2011 PUBLIC ANNUAL REPORT

STATE ATOMIC ENERGY CORPORATION ROSATOM

ROSATOM

172.7
Nuclear electricity generation by NPPs, bln kWh

7.1
Uranium production, thnd. t

3.4
Investments in communities, including donations, bln RUB

28.6
Portfolio of foreign contracts over 5 years (not including HEU Purchase Agreement), bln US$

3.16
Labor productivity at Rosatom organizations and enterprises, mln RUB/employee (in comparable prices)

44.6
Average paycheck in the industry, thnd. RUB/month

61,893
Number of employees in ARMIR (automated system to measure individual radiation risks)

10.65
Environment spending, bln RUB

100%
Fulfillment of state orders by the Nuclear Weapons Complex, %

ABOUT THIS REPORT

This Report is the third prepared voluntarily by State Atomic Energy Corporation ROSATOM (Rosatom, the Corporation) and addressed to a broad circle of stakeholders.

The Company's corporate documents establish a 12-month reporting cycle; the previous Report was published in 2011.

This Report was prepared in conformity with Rosatom's public reporting policy and the Corporation's' public annual reporting standards, both of which follow Russian and international requirements for corporate reports, as set out in the Sustainability Reporting Guidelines of the Global Reporting Initiative (version G3.1), the AA1000 series of standards of the Institute of Social and Ethical Accountability, and recommendations of the Russian Union of Industrialists and Entrepreneurs (RSPP) for management practice and corporate non-financial reporting. The Report also uses these methodologies for calculating performance indicators and efficiency figures.

In 2011, Rosatom joined the Pilot Programme of the International Integrated Reporting Council (IIRC). This Report has taken account of recommendations issued by the IIRC on the information to be presented and on implementation of the main principles of integrated reporting.

This Report has an integrated character and comprehensively represents both key financial and operating results of Rosatom in 2011, as well as presenting the Corporation's position with respect to issues of sustainable development, including issues of importance for the international nuclear community, environmental organizations, representatives of local communities in areas where the Corporation carries out operations, and other stakeholders.

The Report contains plans and intentions for the mid-term and long-term future. Such plans are estimative by nature, and their implementation depends on a number of economic, political, and legal factors, which are beyond the Corporation's control (the global financial, economic and political environment, market situation, changes in taxation, customs and environmental law, etc.). Actual results may therefore differ from predictive estimates.

Rosatom pays much attention to properly identifying information that is relevant for inclusion in its Reports. Information is relevant if it is of importance to key stakeholders, including such information as enables them to make decisions, which may have consequences for future operations by Rosatom.

The choice of priority topics for the Report is important for determining how relevant information is disclosed. Priority topics are selected by senior management of Rosatom through dialogs with stakeholders. Priority topics of the 2011 Report are: safety of nuclear power facilities (including after the March 2011 events at Fukushima-1 nuclear power plant); and Rosatom's progress in building a sustainable business and promoting Russian companies on the global market for nuclear technologies and services.

Four dialogs with stakeholders were held in order to ensure greater transparency, accountability and relevance of disclosed information in compliance with the AA1000SES (Stakeholder Engagement Standard). These covered discussion of the Report concept; two discussions on specific themes ("Disclosure of Information in the Report on Safety of Nuclear Power Facilities" and "Disclosure of Information in the Report on Achieving Business Sustainability and Achievement of Leadership on the Global Market for Nuclear Technologies and Services"); and public consultations on the draft Report (see the Report section, "Engagement of Stakeholders in the Course of Report Preparation"). The Report takes account of the main requests raised by stakeholder representatives in the course of the dialogs.

The scope of the Report covers operations of the Corporation and its subdivisions in Russia and elsewhere. Due to the operating specifics of Rosatom business and the need to protect classified information, information on current activities of the Russian nuclear weapons complex is not disclosed. The Report uses two consolidation perimeters. In all sections of the Report, except "Financial and Operating Performance", figures are disclosed for the Corporation's subdivisions in accordance with the budget consolidation perimeter as of December 31, 2011 (except organizations with authorized-use only reports, see Appendix No. 7). Some of the figures from 2009–2011 are not comparable after the consolidation perimeter was changed (such cases are commented on individually in the Report). Efficiency figures in the section "Financial and Operating Performance" are in accordance with the perimeter of IAS-compliant consolidated financial reports filed by OJSC Atomenergoprom. Main IAS reporting forms, and the independent auditor's opinion are available as Appendix No. 5.

In preparation of the sections "Ensuring Nuclear and Radiation Safety" and "Environmental Safety", it was taken into account that Rosatom publishes annual Safety Reports, and that the separate organizations and subdivisions within the Corporation have published environmental reports since 2009. Their reports offer a wide range of specialist information, and describe their business in their operating regions (with respect to nuclear and radiation safety and environmental impact). Links to such reports are provided in this Report.

A Table showing use of standard reporting components and GRI performance indicators is presented in Appendix 1.

Public reporting indicators used by the international community fail to fully represent the specifics of Rosatom operations. The Corporation has therefore designed a system of indicators for the Russian nuclear industry. The list of such indicators used in this Report is presented in Appendix 2.

The total number of indicators disclosed in this Report is greater than in the 2010 Report. The 2011 Report presents 56 GRI performance indicators (25 more than in the previous report), and 162 public reporting indicators that are specific to Rosatom (39 more than in 2010).

This Report passed review by independent auditors who verified non-financial information under ISAE 3000 and AAAPS standards (an auditor's opinion on non-financial reporting by Rosatom for 2011 is presented in Appendix 6). The stakeholder assurance procedure was carried out in conformity with standard AA1000AS (the Statement of Stakeholder Assurance of this Report is presented on page 282).

For more information:
see the Engagement of Stakeholders for Report Preparation

		C	C+	B	B+	A	A+
Mandatory	Self-declaration				√		
Optional	Third-party review				√		
	GRI review						

KEY RESULTS

Indicator*	2011	2010	2009	2011/2010, %**
Power generation by NPPs, bln kWh***	172.7	170.1	163.3	101.5
NPP installed capacity use ratio, %	81.2	81.3	80.2	99.9
Uranium production, thnd. t	7.1	5.2	4.6	136.5
Uranium raw material stock, thnd. t	757.5	727.0	662.0	104.2
Revenues from sale of products, works, and services, bln RUB	478.9●	498.0	458.2	96.2
EBITDA, bln RUB	159.9	181.0	136.0	88.3
Net assets of Rosatom organizations and enterprises, bln RUB	1,415.3	1,212.2	1,057.6	116.8
Portfolio of foreign contracts over 5 years (not including HEU Purchase Agreement), bln US$	28. 6	22.4	18.7	127.7
Share of fixed costs in revenues, %	20.62	22.56	–	91.4
Labor productivity at Rosatom organizations and enterprises, mln RUB/employee (in comparable prices)	3.16	2.8	2.3	112.9
Average staff list, thnd. persons.	260.1●	272.1	259.5	95.6
Share of specialists aged under 35, %	28.5	27.2	26.5	104.8
Average paycheck in the industry, thnd. RUB/month	44.6	35.4	32.4	126.0
Number of employees in ARMIR (automated system to measure individual radiation risks)	61,893	58,633	52,438	105.6
Taxes paid by Rosatom and its units to government budgets at all levels, bln RUB	64.4	78.9	50.8	81.6
Investments in communities, including donations, bln RUB	3.4	1.8	1.1	188.9
Environment spending, bln RUB	10.65	10.64	9.74	100.0
Events that qualify above level-2 on the INES Scale	0	0	0	0
Share of Russian government nuclear defense contract, %	100.0	100.0	100.0	100.0
Fulfillment of state orders by the Nuclear Weapons Complex, %	100.0	100.0	100.0	100.0

* Financial indicators are stated in current prices; some indicators for 2009-2011 are not comparable after change of the consolidation perimeter.

** This and other tables in the present Report take 2010 figures as 100% to calculate the column showing 2011/2010, %.

*** Key Rosatom performance indicators assigned by the Supervisory Board for 2011 are highlighted in color.

● Here and below, this symbol denotes figures that KPMG verified in the course of independent limited assurance of information on sustainable development contained in the Rosatom 2011 Annual Report

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MAIN EVENTS 2011

JANUARY

Agreement between the Russian Federation and the USA on cooperation in peaceful use of nuclear power comes into effect.

The Russian President signs Federal Law, No. 423, dated 28.12.2010, "On ratification of the agreement on cooperation in peaceful use of nuclear power between the Russian Federation and Japan".

FEBRUARY

Commissioning of a petaflop-class Russian super-computer places Russia in the global top-10 nations by super-computer power.

The Russian nuclear industry announces consolidated purchase program for the coming year in advance (for the first time).

MARCH

OJSC Techsnabexport and US Enrichment Corp. (USEC) sign a long-term contract (to 2022) for uranium enrichment services.

Launch of experimental compact neutron generator for remote-neutron and neutron-capture therapy at the Federal Center for Medical Radiology (Obninsk).

A group of Russian specialists is dispatched to provide consulting assistance to Japanese colleagues after the Fukushima-1 disaster.

The Federal Service for Environmental, Technological, and Nuclear Supervision and Rosatom State Corporation begin auditing of safety systems at Russian NPPs.

Open public audits begin at Russian NPPs.

APRIL

The World Association of Nuclear Operators (WANO) begins a corporate peer audit of Russian NPPs.

V.G. Asmolov, First Deputy CEO of OJSC Rosenergoatom, is appointed President of WANO.

The Supervisory Board of Rosatom approves an innovative development and modernization program for 2011-2020.

OJSC Atomenergomash and Dodsal Group (United Arab Emirates) sign a memorandum of mutual understanding on joint commercial activities in India.

MAY

Rosatom signs a memorandum on cooperation in peaceful use of nuclear power with the Ministry of Federal Planning, Government Investments and Services of the Republic of Argentina.

CIS member states adopt a framework program, Atom-CIS Cooperation, for peaceful use of nuclear power up to 2020.

The Russian Institute of Experimental Physics successfully tests the prototype of the world's first container for air transportation of used nuclear fuel from experimental reactors.

JUNE

ARMZ Uranium Holding completes purchase of 100% of Australian Mantra Resources with mining assets in Tanzania and Namibia.

A Russian fuel assembly is loaded to the core of Power Unit No. 2 at Temelin NPP: all Czech NPPs now use Russian nuclear fuel.

Rosatom signs a cooperation agreement with Royal Philips Electronics for development of nuclear medicine in Russia.

OJSC Techsnabexport and US-based PSEG Nuclear LLC sign a contract to export low-enriched uranium to the USA.

Establishment of a Consortium of Higher-Education Institutions with a special relationship to Rosatom.

LLC Atomexpo joins the European Nuclear Society (ENS).

MAIN EVENTS 2011 (CONTINUE)

JULY

Rosatom signs a memorandum of mutual understanding with the Indian Department of Nuclear Power.

The Chinese Experimental Fast Reactor is commissioned in the People's Republic of China.

Phase 4 of a gas-centrifuge plant is commissioned in the People's Republic of China (9 months ahead of schedule).

The Integrated Nuclear Research Institute (Dubna, Moscow Region) ***launches its upgraded experimental IBR-2M neutron-impulse reactor for research purposes.***

Russian Federal Law No. 190, dated 11.07.2011, "On handling of radioactive waste and modifications to specific legal acts of the Russian Federation" comes into force.

AUGUST

The multi-purpose container-carrier, Rossita, arrives in Murmansk to join the Russian atomic icebreaker fleet.

The Sanco Odyssey, a Japanese heavy dry cargo ship, ***makes its first voyage*** using the Northern Sea Route.

Rosatom signs an agreement on interaction and cooperation with self-regulating organizations in the nuclear industry (Soyuzatomstroy, Soyuzatomproekt and Soyuzatomgeo).

SEPTEMBER

Rosatom and the Agency for Promotion of Nuclear Energy of the Republic of Korea ***sign a memorandum on mutual understanding.***

Launch of Busher NPP in the Islamic Republic of Iran.

OJSC Techsnabexport and Exelon Generation Company LLC (largest US-based NPP operator) ***sign a long-term contract for enrichment services.***

The IAEA, the Central Institute for Continuing Education and OJSC Rosenergoatom ***sign practical agreements on cooperation in human resource training.***

A general contract is signed for construction of power units No. 3 and 4 at Tianwan NPP in the People's Republic of China.

Rosatom and Rolls-Royce ***sign a memorandum of mutual understanding.***

OCTOBER

The Russian government approves Russian membership of the OECD Nuclear Power Agency.

The ATOMEX Europe forum for suppliers to the nuclear industry is held in Prague (Czech Republic).

CJSC Atomstroyexport establishes a branch in Turkey.

CJSC Atomstroyexport and the Nuclear Plant Construction Directorate (Belarus) ***sign a contract*** to build power units No. 1 and 2 at Ostrovetskaya NPP in the Republic of Belarus.

NOVEMBER

Launch of power unit No. 4 at Kalinin NPP (Tver Region).

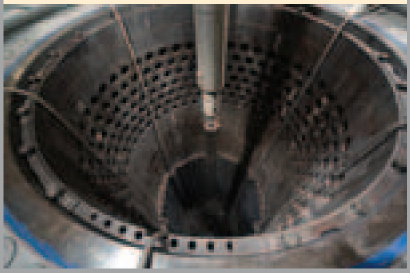
Finance ministers of Russia and Vietnam sign a loan agreement for construction of the first NPP in Vietnam.

An inter-government agreement is signed to build the first NPP in Bangladesh at Ruppur.

A Russian government decree is signed to build power units No. 1 and 2 at Nizhny Novgorod NPP.

OJSC Rosenergoatom receives a license from the Federal Service for Environmental, Technological, and Nuclear Supervision to build Power Unit No. 1 at the Baltic NPP (Kaliningrad Region).

Start of a skills merger between Nizhny Novgorod Atomenergoproekt, a leader in engineering for the Russian nuclear industry, and Atomstroyexport, the Russian exporter of NPP construction services.



DECEMBER

Technological Services Center is set up as a joint venture in the Czech Republic between OJSC Fuel Elements (OJSC TVEL) and Alta Invest.

Dry storage for used nuclear fuel is commissioned at the Mining Chemicals Combine.

Phase 1 of production facilities is launched in the Rosatom project to set up production of Mo-99 at the Nuclear Reactor Institute.

The Japanese Parliament ratifies the Russo-Japanese Agreement on cooperation in peaceful use of nuclear power.

Standard & Poor's raises the long-term credit rating for OJSC Atomenergoprom to BBB. The Corporation's A-3 short-term rating and ruAAA national-scale rating are confirmed. The rating outlook is stable.

ADDRESS BY THE CHIEF EXECUTIVE OFFICER

DEAR COLLEAGUES AND PARTNERS,

Rosatom's third Public Annual Report, which you have before you, is firm proof that the course towards openness and transparency, on which the Corporation embarked some years ago, is being maintained.

By doing our best to keep the broader public informed about all aspects and activities of the Russian nuclear industry, we are building the consensus with civil society, which is essential for the future of nuclear power. Rosatom's openness to public discussion of all issues related to the nuclear industry was among the factors that helped overcome the "post-Fukushima syndrome" in Russia. According to public polls conducted in early 2012, further development of nuclear generation has the support of 66% of Russian people. I am certain that such a high level of public support was primarily the result of our openness and the related confidence that most Russians have in our country's nuclear technologies.

The issue of safety in the nuclear power industry has always been and will remain our absolute priority. In this Report the reader will find exhaustive information about our activities to improve the safety systems and reliability of Russian NPPs. Safety-related spending amounted to 29 bln RUB in 2011, including 2.2 bln RUB for extra measures to make plants safer after the Fukushima-1 disaster.

We improved our key production and financial indicators in the reporting year. Russian nuclear plants produced a record-breaking 172.68 bln kWh in 2011, which is 1.5% more than in 2010. Production of natural uranium in 2011 exceeded 7,000 tons, 36.5% above the 2010 figure. Our overall portfolio of foreign contracts for the coming 10 years (2012 to 2021), excluding the HEU Purchase Contract, is now 50.8 bln US$.

In 2011, we concluded a number of major projects outside Russia. The first fast-neutron experimental reactor was launched in China, where a gas-centrifuge plant built with Russian technologies and the assistance of Russian specialists was also commissioned. Busher NPP – a unique project that took decades to implement – started generating electricity in Iran. If the launch of production at power unit No. 4 of Kalinin NPP is also counted, commissioning of Russian-built nuclear power facilities in 2011 was the most intensive since the end of the Soviet Union. In 2011, we were also poised to start generation at the Kudankulam NPP in India, but the launch was delayed due to internal political disagreements. I believe that all issues can be resolved and the plant will begin operation next year.

Future international projects were also taken forward in the reporting year. Agreements were reached to build nuclear plants in Turkey, Belarus, Bangladesh, and Vietnam, and the agreement on construction of phase two of Tianwan NPP in China became effective.

Rosatom saw major progress in technology projects during 2011. Commissioning of a petaflop-class super-computer placed Russia among the top-10 global leaders by super-computer power. As well as continuing its work on super-computers, the Sarov Nuclear Center is also creating a super-power UFL-2M laser unit for research into alternative power generation and states of matter. We expect this to be among major projects at the innovative cluster, which is being created at the Institute of Experimental Physics, bringing science and business closer together and offering new opportunities for commercial applications of fundamental research.

In 2012, Rosatom will continue its transformation into a global company and a leader on the world market for nuclear technologies. We have all the resources that are needed to realize our ambitious plans. First and foremost, we have the knowledge and experience of hundreds of thousands of specialists, to whom I extend my sincere gratitude for their hard and productive work during the reporting year.

Sergey Kirienko
CEO, State Atomic Energy Corporation ROSATOM

ADDRESS BY THE CHAIRMAN OF THE SUPERVISORY BOARD

DEAR READERS,

The global nuclear industry had a momentous year in 2011. The disaster at Fukushima-1 Nuclear Power Plant in Japan heralded a new stage in development of the industry, as the issue of safety at both existing and future nuclear plants was spectacularly highlighted. However, the events in Japan have not shaken the overall trend: most countries have not abandoned their plans for creation of more powerful and more numerous nuclear generation facilities.

Russia is a staunch champion of the peaceful use of nuclear power. The national leadership has confirmed that Russia will maintain a sizeable program for construction of new nuclear power plants and the government will continue to provide a full range of support to the industry, which it sees as an engine of Russia's innovative development.

Nevertheless, as we chart our course towards further growth in the nuclear industry, we cannot disregard the most important lesson learned from Fukushima, which is that safety and reliability have to be absolute priorities for all countries that operate nuclear plants. This means improving international regulation of the industry as well as paying even greater attention to technical issues. The global community was focused on these tasks in the reporting year, and we would note that Russia was the first to emphasize the need for better international regulation in initiatives put forward by the Russian President in April 2011. The Russian proposals were welcomed by the international community and were later incorporated in the closing documents of the IAEA's 55^{th} General Conference.

The Annual Report of Rosatom State Corporation offers an in-depth picture of the Russian nuclear industry in 2011. Strong performance on all fronts confirms that the Russian industry is making good progress and achieving steady growth.

Russian nuclear companies were particularly successful on foreign markets during the reporting year: the number of our foreign NPP construction projects almost doubled (from 12 to 21 contracts) which is evidence of the demand for Russian technologies and customer confidence with regard to the safety of Russian-designed nuclear plants.

Work also continued on the program for NPP construction inside Russia, as unit No. 4 of Kalinin NPP began production in test mode.

There was particularly rapid progress during 2011 in revival of the sea passage around Russia's northern coasts, where waters are ice-bound for a large part of the year and require deployment of a fleet of atomic-powered icebreakers. The number of transit passages rose by 8 times in 2011, making the Northern Ocean into a major trading route. I am confident that the Russian government's decision to build new icebreakers will support further growth of sea trade along Russia's northern coast.

Improvement of legal regulation is an important condition for successful development of the Russian nuclear industry. The new Federal Law, "On handling of radioactive waste" came into force in 2011, instituting the United National System for radioactive waste handling, assigning relevant functions and responsibilities, and creating conditions to address "nuclear legacy" issues.

Initiatives in 2011 included major efforts to enhance corporate efficiency at Rosatom: the nuclear industry is a large recipient of Russian federal budget funds, so it is highly important to ensure that every ruble is used as efficiently as possible. In 2011, Rosatom filed its first-ever consolidated financial reports to International Accounting Standards (within the perimeter of OJSC Atomenergoprom), thus taking an important step towards compliance with best global corporate practice.

The results in the reporting year clearly show that Rosatom State Corporation is growing sustainably and remains a flag bearer for innovative development of the Russian economy.

As the Chairman of the Rosatom Supervisory Board, it gives me great satisfaction to note that the Corporation's management fulfilled, and in some cases outperformed, key performance indicators in 2011.

Igor Shuvalov
First Deputy Prime Minister of the Russian Federation, Chairman of the Supervisory Board of State Atomic Energy Corporation ROSATOM

ADDRESS BY THE HEAD OF THE FEDERAL SERVICE FOR ENVIRONMENTAL, TECHNOLOGICAL, AND NUCLEAR SUPERVISION

DEAR READERS,

Nuclear energy is one of the most efficient and reliable resources for meeting the growing power needs of citizens and businesses, provided that safety is given top priority, that safety regulations are unfailingly observed, and that nuclear plant personnel have commitment to a culture of nuclear safety. Ensuring that nuclear plants are safe for people and for the environment has always been our absolute priority in the development of the nuclear power industry.

The need to assess any potential impacts time and time again, to calculate risks and to put technologies in place that ensure nuclear, radiation and environmental safety, makes nuclear projects difficult to implement. The Fukushima-1 events once again emphasized that nuclear plants are vulnerable to technology-related risks caused by natural disasters and associated factors. Therefore, the safety standards applicable to nuclear plants must be reviewed and improved continuously to ensure their reliable functioning.

The global community was focused on these tasks in the reporting year, and we would note that Russia was the first to emphasize the need for better international regulation, in initiatives put forward by the Russian President, Dmitry Medvedev, in April 2011.

The Federal Service for Environmental, Technological, and Nuclear Supervision (Rostekhnadzor) is the government regulation agency in charge of nuclear power use, federal government supervision and control in the use of nuclear power, and licensing for nuclear power facilities, including operation of nuclear power plants.

In 2011, the Russian President proposed an initiative to implement globally recognized mandatory safety standards at NPPs and other nuclear energy facilities. This initiative undoubtedly represents an important step towards better operating safety in the nuclear industry worldwide, and it also proves that Russian nuclear industry specialists are in the global vanguard with respect to safety issues.

