1,602,689	515,467	226,820
	Retained profits (unrecovered loss)	1370	110,257,243	90,714,309	31,114,057
	SECTION III SUBTOTAL	**1300**	**811,220,741**	**677,550,973**	**508,984,164**
	IV. LONG-TERM LIABILITIES				
	Borrowed funds	1410	44,000,000	15,516,623	21,073,701
13.1	Deferred tax liabilities	1420	758,606	105,453	–
	Appraisal-related liabilities	1430	1,802,328	–	–
	Miscellaneous liabilities	1450	10,730,275	2,756,082	1,645,648
	SECTION IV SUBTOTAL	**1400**	**57,291,209**	**18,378,158**	**22,719,349**
	V. SHORT-TERM LIABILITIES				
14	Borrowed funds	1510	19,065,202	3,649,504	12,014,929
5.3; 5.4	Accounts payable	1520	47,043,486	35,177,223	32,047,174
	Suppliers and contractors	1521	29,135,230	16,275,976	15,938,691
	Advance payments received	1522	5,999	311,281	90,405
	Owed to employees	1523	789,584	685,688	797,122
	Owed to government off-budget funds	1524	147,139	97,241	91,124
	Debts in taxes and duties	1525	1,695,403	1,182,489	1,421,814
	Miscellaneous creditors	1526	15,270,131	16,624,548	13,708,018
10.1	Deferred revenues	1530	1,927,461	1,881,835	1,452,388
7.2	Appraisal-related liabilities	1540	6,313,537	4,910,912	4,014,232
	Settlements with incorporators (registered capital fund)	1545	21,872,000	–	15,000,000
	Miscellaneous liabilities	1550	–	–	–
	SECTION V SUBTOTAL	**1500**	**96,221,686**	**45,619,474**	**64,528,723**
	BOTTOM LINE	**1700**	**964,733,636**	**741,548,605**	**596,232,236**

STATEMENT OF CHANGES IN EQUITY FOR 2011

	Form under OKUD (All-Russian Classifier of Management Documentation)	710001
	Date (yy/mm/dd)	2011 12 31
Organisation **Rosenergoatom Concern OJSC**	under OKPO (All-Russian Classifier of Businesses and Organizations)	08844275
Taxpayer Identification Number	INN	7721632827
Type of economic activities **Generation of electric energy by nuclear plants**	under OKVED (All-Russian Classifier of Types of Economic Activity)	40.10.13
Form of incorporation/ownership **Open Joint Stock Company / Owned by the Federal Government**	under OKOPF (All-Russian Classifier of Forms of Incorporation)/OKFS (Forms of Ownership)	47 12
Units of measurement: **000 rubles**	under OKEI (All-Russian Classifier of Measurement Units)	384

1. CAPITAL FLOW

FORM 0710023, PAGE 2

Item description	Code	Registered capital	Own issued stock bought out	Surplus capital	Reserve capital	Retained profit (un-recovered loss)	Total
Size of capital as of December 31, 2009	**3100**	**391,562,534**	**–**	**–**	**86,307,573**	**31,114,057**	**508,984,164**
For 2010							
INCREASE IN CAPITAL, TOTAL	**3210**	**69,952,469**	**–**	**–**	**80,497,951**	**21,744,449**	**172,194,869**
including,							
net profit	3211	X	X	X	X	21,744,449	21,744,449
asset revaluation	3212	X	X	–	X	–	–
costs directly charged on capital increase	3213	X	X	–	X	–	–
additionally issued stock	3214	69,952,469	–	–	X	X	69,952,469
increase in stock face value	3215	–	–	–	X	–	–
re-organisation of the corporate entity	3216	–	–	–	–	–	–
use of production reserves as investments	3217	X	X	X	80,497,951	–	80,497,951
CAPITAL SHRINKAGE, TOTAL	**3220**	**–**	**–**	**–**	**–**	**(3,628,060)**	**(3,628,060)**
including,							
loss	3221	X	X	X	X	–	–
asset revaluation	3222	X	X	–	X	–	–
costs directly charged on capital shrinkage	3223	X	X	–	X	(2,781,249)	(2,781,249)
decrease in stock face value	3224	–	–	–	X	–	–
decrease in number of stock	3225	–	–	–	X	–	–
re-organisation of the corporate entity	3226	–	–	–	–	–	–
dividends	3227	X	X	X	X	(846,811)	(846,811)
Change in surplus capital	**3230**	**X**	**X**	**–**	**–**	**–**	**X**
Change in reserve capital	**3240**	**X**	**X**	**X**	**(41,483,863)**	**41,483,863**	**X**
Size of capital as of December 31, 2010	**3200**	**461,515,003**	**–**	**–**	**125,321,661**	**90,714,309**	**677,550,973**
For 2011							

Item description	Code	Registered capital	Own issued stock bought out	Surplus capital	Reserve capital	Retained profit (un-recovered loss)	Total
INCREASE IN CAPITAL, TOTAL	**3310**	**68,496,524**	**–**	**–**	**69,481,797**	**–**	**137,978,321**
including:							
net profit	3311	X	X	X	X	–	–
asset revaluation	3312	X	X	–	X	–	–
Incomes directly charged on capital increase	3313	–	–	–	–	–	–
additionally issued stock	3314	68,496,524	–	–	X	X	68,496,524
increase in stock face value	3315	–	–	–	X	–	–
re-organisation of the corporate entity	3316	–	–	–	–	–	–
use of production reserves as investments	3317	X	X	X	69,481,797	–	69,481,797
CAPITAL SHRINKAGE, TOTAL:	**3320**	**–**	**–**	**–**	**–**	**(4,308,553)**	**(4,308,553)**
including,							
loss	3321	X	X	X	X	(2,913,412)	(2,913,412)
asset revaluation	3322	X	X	–	X	–	–
costs directly charged on capital shrinkage	3323	–	–	–	X	(1,395,141)	(1,395,141)
decrease in stock face value	3324	–	–	–	X	–	–
decrease in number of stock	3325	–	–	–	X	–	–
re-organisation of the corporate entity	3326	–	–	–	–	–	–
dividends	3327	X	X	X	X	–	–
Change in surplus capital	**3330**	**X**	**X**	**–**	**–**	**–**	**X**
Change in reserve capital	**3340**	**X**	**X**	**X**	**(23,851,487)**	**23,851,487**	**X**
Size of capital as of December 31, 2010	**3300**	**530,011,527**	**–**	**–**	**170,951,971**	**110,257,243**	**811,220,741**

2. ADJUSTMENTS CAUSED BY CHANGES IN ACCOUNTING POLICY AND CORRECTION OF ERRORS

FORM 0710023, PAGE 3

Item description	Code	As of December 31, 2009	Changes in capital during 2010		As of December 31, 2010
			caused by net profit (loss)	caused by other factors	
Capital – total	**3400**	**504,584,726**	**21,744,448**	**145,859**	**671,688,033**
adjustments caused by:					
changes in accounting policy	3400	504,584,726	21,744,448	145,358,859	671,688,033
correction of errors	3410	4,399,438	–	1,463,502	5,862,940
after adjustment	3420	–	–	–	–
including	3500	508,984,164	21,744,448	146,822,361	677,550,973
Retained profits (un-recovered loss):					
before adjustment					
adjustments caused by:	3401	26,598,911	21,744,448	(4,751,851)	43,591,508
changes of accounting policy					
correction of errors	3411	4,515,146	–	42,607,655	47,122,801
after adjustment	3421	–	–	–	–
Other equity items adjusted:	3501	31,114,057	21,744,448	37,855,804	90,714,309
(itemise)					
before adjustment	3402	477,985,815	–	150,110,710	628,096,525
adjustments caused by:					
changes in accounting policy	3412	(115,708)	–	(41,144,153)	(41,259,861)
correction of errors	3422	–	–	–	–
after adjustment	3502	477,870,107	–	108,966,557	586,836,664

3. NET ASSETS

FORM 0710023, PAGE 4

Item	Code	As of December 31, 2011	As of December 31, 2010	As of December 31, 2009
Net assets	3600	813,148,202	679,432,808	510,436,552

CASH FLOW STATEMENT FOR 2011

	Form under OKUD	710004
	Date (yy/mm/dd)	2011 12 31
Organisation **Rosenergoatom Concern OJSC**	under OKPO	08844275
Taxpayer Identification Number	INN	7721632827
Type of economic activities **Generation of electric energy by nuclear plants**	under OKVED	40.10.13
Form of incorporation/ownership **Open Joint Stock Company / Owned by the Federal Government**	under OKOPF /OKFS	47 12
Units of measurement: **000 rubles**	under OKEI	384

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Item	Code	2011	2010
Cash flow from current operations			
Revenues, total:	4110	200,418,629	211,318,586
Including:			
sold products, merchandise, works, and services	4111	197,588,197	203,530,031
paid lease, rent, royalties, commissions, and similar fees	4112	304,807	301,725
resold financial investments	4113	–	–
other revenues	4119	2,525,625	7,486,830
Payments, total	4120	121,068,671	117,419,192
Including:			
suppliers (contractors) for materials, inventory, works, and services	4121	72,087,578	76,040,136
employee remuneration	4122	21,457,891	19,489,765
debt interest accrued	4123	–	846,811
corporate profit tax	4124	3,083,111	7,842,085
other payments	4129	24,440,091	13,200,395
Cash flow balance from current operations	4100	79,349,958	93,899,394
Cash flow from investment operations			
Revenues, total	4210	172,708,478	128,261,071
Including:			
sold non-current assets (except financial investments)	4211	363,925	49,674
sold holdings/stock issued by other corporate entities	4212	–	698
repaid loans, sold debentures/debt securities/ third-party claim rights	4213	170,156,433	126,004,569
dividends, interest on financial debt instruments, and similar revenues from holdings in other corporate entities	4214	2,056,536	2,077,009
other revenues	4219	131,584	129,121