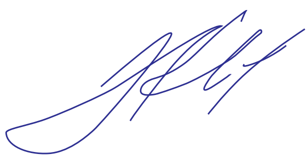
The Federal Service for Environmental, Technological, and Nuclear Supervision (Rostekhnadzor) monitors safe use of nuclear energy in Russia, including nuclear, radiation and physical safety, as well as compliance with international responsibilities assumed by the Russian Federation. Rostekhnadzor also issues licenses for positioning, installation, operation and decommissioning of nuclear power facilities.

I am pleased to note that safety monitoring activities at Russian nuclear plants in 2011, and the results of extra analysis of protections against external extreme impacts (stress tests) showed high levels of resilience of the nuclear power plants that operate in Russia.

I believe that information concerning safety, reliability, and overall status of the Russian nuclear industry needs to be communicated systematically to the general public and to key stakeholders.

The public reporting mechanism realized at Rosatom State Corporation and other businesses in the Russian nuclear industry is an efficient tool for such interaction.

On behalf of the Federal Service for Environmental, Technological and Nuclear Supervision, I extend my best wishes to Rosatom State Corporation and all nuclear industry employees in their further work to ensure the safe development of Russian nuclear technologies for the good of the country.



Nikolay Kutyin
Head of the Federal Service for Environmental, Technological, and Nuclear Supervision

THE NUCLEAR INDUSTRY AFTER FUKUSHIMA: NEW CHALLENGES

THE EVENTS IN JAPAN HAVE NOT CHANGED THE GLOBAL ENERGY SITUATION. GROWTH OF WORLD POPULATION AND GDP ENTAIL INCREASING CONSUMPTION OF ELECTRIC POWER, WHILE CONCERNS RELATED TO THE ENVIRONMENT AND GLOBAL WARMING MAKE FURTHER DEVELOPMENT OF THE NUCLEAR POWER INDUSTRY A NATURAL CHOICE.

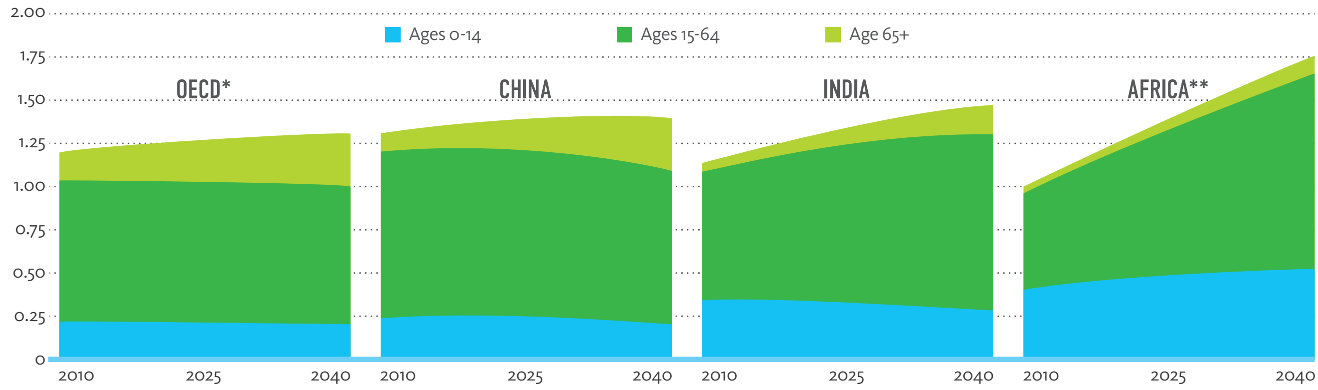
By 2030, demand for electric power is expected to grow by 80%[1] compared to 2011, and this will require a large increase of global generating capacities.

Conventional sources for power generation (petroleum, natural gas, coal) still account for a considerable share in the global energy balance. Nevertheless, ever more critical environmental problems and the challenge of global warming require greater recourse to generation technologies that minimize environmental impact. Hence the urgent need to develop such generation technologies as nuclear and hydro power, as well as renewable (alternative) sources of energy.

Nuclear power stands out among generation technologies that minimize environmental impact: operation of nuclear plants prevents emission of more than 3 bln tons of carbon dioxide gas into the atmosphere worldwide each year. Nuclear generation is also highly efficient in terms of ultimate cost per kilowatt-hour of electricity supplied to consumers, despite large initial capital investments. Estimates show that cost price of nuclear generation in 2030 will be low compared with both conventional and renewable sources of energy. Nuclear generation offers an important advantage compared with renewable sources of energy, since it can provide stable and uninterrupted electric power supply independent of natural and climatic conditions.

OUTLOOK FOR DEVELOPMENT OF THE GLOBAL NUCLEAR POWER INDUSTRY

DEMOGRAPHICS BY REGION, BILLIONS OF PEOPLE



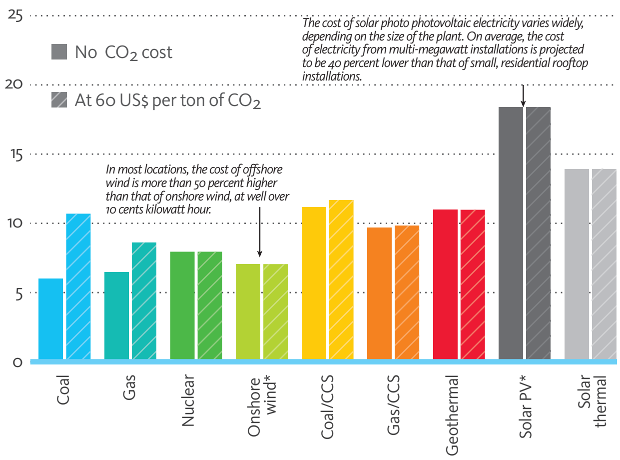
* A growing North American working-age population is not enough to offset declines in other OECD nations.
** Africa's population will grow the most of any region – adding nearly 800 mln people.

***Source:* projections in section taken from sources World Bank, ExxonMobil Energy Outlook 2040, 2012**

1 ExxonMobil Energy Outlook 2040, 2012.

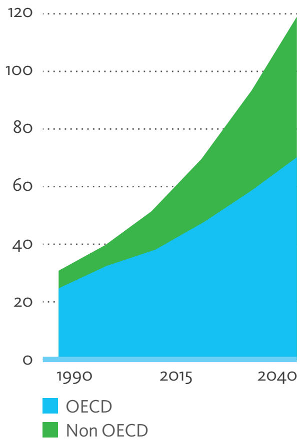
GLOBAL ECONOMIC GROWTH AND EFFICIENCY OF NUCLEAR GENERATION SHOULD DETERMINE 80% GROWTH OF NUCLEAR POWER OUTPUT BY 2040, ENTAILING A 2% ANNUAL GROWTH RATE[2]. THE FUKUSHIMA-1 EVENTS CAUSED A SLIGHT ADJUSTMENT OF ESTIMATES FOR COMMISSIONING OF NEW CAPACITY (BY UP TO 10% IN THE PERIOD TO 2020, AND 15% TO 2030).

AVERAGE U.S. COST OF ELECTRICITY GENERATION IN 2030 COST PER KILOWATT HOUR IN 2011 CENTS

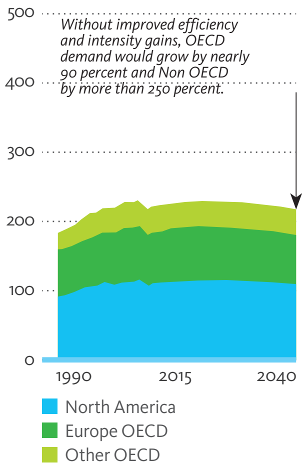


* Wind and solar exclude costs for backup capacity and additional transmission

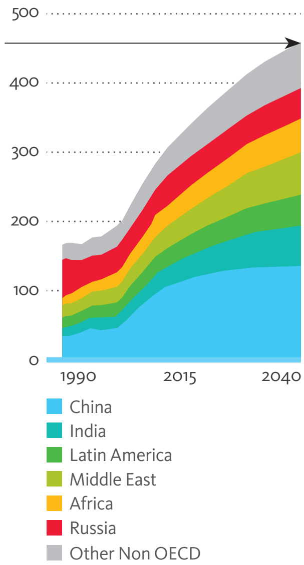
GLOBAL GDP BY REGION, TRILLION US$ AS OF 2005



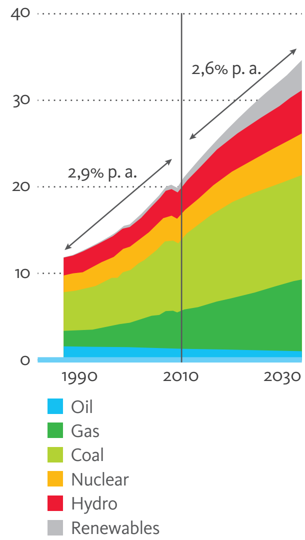
OECD ENERGY DEMAND, QUADRILLION BTUs*



NON OECD ENERGY DEMAND, QUADRILLION BTUs



WORLD POWER GENERATION, THOUSAND TWh



***Source:* BP Energy Outlook 2030, 2011**

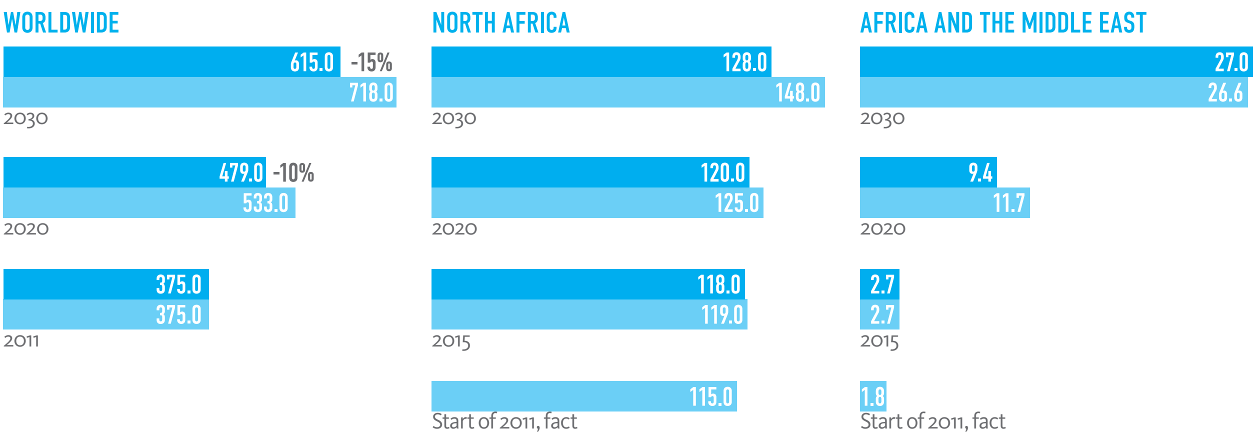
**** BTU – British thermal unit***

2 ExxonMobil Energy Outlook 2040, 2012.

GEOGRAPHY OF NUCLEAR POWER

ONGOING INTEGRATION OF RUSSIAN NUCLEAR POWER GENERATING ON THE GLOBAL MARKET REACHED NEW LEVELS IN 2011. THE RUSSIAN NUCLEAR INDUSTRY COOPERATED WITH BOTH TRADITIONAL PARTNERS (FRANCE, UK, USA, UKRAINE, CHINA, INDIA, KAZAKHSTAN, ARMENIA) AND WITH COUNTRIES THAT HAVE RECENTLY DECLARED THEIR READINESS TO ESTABLISH OR UPSCALE THEIR OWN NUCLEAR POWER GENERATION (BANGLADESH, VIETNAM, KUWAIT, QATAR, NAMIBIA, ARGENTINA, SOUTH AFRICA AND SAUDI ARABIA).

- Countries that operate NPPs and plan further development of nuclear power
- Countries that have confirmed plans to develop nuclear power
- Countries that plan phased withdrawal from use of nuclear power, after rejecting previously approved programs



- UxC estimate 04.2010. GW
- UxC estimate. 04.2011. GW

WESTERN EUROPE

2030	97.0	144.0
2020	117.0	135.0
2015	115.0	125.0
Start of 2011, fact		122.0

ASIA AND PACIFIC

2030	253.0	299.0
2020	165.0	193.0
2015	121.0	130.0
Start of 2011, fact		85.0

JAPAN

2030	44.0	57.0
2020	45.0	54.0
2015	44.0	50.0
Start of 2011, fact		47.0

THE ROSATOM RESPONSE TO FUKUSHIMA

FOLLOWING THE EVENTS IN JAPAN, ROSATOM HAS TAKEN A SERIES OF PRACTICAL STEPS TO IMPROVE SAFETY OF NUCLEAR POWER FACILITIES IN RUSSIA AND WORLDWIDE (INITIATIVES BY THE CORPORATION TO ENHANCE INTERNATIONAL NUCLEAR SAFETY ARE DESCRIBED IN THE "INTERNATIONAL COOPERATION" SECTION OF THIS REPORT).

SAFETY AUDITS AT RUSSIAN NUCLEAR PLANTS

1 ADDITIONAL ANALYSIS OF PROTECTION AT RUSSIAN NPPS

Stress tests results of:
http://www.gosnadzor.ru/news/1298/

Following the developments of spring 2011 in Japan (earthquake and tsunami) that triggered an emergency at the Fukushima NPP, Rosenergoatom analyzed the causes underlying the emergency and used comprehensive examination to ensure that Russian nuclear plants were prepared for such extreme scenarios.

During March and April 2011, Rosenergoatom inspected all active nuclear plants in an effort to gauge nuclear plant protections against external impacts of natural and industrial origin, acting under the Russian Nuclear Plant Inspection Program for Safety Assurance (written by Rosatom and approved by Rostekhnadzor). The inspections reviewed activities used at the nuclear plants to ensure safety of their power units, they examined engineering design, operating and manufacturer's document packs for compliance under applicable rules and standards, including parameters of seismic resistance and hydrogen-explosion protections.

In June through August 2011, Rosenergoatom presented its reports to Rostekhnadzor on the results of analysis to estimate protection of active nuclear plants against extreme external impacts and combinations thereof, and to measure nuclear plant readiness to control non-design-basis events, including grave events.

In September through November 2011, Rostekhnadzor examined the reports and discussed the results with Rosenergoatom at an open meeting held in December 2011. Main conclusions after additional inspections to estimate readiness of Russian nuclear plants under extreme external impact scenarios are as follows:

— Nuclear power plants have been designed for and built in areas with estimated 4 to 6 points seismic activity on the MSK-64 scale;
— availability and reliability of power supply systems at the NPPs has been confirmed, with 112 fixed and movable diesel generator units tested;
— removal of heat from the core in emergency is ensured by emergency cooling systems: 520 pumps were tested;
— each NPP has a plan of action to prevent possible emergencies and remedial activities (both previously in place and additional);
— personnel of NPPs have been trained and are prepared to prevent possible emergencies and eliminate the consequences of non-design-basis events;
— NPP safety is compliant under federal standards and regulations and is ensured with due account for upgrades and remedial activities that are being implemented.

The results of audits to ensure levels of protection of Russian NPPs against extreme external impacts and combinations thereof, and the plan of related activities can be examined as part of the 2011 Annual Report filed by Rosenergoatom.

2 CORPORATE PEER AUDIT BY WAO NPP

In April 2011, a peer audit was carried out by the World Association of Operators of Nuclear Plants (WAO NPP). During the audit, four expert teams of representatives from WAO NPP, Rosenergoatom, EDF and the IAEA visited seven Russian nuclear plants and held a teleconference with Bilibino NPP (located in the remote Chukchi Autonomous District). Two other Russian NPPs, in Kalinin and Smolensk, were visited before the audit began.

The audit produced a report that presented strong points of Russian NPP operations and areas of their operations which are in need of improvement. Such reports had previously been disclosed only to the audited plant and its operator. But Rosenergoatom decided that the audit report should be disclosed to all operating nuclear plants in Russia.

ACTIONS TO COMPLY WITH THE IAEA NUCLEAR SAFETY PLAN

IN SEPTEMBER 2011, THE 55TH GENERAL CONFERENCE OF THE IAEA APPROVED AN ACTION PLAN DESIGNED TO STRENGTHEN GLOBAL NUCLEAR SAFETY. AN ACTION PLAN FOR THE RUSSIAN INDUSTRY WAS THEN PREPARED BY ROSATOM IN COMPLIANCE WITH THE IAEA DOCUMENT.

3 PUBLIC AUDITS

In March and April 2011, at the initiative of Rosatom, all Russian NPPs underwent public audits for purposes of public control over nuclear plant operations. All plants were visited by groups of public representatives who examined safety systems, working conditions, and production culture.

The public audit groups consisted of legislators and executive government officers, as well as representatives of local government, public organizations (including environmentalists), scientific institutions, hospitals and schools, civil defense organizations and the clergy. As a result, Russian nuclear plants were visited by a total of 400 individuals, accompanied by more than 250 reporters from local and national mass media.

4 UNSCHEDULED EMERGENCY DRILLS

In April 2011, all operating Russian NPPs held unscheduled emergency drills to enhance the response skills of their emergency services, personnel and managers. The drills simulated complete loss of electricity supply to all power units and total loss of cooling water in reactors. NPP personnel showed themselves to be well prepared for such contingencies, and were able to switch the reactors to a safe and controllable state and maintain them in that state. The drills also tested emergency equipment, including diesel pump units and mobile autonomous diesel generators.

Actions to implement sections of the industry action plan in 2011

ACTION PLAN SECTION, "SAFETY ASSESSMENT IN THE LIGHT OF THE FUKUSHIMA-1 ACCIDENT":

- probable consequences of extreme external impacts (in the form judged most probable for each Russian NPP site) were assessed;
- initial requirements for in-depth analysis of reactor safety were prepared;
- terms of reference were prepared for design solutions to make NPPs more resistant to extreme external impacts.

ACTION PLAN SECTION, "EMERGENCY READINESS AND EMERGENCY RESPONSE":

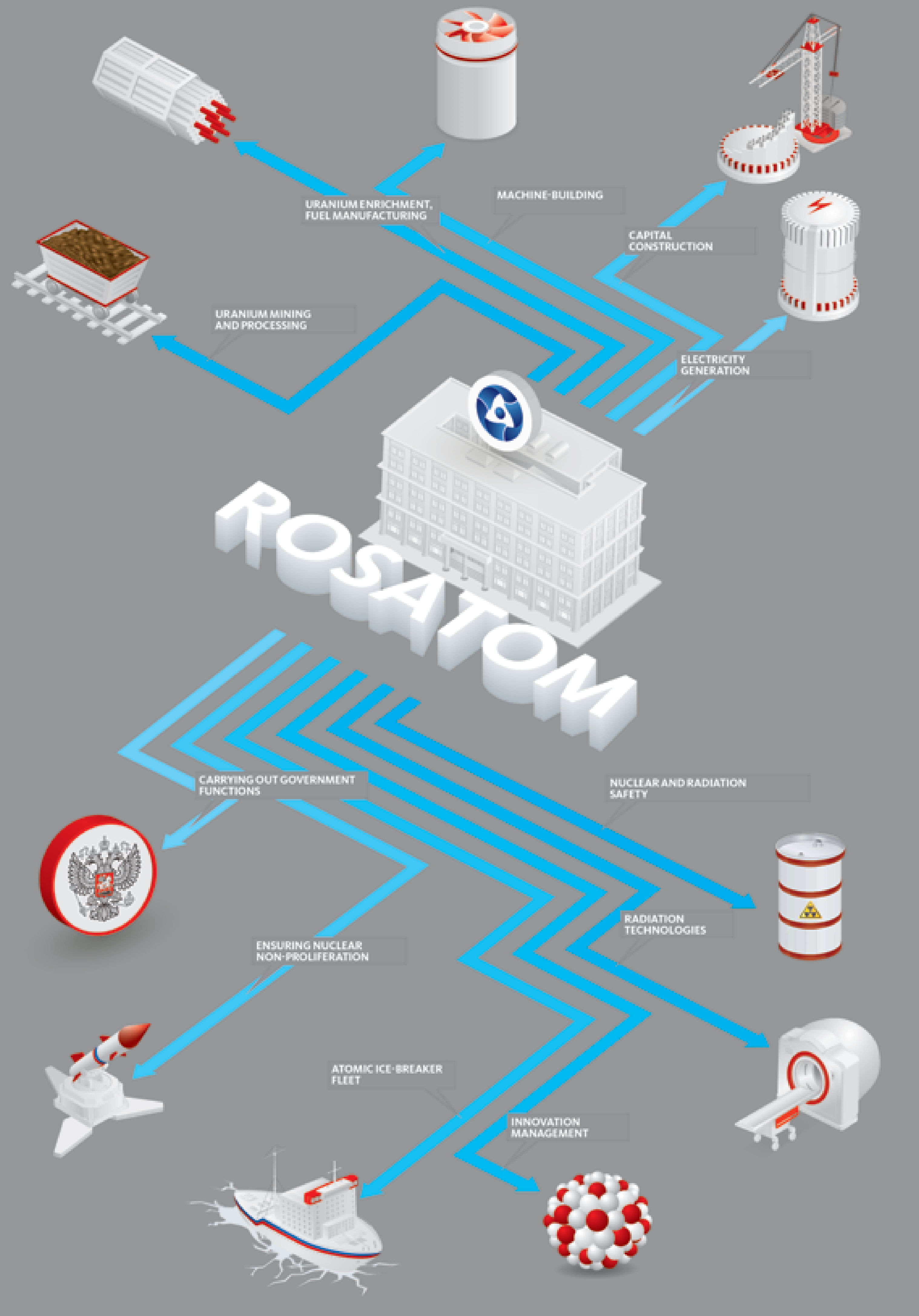
- emergency drills were held at all Russian NPPs, simulating loss of electricity supply and loss of the final heat absorber.

ACTION PLAN SECTION, "OPERATOR ORGANIZATIONS":

- an inter-departmental action plan was submitted to the Russian federal government, setting out measures to enhance safety at operating Russian NPPs.

ACTION PLAN SECTION, "COMMUNICATIONS AND PROVISION OF INFORMATION":

- training courses were held to develop corporate skills.



URANIUM ENRICHMENT, FUEL MANUFACTURING
MACHINE-BUILDING
CAPITAL CONSTRUCTION
URANIUM MINING AND PROCESSING
ELECTRICITY GENERATION
ROSATOM
CARRYING OUT GOVERNMENT FUNCTIONS
NUCLEAR AND RADIATION SAFETY
RADIATION TECHNOLOGIES
ENSURING NUCLEAR NON-PROLIFERATION
ATOMIC ICE-BREAKER FLEET
INNOVATION MANAGEMENT

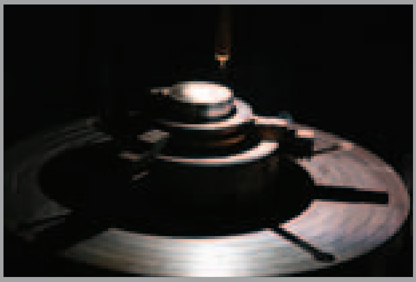
1.