Item	Code	2011	2010
Payments, total	4220	381,998,045	265,585,725
Including:			
to purchase, establish, upgrade, retrofit, and pre-commissioning of non-current assets	4221	195,562,317	124,047,277
to purchase holdings/stock issued by other corporate entities	4222	22,746,011	302,500
to purchase debt instruments, third-party claim rights; loans issued	4223	159,154,104	137,169,250
accrued debt interest, recognized as integral with the investment asset	4224	1,174,339	2,496,878
other payments	4229	3,361,274	1,569,820
CASH FLOW BALANCE FROM INVESTMENT OPERATIONS	**4200**	**(209,289,567)**	**(137,324,654)**
Cash flow from financial operations			
Revenues, total:	4310	153,373,214	75,428,542
including:	4311	63,000,000	22,188,752
Loans and credits taken			
Monetary deposits by owners/stockholders	4312	–	–
From issued stock and increased holdings	4313	90,368,524	53,239,790
From issued bonds, notes, other debentures, etc.	4314	–	–
Government subsidies and other government target financing	4315	4,690	–
Other various revenues	4319	–	–
Payments, total	4320	19,141,539	36,039,052
Including:			
to owners/stockholders for bought out stock/holdings or upon retirement	4321	–	–
to pay dividends and other amounts as profits are distributed among the owners/stockholders	4322	–	–
to repay/buy out notes and other debentures, to repay loans and credits	4323	19,140,530	36,029,298
other payments	4329	1,009	9,754
Cash flow balance from financial operations	4300	134,231,675	39,389,490
CASH FLOW BALANCE FOR THE REPORTING PERIOD	**4400**	**4,292,066**	**(4,035,770)**
BALANCE OF CASH AND MONETARY EQUIVALENTS AT THE BEGINNING OF THE REPORTING PERIOD	**4450**	**948,091**	**4,986,112**
BALANCE OF CASH AND MONETARY EQUIVALENTS AT THE END OF THE REPORTING PERIOD	**4500**	**5,241,407**	**948,091**
Differences created by foreign currency exchange rate changes to the ruble	4490	1,250	(2,251)

PROFIT AND LOSS STATEMENT FOR 2011

	Form under OKUD	0710002
	Date (yy/mm/dd)	2011 12 31
Organisation **Rosenergoatom Concern OJSC**	under OKPO	08844275
Taxpayer Identification Number	INN	7721632827
Type of economic activities **Generation of electric energy by nuclear plants**	under OKVED	40.10.13
Form of incorporation/ownership **Open Joint Stock Company / Owned by the Federal Government**	under OKOPF /OKFS	47 12
Units of measurement: **000 rubles**	under OKEI	384

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Comments	Item	Code	2011	Same period, previous year
11.1	Revenues	2110	201,382,892	210,222,698
6.1	Sales costs	2120	(109,338,458)	(88,634,792)
	Gross profit/loss	2100	92,044,434	121,587,906
	Commercial costs	2210	(18,459)	(2,366)
	Administrative costs	2220	(83,204,431)	(92,797,469)
	Sales loss/profit	2200	8,821,544	28,788,071
	Revenues from holdings in other corporate entities	2310	58,201	33,968
	Interest receivable	2320	2,286,105	2,115,274
	Interest payable	2330	(154,854)	(313,125)
11.3	Other incomes	2340	6,544,374	4,077,245
11.3	Other expenses	2350	(16,010,784)	(5,515,187)
	Profit/loss before tax	2300	1,544,586	29,186,246
	Current profit tax	2410	(3,736,466)	(6,953,573)
	including fixed tax liabilities/assets	2421	(4,080,701)	(1,585,034)
	Changes in deferred tax liabilities	2430	(1,242,591)	(540,048)
	Changes in deferred tax assets	2450	589,439	71,337
	Miscellaneous	2460	(68,380)	(19,513)
	Net profit/loss	2400	(2,913,412)	21,744,449
	REFERENCE INFORMATION			
	Result of revalued non-current assets not included in net profit/loss of the period	2510	–	–
	Outcomes from miscellaneous transactions not included in net profit/loss of the period	2520	24,938,709	41,772,510
	Consolidated financial result of the period	2500	22,025,297	63,516,959
	Base profit/loss per share	2900	–	–
	Diluted profit/loss per share in stock	2910	–	–

CALCULATED CORPORATE NET ASSET VALUE AS OF DECEMBER 31, 2011

Item	Balance sheet line code	Beginning of the reporting period	End of the reporting period
1. Assets			
1. Intangible assets, R&D	1110+1120	3,003,753	3,795,499
2. Fixed assets	1150	628,475,510	818,139,578
4. Commercial investments in plant and inventory	1160		17,956
5. Long- and short-term financial investments * (1)	1170+1240	31,721,548	38,716,215
6. Deferred tax assets	1180		
7. Other non-current assets	1190	11,037,813	14,303,068
8. Inventory	1210	24,121,957	32,497,369
9. Value added tax	1220	2,381,623	1,749,350
10. Accounts receivable * (2)	1230	39,683,091	50,207,269
11. Cash	1250	955,602	5,246,628
12. Other current assets	1260	167,708	60,704
13. ASSETS TOTAL (SUM OF ITEMS 1 THROUGH 12)		**741,548,605**	**964,733,636**
2. Liabilities			
14. Long-term liabilities in loans and credits	1410	15,516,623	44,000,000
15. Deferred tax liabilities	1420	105,453	758,606
16. Other long-term liabilities * (3)	1430 + 1450	2,756,082	12,532,603
17. Short-term liabilities in loans and credits	1510	3,649,504	19,065,202
18. Accounts payable	1520	35,177,223	47,043,486
20. Provisions for future expenditure	1540	4,910,912	6,313,537
21. Settlements with incorporators for contributions to the registered capital (fund)	1545	-	21,872,000
22. Other short-term liabilities * (3)	1550		
23. TOTAL LIABILITIES FOR CONSIDERATION (SUM OF ITEMS 14-21)		**62,115,797**	**151,585,434**
24. NET ASSET VALUE (TOTAL CONSIDERED ASSETS LESS TOTAL CONSIDERED LIABILITIES, ITEMS 13-22)		**679,432,808**	**813,148,202**

* (1) Except actually incurred expenses to buy out own stock from stockholders.
* (2) Except debt of stockholders/incorporators in contributions to the registered capital.
* (3) Information about the value of long-term and short-term liabilities states the value of established mandatory provisions created for conditional liabilities and termination of business.

AUDITOR'S REPORT

Stockholders
of Open Joint Stock Company "Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants"

AUDITED ENTITY

Corporate name:	Open Joint Stock Company "Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants" (Rosenergoatom Concern OJSC)
Location address:	25 ul. Ferganskaya, Moscow, 109507
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:	Accountants and Business Advisers Limited Liability Company (PKF LLC).
Location address:	bldg 2AB, 44/1 ul. Myasnitskaya, Moscow, 101990
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 2011 by Rosenergoatom Concern OJSC, which comprises its Accounting Balance Sheet Statement as of December 31, 2011, 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, 2011, its financial and business performance, and its cash flows during 2011, in conformity with Russian Accounting Standards.

OTHER INFORMATION

The financial statements filed by Rosenergoatom Concern OJSC for the period between January 01 and December 31, 2010, inclusive, were reviewed by another auditor: Nexia Pacioli LLC, whose conclusive report is dated February 11, 2011, and contains an opinion without any modifications.

President, PKF LLC
S.M. Shapiguzov
(empowered by the Articles of Incorporation)

AUDITING COMMITTEE STATEMENT ON THE RESULTS OF REVIEW OF FINANCIAL AND BUSINESS ACTIVITIES OF ROSENERGOATOM CONCERN OJSC FOR 2011

Moscow
April 01, 2012

In 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, 2012, the Company's Auditing Committee reviewed the Company's financial and business operations during 2011.

The Auditing Committee was formed based on the Company's Sole Stockholder Resolution No. 14 of June 30, 2011, with the following designated members:Petr Anatolyevich Stepayev – Chairperson of the Auditing Committee, deputy head of the Department of Investment Programs for Capital Investments, ROSATOM, Liudmila Nikolayevna Demidova – Member of the Auditing Committee, Director of the Department of Economics and Controlling, Rosenergoatom Concern OJSC, Yelena Grigoryevna Novomlinskaya – Member of the Auditing Committee, Advisor to the Department of Economics and Controlling, Nuclear Energy Complex Directorate, ROSATOM

This Auditing Committee did not receive any requests from the Company's stockholders or the Board of Directors calling for off-schedule 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 on the reviewed the accounting (financial) reports filed by Rosenergoatom Concern OJSC for 2011; see Auditor's Report by Accountants & Business Advisers LLC (PKF LLC) dated February 27, 2012.

1. 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.

2. 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.