STATE ATOMIC ENERGY CORPORATION ROSATOM PUBLIC ANNUAL REPORT 2011

ROSATOM

GENERAL DESCRIPTION OF THE BUSINESS

Rosatom State Corporation is authorized to act on behalf of the Russian Federation for the performance of Russia's international obligations in peaceful use of nuclear power and enforcement of nuclear non-proliferation treaties.
Rosatom's corporate structure consists of: the nuclear arms complex; the nuclear power generation complex, which in turn consists of a mining division, fuel division, machine-building division, electric power generation division, capital construction division, and radiation technologies division; the scientific research and development complex; the nuclear and radiation safety complex; and the nuclear icebreaker complex. Rosatom is a global leader in nuclear technologies. The Corporation's business geography covers all key regional segments of the global market.



1.1.

OVERVIEW OF THE OPERATIONS OF ROSATOM CORPORATION

STATE ATOMIC ENERGY CORPORATION ROSATOM WAS ESTABLISHED ON DECEMBER 18, 2007. THE STATUS, CORPORATE OBJECTIVE AND ACTIVITIES, FUNCTIONS, AND AUTHORITY OF ROSATOM CORPORATION ARE REGULATED BY THE FEDERAL LAW NO. 317, "ON STATE ATOMIC ENERGY CORPORATION ROSATOM", DATED DECEMBER 01, 2007.

Rosatom is authorized to act on behalf of the Russian Federation and perform the obligations assumed by Russia for peaceful use of nuclear power and enforcement of nuclear arms non-proliferation. Rosatom is responsible for implementing Russian national nuclear energy policy, and is a universal company, owning assets throughout the nuclear generating and nuclear industry chain: from geological surveying and uranium mining, to design and construction of NPPs, machine-building, generation of thermal and electric energy, enrichment and conversion of uranium, production of fuel, decommissioning of nuclear facilities, and utilization of used nuclear fuel (UNF) and radioactive waste.

Rosatom Corporation contains: the Russian nuclear weapons complex; Russia's nuclear power generation industry, comprising mining, fuel, machine-building, power generation, as well as capital construction and radiation technology assets; Russia's nuclear R&D complex; nuclear and radiation safety competences; and Russia's nuclear icebreaker complex.

As of December 31, 2011, Rosatom contained 38 unitary state enterprises (enterprises in full state ownership, which have not issued stock). The total number of entities owned or managed by Rosatom was in excess of 360, including companies whose shares are fully owned by the Corporation, subsidiaries and equity affiliates, companies and organizations created by Rosatom or transferred to it, whose assets are owned by the Corporation, and entities over which the Corporation exercises shareholder rights on behalf of the Russian government. The companies and organizations owned or controlled by Rosatom include administrative and operating entities in the nuclear industry, as well as providers of auxiliary infrastructure and various non-core assets.

Rosatom is a global technology leader in the nuclear industry, and its business geography includes all key regions of the global market. The Corporation's uranium mining subsidiary, Atomredmetzoloto, had projects in nine countries during the reporting year: Russia, Kazakhstan, Armenia, Namibia, Tanzania, Mongolia, the USA, Canada, and Australia. Fuel made by OJSC TVEL is used by nuclear plants in 14 nations worldwide. CJSC Atomstroyexport (construction of nuclear facilities on foreign markets) acted as a business contractor and agent under inter-government agreements in Russia, China, Iran, India, Bulgaria, Bangladesh, Turkey, Vietnam, Slovakia, Hungary, Czech Republic, Belarus, Ukraine, Kazakhstan, and Armenia. OJSC Techsnabexport sells its uranium products to 14 nations worldwide. Overall, legal capacity (international agreements, etc.) is in place for Rosatom do business with 54 countries worldwide.

The Corporation's full name in the Russian language is:	Государственная корпорация по атомной энергии «Росатом»
The Corporation's full name in the English language is:	State Atomic Energy Corporation «Rosatom»
The Corporation's short name in the Russian language is	Госкорпорация «Росатом»
The Corporation's short name in the English language is:	ROSATOM
The Corporation's offices are located at:	24 Bolshaya Ordynka St., Moscow.
The Corporation's Auditor is	LLC Nexia Pacioli, located at: 2 Malaya Polyanka St., Moscow.

ROSATOM STRUCTURE AND MAIN OPERATIONS*

NUCLEAR ARMS COMPLEX DIRECTORATE FOR THE NUCLEAR ARMS COMPLEX	Assuring nuclear deterrence Meeting the Russian government defense contract	7 OJSC 5 LLC	2 CJSC 23 SUE
MINING DIVISION* MANAGEMENT COMPANY OJSC ATOMREDMETZOLOTO	Production and refining of Uranium	6 OJSC 14 LLC	8 CJSC
FUEL DIVISION OJSC TVEL	Uranium enrichment Production and fabrication of nuclear fuel	22 OJSC 41 LLC	15 CJSC
ELECTRIC POWER DIVISION MANAGEMENT COMPANY OJSC ROSENERGOATOM	Power generation at NPPs	15 OJSC 22 LLC	6 CJSC
MACHINE-BUILDING DIVISION* MANAGEMENT COMPANY OJSC ATOMENERGOMASH	Manufacturing equipment for construction of NPPs and other facilities, including facilities for non-nuclear sectors of the economy	21 OJSC 20 LLC	15 CJSC
DIRECTORATE FOR CAPITAL CONSTRUCTION	Design, management and construction of NPPs Design and construction of other facilities	13 OJSC 5 LLC	6 CJSC
THE RADIATION TECHNOLOGIES PROGRAM* MANAGEMENT COMPANY LLC UNITED INNOVATIONS CORPORATION	Manufacturing equipment for construction of NPPs and other facilities, including facilities for non-nuclear sectors of the economy	3 OJSC 1 LLC	1 CJSC
COMPLEX FOR NUCLEAR AND RADIATION SAFETY DIRECTORATE FOR NUCLEAR AND RADIATION SAFETY	Ensuring accident-free operation of nuclear power facilities, which present potential nuclear and radiation hazards. Handling spent nuclear fuel and radioactive waste. Solving the "legacy" problem from previous civil and defense operations in the nuclear industry. Decommissioning of facilities and units.	4 SUE	
INNOVATION MANAGEMENT UNIT* MANAGEMENT COMPANY CJSC SCIENCE AND INNOVATION	Fundamental and applied scientific research. Science and design support for development of nuclear power generating and the nuclear industry. Innovative developments, including in other sectors.	9 OJSC 7 SUE	1 CJSC 1 PC
NUCLEAR ICEBREAKER FLEET	Icebreakers on the Northern Sea Route Emergency rescue in the Arctic ice belt	1 SUE	

* The list of corporate units in Appendix 7, also includes 21 foreign-based businesses with various forms of incorporation and ownership structure.

1.2. BUSINESS MODEL AND MARKETS

1.2.1. BUSINESS MODEL

VALUE CHAIN OF ROSATOM STATE CORPORATION

MARKETS*	PRODUCTS	VALUE CREATION CHAIN
MINING	Natural uranium; Rare earth metals	Development of materials base; Ore mining; Ore processing
FUEL	Enriched uranium product; Manufacturing; Thermal elements; UNF	Conversion; Enrichment; Manufacturing; UNF storage; UNF transportation; UNF utilization
POWER GENERATION	KWH; Services; Maintenance services	Operation; Electric power trading; Electric power distribution; Electric power sales; Maintenance
MACHINE-BUILDING/ REACTOR-BUILDING	Nuclear steam generating unit; Maintenance; Equipment for power generation	Project design/ engineering design; Manufacturing; Installation; Maintenance
SOPHISTICATED CONSTRUCTION ENGINEERING	Service of construction management; Turn-key construction of nuclear plants	Construction and installation management; Construction
BACK END OF NUCLEAR LIFE CYCLE	Decommissioning; Handling of radioactive waste	Decommissioning; Accumulation/ classification; Processing/ conditioning; Storage/burial
RADIATION TECHNOLOGIES	Isotope products; Medical equipment, radioactive pharmaceutical products, engineering; Online accelerators; Irradiation centers; Inspection systems	Project design/ art design; Construction/ configuration; Components/ equipment; Distribution/ sales; Operation/ maintenance
FUTURE MATERIALS	FM; FM-based products; Rights to use intellectual property assets; Equipment to manufacture FM	R&D; Art design/ configuration; Equipment; Product manufacturing; Utilization/ recycling

* not including Nuclear Weapons Complex.

1.2.2. MARKETS

NATURAL URANIUM

For more information
see the Report section, "Mining Division"

Demand for uranium is directly correlated with electric power output by NPPs. In 2012, world demand for uranium, to be used for production of reactor fuel, is expected to recover following a reduction in 2011, when reactors were shut down for additional safety tests following the Fukushima-1 incident).

According to estimates, global demand for natural uranium will reach 72,500 tons in 2012 (1.5% more than in 2011). Demand for uranium is expected to rise by 1.2 times up to 2020, reaching 85,000 tons, with a further increase to 95,500 tons in 2030.

Total worldwide production of natural uranium in 2012 will be 60,000 tons, or below demand. The shortfall will be met by secondary sources of uranium (the HEU Purchase Agreement, extra-enrichment of depleted uranium hexafluoride, regenerated uranium, etc.). By 2020, total uranium production may reach 87,000 tons, and 99,000 tons by 2030. After the HEU Purchase Agreement expires, supplies from secondary sources are expected to stabilize at 10-14,000 tons of uranium equivalent.

The global market for natural uranium is dominated by a few suppliers: Rosatom State Corporation (Russia, 13% of global production in 2011), NAK Kazatomprom (Kazakhstan, 21%), Cameco (Canada, 16%), AREVA (France, 12%), Rio Tinto (Australia-UK, 5%), and BHP Billiton (Australia-UK, 6%). The six largest players account for nearly three quarters of total global production.

The leaders have been actively increasing their mining base both through market consolidation with smaller players, and through investments in exploration and development of new fields. By 2015, the share of new fields in total production may reach 10%, rising to 45% by 2030.

In the near future, the main sources of uranium will be located in Canada, Australia, Kazakhstan, Russia, and African countries.

URANIUM ENRICHMENT

for more information
see the Report section, "Fuel Division"

Uranium enrichment is the key part of the first stage of the nuclear fuel cycle. It produces enriched uranium in a process, where required energy is measured by "separative work units" (SWUs). Because SWUs are standardized and are used to produce enriched uranium for all light-water reactors, SWU cost is the main competitive advantage in this segment of the industry.

It is estimated that in 2012 the global market for uranium enrichment will be around 51.5 mln SWUs (with the HEU Purchase Agreement), representing growth of 6.5% from 2011. By 2020, demand for enrichment services may increase to 70-72 mln SWUs and to 88-90 mln SWUs by 2030.

SWU operations currently use gas diffusion and gas centrifuge technologies. Gas diffusion technology is considerably more expensive, and is gradually being replaced by the centrifuge process.

Rosatom is one of the main international suppliers of uranium enrichment services, alongside URENCO (UK, Germany, the Netherlands), AREVA (France), and USEC (USA), These companies together command about 95% of the market.

In 2011, Rosatom provided over one third of all uranium enrichment needs for western-designed reactors, and had substantial market share in all main geographical regions.

URENCO controls some 20% of the uranium enrichment market. As of late 2011, total annual installed capacity of URENCO was about 14.6 mln SWUs. URENCO has three processing plants in Europe, at Almelo (Netherlands), Capenhurst (UK), and Gronau (Germany), and in 2010 it launched a processing plant in the USA (Louisiana Energy Services (LES)/URENCO USA). URENCO expects to reach annual output of 18 mln SWUs by 2015.

AREVA holds 19% of the global enrichment market. Its George Besse I plant (GBI) with 10.8 mln SWU capacity using gas diffusion will be decommissioned in 2012, and the company is now building a gas-centrifuge plant, George Besse II (GBII), which should have annual output of 7.5 mln SWUs by the end of 2016.

USEC holds 11% of the enrichment services market. The company operates a gas-diffusion uranium enrichment plant at Paducah, where operations have been extended by one more year (until 2014) thanks to government support. Installed annual capacity of the plant is 8 mln SWUs, but its output in 2013 is expected to be under 5 mln SWUs.

USEC acts as agent to the US Federal Government in the HEU Purchase Agreement. Supplies under the HEU Purchase Agreement contract meet about 40% of the needs of all US-based NPPs. These supplies will end in 2013. USEC's pivotal project is therefore construction of a gas-centrifuge plant in the USA – the American Centrifuge Plant (ACP), which will have annual capacity of 3.8 mln SWUs.

NUCLEAR FUEL

For more information.:
see the Report section, "Fuel Division"

Rosatom includes divisions which produce fuel assemblies and components, and divisions which provide design services, licensing, and engineering support for nuclear fuel use.

In 2012 the global market for nuclear fuel is expected to be nearly 12,000 tons of heavy metal (THM), of which 8,600 THM will be fuel that needs uranium enrichment (including nearly 1,000 THM of fuel for VVER reactors), and 3.4 THM will be fuel for heavy-water reactors. As the numbers of reactors in the world increases, demand for nuclear fuel production services may reach 14,600 THM in 2020 and 15,600 THM by 2030.

Main players on the global market for nuclear fuel are: Westinghouse/Toshiba, AREVA, Rosatom, and Global Nuclear Fuel.

AREVA makes fuel for PWR and BWR reactors, and provides about one third of global nuclear fuel needs. Its main sales region is Western Europe, but it is also present in the USA and the Asia-Pacific region.

Westinghouse is comparable to AREVA by market share. The company is solely a producer of nuclear fuels (except EMS) and is not involved in other segments of the nuclear fuel cycle. The company makes fuel for all LWR reactor types (PWR, BWR, and VVER). Its main markets are in the USA and Western Europe. Westinghouse is making intensive efforts to win a position as supplier to VVER-1000 reactors in Ukraine.

Global Nuclear Fuel (GNF) is a joint venture between GE, Hitachi and Toshiba, and has 17% market share. GNF consists of two units: GNF-J (for Japan) and GNF-A (for other markets). The company makes fuel for BWR reactors only.

GENERATION AND SALE OF ELECTRIC POWER

For more information
see the Report sections, "Electric Power Division"
and "Capital Construction"

There were more than 400 nuclear reactors in operation worldwide at the end of 2011. There are plans to build and commission a further 300 power units in 2012-2030 with total installed capacity of 339 GW. Asian nations, particularly China, dominate demand for new nuclear plants.

Total installed capacity of Rosatom nuclear plants at the end of 2011 was 24.2 GW. These plants generated 16.6% of all Russian electricity, and the share of nuclear plants in generation was as high as 36.5% in some parts of the country.

Rosatom was the biggest Russian generating company by output volumes in 2011. The Corporation also ranks second in the world by installed capacity behind EDF in France, which has 74 GW capacity.

The Russian national program, "Development of the Nuclear Industry", calls for commissioning of up to 38 power units between 2010 and 2030, while 24 units will be decommissioned in the same period. This should raise total installed nuclear capacity in Russia to 51 GW.

Rosatom is the world leader by number of confirmed NPP construction projects (30 power units) and has the largest portfolio of any international company for construction of NPPs on export markets (21 of the 30 power units in Rosatom's portfolio will be built outside Russia).

The Corporation's main competitors on export markets up to 2030 will remain AREVA, Westinghouse/Toshiba, and there will also be increasing competition from Chinese and Korean companies.

POWER-MACHINE BUILDING

For more information
See the Report section, “Machine-Building Division”

The global market for power machines was worth about USD 94.5 bln[3] in 2011, of which 66% was equipment for use in the petroleum and gas-chemicals industry, 17% was equipment for the nuclear power industry, and 17% was equipment for the non-nuclear power industry.

The global market for power machine building is expected to grow to USD 100 bln in 2012, USD 122 bln by 2020, and more than USD 130 bln by 2030. Equipment for the petroleum- and gas-chemicals industry will continue to account for two thirds of the market, but the share of equipment for the nuclear power industry may reach 25-30%.

HANDLING OF RADIOACTIVE WASTE AND USED FUEL, AND DECOMMISSIONING OF NUCLEAR GENERATING FACILITIES

For more information
see the Report section, “Nuclear and Radiation Safety Complex”

Handling, recycling and disposal of radioactive waste was worth USD 6.6 bln in 2011. The market will grow steadily in coming years as numerous nuclear facilities are decommissioned, reaching a peak of USD 12 bln in 2020, after which decommissioning will slow down, reducing the market to about USD 8 bln in 2030.

Handling, recycling and disposal of used nuclear fuel (UNF) is expected to remain the strongest segment in the final stage of the nuclear fuel cycle up to 2030, since the period will see intensive decommissioning of facilities and creation of new capacity. Value of UNF handling should grow by about 4.3% per year in 2011-2030. In 2011, the market was worth USD 4 bln. This should increase to USD 6 bln in 2020 and USD 9 bln by 2030.

The global market for decommissioning of nuclear facilities and facilities representing a radiation hazard was worth about USD 6.8 bln in 2011. The market will grow steadily along with the number of reactors to a peak of USD 7.4 bln in 2019, followed by a decline to about USD 5.3 bln in 2030 as decommissioning tails off.

Main players on the market for decommissioning of nuclear facilities and facilities representing a radiation hazard are: Rosatom, AREVA, Energy Solutions, URS, Washington Group International, Studsvik, CH2MHILL, and SOGEDEC. Main players on the market for handling, recycling and disposal of radioactive waste are: Rosatom, AREVA, Energy Solutions, URS, and Washington Group International. Main players on the market for handling, recycling and disposal of UNF are: Rosatom, AREVA, and JNFL.

RADIATION TECHNOLOGIES

For more information
see the Report section, “Radiation Technologies”

Rosatom is focusing on four sub-segments of the radiation technology market:
— nuclear medicine,
— environment protection,
— radiation treatment centers,
— x-ray inspection systems and non-destructive control.

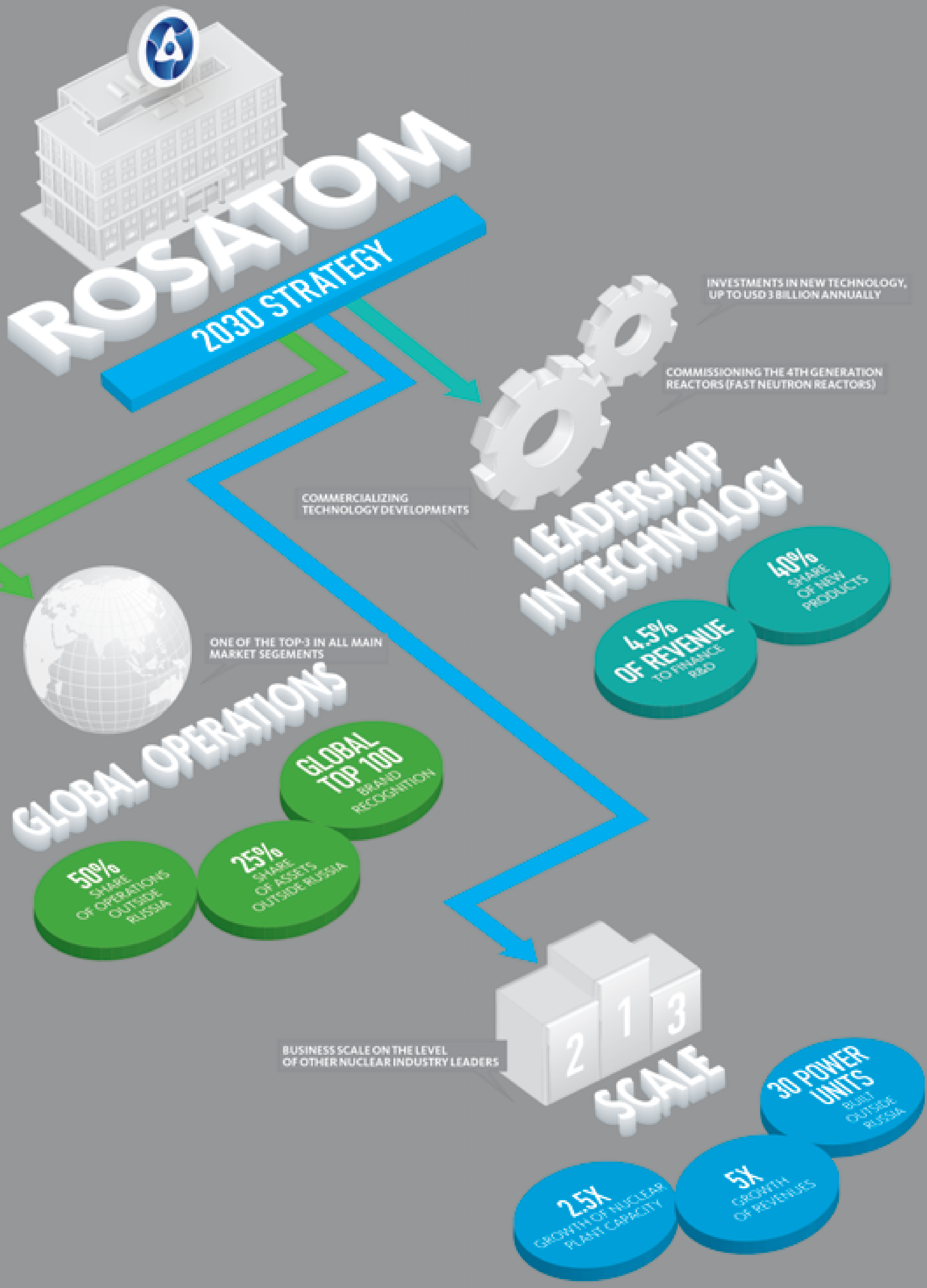
Value of the global market for nuclear medicine will be USD 13.7 bln in 2012, growing to USD 24 bln by 2020 and USD 43 bln by 2030. Main market players are: GE, Siemens, Philips, Toshiba and Lantheus. The Russian market will be worth USD 0.4 bln in 2012 and is forecast to grow more than six-fold by 2030.

The global market for environmental protection (water treatment, waste disposal) will be worth USD 135 bln in 2012, about USD 200 bln by 2020, and is expected to reach USD 300 bln by 2030. Main market players are: GE, CNIM, Martin, Babcock Wilcox Volund, Doosan, and Veolia. The Russian market will be worth USD 5.8 bln in 2012, and may rise to USD 8.2 bln by 2030.