P.A. Stepayev
Chairperson,
Auditing Committee

L.N. Demidova
Ye.G. Novomlinskaya
Auditing Committee Members

REPORT ON THE CONCERN'S COMPLIANCE WITH PROVISIONS OF THE CORPORATE CODE OF CONDUCT RECOMMENDED BY THE FEDERAL FINANCIAL MARKETS SERVICE (FFMS)

No.	Provision of the Corporate Conduct Code	Compliant	Not compliant
General Meeting			
1	Stockholders are notified about a scheduled General Meeting at least 30 days before it convenes, regardless its order of business, unless the law requires a longer period of notice	Compliant	
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	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 mandatorily to attend General Meetings of Stockholders	Missing	
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	Missing	
7	The Concern's in-house documents shall regulate a check-in procedure for persons arriving to attend the General Meeting	Missing	
Board of Directors			
8	The Concern's Articles of Incorporation shall authorise the Board of Directors to approve the Concern's financial and business plan annually	Compliant	P. 12.2.2 of Concern's Articles of Incorporation
9	A Board-approved procedure for risk management must exist in the Concern	Not compliant	Risk management procedure is regulated in corporate documents approved by the General Director
10	The Concern's Articles of Incorporation shall authorise the Board to suspend from office a General Director elected by the General Meeting	Compliant	P. 12.2.20 of Concern's Articles of Incorporation
11	The Concern's Articles of Incorporation shall authorise 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	P. 12.2.18 of Concern's Articles of Incorporation
12	The Concern's Articles of Incorporation shall authorise the Board to approve terms of contracts signed with the General Director and officers of the Administration	Compliant	P. 12.2.18 of Concern's Articles of Incorporation
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	Not compliant	
14	The Concern's Board of Directors shall have at least 3 independent Directors who so qualify under the Corporate Conduct Code	Not compliant	
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 penalised for business crimes or tax crime or fraud.	Compliant	

No.	Provision of the Corporate Conduct Code	Compliant	Not 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	
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	
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	
20	The Concern's internal documents shall regulate that the Board of Directors meet at least every six weeks	Not compliant	
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	P. 12.2.4 of Concern's Articles of Incorporation
22	The Concern's internal documents shall regulate the procedure of Board meetings	Compliant	Section 7, Regulation on the Board
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	P. 12.2.13 of Concern's Articles of Incorporation
24	The Concern's internal documents shall regulate that the Board is authorised 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	
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	
27	The Auditing Panel shall be formed only of independent and non-executive Directors	Not compliant	
28	The Auditing Panel shall report to an independent Director	Not compliant	
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	
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	
31	The HR and Remuneration Panel shall report to an independent Director	Not compliant	
32	The Concern's officers shall not be members of the HR and Remuneration Panel.	Compliant	
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	
34	A Board Panel 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	
35	The Concern's officers shall not be members of the Board Panel formed to settle corporate conflicts.	Not compliant	

No.	Provision of the Corporate Conduct Code	Compliant	Not compliant
36	The Board Panel formed to settle corporate conflicts shall report to an independent Director.	Not compliant	
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	
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	
Executive Bodies			
39	The Concern shall have a collegiate executive body (Administration)	Not compliant	
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	
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 penalised 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	
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	
46	The Concern's Articles of Incorporation or other documents shall state selection criteria for the corporate/executive manager.	Not compliant	
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	
Corporate Secretary			
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

No.	Provision of the Corporate Conduct Code	Compliant	Not compliant
Material Corporate Actions			
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)
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 Federal Law On Joint-Stock Companies
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	
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	
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-organisation	Not compliant	
Disclosure of Information			
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	Regulation on mandatory 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	
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 its information there.	Compliant	www.rosenergoatom.ru
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 organisations 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	
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 (does not apply)	FFMS of Russia by Executive Order No. 06-117/pz-n of October 10, 2006, exempts this Concern from the obligation to disclose information through quarterly reports or reports on relevant facts. The Concern's stock is not traded on exchange markets (RTS, MICE) and therefore not listed

No.	Provision of the Corporate Conduct Code	Compliant	Not compliant
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	
Control of financial and business activities			
65	A Board-approved internal document shall regulate procedures for in-house control of its financial and business activities.	Compliant	Concern's financial and business activities are monitored by the Auditing Panel under the Federal Law On Joint-Stock Companies
66	The Concern shall form a special unit to enforce its internal control procedures (audit and monitoring service)	Compliant	Concern's Department of corporate control and audits
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	
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 penalised 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	
73	The Concern's internal documents shall regulate the procedure to pre-approve unusual transactions with the Board.	Not compliant	
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	
Dividends			
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	
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	
78	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	

STATEMENT BY THE INTERNAL CONTROL AND AUDITS DEPARTMENT OF ROSENERGOATOM CONCERN OJSC RESULTS OF AN INTERNAL AUDIT TO EXAMINE THE PROCESS OF GENERATING PUBLIC REPORTS IN ROSENERGOATOM CONCERN OJSC