The business of radiation treatment centers was worth USD 2.3 bln in 2012, and is expected to expand to USD 5 bln in 2020 and USD 13-14 bln by 2030. Main market players are: Nordion, IBA, Hungaroster and Sterigenics. The Russian market will amount to USD 2.9 mln in 2012, and forecasts are for USD 45 mln in 2020, rising to USD 294 mln by 2030.

The global market for x-ray inspection systems and non-destructive control is estimated at USD 2.9 bln in 2012, rising to USD 4.6 bln by 2020 and USD 7.6 bln by 2030. Main market players are: Smiths Detection, Rapiscan and L3 Communication. The Russian market will be worth USD 47.7 mln in 2012, with a forecast to increase to USD 83 mln by 2020 and USD 126 mln by 2030.

3 In fixed prices of 2010, here and below.



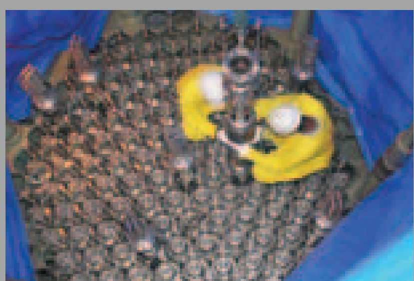
ROSATOM
2030 STRATEGY
INVESTMENTS IN NEW TECHNOLOGY, UP TO USD 3 BILLION ANNUALLY
COMMISSIONING THE 4TH GENERATION REACTORS (FAST NEUTRON REACTORS)
COMMERCIALIZING TECHNOLOGY DEVELOPMENTS
LEADERSHIP IN TECHNOLOGY
40% SHARE OF NEW PRODUCTS
4.5% OF REVENUE TO FINANCE R&D
ONE OF THE TOP-3 IN ALL MAIN MARKET SEGEMENTS
GLOBAL OPERATIONS
GLOBAL TOP 100 BRAND RECOGNITION
50% SHARE OF OPERATIONS OUTSIDE RUSSIA
25% SHARE OF ASSETS OUTSIDE RUSSIA
BUSINESS SCALE ON THE LEVEL OF OTHER NUCLEAR INDUSTRY LEADERS
2 1 3
SCALE
30 POWER UNITS BUILT OUTSIDE RUSSIA
5X GROWTH OF REVENUES
2.5X GROWTH OF NUCLEAR PLANT CAPACITY

MANAGEMENT SYSTEM

In 2011, the Company developed a Business Strategy up to 2030, which was approved by the Corporation's Governing Board on November 24, 2011.

The Strategy is based on the following five principles for operations: they must be result-oriented, efficient, comprehensive, transparent, and legally compliant. The Strategy sets five strategic goals for development of Russia's civil nuclear industry, and a portfolio of eight strategic initiatives in order to achieve these goals.

The overall objective of the Strategy is global technology leadership in the nuclear industry.



2.1.

ROSATOM STRATEGY AND ITS IMPLEMENTATION

IGOR KARAVAYEV
Director for Strategy and Investments

CAN YOU BRIEFLY STATE THE MAIN ASPECTS OF ROSATOM'S BUSINESS IN 2011?

The most important corporate event in 2011 was adoption in November by the Rosatom Governing Board of a Strategy for the Corporation up to 2030. The Strategy covers a 20-year period and envisages five-fold growth of revenues in the civil sector (in 2010 prices) to a level of USD 75 bln. Strategy targets include: technology leadership, global reach, and an increase of business scale. The Strategy sets targets for innovation, which match the National Innovative Development Strategy approved by the Russian government late last year: we intend to develop entirely new lines of business, so that up to 40% of Corporation revenues will come from new products and services by 2030. It is also important to note that the Strategy takes account of possible impact of the Fukushima disaster on the market environment.

HOW OFTEN IS THE STRATEGY ADJUSTED?

It has been decided that Strategy adjustments will be made every three years. Progress with implementation will be assessed every six months.

WHAT IS YOUR ASSESSMENT OF INVESTMENT ACTIVITY BY THE CORPORATION?

Our consolidated investment program is large, at about USD 10 bln annually: we are in the top 5 Russian corporations by size of our investment program, whereas our position by revenues is in the top 10. A considerable part of the program consists of Rosenergoatom projects: NPP construction, extending the operating life of existing plants, and safety spending.

In total, we have 600 investment projects underway, of various scale and in various fields, of which nearly a half are entirely new (not extensions of existing projects).

WHAT ARE YOUR PRIORITIES AMONG INVESTMENT PROJECTS? PRESUMABLY, FINANCING IS A LIMITING FACTOR?

Our criteria are relevance for industry growth, addressing national objectives, and levels of return. Needs are always greater than resources, and we can only support the best investment ideas.

THE INDUSTRY GETS MOST OF ITS FINANCING FROM GOVERNMENT. HOW IMPORTANT IS IT TO MAKE YOUR PROJECTS MORE ATTRACTIVE FOR THE PRIVATE INVESTOR?

Naturally, we plan to raise private investments in addition to use of government financing and our own or borrowed funds. This can be done through special venture funds to finance innovative businesses, and also through private strategic investors involved in NPP construction projects. Such initiatives are promising and valuable for us.

IN 2011, ROSATOM APPROVED A STRATEGY FOR THE PERIOD UP TO 2030 (THE GOVERNING BOARD APPROVED THE STRATEGY ON NOVEMBER 24, 2011). THE STRATEGY IS BUILT AROUND FIVE PRINCIPLES: ORIENTATION TO RESULTS, EFFICIENCY, COMPREHENSIVE APPROACH, TRANSPARENCY, AND LEGAL COMPLIANCE.

The Strategy has set five strategic goals for development of the civil nuclear industry, and outlined eight strategic initiatives to achieve these goals. The overall aim is to achieve global technology leadership in the nuclear industry.

In 2011, Rosatom's Strategy Committee:
- approved maps for strategic initiatives,
- approved a strategy for the Machine-Building Division,
- approved a strategy for the Fuel Division.

2.1.1. KEY DOCUMENTS

Concept for Long-term Social and Economic Development of the Russian Federation up to 2020 (approved by Federal Government Decree No. 1662-p of 17.11.2008);

Russia's Energy Strategy up to 2030 (approved by Federal Government Decree No. 1715-p of 13.11.2009);

General Scheme for Location of Electric Generation Facilities in the Nuclear Industry (approved by the Prime Minister's Directive No. 215-p of 22.02.2008);

Long-term Action Program for Rosatom State Corporation (2009–2015) (approved by Federal Government Decree No. 705 of 20.09.2008). The Program summarizes budget obligations, the responsibility of the Corporation to the government, and actions set out in federal target programs, including the program, "Development of the nuclear power industry in 2007-2010 and up to 2015", "Development of the Russian nuclear arms complex in 2007–2010 and up to 2015", and "Ensuring nuclear and radiation safety in 2008 and up to 2015";

Innovative Development Strategy of the Russian Federation up to 2020 (approved by Federal Government Decree No. 2227-p of 08.12.2011).

2.1.2. STRATEGIC GOALS OF ROSATOM CORPORATION

The Strategy sets five strategic goals for the Russian civil nuclear industry:
— efficient supply of NPP power for the Russian national economy;
— comprehensive solution of accrued "nuclear legacy" problems, and ensuring nuclear and radiation safety;
— strengthening innovative potential for further development of Russian nuclear technologies, and expanding their area of application;
— strengthening the position of Rosatom as a global player on the market for nuclear technologies and services;
— implementing national priorities through Rosatom's role as an agent of government policy.

2.1.3. STRATEGIC INITIATIVES

Rosatom has reviewed its aggregate investment resource, global market position, and competitive and technology advantages in order to define strategic initiatives for achieving strategic goals. A "strategic initiative" is defined as a set of connected activities, which can substantially improve market positions of Rosatom divisions and ensure their competitive performance in the long term.

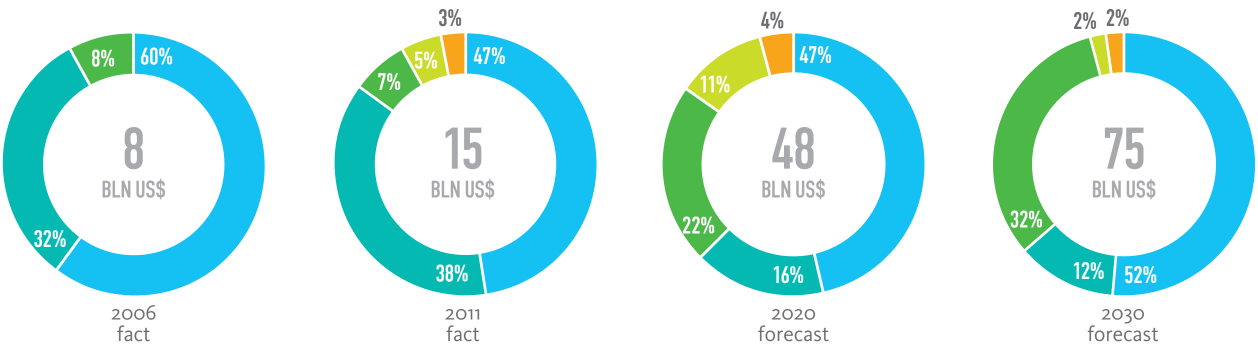
As of December 31, 2011, the Corporation's had eight strategic initiatives.

Implementation of the portfolio of strategic initiatives will enable Rosatom to achieve revenues of USD 75 bln by 2030 (achievement of this target is the key performance indicators for the initiatives).

STRATEGY IMPLEMENTATION: 2030 TARGET INDICATORS

Corporate goals	*Targets for 2030*		
LEADERSHIP IN TECHNOLOGY • Annual investments of up to USD 3 bln in new designs • Commissioning of the 4th generation (fast neutron) reactors • Commercialization of scientific innovation	4.5% SPENDING ON NEW DESIGNS	40% SHARE OF NEW PRODUCTS	
GLOBAL PRESENCE • Join the top-3 in all main nuclear segments	50% SHARE OF FOREIGN OPERATIONS	25% SHARE OF FOREIGN ASSETS	TOP 100 WORLDWIDE BRAND RECOGNITION
SCALE • Business scale matching nuclear industry leaders	2.5x GROWTH	5x GROWTH	30 UNITS TO BE COMMISSIONED

REVENUE TARGETS LINKED TO THE ROSATOM STRATEGY, BLN US$*



Nuclear generation and sale of electric power
Nuclear plant construction and machine building
Front end of nuclear fuel cycle
Other revenues
New businesses

* Civil revenues at the 2010 exchange rate.

ROSATOM STRATEGIC INITIATIVES

Strategic initiative	Objectives of the initiative	Results in 2011
Maintaining global leadership in the initial stage of the nuclear fuel cycle	Expanding the resource base. Pro-active work to maintain positions on the enrichment market. Pro-active work to maintain positions on the VVER fuel market, and entering the fuel market for foreign-designed reactors. Set up nuclear fuel manufacturing in Ukraine with Russian technologies. Upgrade separation production, replacing fifth-generation gas-centrifuges with next-generation gas-centrifuges. Upgrade production facilities.	Transaction closed to purchase 100% of Australian Mantra Resources Limited. Increase of uranium production by 37.07% to 7,091.2 tons. Preliminary qualification TVS-Kvadrat in the LiV project, contract signed with the European operators PWR to supply a sample batch of TVS-Kvadrat production. JV registered in Ukraine. 6 gas-centrifuge units replaced at the Corporation's separation facilities. Mold-casting technology for end-components of VVER fuel assemblies implemented at OJSC Novosibirsk Chemical Concentrates. Production of UO_2 powders (ADU system) at OJSC Machine-Building Plant reached design levels.
Raising the share of nuclear generation in total Russia electricity generation	Commission new capacities. Extend service life of existing NPPs. Raise economic efficiency of NPPs.	Program implemented to raise the capacity-use ratio at existing NPPs. Program underway to increase output of electric power by existing NPPs. Program underway to extend service life of existing NPPs. Power unit No. 4 completed at Kalinin NPP.
Global expansion of the VVER technology platform	Expand the VVER base outside Russia by use of "engineering procurement" and "build, own, operate" mechanisms. Purchase holdings in foreign generating assets.	Start-up of Busher-1 NPP. Inter-government agreements signed to build NPPs in Belarus and Bangladesh. Inter-government agreement signed to issue a government export credit for NPP construction of NPP in Vietnam. Start of work to build the world's first NPP using the "build-own-operate" system (Akkuyu NPP Turkey, 4 power units). First contribution in-kind received from the federal budget to finance Akkuyu NPP project in Turkey: 21.872 bln RUB. Creation of CJSC Rusatom Overseas and CJSC Rusatom Service.
Building a power-machine-building business with adequate scale	Supply equipment and services for construction of NPPs in Russia and abroad. Expand supplies of multi-purpose equipment and services for nuclear and non-nuclear generating power and for the petrochemical industry. Supplies for the wind-power industry.	Transaction completed to acquire the Czech company, Chladici veze Praha in the Czech Republic (an engineering and production company making industrial cooling systems for nuclear and non-nuclear generating, and other sectors of the power industry).
Enter the electricity sales business	Enter the retail segment by purchase of sales entities.	Supplies of electric power and capacity to three businesses in the nuclear industry (annual consumption 1.2 bln kWh) have been centralized through a sales company. A tender was carried out for automatic power metering systems at nuclear businesses (supplies of electric power will be centralized in the future).
Global leadership in the last stage of the nuclear generating cycle	Gaining competencies in the last stage of the generating cycle (handling UNF, radioactive waste and decommissioning) in Russia. Resolving the "nuclear legacy" problem, possibly followed by entry to international markets.	Commissioned "dry" storage of irradiated nuclear fuel from RBMK-1000 & VVER-1000 reactors (Used Waste Store-2). Unloaded used fuel from nuclear submarine casing No. 900 to onshore storage. Federal law No. 190 "On handling of radioactive waste, and modifications to specific legal acts of the Russian Federation" became effective.
Closing the nuclear fuel cycle with use of fast-neutron reactors	Creating competitive fast-neutron reactors. Closing the nuclear fuel cycle, creating relevant technologies and experimental production.	Draft design of a multi-purpose experimental fast-neutron reactor was completed.
Building a third business segment: radiation control	Achieve leading positions in nuclear medicine, processing of solid household and medical waste, water treatment, operation of radiation treatment centers and security systems.	Phase one of Mo-99 manufacturing facilities commissioned. Analysis of technologies designed and used by businesses for x-ray inspection systems and non-destructive control. Base technologies selected for waste treatment. Feasibility study prepared for construction of pilot waste processing facilities.

2.1.4. PLANS FOR 2012 AND THE MEDIUM TERM

IMPLEMENTATION OF ROSATOM STRATEGIC INITIATIVES

Strategic initiative	2012	2013	2014
Maintaining global leadership at the initial stage of the nuclear fuel cycle	Develop a medium-term program for OJSC Priargunskoye Mining and Chemical Production Association (OJSC PPGH). Commission facilities at Mine No. 8 of OJSC PPGH. Launch serial production of next-generation gas centrifuges. Develop alternative routes to deliver nuclear fuels and related services to the Asia-Pacific region: the Vostok ("East") Logistics project. Ship first batch of goods via Vostok Logistics. Russian government decree for land allocation to build temporary storage facilities for Vostok Logistics.	Begin implementation of medium-term program to develop OJSC PPGH. Develop and approve project pack to build phase 1 of nuclear fuel facilities in Ukraine using Russian technologies. Start construction work for the Zapad ("West") Logistics project. Make final decision on implementation of Vostok Logistics.	Further development of uranium mining assets in Russia and abroad. Begin implementation of projects to process uranium from foreign companies. Load Kvadrat experimental fuel assemblies to PWR reactor of a European NPP operator.
Higher share of nuclear generation in total Russian electricity generation	Built 10 NPP power units (including power unit No. 1 at Nizhny Novgorod NPP).	Build 11 NPP power units (including power unit No. 3 at LNPP-2). Begin implementation of VVER modernization project.	Complete power units No. 1 at Novovoronezh NPP-2, No. 3 at Rostov NPP and No. 4 at Beloyarsk NPP. Build 12 NPP power units (including No. 4 at LNPP-2).
Global expansion of the VVER technology platform	Create a portfolio of confirmed NPP projects outside Russia (19 units). Open up to 10 marketing offices. Set up the Rosatom Globalization Center.	Create a portfolio of confirmed projects to build NPPs outside Russia (up to 21 units).	Create a portfolio of confirmed projects to build NPPs outside Russia (up to 26 units).
Set up a power-machine-building business with adequate scale	Develop product competencies in the non-nuclear power sector. Launch a comprehensive program to raise efficiency of OJSC Atomenergomash.	Develop product competencies in the petroleum- and gas-chemicals sector in Russia. Localize fuel equipment manufacturing in priority geographical markets.	Supply equipment for decommissioning. Develop competencies for manufacture of the SSKP boiler unit. Develop fuel supply competencies in Russia.
Enter the electric power sales market	Assess possible purchase of "guarantee supply" (GS) companies based on new rules for electricity retail markets. Build own sales network in the form of a sales company.	If purchase of GS companies is found to be viable, seek appropriate companies, negotiate with owners, assess price and carry out due diligence. Assess options to finance purchase and to manage purchased entities. Build own sales network in the form of a sales company.	Develop own sales network in the form of a sales company.

Strategic initiative	2012	2013	2014
Global leadership in the closing stage of the nuclear cycle	Conduct public hearing on radioactive waste disposal areas (RWDAs). Begin to design RWDAs for particularly hazardous waste. Obtain government approval of standard regulations for a national system of radioactive waste disposal (creation of a national operator, definition of radioactive waste, disposal tariffs, rules for transferring waste for burial, procedure and time for initial registration). Begin construction of study premises, and a testing and demonstration center for UNF and UNF storage. Transport UNF from the high-capacity channel reactor at LNPP for storage at Waste Storage Facility-2, operated by Mining and Chemicals Combine (3 shipments). Dismantle the core of nuclear submarine reactor No. 900 (town of Gremikha).	Approve concept for addressing the "nuclear legacy" problem in the period 2050-2070.	Approve master layout map of burial sites. Lobby the passage of laws on UNF handling and decommissioning of nuclear power facilities. Design dumps for waste with low and medium hazard levels, and top-priority facilities for burial of waste with high-hazard levels.
Closing the nuclear fuel cycle with use of fast-neutron reactors	Commission experimental-production of fuel elements and assemblies using vibro-compacted MOX fuel at the Atomic Reactor Institute (60 assemblies per year).	Obtain a license to install a power unit with a fast-neutron reactor using a lead heat medium, for demonstration and experimental purposes. Obtain a license to install a multi-purpose fast-neutron reactor for research purposes. Commission an upgraded lab complex to develop innovative technologies for a closed fuel cycle.	Create a technology project for a fast-neutron reactor with a lead heat medium.
Build a third business segment: radiation control	Launch phase two of the Mo-99 production complex.	Launch gamma-tomography manufacturing, enter export markets	Fully commission the pilot radiation treatment center. Launch hazardous waste decontamination plant. Supply equipment to a prominent medical center.

2.2.
RISK MANAGEMENT

TATYANA FOKINA
Head of the Risk Management Department

WHY WAS IT NECESSARY TO SET UP A RISK MANAGEMENT SYSTEM IN THE CORPORATION? RISKS HAVE ALWAYS BEEN IN THE FOCUS OF THE NUCLEAR INDUSTRY...

Indeed, the industry has always had a risk management system. This is particularly true for management of engineering and production risks, and it reflects high safety standards in the Corporation. Our objective is not to rebuild but rather to fine-tune the system in order to control all risks, including those which affect our financial performance, so that risk management in all spheres matches that already in place for engineering and production.

The decision to handle risks systematically is usually the result of pressure from external stakeholders (supervisors, partners, etc.), or when company management sees the need for a complex approach to risk assessment in order to make risk management more efficient. For example, banks and rating agencies request information about risks and how risk management is organized in a company. This is a factor that influences loan interest rates and credit ratings. In our case, systematic information about risks has been requested by external stakeholders and by our top executives who want to understand how risks influence financial targets.

WHAT IS THE MAIN POINT OF YOUR CORPORATE RISK MANAGEMENT SYSTEM?

The system we created is not a superstructure; we do not create any parallel processes. The basic principle is to build the system into our existing control processes (strategic and medium-term planning, budgeting and investment planning). The approaches we use in risk management must be of real use to our business units and to the Corporation as a whole.

Risks have to be taken into account in key decision-making and we have defined the concept of "risk-readiness" and related parameters to assist our decision-making processes. Essentially, these are risk yardsticks, by which we can measure options and understand whether or not we are ready to accept any specific risk. For example, risk readiness includes deciding the extent to which we can accept possible deviation from financial targets as the result of a given managerial decision. It also looks at qualitative indicators, such as our obligations to the public or to government, which must be met.

ROSATOM STATE CORPORATION HAS SET AMBITIOUS STRATEGIC GOALS. HOW DOES THE RISK MANAGEMENT SYSTEM CONTRIBUTE TO ACHIEVEMENT OF THOSE GOALS?

Achievement of ambitious goals carries a variety of risks of a market, regulatory and social nature, etc. An efficient system of risk management has to support strategic implementation on various levels: from local production to industry-level solutions, ensuring timely detection and assessment of risks. When risks are detected, the Corporation uses economically justified action to mitigate them.

DEVELOPMENT OF THE ROSATOM RISK MANAGEMENT SYSTEM IN 2011 WAS TIED TO THE CORPORATION'S STRATEGY: THE CORPORATE RISK MANAGEMENT SYSTEM (CRMS) WAS INTEGRATED WITH ROSATOM PLANNING PROCESSES AND IMPLEMENTED AT ROSATOM DIVISIONS, AND FURTHER STEPS WERE TAKEN TO ANALYZE AND CONTROL KEY RISKS IN NPP CONSTRUCTION PROJECTS, AND WITH RESPECT TO COMMODITY AND CURRENCY FLUCTUATIONS•.

2.2.1. CORPORATE RISK MANAGEMENT SYSTEM

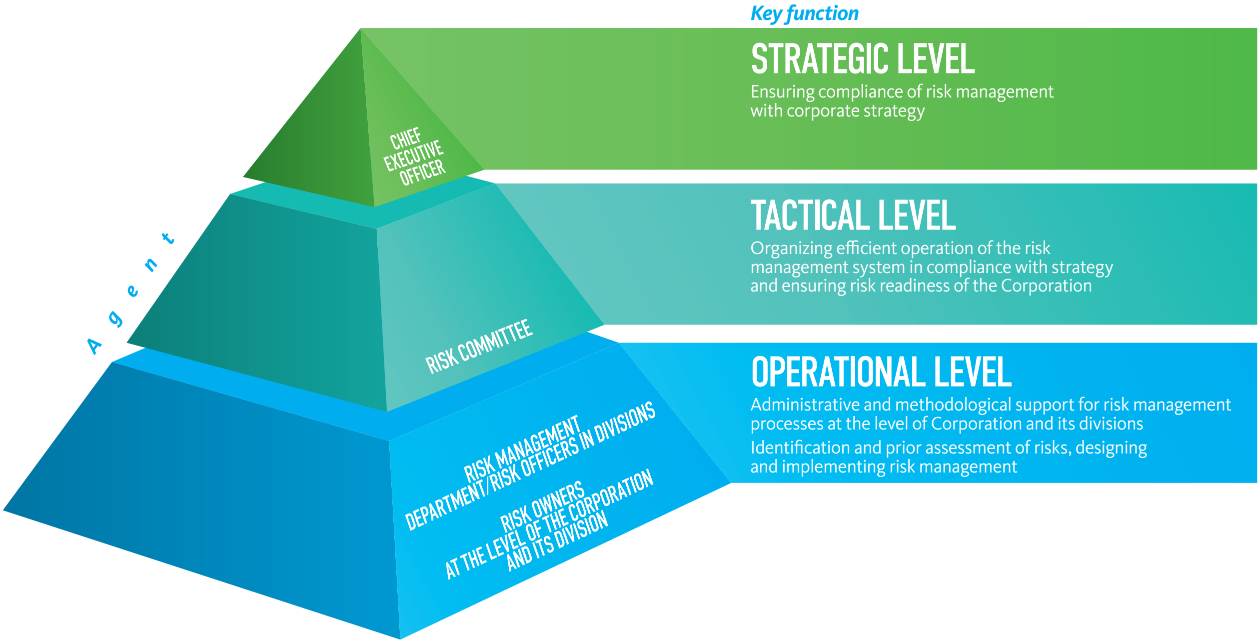
The Corporation and its units began work to create a CRMS in 2010. The necessary organizational structure was put in place, a CRMS model was built, and a risk management policy was approved, complete with methodological and administrative documents. Major risks were then identified and assessed, risk readiness parameters established, and a CRMS development plan was prepared up to 2015.

Functioning of the CRMS is the responsibility of the Risk Panel, which is chaired by N.I. Solomon, the First Deputy CEO for Corporate Functions and Chief Financial Director of Rosatom. Panel meetings analyze key risk assessments, make risk management decisions, examine regulatory and methodological documents for CRMS, and designate owners of key risks at the level of the Corporation and its individual divisions.

Main results in 2011:

— organizational structure and processes for risk management put in place in the electric power division and at OJSC Techsnabexport;
— the risks management system was applied in test mode for investment projects (NPP construction), providing additional methodologies and risk management tools for NPP construction;
— risks were assessed and measures were designed to manage commodity and currency-related risks (relating particularly to the mining division and to OJSC Techsnabexport).

CORPORATE RISK MANAGEMENT SYSTEM (CONTROL LEVELS, FUNCTIONS AND DISTRIBUTION OF RESPONSIBILITIES BETWEEN MAIN AGENTS)[4]



2.2.2. RISK INSURANCE

Risk insurance is an important part of risk management (for details on regulation of insurance see the Rosatom 2010 Annual Report).

The Corporation's business units and companies fully comply with the acting laws, standards and regulations regarding mandatory and compulsory insurance, which includes: liability for nuclear damage, liability of owners of hazardous production facilities and hydraulic installations, liability of motor vehicle owners, liability during construction and installation, etc. Assets and personnel are insured to mitigate the risk of financial loss due to damaged/destroyed assets, and risks associated with the life and health of employees.

Rosatom took further steps in 2011 to enable reinsurance of asset-related risks in Russia through the international pool system. In 2011, 44% of liability for nuclear damage due to Russian NPPs was reinsured with the international pool system (through pool members in the UK, France, Belgium, the Netherlands, Spain, Czech Republic, Slovenia, Slovakia, China, Ukraine, Belarus, Brazil, and Hungary). This is evidence that the international nuclear insurance community views Russian NPPs as sufficiently safe and reliable.

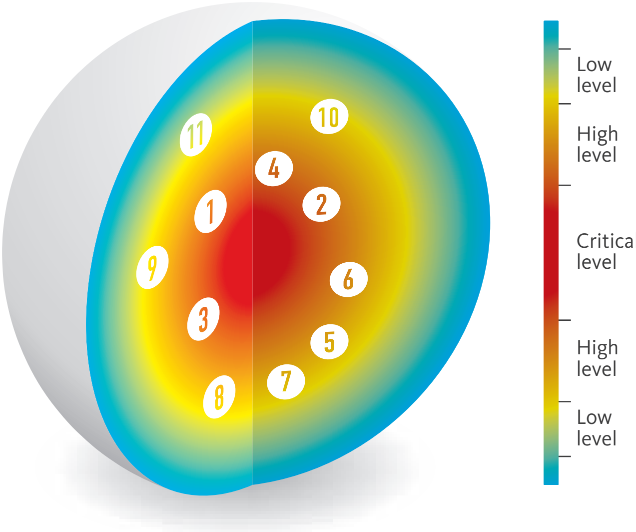
In 2011, international insurance auditors, including representatives from nuclear insurance pools in the UK, Ukraine and Scandinavia, visited the Beloyarsk and Novovoronezh NPPs. The audits examined risks related to use of nuclear fuel, NPP control, personnel skills, firefighting and fire safety, environmental control, etc. The audit also analyzed emergency scenarios similar to the disaster at Fukushima-1. Following the audit, the international inspectors concluded that safety levels at the NPPs, which they had visited, were compliant under international standards, and they confirmed that asset-related risks of Russian nuclear operators can be reinsured through the international pool system.

Inspections and insurance audits are scheduled to continue in 2012 with the involvement of major companies in the insurance industry.

4 Independent assessment of the CRMS is carried out by Rosatom internal control and audit units.

2.2.3. MANAGEMENT OF KEY RISKS

ROSATOM KEY RISK RADAR



KEY RISKS

1. Currency risk
2. Credit risk
3. Risks in the electric power and capacity market
4. Reputation risk
5. Risks in the market for nuclear fuel products and services
6. Risks in major investment projects
7. Employee risks
8. Political risks
9. Health, safety and environment risks
10. Interest-rate risk
11. Liquidity risk

FINANCIAL RISKS

The Corporation and its companies are exposed to currency, interest rate, credit, and liquidity risks. In 2011 the Corporation approved a Regulation on Financial Risk Management, which sets out the principles and organization of internal financial risk management, the objects and tools of such management, and procedures for risk management reporting.

Risk	Description of risk	Approaches to risk management	Results of 2011
Currency risk	Incomes and expenses of the Corporation's companies are denominated in different currencies exposing the Corporation and its companies to adverse changes of currency exchange rates.	Diversifying currencies used to state export contract prices. Taking loans in export contract currencies to maintain a balance of assets and liabilities in the currencies. An approach using financial hedging instruments is under consideration.	Ensured optimal assets-to liability ratio in each specific currency.
Interest rate risk	The Corporation and its companies are exposed to interest rate risk due to increase of liabilities of the Corporation and its companies, and higher interest rates create risks associated with inadequate borrowing for investment purposes.	Keeping a balance between interest income and interest expenses (by time periods and by amounts). Greater share of long-term liabilities at fixed rates in the loan portfolio. Reduce external loans portfolio, including by adopting in-house cash pool practices.	Interest rate increases by 2-3% in the second half of 2011 caused the Corporation to take commercial bank loans for 2-3 years at fixed rates. This extended the average number of days in the loan portfolio. As a result, interest rate incomes and expenses leveled out by days.
Loan risk (counterparty risks, bank, risks of internal and external counterparties)	The Corporation and its companies are exposed to risk of loss if counterparties fail to perform financial commitments in a timely manner.	Setting selection criteria for counterparty banks to service Rosatom companies. Procedures to vet issue of intra-group loans. Use of various collateral to secure performance by external counterparties. Monthly monitoring of loan risk of counterparty banks; setting limits for banks. Activity of the Panel for Accounts Receivable and Payable. Assessing counterparties before issuing advance payments.	There were no material losses due to counterparty non-performance in 2011.
Liquidity risk	The Corporation and its companies have a fairly high ratio of available funds to debt, enabling full and timely payment of liabilities and making exposure of the Corporation and its companies liquidity risk negligible.	Central control of cash flows in the Corporation and its companies. Use of a system for sliding estimates of liquidity and cash flow budgets. Use of a cash pool system (intra-group financing). A target balancing project was implemented with OJSC Atomenergoprom to further develop the system (cash balances from companies are merged on accounts of OJSC Atomenergoprom at the end of the business day). Support to back-up credit lines and overdraft limits.	Increase in the number of affiliates and of funds placed with OJSC Atomenergoprom: from 57 bln RUB at the end of 2010, to 100 bln RUB at the end of 2011. As reported by S&P on 29.12.2011, the credit rating of OJSC Atomenergoprom rose to BBB, with Stable forecast (for details, see the Report section, "Financial Management").

COMMODITY RISKS

Commodity risks for Rosatom Corporation include risks associated with the market for nuclear commodities and services, and with the market for electric power and generating capacity.

RISKS ON THE MARKET FOR NUCLEAR FUEL COMMODITIES AND SERVICES

The Corporation's companies are exposed to risks of price volatility on markets for natural uranium, and for uranium conversion and enrichment, and to risks arising from future development of macroeconomic indicators. The level of market prices for nuclear fuel cycle (NFC) goods and services depends to a large extent on factors that lie beyond the Corporation's control (scale of development of the global nuclear power industry, the impact of political factors on international trade in nuclear materials, the global macroeconomic situation, the appearance of new technologies, purchasing policy of power companies, existence of constraints in transportation and logistics, etc.).

The disaster at Fukushima-1 NPP in 2011 caused a drop in prices for NFC goods and services, and led to a reduction of supplies under effective contracts to the Japanese market. Impact of the disaster on the business of Rosatom companies may manifest itself in the medium-term future, as part of the general trend in the global nuclear power industry. Prices of commodities and services for NFC goods and services may fall, and there may be a decline of buyer activity, sales of existing stocks, etc.

Managing risks on commodity and service markets:

— balanced pricing mechanisms (market-oriented, indexed, combined pricing);
— combining market prices from different consulting agencies;
— fixed minimum prices, use of price regulation clauses;
— forecasting of market price fluctuations;
— expansion of Rosatom's own geographically diversified uranium raw material base with low production costs.

Results in 2011

Pricing mechanisms for NFC commodities and services built into effective contracts prevented major revenue under-performance in 2011 due to market price volatility following the Fukushima disaster. Although contract volumes with power producers were reduced, the volume of newly signed contracts for NFC commodities and services were above the market average. In particular, the aggregate value of contracts to supply enriched uranium products and enrichment services for Western-designed reactors grew by nearly USD 8 bln, measured by offers accepted in 2011.
To increase its own geographically diversified uranium base with low production costs, ARMZ uranium holding in 2011 purchased 100% of the Australia-based uranium mining company Mantra Resources Limited, which owns uranium assets in Tanzania and Mozambique. The purchase increased the mineral resource base of ARMZ by more than 39,000 tons of uranium with production costs below USD 80 per kilogram.

RISKS ON MARKETS FOR ELECTRIC POWER AND GENERATING CAPACITY

Rosatom is vulnerable to risks associated with abrupt changes of regulated prices for electric power, which are decided in Russia by the Federal Tariff Service and other authorized government agencies.

With regard to unregulated prices, which are applied on an increasingly large part of the Russian power market, risks arise from market fluctuations due to various factors (fuel prices, climate factors, etc.).

The Fukushima disaster in 2011 did not have substantial impact on the market for electric power or for generating capacity (non-nuclear electricity producers in Russia receive "capacity payments" from their customers, which are related to investments by the generators to build generating capacity, and which are partly unregulated).

Managing risks on electricity markets:

— scope for controlling such risks is limited;
— use of derivative financial instruments as a means of controlling the risk is limited due to low liquidity on markets where such instruments would be traded.

Results in 2011

The Company is working on a technique to enable more accurate prediction of market prices one day in advance. This should minimize risks that NPPs will fail to generate sufficient return on investments, helping to ensure higher revenues and adequate spending on safety.

OPERATING RISKS

Main operating risks of Rosatom are connected with industrial safety and the environment, large investment projects, political and reputation-related issues, and potential hazards to personnel.

INDUSTRIAL SAFETY AND ENVIRONMENT

Ensuring safe operations in respect of nuclear weapons, nuclear generating, radiation hazards and risks associated with the nuclear icebreaker complex is a strategic priority of Rosatom. The Corporation must also provide comprehensive solutions for final stages of main production cycles, including handling of UNF and radioactive waste, and decommissioning of nuclear facilities.

Threats to functioning of nuclear facilities include human factors (human error, terrorist attack, warfare, social unrest, etc.), technology-related factors (failure of equipment and controls, motor vehicles, power supply, aircraft crashes, etc.) and natural factors (earthquake, hurricane, flood, tsunami, etc.). Special attention is given to industrial and environmental risks that are specific to the nuclear industry: nuclear accidents, theft of nuclear materials, radiation risks to personnel and the general public, and radiation contamination of the environment.

Main risk indicators:

— deviation from normal operation of nuclear power facilities, as measured by the International Nuclear Event Scale (INES);
— exceeding legal limits on radiation exposure for personnel;
— average annual levels of exposure for personnel;
— compliance with license requirements for nuclear and radiation safety.

The Federal Law, “On handling of radioactive waste and amendments to specific legal acts of the Russian Federation”, enacted in 2011, requires assessment of radiation exposure risks, risks related to removal and handling of radioactive waste from special storage facilities, and risks related to disposal of radioactive waste at the place of use.

Details of the Federal Law, “On handling of radioactive waste and amendments to specific legal acts of the Russian Federation” can be found in the Report section, “Performance of Government Functions”.

For more details on nuclear and radiation safety, see the Report section “Ensuring Nuclear and Radiation Safety”.

The technologies applied by nuclear industry enterprises exclude the possibility of radionuclide escape into the environment above legally permitted levels when the facilities are operating in their normal regime. This is confirmed by regular monitoring of background radiation in buffer zones and observation areas around the facilities, checks by the Federal Service for Hydrometeorology and Environmental Monitoring, and by the Federal Service for Supervision of Consumer Rights and Welfare.

Any instances of non-compliance in operation of nuclear power facilities are investigated using the procedures set out by federal government provisions, and are acted on by operators, managers and supervising bodies.

External supervision of safety at Rosatom facilities is the function of government bodies for supervision and monitoring (the Federal Service for Environmental, Technological, and Nuclear Supervision, the Defense Ministry of the Russian Federation, the Ministry of Emergencies of the Russian Federation, the Federal Agency for Medicine and Biology, etc.).

Safety and environment risk management

Safe operation of nuclear facilities and facilities that present a radiation hazard is ensured by:

— an up-to-date regulatory system (federal laws and other legislation, rules and regulations on safety, directives, instructions, etc.);
— technical safety (quality of design, construction, operation and decommissioning, existence of relevant controls and protections) and a complex system of administrative and engineering activities to protect nuclear facilities;
— skills and safety culture of personnel.

Results in 2011

All industry facilities operated safely during 2011 and there were no instances of non-compliance in operation of nuclear generating facilities that might endanger people or the environment.

RISKS ASSOCIATED WITH LARGE INVESTMENT PROJECTS

Rosatom State Corporation is implementing a large-scale investment program for achievement of its strategic goals. Most investments are to build NPPs (both inside and outside Russia), develop the Corporation's uranium business, and apply innovative technologies in new types of reactors. Reduction or withdrawal of federal budget financing represents one significant threat to investment projects. However, fund allocation determined by the Law on the Federal Budget for 2012 also applies to the period 2013-2014, and government funding is also linked to the Corporation's long-term business program, so probability of this risk being realized is viewed as negligible. There are also risks that financial and operational performance in projects (with respect to revenues, costs, efficiency, etc.) may fall short of long-term targets.

Investment risk management

Rosatom uses central management of investments, and practices continuous monitoring of project progress in order to minimize risks associated with large investment projects.

In 2012, the Company will commission an IT-based system for planning and control of investment programs and projects (IT PCIPP), and investment project risk process management will be gradually integrated with corporate risk management. This will enable monitoring of changes in key parameters of investment projects that may affect the levels of specific project-related risks.

POLITICAL RISKS

Unfavorable changes may occur in the terms of construction projects that are being implemented and in the effective terms of trade as regards commodities and services provided by Rosatom in foreign countries. If initiated by foreign governments, such changes may disable (or partly disable) the Company's performance under effective contracts. Such factors of political risk are largely beyond the Corporation's control, and they include:

— political tensions between the Russian Federation and the governments of countries where Corporation companies do business; change of political course by foreign governments, or use of sanctions to respond to some action/inaction of the Russian Federation, its government, or any persons within its jurisdiction;
— a ban or restriction imposed by the Russian Federation on the Corporation's export of commodities and services to certain countries due to their non-compliance with nuclear non-proliferation, or for some other reason.

The Fukushima disaster in 2011 led to a change of plans by governments in several countries regarding development of the nuclear power industry. Such decisions included abandonment or suspension of nuclear power industry development (in Germany, Italy, Switzerland and Venezuela) and downscaling of programs to build new facilities (in Canada and Japan). However, foreign customers in the main regions where Rosatom does business have not made any fundamental changes to their plans for cooperation with Russia in construction of new NPPs.

Political risk management

Ongoing actions by Rosatom to minimize impact of political risk are as follows:

— interaction with representatives of foreign governments and supervisory agencies, to keep them informed about progress of projects, and to address any disagreements that may arise;
— informing federal executive government of the Russian Federation about Rosatom activities outside Russia;
— opening of information centers in foreign countries (as part of NPP construction projects) for the purpose of awareness campaigns and public relations;
— compliance with business regulations;
— applying a trade policy and pricing system based on the market situation, to ensure that local companies on Russian export markets have no grounds (factual or legal) to accuse the Corporation of dumping or other unfair competition practices;
— analysis of opportunities (jointly with the Russian Ministry of Economic Development) to improve access for Russian uranium products to main sales markets after Russia joins the WTO, while at the same time avoiding any actions that could increase risk of adverse changes in effective terms of trade and trade barriers.

Results in 2011

The Corporation substantially expanded its international business in 2011. See the Report sections, “International Business” and “International Legal Cooperation”, for more information.

REPUTATIONAL RISKS

Stakeholders may change their opinion of reliability and quality of the business of the Corporation and its companies. This risk is closely connected with the risk of possible nuclear events at Russian and foreign nuclear plants.

Reputational risk management

As well as working continuously to improve the safety and reliability of its NPPs, Rosatom also prioritizes formation of positive public attitudes towards development of nuclear technologies. Public consent can be obtained through transparency and open engagement of all stakeholders (see the Report section, "Engagement of Stakeholders", for more information)

Results in 2011

Rosatom has prepared a new external communications strategy, which is designed to raise the confidence of the Russian general public in the nuclear industry and to shape a positive perception of future plans, explaining efforts by the Corporation to enhance safety at nuclear power facilities, and make Russian nuclear technologies more reliable. Much has been done to integrate nuclear industry development plans into Russia's mass-media public agenda. As a result, the Company was able to remedy the decline of public confidence in the nuclear industry, which followed the 2011 events in Japan (see the Report section, "Engagement of Stakeholders", for more information).

PERSONNEL-SOURCING RISKS

Human resources are vital to successful operations by Rosatom. The Corporation's ambitious strategic goals could be jeopardized by a shortage of skilled personnel, particularly for the development of new projects, both inside and outside Russia. Some personnel-sourcing risks are beyond the Corporation's control (reduction in numbers of school leavers and graduates entails fewer entry-level specialists). Also many Rosatom facilities are located in closed administrative territories and single-employer communities, where there are serious constraints to sourcing of skilled personnel.

Management of risks associated with sourcing of personnel

The Corporation monitors the impact of risks associated with sourcing of personnel and considers them in its employment programs. Such programs include:

- training and retraining of young professionals for specialized jobs;
- annual financing of 400 mln RUB (co-financed with the Russian Ministry of Education and Science) for teaching programs at the Moscow Engineering and Physics Institute;
- placing "orders" with higher education establishments for student training in specific specializations (2,000 specialists annually);
- working with the succession pool at three management levels for implementation of key projects without loss of management control;
- developing and implementing curricular jointly with major business schools to support the Corporation's strategic initiatives;
- adopting an incentive system with individual efficiency evaluations.

Results in 2011

Personnel management results in 2011 are described in the Report section, "Personnel Management".

2.2.4. OBJECTIVES IN 2012

Work will continue in 2012 for implementation of the risk management development plan, approved by Rosatom's governing bodies for the period up to 2015. Actions in 2012 will include:

INSTALLING ORGANIZATIONAL STRUCTURE AND RISK CONTROL PROCESSES AT CORPORATION DIVISIONS	INTEGRATION OF THE CRMS WITH THE STRATEGIC PLANNING PROCESS	PLANNED AND PHASED REPLICATION OF THE RISK MANAGEMENT SYSTEM FROM INVESTMENT PROJECTS TO NPP CONSTRUCTION PROJECTS

2.3. MANAGING SUSTAINABLE DEVELOPMENT OF THE CORPORATION

2.3.1. APPROACH TO SUSTAINABLE DEVELOPMENT

Rosatom's approach to sustainable development is based on the traditional concept of sustainable development used by the international community, and on certain premises that are specific to nuclear sector business.

Efficiency and environmental considerations relevant to development of the nuclear power industry are discussed in the Report section, "The Nuclear Industry after Fukushima: New Challenges".

Events at the Fukushima-1 NPP in spring 2011 highlighted a number of sustainability issues for the nuclear industry: nuclear and radiation safety (including at the NPP design stage), transparency of sector companies, environmental impacts, etc.

SAFE AND STABLE OPERATION OF NUCLEAR POWER FACILITIES IS AN ABSOLUTE PRIORITY FOR ROSATOM STATE CORPORATION. SAFETY OF OUR FACILITIES IS CONFIRMED BY SYSTEMATIC AUDITS CARRIED OUT BY RUSSIAN CONTROL AND SUPERVISION AGENCIES, INTERNATIONAL ORGANIZATIONS, AND ABSENCE OF SERIOUS DEVIATIONS MEASURED BY THE INES SCALE.

"Sustainable development is such that meets the needs of today without endangering the ability of future generations to meet their respective needs".