Internal audit to examine the process of generating Public Reports in Rosenergoatom Concern OJSC was performed in compliance with the Procedure to Arrange and Conduct Internal Audits of Business Processes Used in ROSATOM and its subordinate organizations, approved by the General Director of c, Executive Order No. 1/936-P of November 02, 2011, in the light of the requirements stated in Public Reporting Policy of ROSATOM State Corporation, approved by ROSATOM Executive Order No. 1/403-P of May 13, 2011, Uniform Standard of Public Annual Reports filed by key (in terms of public reporting) organizations of ROSATOM State Corporation for nuclear energy, approved by ROSATOM Executive Order No. 1/403-P of May 13, 2011, 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. 9/60-P issued by General Director of Rosenergoatom Concern OJSC on January 27, 2012 "Organization of Activities to Prepare Annual Reports of Rosenergoatom Concern OJSC", 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 V.G. Asmolov, First Deputy General Director, as the task force leader).

Pivotal issues in the actual procedure used to organise the process of preparing public reports of Rosenergoatom Concern OJSC include: working out the concept of the annual public report; topic-specific dialogs with the stakeholders; expert examination of the annual public report's concept by the Public Reporting Committee of ROSATOM; 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 efficiency of the international 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 enable our conclusion that the system of internal controls over the process of public reports are efficient, and the procedure to generate public reports in Rosenergoatom Concern OJSC are compliant with the effective legislation, ROSATOM Policy in public reporting, and internal corporate standards of Rosenergoatom Concern OJSC that regulate the business process of public report generation.

V.V. Tatarchuk

Director, Department of Internal Control and Audits, Controller General

OPERATING NUCLEAR POWER UNITS

GRI: EU 1

Power plant	Power unit No.	Reactor type	Electric power, 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
	4	EGP-6	12	27.12.1976
Kalinin NPP Power unit 4 of Kalinin NPP joined the grid on November 22, 2011. In 2011, the unit operated below its capacity	1	VVER-1000	1,000	09.05.1984
	2	VVER-1000	1,000	03.12.1986
	3	VVER-1000	1,000	16.12.2004
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
	3	RBMK-1000	1,000	17.01.1990

PERFORMANCE OF RUSSIAN NPPS IN 2011, (REACTOR TYPE: VVER)

GRI: EU 2

Name of power plant	Unit No.	Designed capacity, MW	Power generation, millions KWH	Time of capacity operation, hours	Time factor – Кв, %	Installed capacity use factor– ICUF, %	Load availability factor – LAF, %
Kola NPP		1,760	10,554.49			68.46	79.83
	1	440	2,673.15	7,869.50	89.83	69.35	83.69
	2	440	2,698.72	7,751.90	88.49	70.02	83.78
	3	440	2,454.65	6,404.50	73.11	63.68	71.67
	4	440	2,727.97	6,802.50	77.65	70.78	80.19
Novovoronezh NPP		1834	8,396.16			52.26	52.95
	3	417	3,221.88	7,738.60	88.34	88.20	89.06
	4	417	2,955.68	7,262.60	82.91	80.91	83.10
	5	1,000	2,218.61	2,421.80	27.65	25.33	25.33
Balakovo NPP		4,000	32,417.45			92.52	92.86
	1	1,000	7,827.79	7,573.00	86.45	89.36	89.69
	2	1,000	7,653.19	7,530.80	85.97	87.37	87.83
	3	1,000	8,960.58	8,626.90	98.48	102.29	102.74
	4	1,000	7,975.89	7,619.30	86.98	91.05	91.17
Kalinin NPP		3,000	23,441.928			88.55	89.11
	1	1,000	7,866.19	7,727.20	88.21	89.80	90.76
	2	1,000	7,936.37	7,675.30	87.62	90.60	90.82
	3	1,000	7,468.66	7,427.10	84.78	85.26	85.74
	4		170.718				
Rostov NPP		2,000	15,803.66			90.20	92.15
	1	1,000	8,058.41	7,735.70	88.31	91.99	92.95
	2	1,000	7,745.25	7,944.10	90.69	88.42	91.35
NPPs using VVER-440		2,594	16,732.04			73.63	81.84
NPPs using VVER-1000		10,000	73,881.658			84.14	84.84
TOTAL NPPS WITH VVER		**12,594**	**90,613.698**			**81.98**	**84.22**

PERFORMANCE OF RUSSIAN NPPS IN 2011, (REACTOR TYPES: RBMK, FN, EGP)