UN International Committee for Environment and Development

The Corporation is creating technologies and infrastructure to handle radioactive waste and UNF. A legislative process to regulate handling of these materials is in place and Rosatom companies are building and upgrading facilities to store and process UNF. Future implementation of the closed nuclear fuel cycle and fast-neutron reactor project will enable nearly all processed UNF to be returned to the nuclear fuel cycle. Rosatom management admits that the Russian industry faces environmental challenges, particularly that of the "nuclear legacy" from earlier nuclear activities (both civil and defense). The Corporation is keen to ensure speedy resolution of these issues (rather than leaving them for future generations to deal with). Corporation entities are working intensively on nuclear legacy problems, applying new technologies for radioactive waste and UNF handling.

Rosatom cooperates closely with the IAEA and other international organizations, and participates in initiatives that strengthen nuclear non-proliferation (use of nuclear energy only for peaceful purposes).

The key objective of Rosatom's strategy is to achieve leading technology positions in the global nuclear industry. These positions are to be secured and strengthened through development of innovative technologies and increased presence on main nuclear and related markets. Success will depend on improvements to safety and business efficiency, environmental protection, and technology developments for related industries.

New technologies developed by Rosatom make an important contribution to the upgrading of the Russian national economy. The main innovation project currently being developed by Rosatom is for design and marketing of a new technology platform, based on fast-neutron reactors and transition to a closed nuclear fuel cycle, which will offer major gains in environmental safety and business efficiency of nuclear power. Another project with great potential is for creation of a thermonuclear reactor, which could offer almost inexhaustible sources of energy for human development in a few decades from now.

Rosatom provides a full range of services in design, location, construction, operation and decommissioning of NPPs. The quality of these engineering services is evident from the ever-growing NPP project contracts secured by Rosatom both inside and outside Russia. Design of the VVER modernization project is now in its final stage and will enable new power units to be installed more quickly and at lower cost.

Design and construction of NPPs is accompanied by comprehensive work to ensure safety and to identify potential natural and industrial hazards, including use of probability analysis. As required by law, Rosatom invariably assesses environmental impact from nuclear power facilities in the pre–construction stage.

Rosatom is expanding the scope of application of nuclear technologies. Radiation control technologies are extensively used in medicine to create high-precision diagnostic equipment and drugs, and for treatment of various illnesses. Radiation technologies can be used to make agriculture more efficient and improve the quality of foods, contributing greatly to global efforts for better living standards. Security systems and non-destructive control make public places safer and provide a valuable tool for customs services.

Efficiency improvements represent an important goal for Rosatom. Efficient use of available resources (funds, plant and equipment, patents, personnel, etc.) is paramount and is being addressed through a number of projects (for more efficient finance and IT management, for energy saving and efficiency, and for creation of the Rosatom Production System).

Rosatom helps to create and fairly distribute value in Russia, supporting domestic manufacturers and service providers, and creating new jobs in the nuclear industry and related sectors. Rosatom's business involves millions of sector employees and their families. The Corporation is a responsible employer, guaranteeing adequate financial and non-financial rewards to its employees. The Corporation also implements social and charity projects for the benefit of its personnel, and for development of communities and the economy in areas of operating presence.

Corporation companies have systems for occupational health and safety management. Collective employment contracts include measures to improve working conditions, ensure occupational health and reduce industrial accidents. The Corporation implements the ARMIR system (Automated Workplace for Individual Risk Assessment), by which employees can access information about their individual radiation risks. Rosatom has a health and safety panel and an industry-level system for safety management is being designed.

Employee rights are protected by social partnership mechanisms, implemented in close cooperation with the Russian Union of Employees of Nuclear Generation and the Nuclear Industry, and the Russian Union of Employers of the Nuclear Industry, Generating and Science.


Kalinin NPP

The Corporation works to minimize environmental impact and to preserve natural ecosystems by using technologies that consistently reduce emissions and generation of hazardous waste. Nuclear plants do not generate green house gases, and Rosatom champions global reduction of green house gas emissions through creation of an economy based on renewable sources of energy. Ensuring public consent for development of the nuclear power industry is an important task for Rosatom. The Corporation's management seeks to gain a public consensus for development of nuclear power in Russia and worldwide to guarantee long-term improvement of living standards. To this end, the Corporation uses educational, awareness and communication projects to ensure that various stakeholder groups fully understand the nature and purpose of its work.

2.3.2. ROSATOM'S SUSTAINABLE DEVELOPMENT AGENDA

Sustainable development agenda:

- Ensuring nuclear radiation safety, and reliability of nuclear power facilities.
- Non-proliferation of nuclear arms, nuclear materials, and critical nuclear technologies.
- Ensuring adequate power supplies.
- Managing NPP life cycles.
- Creating advanced modern technologies for radioactive waste and UNF handling.
- Resolving "nuclear legacy" problems.
- Applying nuclear technologies in industries that are of decisive importance for living standards and life expectancy.
- Making a positive economic and social impact at regional, national, and global levels.
- Minimizing environmental impact, including impact on climate.
- Using resources more efficiently.
- Ensuring the safety and protecting the rights of employees.
- Ensuring public acceptance of nuclear power industry development.

Fully appreciating the high public importance of the nuclear industry, Rosatom prioritizes sustainable development of nuclear industry organizations and of the Corporation itself, as well as its own contribution to sustainable development in Russia and worldwide.

The broad range of Rosatom's activities requires the Corporation to regulate sustainable development issues in a variety of fields. Implementation of the Corporations' sustainable development agenda in 2011 is described in respective sections of the Report.

2.4.

MANAGING ORGANIZATIONAL DEVELOPMENT

YEVGENIA GORBUNOVA
Director, Department for Organizational Development

WHAT ORGANIZATIONAL PROJECTS WERE IMPLEMENTED IN 2011?

We completed two major projects in 2011: the first created a process model for the civil part of the nuclear industry the other created an administrative model. The process model structures all industry activities using a single logic, and ensures that efforts are harnessed to achieve strategic goals. The administrative model creates a single logic, linking the organizations that are part of Rosatom's corporate governance system. Expressed more simply, we have defined the borders between divisions. There are four mature, standalone business units: Mining, Fuel, Electric Power, and Machine-Building. We also defined a number of growth areas in the form of "business incubators", which will develop into divisions in the future. We made additions to functional control mechanisms. And we created main functional groupings, including Rusatom Overseas and Science & Innovations, in inter-sectoral integration zones.

DOES OPTIMIZATION OF GOVERNANCE ENTAIL OPTIMIZATION OF ADMINISTRATIVE STRUCTURE IN THE CORPORATION?

Certainly. That is why we made changes to the Corporation's organizational structure in 2011. First, we assigned responsibility centers, charged with making changes to the governance model that are required by the new Strategy. For example, we created a unit for development and international business, in charge of building integrated supply on the global market, and an innovation control unit, which should ensure a balanced technology portfolio. We also started work to create an operational management unit, which will have the main function of integration between divisions.

An important decision was to include division CEOs in the Governing Board as "heads of division". By making division heads a part of the decision-making mechanism, we are moving away from the top-down system that existed before. In the new target model, divisions are strong independent businesses which represent their own interests at the level of the whole Corporation, and which interact with other divisions.

WHAT ARE THE NEXT STEPS FOR OVERHAULING INDUSTRY ORGANIZATION?

In a complex system of relationships, efficiency and ability to work depend mainly on proper distribution of responsibility and authority between all players. This directly affects the speed of decision making. We are going to address this, but it will have to be done carefully.

DO YOU USE EXPERIENCES OF RUSSIAN OR INTERNATIONAL COMPANIES WHEN ADJUSTING CORPORATE ORGANIZATION?

We take all positive experience into account. Taking a single best practice as a paragon is not a solution, because Rosatom is a unique structure by many criteria. Also, the industry itself has many traditions that deserve attention: our nuclear industry has its own smart solutions and offers its own examples of best practice in a range of fields.

TRANSFORMATION OF ROSATOM INTO A GLOBAL TECHNOLOGY LEADER AND PROGRESS TOWARDS STRATEGIC GOALS DEPEND ON EFFICIENT GOVERNANCE MECHANISMS.

2.4.1. OBJECTIVES OF CORPORATE ORGANIZATION

Main initiatives by Rosatom in 2011 to develop corporate organization were as follows:

- **DEVELOPMENT OF THE GOVERNANCE SYSTEM.** The key assignment for the year was to build governance tools (approving the process model, building a target organizational model, developing main decision-making principles);
- **BUSINESS PROCESS REENGINEERING PROJECTS.** Main reengineering projects in 2011 were (I 6.1.1.1.): formulation of a Rosatom strategy, development program and governance system up to 2030 for the final stage of the fuel cycle; management of capital construction; fine-tuning of marketing functions and tools; foreign trade organization; phase two of the "Infrastructure for global expansion" project; optimizing the logistics control system; complex optimization of production by nuclear industry organizations; implementation of the Rosatom innovation program; knowledge management system; and implementing strategic management processes;
- **IMPLEMENTING PROJECTS FOR PROCESS REGULATION.** Regulation should raise transparency and efficiency of the governance system, and improve productivity in the industry thanks to clear and consistent job descriptions at all levels of management;
- **ADOPTION OF MANAGEMENT TECHNOLOGIES.** The Company carried out a series of special activities in 2011 to ensure proper transfer of technologies and governance tools to all users including conferences, workshops, distribution of methodological and information materials, etc.

2.4.2. KEY EVENTS AND RESULTS

The key achievement in 2011 was structuring of the governance model for the nuclear industry: on November 14, 2011, the process model was approved for the Russian civil nuclear industry, and in December Rosatom approved key solutions for the administrative model and the decision-making system. On December 23, 2011 the Regulation, "On the system of regulatory and methodological documents of Rosatom State Corporation" was approved. The Regulation requires description of industry-level rules in documents. (I 6.1.1.2.) Optimization of the document system based on uniform rules ensures consistent understanding at all levels of management of goals and the means of achieving them, as well as raising process transparency, and addressing industry-level tasks in a more efficient manner.

Work was carried out to raise awareness and build skills in use of process management tools, (I 6.1.1.3.) On October 14, 2011, the first inter-sector conference, "Process Management: Sector-Specific Solutions" was held, and included presentations by OJSC Aeroflot, OJSC MegaFon, Evraz Group S.A., the International Air Transport Association, and major consulting companies (A.T. Kearney, Bain & Company, Booz & Company, Software AG). The presentations offered interesting examples of practice in other companies, which are comparable with Rosatom in terms of complexity and scale of business.

To build practical skills in the use of process management tools, a series of workshops was organized, and an interactive process model has been posted on the Corporation's web portal, which helps users to find relevant information about processes in real time.

Changes have been made to Rosatom's organizational structure, assigning responsibility centers to ensure achievement of strategic goals:

- three posts of First Deputy CEO have been established (First Deputy CEO and Head of Directorate for the Nuclear Weapons Complex, First Deputy and Head of Directorate for the Nuclear Energy Complex, and First Deputy for Corporate Functions – Chief Financial Officer);
- a Unit for Development and International Business has been set up, headed by a Deputy CEO;
- the R&D Directorate was re-organized into the Unit for Innovation Management, headed by a Deputy CEO;
- a Unit for Production Efficiency Management was set up;
- changes were made to the list and structure of sub-divisions that report to the First Deputy CEO for Corporate Functions – Chief Financial Officer.

Changes in the list and structure of sub-divisions subordinate to the Chief Financial Officer are intended to improve quality of corporate functions by regrouping and consolidation of responsibility centers, creating a single management hierarchy. Among other things, functionality of the Department of Administration and Asset Management was changed. The asset management function for Rosatom and for the assets of state unitary enterprises and state institutions within the Corporation's authority was merged and reassigned to the Director for Corporate Activities and Asset Management, and a new Management Service for Assets was created. This decision integrates the functionalities, which were previously distributed between the Department for Legal and Corporate Issues and the Department of Administration and Asset Management. A separate responsibility center now handles all logistics, which will help to build a corresponding functional vertical hierarchy at the next stage of reorganization.

Also, an enlarged center was consolidated within the financial hierarchy, so that the Director for Business and Finance now controls the Treasury and Risk Management Department, while the Department for Business and Financial Control has been reorganized into the Office for Economics and Control.

2.4.3. PROCESS MODEL

The process model for the civil segments of the nuclear industry describes the organization of activities, which is needed to achieve strategic goals. During the construction of the model, the Company analyzed legal regulation, strategic goals and the expectations of key stakeholders (government, public and international organizations, Rosatom's partners, etc.). The analysis also considered industry specifics, including special requirements with respect to nuclear and radiation safety, and protection of state secrets.

The process model consists of five process areas, each containing process groups that address specific objectives:

OPERATION PROCESSES FIELD	PLANNING, COORDINATION AND DEVELOPMENT FIELD	SAFETY AND CONTROL FIELD	ENVIRONMENT RELATIONS MANAGEMENT FIELD	SUPPORTING THE PROCESSES FIELD
production and services in the civil segment of the nuclear industry	setting of goals and management of goal-achievement	ensuring safety and protecting government interests in use of nuclear energy	managing communications and using the authority of Rosatom in control of nuclear energy use	providing infrastructure for all operations

The process model ensures efficient work organization and quality of managerial decisions. The model sets shared with, understandable rules of the game, and provides an industry-wide methodology to organize, control and improve activities at all levels of management, assigning actions, results, and responsibility for deliverables at each stage. The process model represents the unique features of each entity in the nuclear industry, but also ensures uniformity to guarantee the achievement of strategic goals.

2.4.4. ADMINISTRATIVE MODEL

The administrative model for the civil part of the nuclear industry describes structure of the industry, management levels, and division outlines. The administrative model has two main components – businesses and functions, – which interact in order to achieve unified results.

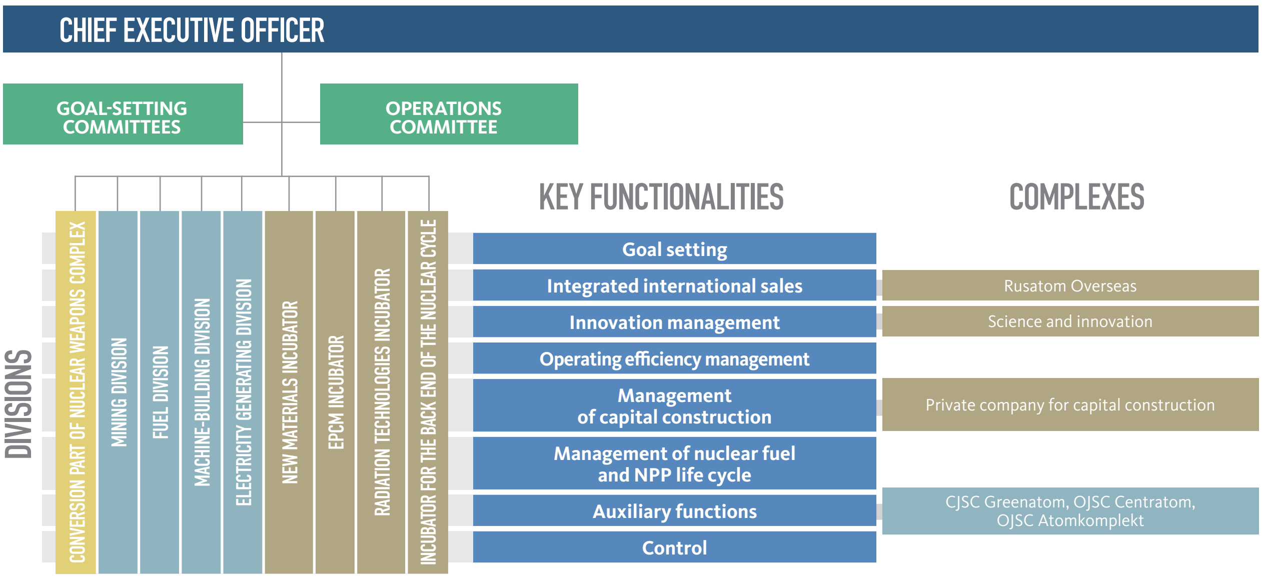
Activities of the business entities pursue strategic goals. The model represents two groups of business entities. The first group consists of divisions, i.e. established businesses that accrue a large part of total industry revenues and also operate on external markets. At the end of 2011 Rosatom had four divisions: Mining, Fuel, Electric Power, and Machine-Building. The second group consists of businesses, which are in the process of creation. These are future divisions, which are now in the process of restructuring existing businesses or building new businesses (gathering assets and developing new products and technologies). The group has four units: New Materials, Construction of Complex Engineering Facilities, Radiation Technologies, and End-of-Life-Cycle Business.

The second component of the administrative model consists of key functions, which ensure industry-level goal-setting, integration of businesses, progress control, and support to businesses in achieving their goals.

To raise efficiency of performed functions, specialized entities – industry-level functional complexes – are set up, to which authority is delegated from the Corporation. Such a complex may be a standalone organization created to perform specific functions (for example, CJSC Greenatom) or it may consolidate many entities that are carrying out a specific contract within the industry (for example, CJSC Science and Innovations).

Key decisions are taken by the CEO of Rosatom, by goal-defining panels subordinated to the CEO, and by the Operating Panel.

GOAL-ORIENTED ORGANIZATIONAL MODEL (BUSINESS PART)



2.4.5. PLANS FOR 2012 AND THE MEDIUM-TERM

Objectives for 2012:

— implement projects related to the new organizational model of the civil part of the nuclear industry;
— implement the decision-making system, ensuring more efficient work by collegiate management;
— develop the process model for the civil part of the nuclear industry, transformation of Rosatom State Corporation and its divisions through adoption of the organizational model and decision-making system;
— develop industry-level solutions to increase the efficiency of industry-level processes;
— develop and apply process tools.

The medium-term objectives of organizational development are to raise efficiency and improve process-management competencies of the Corporation's executives and employees.

PROCESS MODEL
FOR THE CIVIL SEGMENT OF THE NUCLEAR INDUSTRY

1. MANAGING RELATIONS

- International activities
- Technical and engineering regulations
- Legislative activities
- Government support management
- Government contract and assignment management

Managing relations in the capacity of authorized agency for management in the nuclear power industry

2. MANAGING RELATIONS IN THE CAPACITY OF AUTHORIZED AGENCY FOR MANAGEMENT IN THE NUCLEAR POWER INDUSTRY

Setting and transmitting long-term goals
- Strategic management

Planning and analysis of goals achieved
- Medium-term planning
- Budget planning

Project management
- Investment management

Coordinating development
- Innovation management
- Business development management
- Globalization management
- Organizational development
- Managing strategic partnerships, alliances, mergers and acquisitions

Coordinating operations
- Integrated marketing and sales
- Coordination of capital construction

4. OPERATING PROCESSES

- Engineering design
- Mining
- Conversion and enrichment
- Fabrication generation of electric power and NPP operation
- R&D and engineering design
- RAW processing
- Capital construction
- Technical maintenance and repairs
- Logistics management

5. AUXILIARY

Financial management
- Treasury
- Accounting and reporting
- Corporate finances

Legal and corporate functions
- Legal support
- Corporate governance

Asset-related services
- Asset management
- Administrative and logistics management

WITH EXTERNAL PARTIES

Ensuring government functions in closed territories

Government contract management

Interaction with regional governments, local communities and the general public

Management of public relations and internal communications

Managing relations as a business entity

3. SAFETY AND MONITORING

Physical protection

Preventing technology espionage, protecting information

Protecting state secrets

Mobilization readiness

National security

Implementing national policy in safe use of nuclear energy

Managing safe use of nuclear energy

Emergency readiness, dealing with emergencies

Ensuring safe use of nuclear power

Internal security control

Internal control and audit

Asset protection

Risk management

Building equipment for power generation

Nuclear plant construction outside Russia

Nuclear plant construction in Russia

PGM Electric power generation/operation of nuclear plants

Nuclear plant construction outside Russia

Nuclear plant construction in Russia

Decommissioning

UNF handling

Atomic fleet

Non-nuclear materials

Radiation technologies and materials

Non-profile assets

Organization of special transportation

Technical policy management

PROCESSES

Management of non-profile processes

IT management

Administrative management

Personnel management

Procurement management

Quality management

Metrological support

2.5. CORPORATE GOVERNANCE

ANDREY POPOV
Director of the Department of Legal and Corporate Issues

WHAT CHANGES WERE MADE TO THE CORPORATE STRUCTURE OF ROSATOM IN 2011? WHAT WAS THEIR PURPOSE?

All changes to corporate structure were aimed at higher efficiency and achievement of the Corporation's strategic goals.

CJSC Science and Innovations was set up as a management company for modernization of Rosatom's R&D complex. Rosatom and OJSC RUSNANO launched joint projects in nanotechnologies, including the Nanocoating project.

Rosatom purchased 50% of the capital of LLC INTER RAO UES Power Efficiency Center to set up our joint venture with OJSC INTER RAO UES in the field of energy efficiency and energy saving.

There were several changes intended to support the Corporation's international business. We set up CJSC Rusatom Overseas to implement the strategic initiative for global expansion of the VVER technology platform. We also incorporated CJSC Rusatom Service, which will centrally promote maintenance services for NPP equipment on foreign markets.

We set up a joint venture with the Ukrainian government company, Nuclear Fuel, for purposes of building a nuclear fuel plant in Ukraine.

We also purchased a holding (51%) in the Czech company, AO Chladici veze Praha, a. s., as part of our joint venture activities.

WHAT WERE KEY CORPORATE GOVERNANCE EVENTS DURING THE REPORTING YEAR?

We began a project for optimizing corporate ownership structure at Rosatom, which should raise efficiency of corporate management. The objective is to reduce excess ownership levels and reduce the number of inactive corporate entities, which will also help to simplify corporate procedures and documents.

We took a syndicated loan for the nuclear industry for the first time – to the impressive sum of USD 500 mln – and we provided legal support to the loan.

WHAT ARE YOUR OBJECTIVES FOR COMING YEARS?

There was progress last year in shaping the divisional structure of the Corporation, so the creation of regulations for interaction between the Corporation and its divisions has become a priority task. In order to regulate corporate procedures, legal aspects of the industry document handling system (collegiate management bodies, corporate information, litigation and claims, etc.) will be replicated to 60 industry-level entities, compared with 20 entities that use them at present.

Above all, we will complete the elimination of redundant ownership levels and inactive (or nearly inactive) companies.

2.5.1. GOVERNING BODIES

The governing bodies of Rosatom State Corporation were created by Federal Law No. 317, dated 01.12.2007, "On State Atomic Energy Corporation ROSATOM: Supervisory Board, Chief Executive Officer, and Governing Board".