Name of the power plant	Unit No.	Designed capacity, MW	Power generation, millions kWh	Time of capacity operation, hours	Time factor – Kt, %	Installed capacity use factor– ICUF, %	Load availability factor – LAF, %
Kursk NPP		4,000	29,035.54			82.86	83.60
	1	1,000	8,197.58	8,255.00	94.24	93.58	93.74
	2	1,000	6,798.14	6,539.00	74.65	77.60	79.61
	3	1,000	8,147.78	8,228.00	93.93	93.01	93.57
	4	1,000	5,892.04	5,729.30	65.40	67.26	67.46
Leningrad NPP		4,000	28,107.76			80.22	81.02
	1	1,000	5,150.31	5,268.70	60.14	58.79	59.57
	2	1,000	8,354.54	8,362.40	95.46	95.37	96.30
	3	1,000	7,404.22	7,548.00	86.16	84.52	85.39
	4	1,000	7,198.70	7,255.50	82.83	82.18	82.83
Smolensk NPP		3,000	20,521.28			78.09	78.46
	1	1,000	5,864.41	5,899.10	67.34	66.95	67.25
	2	1,000	7,882.90	8,314.10	94.91	89.99	90.68
	3	1,000	6,773.97	6,579.00	75.10	77.33	77.45
NPP using RBMK-1000		11,000	77,664.58			80.60	81.26
Beloyarsk NPP		600	4,249.84	7,141.00	81.52	80.86	80.86
	3	600	4,249.84	7,141.00	81.52	80.86	80.86
Bilibino NPP		48	153.14			36.42	83.51
	1	12	48.96	6,363.00	72.64	46.58	86.81
	2	12	31.22	4,977.00	56.82	29.70	83.64
	3	12	29.77	4,885.00	55.76	28.32	87.39
	4	12	43.19	5,968.50	68.13	41.08	76.21
NPP w/RBMK and unique		11,648	82,067.56			80.43	81.25
RUSSIAN NPPS TOTAL		**24,242**	**172,681.27**			**81.23**	**82.79**

GLOSSARY

Core	A section of the reactor that houses nuclear fuel, moderator, absorber, coolant, reactivity controls, and structural components used to enable a controlled nuclear fission chain reaction and transmit the energy to the coolant.
Nuclear plant	A nuclear installation for generation of energy in preset operational modes and conditions, which is located within the territory defined by the design where a nuclear reactor (reactors) and a set of necessary systems, device, equipment and structures, along with the personnel, are used for the said purpose.
Nuclear power plant	Nuclear plant designed to generate electric energy.
Nuclear power industry	A branch of the power industry associated with the use of atomic energy to produce heat and electricity.
NPP safety	A NPP ability to keep the radiation impact on its personnel, general public and the environment within the established limits during normal operation and operational events, including accidents,.
NPP unit	Part of a NPP that performs its generating function in extent defined by the design.
BN (fast neutron reactor)	A nuclear reactor where the main fraction of nuclei fission in the fuel relies on fast neutrons.
Commissioning	A process when the systems and equipment of the NPP power unit or the entire NPP starts functioning and compliance to the design is checked. The process includes pre-startup and adjustment operations, first criticaly and first power programs, and pilot commercial operation period; it concludes when the NPP is signed off for commercial operation.
VVER	Water-water Power Reactor. Vessel-type pressurized water reactor.
Radioactive substances release	A substance (or mix) as a gas and/or aerosol, released into the environment (air) from emitting sources.
IAEA safeguards	An internationally approved system to verify civil use of atomic energy, with the IAEA as the authorised agency.
Exposure dose	In radiation safety, it is a measure of impact by ionizing radiation on a biological object, specifically, humans. There are exposure, absorbed and equivalent doses.
Natural background	A radiation dose created by radiation from outer space and from naturally occurring radionuclides, i.e. in ground, water, air, and other components of the biosphere, foodstuffs, and the human body.
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.
Beyond design basis accident	An accident caused by initiating events which are not considered for design basis accidents or accompanied by additional, as compared to design basis accidents, failures of safety systems in excess of single failure scenario, and complicated by human error.
Nuclear reactor containment	A system housing the nuclear reactor and designed to hold radioactive nuclides within its volume in the event of emergency loss of integrity of the nuclear reactor equipment.
Protective safety systems	Systems (components) which are designed to prevent or mitigate damage to nuclear fuel, fuel rod cladding, equipment, and pipelines that contain radioactive substances.