The Corporation's employees can participate in management of Rosatom by officially submitting issues to be examined by the governing bodies.

THE SUPERVISORY BOARD OF ROSATOM STATE CORPORATION

In accordance with the Federal Law, "On State Atomic Energy Corporation ROSATOM" the supreme body of governance is the Supervisory Board of Rosatom State Corporation. The Board consists of representatives of the President of the Russian Federation and the Federal Government, and also includes the Chief Executive Officer of Rosatom, who is a member of the Supervisory Board by virtue of his office. The Chairman of the Supervisory Board is designated by the President of the Russian Federation. No members of the Supervisory Board, except the CEO, can be executive officers of the Corporation. Enforcement of decisions made by the Supervisory Board is the function of the Corporation's CEO. Members of the Supervisory Board are not remunerated for their functions.

In 2011, the Supervisory Board held 12 meetings, 3 of which were in the form of joint presence, and considered 37 matters.

There were no changes in membership of the Supervisory Board during 2011.

Main decisions of the Supervisory Board in 2011 included:

- approval of the 2010 Report by Rosatom State Corporation to the Federal Government;
- approval of target parameters of the Rosatom budget, and main target indicators for 2011;
- approval of steps by Rosatom to ensure openness of procurement in the nuclear industry and transition to digital procurement procedures;
- approval of the Program for innovative development and modernization of Rosatom State Corporation in the period 2011–2020.

MEMBERS OF THE SUPERVISORY BOARD (AS OF 31.12.2011)

Shuvalov, Igor Ivanovich	First Deputy Chairman of the Russian Federal Government, Chairman of the Supervisory Board
Belousov, Andrey Removich	Director, Department of Economy and Finances of the Russian Federal Government
Borovkov, Igor Vladimirovich	Head of Office of the Military-Industrial Committee of the Russian Federal Government, Deputy Head of Administration of the Russian Federal Government
Bricheva, Larisa Igorevna	Assistant to the President of the Russian Federation, Head of the State Legal Department of the President of the Russian Federation
Dvorkovich, Arkady Vladimirovich	Assistant to the President of the Russian Federation
Kirienko, Sergey Vladilenovich	Chief Executive Office of State Atomic Energy Corporation ROSATOM
Prikhodko, Sergey Eduardovich	Assistant to the President of the Russian Federation
Shmatko, Sergey Ivanovich	Minister for the Nuclear Power Industry of the Russian Federation
Yakovlev, Yuriy Vladimirovich	Head of the Economic Security Department of the Federal Security Service of the Russian Federation

THE CHIEF EXECUTIVE OFFICER OF ROSATOM STATE CORPORATION

The Chief Executive Officer is the sole executive head of Rosatom State Corporation with responsibility for current operations. The Chief Executive Officer is appointed and dismissed by the President of the Russian Federation based on a candidacy proposed by the Russian Prime Minister. Sergey Vladilenovich Kirienko was appointed Chief Executive Officer of Rosatom State Corporation by Presidential Decree No. 1663 of 12.12.2007.

THE GOVERNING BOARD OF ROSATOM STATE CORPORATION

(as of 31.12.2011)

The Corporation's Governing Board is the collegiate executive body of the Corporation; it reports to the Corporation's Chief Executive Officer, who is also a member of the Governing Board by virtue of his office. Other members of the Governing Board work in the Corporation permanently, or are employees of entities within the perimeter of Rosatom State Corporation; they are proposed by the Corporation's CEO and appointed by the Supervisory Board. Criteria for the appointment of members of the Rosatom Governing Board are regulated in the Federal Law, "On State Atomic Energy Corporation ROSATOM". Enforcement of the decisions of the Governing Board is the function of the CEO's Secretariat. Members of the Governing Board are not paid for their functions on the Governing Board.

In 2011, the Governing Board held 63 meetings, including 21 in the form of joint presence, and considered 382 matters (44 at meetings by joint presence and 338 by conference calls).

By its decisions in 2011 the Governing Board approved:

- the system of the Corporation's foreign representations;
- a target model for UNF handling;
- creation of the Corporation's innovation management system;
- the Rosatom quality policy for peaceful use of nuclear energy•;
- the Strategy for Energy Business up to 2030,
- the Rosatom Business Strategy.

KIRIENKO SERGEY VLADILENOVICH
Chief Executive Officer, Chairman of the Governing Board

Born:

July 26, 1962, in Sukhumi.

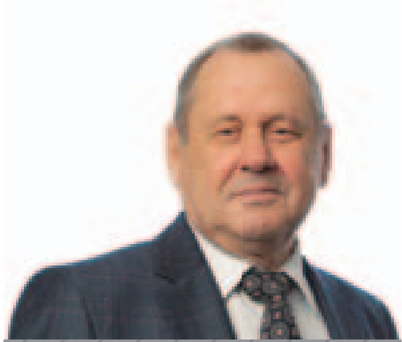
Education:

Gorky Institute of Water Transport, Business Academy of the Russian Federal Government.

Career history:

1986–1991: Komsomol Committee Secretary at Shipbuilding Wharf, First Secretary of the Gorky Regional Komsomol Committee, member of Gorky Regional Parliament.
1991–1997: Chief Executive Officer, AMK Concern; Chairman of Garantia Bank; President of NORSI-OIL Co.
1997–1998: First Deputy Minister, Federal Minister for Fuel and Nuclear Power.
1998: Prime Minister of the Russian Federation.
1999–2000: Member of the State Duma, leader of the Union of Right Forces (Duma fraction).
2000–2005: Plenipotentiary Representative of the Russian President in the Volga Federal District.
2005–2007: Head of the Federal Agency for Nuclear Energy.
Since 2007: Chief Executive Officer, Rosatom State Corporation.

Order of Honor;
Orders "Service to Homeland" 4^{th} degree,
Saint Reverend Seraphim of Sarov 2^{nd} degree,
Reverend Sergius of Radonezh 1^{st} degree;
Anatoli Koni Medal.



KAMENSKIKH IVAN MIKHAILOVICH
First Deputy CEO, Head of the Directorate for the Nuclear Arms Complex

Born:

February 3, 1946 in Ocher, Perm Region.

Education:

Perm Polytechnic Institute.

Career history:

1970–2000: Design engineer, senior design engineer, head of group, team leader, head of section, First Deputy of Chief Design Engineer, Chief Design Engineer at the Institute of Applied Physics (Russian Federal Nuclear Center), Snezhinsk, Chelyabinsk Region
2000–2004: Russian Deputy Minister for Nuclear Energy.
2004–2008: Deputy Head, Acting Head of the Federal Agency for Nuclear Energy.
2008–2010: Deputy CEO of Rosatom State Corporation.
2010–2011: Deputy CEO, Head of the Directorate for the Nuclear Arms Complex of Rosatom State Corporation.
Since 2011: First Deputy CEO, Head of the Directorate for the Nuclear Arms Complex of Rosatom State Corporation.

Badge of Honor and Order of Friendship.
Winner of a Federal Government prize for science and technology, and Federal Government prize for science and engineering.

LOKSHIN ALEXANDER MARKOVICH
First Deputy CEO, Head of the Directorate for the Nuclear Energy Complex

Born:

October 11, 1957, in Chita.

Education:

Leningrad Kalinin Polytechnic Institute.

Career history:

1980–1996: Engineer, senior engineer of thermal test laboratory, senior engineer of unit control, inspector engineer for turbine equipment in turbine shop, shift engineer of turbine shop, shift engineer of Unit No. 2, shift engineer, phase one of Smolensk NPP (Desnogorsk, Smolensk Region).
1996–2008: Deputy Head of the General Directorate; Deputy Head of the Sales Department; First Deputy Director for Marketing, Economy, and Business; Acting Director; Director; Deputy CEO, Director of Smolensk NPP branch unit; First Deputy CEO; Acting CEO of OJSC Rosenergoatom.
2008–2010: Deputy CEO of Rosatom State Corporation.
2010–2011: Deputy CEO, Head of Directorate for the Nuclear Energy Complex of Rosatom State Corporation.
Since 2011: First Deputy CEO, Head of Directorate for the Nuclear Energy Complex of Rosatom State Corporation.

Honored Specialist of the Russian Nuclear Power Industry.

SOLOMON NIKOLAY IOSIFOVICH
First Deputy CEO for Corporate Functions, Chief Financial Officer

Born:

January 3, 1971, in Moscow.

Education:

Moscow Automotive Institute, Moscow Financial Academy of the Russian Government.

Career history:

1994–2003: Positions in auditing and corporate consulting, PricewaterhouseCoopers.
2003–2005: Director of the Project Management Department, Acting CEO, Financial Accounting Center, OJSC Yukos Moscow.
2005–2009: Financial Controller, Director for Economy and Control, OJSC Siberia Coal Power Company.
2009–2010: Deputy CEO for Finance, Rosatom State Corporation.
2010–2011: Deputy CEO for Economy and Finance, Rosatom State Corporation.
Since 2011: First Deputy CEO for Corporate Functions, Chief Financial Director, Rosatom State Corporation.

Member of the Chartered Accountants Association of England and Wales.

BUDILIN SERGEY VASILYEVICH
Deputy CEO, Head of the Directorate for Capital Construction

Born:

March 5, 1959 in Moscow.

Education:

Moscow Institute of Energy.

Career history:

1984–1985: Junior research fellow, USSR R&D Institute of Electromechanics
1986–1987: Research engineer, R&D Institute of Instrumentation
1987–1990: Circuit electrician, Construction Section-1, Construction and Repair Trust, Kalinin District, Moscow
1990–1992: Administrative positions in local and municipal government, Moscow
1992–1995: Head of sector, Sistema Intermikro Business industrial and commercial corporation
1995–1996: Head of logistics department, CJSC IBS.
1996–2000: Administrative Director, Managing Director, Russian representative office of Airport Management Company Ltd.
2001–2009: Positions in large construction and assembly companies.
2009–2010: Advisor to CEO, Rosatom State Corporation.
2010–2011: Director of the Department of Capital Construction, Head of Directorate, Rosatom State Corporation.
Since 2011: Deputy CEO, Director, Capital Construction Directorate of Rosatom State Corporation.

YELFIMOVA TATYANA LEONIDOVNA
Deputy CEO for Government Functions and Budget Process, State Secretary

Born:

July 30, 1959 in Moscow.

Education:

Moscow Lomonosov State University,
Academy of Innovation Management.
Doctoral Candidate in Chemistry.

Career history:

1986–1997: Research fellow, associate professor, Moscow Aviation Institute.
1997–2000: Deputy Head, Office of the Budget and Financing Department, Russian Ministry of the Nuclear Power Industry.
2000–2005: Head of IT and Analysis Department of the Administrative Office, Deputy Head, Assistant to Plenipotentiary Representative at the Office of the Plenipotentiary Representative of the Russian President in the Volga Federal District.
2005–2006: Advisor to the Head of the Federal Agency for Nuclear Energy.
2006–2008: Deputy Head of the Federal Agency for Nuclear Energy.
2008–2010: Deputy CEO of Rosatom State Corporation, State Secretary.
Since 2010: Deputy CEO for Government Functions and Budget Process, State Secretary.

Medal for Service to the Homeland, 2nd degree;
Medal for Service to the Nuclear Industry;
E.P. Slavsky Mark of Honor

KOMAROV KIRILL BORISOVICH
Deputy CEO for Development and International Business

Born:

December 29, 1973 in Leningrad.

Education:

Urals State Academy of Law.
Doctoral Candidate of Law.

Career history:

1996–2000: Head of Financial Law Department, Vice President, Head of Legal Service, CJSC YurKon Consulting Company, Yekaterinburg
2000–2005: Director for Legal Issues and Project Management, First Deputy CEO, CJSC RENOVA, Chief Executive Officer, CJSC RENOVA – Development, RENOVA Group.
2005–2006: Deputy Head of the Russian Federal Agency for Water Resources.
2006–2007: Vice-President of OJSC TVEL, Chief Executive Officer of OJSC Atomenergomash.
2007–2010: Deputy Director, Executive Director of OJSC Atomenergoprom.
2010–2011: Director of OJSC Atomenergoprom, Executive Officer of the Directorate for the Nuclear Energy Complex of Rosatom State Corporation.
Since 2011: Deputy CEO for Development and International Business, Rosatom State Corporation, Director of OJSC Atomenergoprom.

KRYUKOV OLEG VASILYEVICH
Head of Directorate for Nuclear and Radiation Safety

Born:

March 18, 1954, in Kireyevsk, Tula Region.

Education:

Moscow Bauman State University of Engineering.

Career history:

1977–1980: Foreman, senior foreman, Ryabikov Machine-Building Plant, Tula.
1980–2010: Foreman, shop engineer, production director, Chief Executive Officer, OJSC Machine-Building Plant, Elektrostal
2011: Vice-President for Technical Development, OJSC TVEL.
Since 2011: Head of the Directorate for Nuclear and Radiation Safety, Rosatom State Corporation.

Medal for Service to the Homeland, 2nd degree;
Medal for Services to the Nuclear Industry;
E.P. Slavsky Badge of Honor.

PERSHUKOV VYACHESLAV ALEXANDROVICH
Deputy CEO, Director of the Unit for Innovation Management

Born:

May 20, 1958 in Magnitka, Chelyabinsk Region.

Education:

Moscow Lomonosov State University. Doctor of Engineering, Professor, Member of the Russian Academy of Natural Sciences.

Career history:

1980–1995: Engineer, junior research fellow, research fellow, lead research fellow at the Krzhizhanovskiy Energy Research Institute.
1995–1996: Chief specialist, Menatep Bank.
1996: Head of Sector, CJSC Rosprom, Moscow.
1996–2004: Head of Sector, YUKOS-Moscow, Deputy Director, Director of Engineering and Technologies Center, Vice-President, Executive Director, CJSC YUKOS -EP, Moscow.
2005–2006: Head of Office, LLC Alltech, oil and gas project manager at the Moscow representative office of Alltech Invest Ltd. (Cyprus).
2006–2008: Technical Director, West Siberian Resources, Moscow
2008–2010: CEO, LLC SN-Neftegaz.
2011: First Deputy Director, Directorate for R&D, Deputy CEO, Head of the Directorate for R&D, Rosatom State Corporation.
Since 2011: Deputy CEO, Director of the Unit for Innovation Management, Rosatom State Corporation.

SOFIN YEVGENIY ALEXEYEVICH
Deputy CEO for Security

Born:

November 16, 1953 in Gorky.

Education:

Gorky Lobachevsky State University.

Career history:

1976–2007: Operational and managerial positions in the USSR KGB, later Russian Federal Security Service.
2007–2008: Deputy Head, Federal Agency for Nuclear Energy.
Since 2008: Deputy CEO for Security, Rosatom State Corporation.

Order of Honor;
Medal for Distinguished Service in Law Enforcement.

SPASSKY NIKOLAY NIKOLAYEVICH
Deputy CEO for International Business

Born:

August 10, 1961 in Sevastopol.

Education:

Moscow State Institute of Foreign Relations of the USSR Ministry of Foreign Affairs. Candidate of History, Doctor of Political Science.

Career history:

1983–1985: Adviser, publications department, USSR Ministry of Foreign Affairs.
1985–1991: Adviser, senior adviser, Third Secretary, First Secretary, Department for USA and Canada, USSR Ministry of Foreign Affairs.
1991: Advisor to USSR Minister of Foreign Affairs.
1991–1997: Expert, Deputy Director, First Deputy Director, Director of Department for North America, Russian Ministry of Foreign Affairs, Russian MFA Collegiate Member.
1997–2004: Ambassador of the Russian Federation in Italy and San Marino.
2004–2006: Deputy Secretary of the Security Council of the Russian Federation.
2006–2008: State Secretary, Deputy Head of the Federal Agency for Nuclear Energy
Since 2008: Deputy CEO of Rosatom State Corporation for International Business.

Extraordinary and Plenipotentiary Ambassador of the Russian Federation, State Advisor of the Russian Federation, 1st class.

During the reporting year, the Governing Board underwent the following changes:

- on February 22, 2011, S.V. Budilin, the Deputy CEO of Rosatom State Corporation and Head of the Directorate for Capital Construction, was appointed to the Governing Board;
- on May 30, 2011, K.B. Komarov, the Deputy CEO for Development and International Business; O.V. Kryukov, the Head of the Directorate for Nuclear and Radiation safety; and V.A. Pershukov, the Deputy CEO of Rosatom State Corporation and the Head of the Directorate for R&D, were appointed to the Governing Board;
- on May 30, 2011, E.V. Yevstratov, N.Yu. Kozhevnikova, V.V. Ratnikov and P.G. Schedrovitskiy were dismissed from the Governing Board.

AUDIT COMMITTEE

The Audit Committee of Rosatom State Corporation provides oversight of the Corporation's financial and business activities.

MEMBERS OF THE AUDIT COMMITTEE (AS OF DECEMBER 31, 2011)

A.G. Siluanov	Minister of Finance of the Russian Federation, Chairman of the Audit Committee
R.E. Artyukhin	Head of the Russian Federal Treasury
V.E. Belyakov	Deputy Director for Government Defense Contracts at the Dukhov National Research Institute for Automation
V.N. Zobov	Head Officer of the Department for the Defense Industry of the Russian Federal Government
A.A. Kaulbars	Director of the Department of Budget Policy for National Defense and Law Enforcement and for Federal Government Defense Contracts at the Russian Ministry of Finance

PANELS, COUNCILS, AND COMMITTEES OF GOVERNING BODIES

Rosatom State Corporation has more than 60 permanent panels, councils, and committees of its governing bodies, including:

- the Strategy Committee (see Report section, “Corporation Strategy and its Implementation”);
- the Investment Committee (see Report section, “Financial Management”);
- the Budget Committee (see Report section, “Financial Management”);
- the Council for Operating Transparency of Rosatom State Corporation (see Report sections, “Purchase Management”, and “Engagement of Stakeholders”);
- the Science and Engineering Council (see Report Section, “Science and Engineering”);
- the Council for Quality Management, Technical Regulation, and Metrology Support (see Report Section, “Rosatom Production System”);
- the Risks Panel (see Report section, “Risk Management”);
- the Charity Council (see Report section, “Social Impact”);
- the Committee for Public Reporting (see Report section, “Engagement of Stakeholders”);
- the Central Purchasing Panel of Rosatom State Corporation (see Report section, “Purchase Management”);
- the IT Committee (see Report section, “Financial Management”);
- the Committee for Equity Transactions (see Report section, “Corporate Governance”).

Creation of a Globalization Committee and Territorial Development Committee is planned in 2012.

2.5.2. MONITORING THE EFFICIENCY OF CORPORATE GOVERNANCE BODIES

Monitoring of the efficiency of corporate governance bodies includes:

- analysis of the efficiency of corporate governance bodies, in order to prevent losses and legal non-compliance by Rosatom State Corporation due to inadequate or delayed implementation of corporate procedures (in fact the Corporation did not sustain any losses in 2011 due to poor or delayed implementation of corporate procedures, or as a result of non-compliance discovered by supervisory bodies);
- polling internal clients about their level of satisfaction with corporate governance work carried out by the Department of Legal and Corporate Issues (the satisfaction indicator for service quality of the legal and corporate function was 85%, which is one of the highest scores within Rosatom State Corporation);
- monitoring and analysis of proposals as regards correlation of mechanisms for corporate governance and functional management (various proposals were put forward in 2011 to optimize processes of corporate governance and financial management. With respect to management, a united consolidated in-house document was prepared that regulates the procedure of corporate decision-making in entities within the Rosatom perimeter. As regards functional management, proposals were designed to optimize internal documents that regulate operating interaction between entities in the nuclear industry. The proposals are scheduled for implementation by the end of 2012).

2.5.3. CORPORATE STRUCTURE

STATE ATOMIC ENERGY CORPORATION ROSATOM

Corporations/Companies owned by Rosatom State Corporation

OJSC ATOMENERGOPROM	100%
OJSC AKME-ENGINEERING	50%
OJSC INSTITUTE OF TECHNICAL PHYSICS AND AUTOMATION	0.2%
OJSC ATOMKOMPLEKT	100%
OJSC NPK KHIMPROMENGINEERING	17.9%
OJSC AFRIKANTOV MACHINE-BUILDING DESIGN BUREAU	2.2%
OJSC V/O IZOTOP	100%
LLC NEW COMPOSITE MATERIALS	45%
OJSC NUCLEAR REACTOR INSTITUTE	6.2%
CJSC ATOMSTROYEXPORT	99.5%
OJSC RUSSIAN SUPERCONDUCTOR	100%
OJSC OKB GIDROPRESS	0.05%
OJSC SANGTUDIN GES-1	60.1%
OJSC MACHINE-BUILDING PLANT	1.9%
OJSC ATOMSPECTRANS	4.6%
OJSC TECHNOLOGY AND MACHINE-BUILDING INSTITUTE	50% 1 voting share
OJSC ENERGY TECHNOLOGY INSTITUTE	0.6%
OJSC GIREDMET	2.5%
OJSC NUCLEAR POWER ENGINEERING INSTITUTE	50% 1 voting share
OJSC OZTM & TS	7.3%
OJSC NON-ORGANIC MATERIALS INSTITUTE	3.7%
OJSC INTERNATIONAL URANIUM-ENRICHMENT CENTER	80%
OJSC SIBERIAN CHEMICAL PLANT	0.8%
OJSC CONCERN ROSENERGOATOM	4.0%
OJSC TEKHNOPARK-TECHNOLOGY	100%
OJSC ATOMREDMETZOLOTO	1.5%

Corporations/Companies owned by Federal Government through Rosatom State Corporation

OJSC ELKONSKY MINING-PROJECT	100%
OJSC ATOMSPECTRANS	5.0%
OJSC SPECIALIZED CONSTRUCTION AND INSTALLATION DIRECTORATE, LENATOMENERGOSTROY	0,00001%
OJSC REFRACTORY METALS AND HARD ALLOYS	12.2%
OJSC NPK KHIMPROMENGINEERING	24.2%
OJSC ENERGY TECHNOLOGY INSTITUTE	2.3%
OJSC AFRIKANTOV MACHINE-BUILDING DESIGN BUREAU	2.1%
OJSC MACHINE-BUILDING PLANT	0.1%
OJSC SIBERIAN CHEMICAL PLANT	2.0%
OJSC OKTB IS	100%
OJSC INSTITUTE OF TECHNICAL PHYSICS AND AUTOMATION	1.7%
OJSC MOLNIYA MACHINE-BUILDING PLANT	100%
OJSC GNC NIIAR	9.6%
OJSC GRAPHITE INSTITUTE	100%
OJSC NON-ORGANIC MATERIALS INSTITUTE	1.6%
OJSC KRASNAYA ZVEZDA	100%
OJSC GIREDMET	6.1%
FACILITY FOR ANTIPROTON AND ION RESEARCH IN EUROPE GMBH	17.3%

In accordance with Federal Budget allocations under Federal Law No. 357, dated 13.12.2010, "On the 2011 Federal Budget and estimates for 2012-2013", the number of corporate entities whose stock is owned by Rosatom State Corporation and by the Russian Federal Government through Rosatom was increased.