Sievert (Sv)	Sievert is a unit of measure of the equivalent exposure dose. In the SI system, 1 Sv =1 Joule/kg = 100 Rem.
Channel-type reactor	A heterogeneous nuclear reactor, where the core and the circulating coolant are held in separate leak tight pressure tubes able to withstand the pressure of the coolant.
Capacity factor	A ratio of arithmetical mean capacity to installed capacity over a specific time interval.
Safety classes	Four safety classes are established regarding impact of NPP components on safety.
Safety class 1	Safety class 1 includes fuel rods and NPP components, whose failures are initiating events of beyond design basis accidents, which, under design functioning of safety systems, lead to fuel rod damage in excess of limits established for design basis accidents.
Safety class 2	Safety class 2 includes the following NPP components: • the components which failures are initiating events leading to damage of fuel rods within the limits established for design basis accidents, given the safety systems function as designed and considering a number of their failures established for design basis accidents; • components of safety systems, which single failures lead to failures of the corresponding safety systems to perform designated functions.
Safety class 3	Safety class 3 includes the following NPP components: • safety important systems not listed in safety classes 1 and 2; • components containing radioactive substances, which release into the environment (including process premises of the NPP) in case of failures exceeds values established by the radiation safety standards; • components that perform monitoring functions of radiation protection of the personnel and general public.
Safety class 4	Safety class 4 includes normal operation components of the NPP that do not affect safety and not listed in safety classes 1, 2, 3. Components used to manage accidents, which are not listed in safety classes 1, 2 or 3, also pertain to safety class 4.
Reactor pressure vessel	A leak tight reservoir designed to hold the core of the nuclear reactor, neutron reflectors, monitoring and experimental hardware, and to arrange cooling of these equipment by the coolant flow.
Availability factor	A ratio of net time in operation of a reactor installation over a calendar operation period to a total of this time and duration of emergency repairs over the period "t". Availability factor that describes the reactor's reliability over a period free of scheduled shutdowns, numerically equals the probability of fault-free operation of the installation at any random point in time in between scheduled shutdowns. The standard value for a NPP is Ka=80 %.
Safety criteria	Values of the nuclear plant's parameters or characteristics established by regulatory documents and/or state safety regulatory authorities, which are used as reference for safety justifications of the plant.
Safety culture	The 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.
Open nuclear fuel cycle	A nuclear fuel cycle (NFC) where spent nuclear fuel unloaded from the reactor is not recycled, but is treated as radioactive waste.

Minimum gross revenue	An economically justified amount of funds needed to continue regulated corporate activities for the estimated regulated period.
Public audit	A public activity that illustrates the safe operation of nuclear power plants in Russia.
Spent nuclear fuel	Nuclear fuel that is irradiated in the reactor core and ultimately withdrawn from it.
Radiation safety	A state of being protected of present and future generations of humans against health-damaging impact of ionizing radiation.
Radiation monitoring	The process of obtaining information about radiation situation at the NPP, in the environment and human exposure.
Radioactive waste	Nuclear materials and radioactive substances, which are not intended for further use.
RBMK (large power channel-type reactor)	Channel-type, water-graphite power reactor with electric capacity equal or above 1 GW, where water boils in pressure channels and saturated steam is directly supplied from separators the turbines.
Reactor installation	A set of NPP systems and components, designed to convert atomic energy into thermal energy, including a reactor and directly related systems to support its normal operation, emergency cooling, emergency protection and to keep in safe, provided the required auxiliary and supporting functions are performed by other plant systems. Boundaries of the reactor installation are established in the NPP design on case-by-case basis.
RODOS	An emergency management system, which is an integrated tool used to comprehensively evaluate the radiological situation after a nuclear or radiation event or accident.
Reactor control and protection system (C&P)	A set of hardware, software, and information to ensure safe course of nuclear fission chain reaction.
Safety systems	Systems (components) designed to perform safety functions. By nature of their functions, safety systems (components) are divided into protective, confining, supporting, and controllin.
INES Scale	The International Nuclear Events Scale. It was adopted to facilitate communication and understanding between nuclear industry specialists, mass media, and the public, as regards significance in terms of safety of events (occurrences) at nuclear installations. The Scale places all events into one of its seven levels: higher-level events (4-7) are known as “accidents”; 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”.

FEEDBACK QUESTIONNAIRE

Dear Reader,

We have presented the second Annual Report of Rosenergoatom Concern OJSC for your perusal. It is important for us to keep our dialogue with all stakeholders as transparent and fair as possible.

We are interested in hearing your comments and suggestions as they may help us improve the quality of our future reports, making them more informative and topical.

We would appreciate it if you would complete this questionnaire and send it to: Rosenergoatom Concern OJSC, 25 ul. Ferganskaya, Moscow, 109507 or use fax: 8 (499) 270-17-40, contact tel. 8 (495) 926-89-37.

You can also email this questionnaire to: info@rosenergoatom.ru

1. Which stakeholder group do you represent?

- ☐ Stockholder/Investor
- ☐ Corporate employee
- ☐ Spokesperson for government agency/public organization
- ☐ Mass media
- ☐ Expert community
- ☐ Other (please specify)

_____

_____

2. Have you found answers to all your questions in this report?

- ☐ Yes, all
- ☐ Yes, mostly
- ☐ No

3. Which additional information would you like to see included in Rosenergoatom Concern OJSC's next Annual Report?

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4. Please evaluate this report using the following criteria:

Criteria	Very good	Good	Average	Poor
Relevance and value of issues discussed	☐	☐	☐	☐
Reliability of information	☐	☐	☐	☐
Organisation of text, and search convenience	☐	☐	☐	☐
Annual Report art design	☐	☐	☐	☐

Thank you for your contribution!