ORGANIZATIONAL STRUCTURE

CHIEF EXECUTIVE OFFICER

First Deputy CEO, Head of the Directorate for the Nuclear Arms Complex

Directorate for the Nuclear Arms Complex

- Department of Development and Testing of Wind Turbines and BU
- Department of Nuclear Weapons Industry
- Department of Scientific and Industrial Base NWC
- Department of the Economy and Controlling NWC
- Department Chief Designer of Nuclear Warheads
- Administrative Department

- Department of Nuclear and Radiation Safety, an Organization Licensed and Licensing Activities
- Department of Nuclear Materials
- Office for Relations with Regions

First Deputy CEO, Head of the Directorate for the Nuclear Energy Complex

Directorate for the Nuclear Energy Complex

- Department of Coordination and Development of NFC
- Management of the Economy and Controlling NEC
- Quality Control of NPP Construction
- Project Office "Creating Industrial Production"

First Deputy CEO for Corporate Functions, Chief Financial Officer

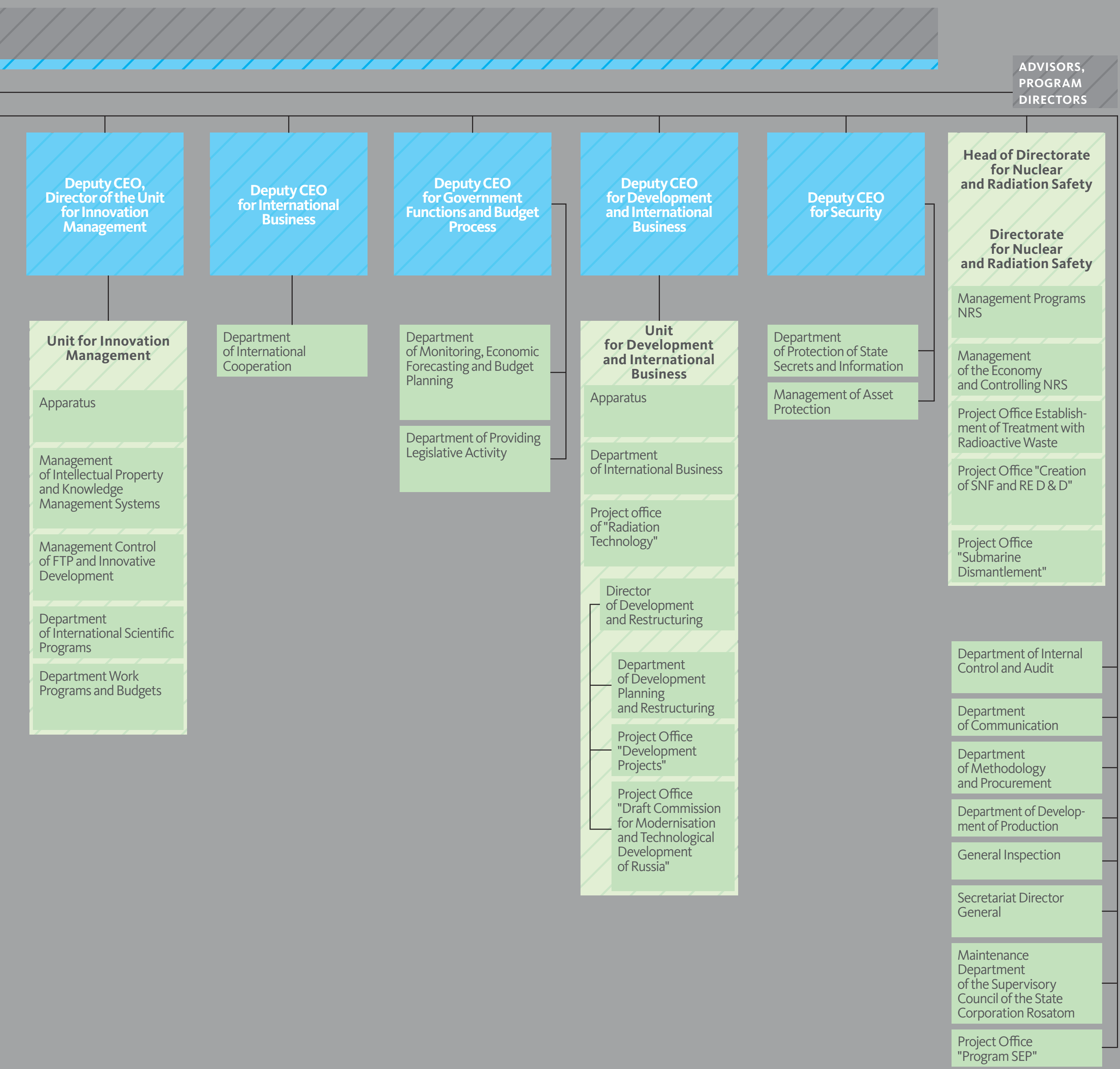
Corporate Center

- Apparatus
- Director of Strategy and Investment
  - Department of Strategic Management
  - Department of Investment Policy
  - Department of Restructuring of Non-core Assets
- IT department
- Department of Organizational Development
- Accounting
- Department of Document Processing
- Operations Management
- Director of Legal and Corporate Work and Asset Complexes
  - Department of Legal and Corporate Work
  - Asset department
- HR Director
  - HR Department
  - Management of Human Resources
  - Department Awards and HR
- Director for Economics and Finance
  - Treasury
  - Department of Economics and Controlling
  - Risk Management Department

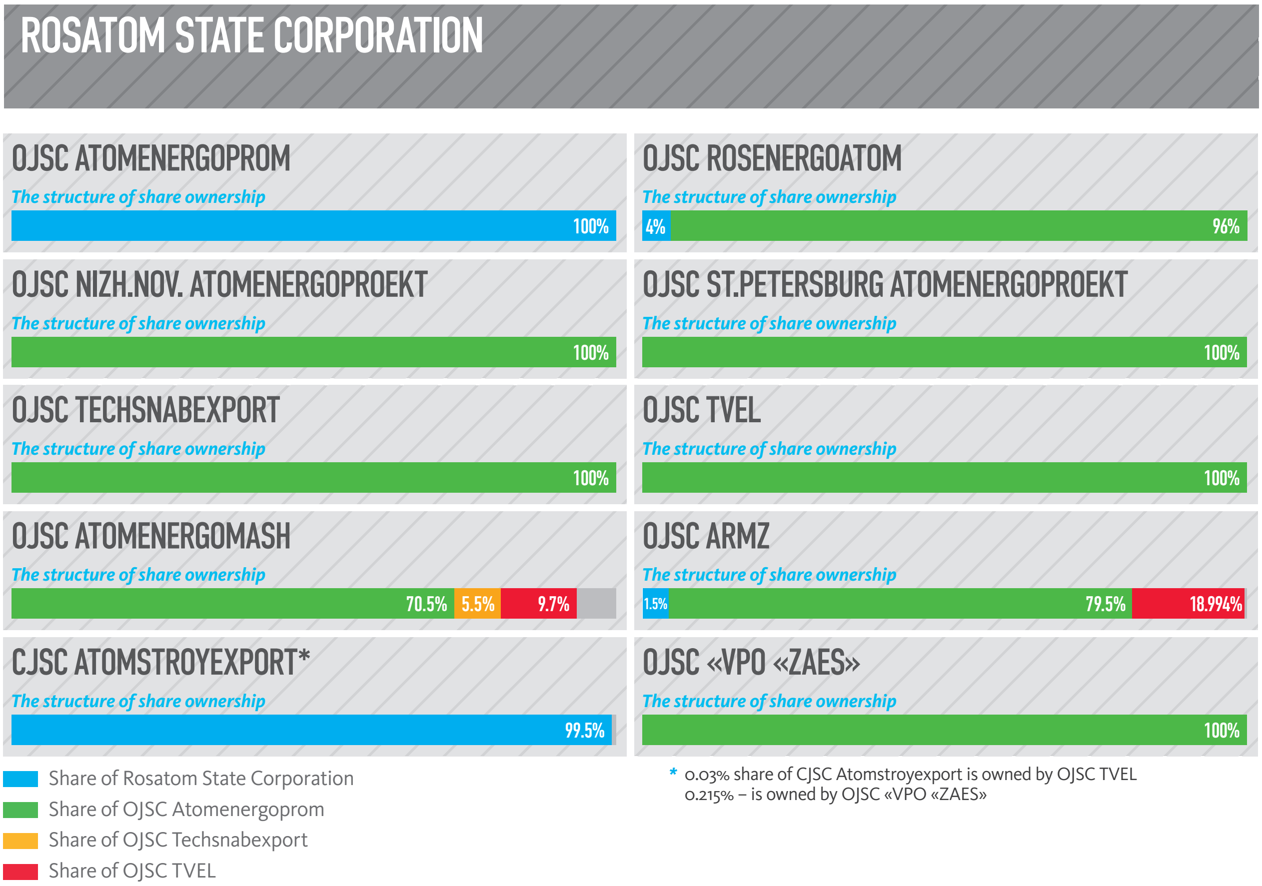
Deputy CEO, Head of the Directorate for Capital Construction

Directorate for Capital Construction

- Department of capital construction
- Cost management of investment projects
- Project management of engineering activity
- Management information and analytical support of engineering activity
- Investment program management of capital investments
- Department of legal support for engineering activities


ADVISORS, PROGRAM DIRECTORS
Deputy CEO, Director of the Unit for Innovation Management
Deputy CEO for International Business
Deputy CEO for Government Functions and Budget Process
Deputy CEO for Development and International Business
Deputy CEO for Security
Head of Directorate for Nuclear and Radiation Safety
Directorate for Nuclear and Radiation Safety
Unit for Innovation Management
Apparatus
Management of Intellectual Property and Knowledge Management Systems
Management Control of FTP and Innovative Development
Department of International Scientific Programs
Department Work Programs and Budgets
Department of International Cooperation
Department of Monitoring, Economic Forecasting and Budget Planning
Department of Providing Legislative Activity
Unit for Development and International Business
Apparatus
Department of International Business
Project office of "Radiation Technology"
Director of Development and Restructuring
Department of Development Planning and Restructuring
Project Office "Development Projects"
Project Office "Draft Commission for Modernisation and Technological Development of Russia"
Department of Protection of State Secrets and Information
Management of Asset Protection
Management Programs NRS
Management of the Economy and Controlling NRS
Project Office Establishment of Treatment with Radioactive Waste
Project Office "Creation of SNF and RE D & D"
Project Office "Submarine Dismantlement"
Department of Internal Control and Audit
Department of Communication
Department of Methodology and Procurement
Department of Development of Production
General Inspection
Secretariat Director General
Maintenance Department of the Supervisory Council of the State Corporation Rosatom
Project Office "Program SEP"

OWNERSHIP STRUCTURE OF KEY UNITS OF ROSATOM STATE CORPORATION



* 0.03% share of CJSC Atomstroyexport is owned by OJSC TVEL
0.215% – is owned by OJSC «VPO «ZAES»

2.5.4. CHANGES TO CORPORATE STRUCTURE IN 2011

IN THE REPORTING YEAR, THE MANAGING COUNCIL FOR EQUITY TRANSACTIONS HELD 39 MEETINGS, WHICH PASSED 66 RESOLUTIONS ON VARIOUS ASPECTS OF INDUSTRY-LEVEL MERGERS AND ACQUISITIONS.

Key changes of scale, structure, and ownership in 2011 were as follows:

CHANGES

— ***incorporation of Rosatom Securities Limited (Cyprus)*** as a 100% subsidiary of OJSC Atomenergoprom (company purpose: market placement of stock issued by OJSC INTER RAO UES, and sale of other stock holdings issued by Rosatom units);
— ***creation of the financial company Rosatom Finance Limited (Cyprus)*** as a 100% subsidiary of OJSC Atomenergoprom (company purpose: to support intra-group foreign-currency financing, and reduce the cost of foreign-currency financing through swap transactions (use of derivatives));
— ***incorporation of CJSC Rusatom Overseas*** to support the Rosatom initiative for global expansion of the VVER technology platform.

The following changes were also made in the reporting year:

- stock of CJSC Uranium Enrichment Center (a joint venture with the Republic of Kazakhstan) held by the Russian party was transferred to OJSC TVEL under the program to expand and intensify cooperation between Russia and Kazakhstan in the nuclear fuel cycle;
- a joint venture was set up with the Ukrainian state concern, Nuclear Fuel, for construction of a nuclear fuel plant in Ukraine;
- a management company was set up for radiation technologies business, which is scheduled to become a third core business for the Corporation;
- creation of Nuclear Power Construction Corporation as part of management restructuring of the nuclear construction business;
- Rosatom participation in charter capital of OJSC Sistema-Sarov Technopark as part of a project to develop an R&D cluster at the Sarov Nuclear Physics Center in Nizhny Novgorod Region;
- purchase of a 51% holding in AO Chladici veze Praha a. s. (Czech Republic) on behalf of OJSC Atomenergomash for development of joint projects;
- incorporation of a joint venture between OJSC TVEL and ALTA a. s. (Czech Republic), creating an engineering research center in Eastern Europe, as part of a project to create an open-architecture R&D environment for OJSC TVEL;
- creation of CJSC Rusatom Service as part of infrastructure for centralized marketing of nuclear plant maintenance services on foreign markets;
- creation of CJSC Science and Innovations to consolidate management of institutes working on the development of new technologies (part of restructuring of the Rosatom R&D complex);
- purchase of a 50% holding in LLC INTER RAO UES Energy Efficiency Center for purposes of the joint energy efficiency project between OJSC INTER RAO UES and Rosatom.

TRANSFORMATION OF NUCLEAR INDUSTRY ENTERPRISES INTO PUBLIC COPORATIONS

In compliance with the Russian Presidential Decree No. 556, dated 27.04.2007, "On restructuring of the nuclear power complex in the Russian Federation", the following government-owned unitary enterprises were re-registered as public corporations in 2011:

- Engineering Design Bureau for Modern Technologies and Glass Products;
- Molniya Machine-Building Plant;
- The Graphite Construction Materials Institute;
- Krasnaya Zvezda.

In accordance with the Russian Presidential Decree No. 369, dated 20.03.2008, "On establishment of State Atomic Energy Corporation ROSATOM", the Corporation will act as owner of issued shares in the new companies on behalf of the Russian Federation.

In 2012 the shares of the above-mentioned four new companies will be contributed to the share capital of OJSC Atomenergoprom.

2.5.5. DEVELOPMENT OF CORPORATE GOVERNANCE AT ROSATOM STATE CORPORATION

CORPORATE GOVERNANCE MECHANISMS

Industry entities are managed through a number of mechanisms.

Entities, shares (units in authorized capital) which are held by Rosatom State Corporation, and corporate entities owned by the Federal Government, and in which Rosatom exercises shareholder rights, are managed:

- by Rosatom exercising shareholder (participatory) rights in such entities (the Corporation gives instructions for voting by its representatives at general meetings of shareholders, or, when the Corporation is the sole shareholder, decisions are made at the level of the Governing Board of Rosatom);
- through presence of Rosatom representatives on the boards of such companies (the voting position of the Corporation's representatives on the board is determined by directives issued officially by the Rosatom);
- through signed service contracts (in the case of OJSC Atomenergoprom);
- through regulations on interaction (functional management) in case of divisions.

In case of subsidiaries and affiliates, for shares (units in authorized capital) which are held by OJSC Atomenergoprom, management is carried out:
— by Rosatom preparing and coordinating the voting positions of OJSC Atomenergoprom representatives at general meetings of shareholders on the basis of signed service agreements, or by decisions made by Rosatom in its capacity as the sole shareholder of OJSC Atomenergoprom;
— through presence of Rosatom representatives on the boards of such companies (Rosatom officially issues voting recommendations to its representatives on the boards);
— through regulations on interaction (functional management) in case of divisions.

In case of state-owned unitary enterprises (SUEs) management is carried out by Rosatom exercising the rights of asset owner on behalf of the Russian Federation.

In case of units within Rosatom, management is carried out by the Corporation officially exercising its rights as asset owner.

IMPLEMENTING FUNCTIONAL STRATEGY

In accordance with Rosatom's approved functional strategy map, in 2011 the Corporation:
— eliminated redundant levels of ownership and inactive units in its corporate structure;
— regulated, standardized and automated routine business processes in the corporate governance and legal support unit;
— created a database of document templates;
— assisted in the development of programs with external contractors (providers of legal services for the needs of Rosatom State Corporation);
— developed and enforced measures to prevent, detect and halt the unlawful use of insider information and/or market rigging.

All of the above were successfully implemented.

RESULTS OF REGULATORY LEGAL ACTIVITIES

During the reporting year:
— 46 regulatory legal acts of the Russian President and the Federal Government were enacted, relevant for activities by Rosatom State Corporation;
— 14 regulatory acts enacted by the Corporation were registered by the Federal Ministry of Justice.

Some of the corporate governance principles common in international practice (Board panels, independent directors on the Board, etc.), cannot operate at Rosatom State Corporation due to its form of incorporation, but they are practiced in companies controlled by Rosatom.

— a regulation was approved on development and coordination of bylaws and regulations concerning activities of structural subdivisions and the Corporation's companies in preparing and enforcing draft regulations of relevance to the business of Rosatom;
— methodological recommendations were issued concerning legal expert audits within Rosatom State Corporation and industry companies;
— Federal Law No. 35, dated 08.03.2011, "On the code of discipline for employees in companies that operate nuclear energy facilities and sites representing a high level of radiation and nuclear hazard" was enacted;
— Federal Law No. 190, dated 11.07.2011, "On handling of radioactive waste and amendments to specific legal acts of the Russian Federation" (see Report sections, "Performance of Government Functions", "Systems to Ensure Nuclear and Radiation Safety") was enacted;
— regulatory documents were designed and approved for the Corporation and for industry companies that use the business process, "Ensuring legal protection and accounting of intellectual property assets" and that implement the intellectual property asset protocol of the unified industry document processing system; the Corporation's companies adopted specific acts to implement the protocol, installing software as necessary and providing training for their employees;
— a regulation was approved governing procedures in application for titles protecting intellectual property assets created for Rosatom (as client), as well as a procedure to register applications for release of titles and issued titles protecting intellectual property assets created for Rosatom (as client).

REGULATIONS ENACTED BY ROSATOM STATE CORPORATION, THE RUSSIAN PRESIDENT AND FEDERAL GOVERNMENT

	2008	2009	2010	2011
Decrees enacted by the Russian President and Federal Government	32	54	61	**46**
Regulations enacted by the Corporation	7	17	13	**14**

A number of steps were taken for better protection of rights of the Russian Federation and Rosatom State Corporation to intellectual assets created through works contracted by the Corporation:

— standard forms of agreements and of contracts for signing were updated to include clauses about protection of Federal Government rights to intellectual assets; and additional liability clauses for non-compliance were prepared;
— in cases of non-compliance, court action was used to protect and fully restore the Federal Government's rights to intellectual assets created in the course of Government contracts financed from the federal budget;
— 158 applications were filed requesting issue of documents (patents, certificates) to protect intellectual assets created by works financed from the federal budget and owned by the Federal Government; and 172 documents (patents, certificates) were obtained to protect intellectual assets created by works financed from the federal budget (see Report section, "Science and Engineering");
— steps were taken to prevent, detect, and stop unlawful use of insider information and/or market fraud;
— trademarks owned by the Rosatom State Corporation were registered, and protected by documents (inside and outside Russia).

RESULTS OF WORK TO IMPROVE CORPORATE GOVERNANCE IN 2011

During the reporting year:

— a division-based system of corporate governance was implemented;
— the Regulation for interaction between Rosatom with its divisions and subordinate entities was updated;
— legal protocols were designed for the unified document processing system ("Collegiate Bodies of Management", "Corporate Information", "Letters of Authorization", "Litigation and Claims", "Contracting") at more than 20 companies that are implementing the system (including regulation of relevant business processes);
— the Arbitration Court of the Center for Arbitration and Legal Expertise continued its work (18 business disputes were examined with total claimed value of 568.8 mln RUB; claims were granted to a total value of 84.7 mln RUB; settlements mediated by the Arbitration Court were made to a total value of 427.1 mln RUB);
— litigation and claims activities were regulated, standardized and automated in entities that implement the unified document processing system; a standard litigation and claims procedure was adopted in more than 50 nuclear industry entities, which can be used as a basis for local litigation and claims regulation;
— a regulation was adopted on the procedure for granting, delegating, and canceling authority; a consolidated list of authority functions was prepared for heads of the Corporation's structural subdivisions;
— it was decided to dispose of ownership stakes in 86 entities to help optimize Rosatom's corporate ownership structure; this will improve ownership structure within the Corporation and raise corporate governance efficiency by eliminating redundant ownership levels and reducing the number of inactive entities owned by Rosatom; it will also reduce labor costs, as corporate procedures and document numbers will be reduced;
— updates were made to a regulation on exercise by Rosatom of ownership rights over the property of subordinate state enterprises and institutions;
— covenant-desk functions have been adopted at the Corporation's key units (a monitoring mechanism has been installed, in accordance with financial documentation, to ensure observation of covenant commitments on a continuous basis);
— a procedure has been approved for internal interaction between structural subdivisions of Rosatom in public disclosure of information on OJSC Atomenergoprom, and a standard procedure has been approved for interaction between structural units during public disclosure of information by nuclear industry organizations;
— regulatory acts have been approved for combating unlawful use of insider information and market rigging;
— structuring of industry entities depending on their governance system (two or three-link system) and scope of competencies has been completed.

PLANS FOR 2012 AND THE MEDIUM-TERM

— Eliminate redundant ownership levels and inactive units within Rosatom State Corporation in order to optimize the corporate ownership structure;
— speed up decision-making by standardizing and enforcing coordination procedures for administrative documents, contracts, and litigation and claims;
— regulation of business processes in the legal support and corporate governance groups;
— replication of legal aspects of the unified document processing system ("Collegiate Bodies of Management", "Corporate Information", "Letters of Authorization", "Litigation and Claims", "Contracting") at 60 organizations, which are implementing the system;
— replication of the intellectual property scenario at entities throughout the nuclear industry;
— updating and improving tools for accounting of intellectual property assets created by order of the Corporation (as part of retro-conversion in the intellectual property scenario);
— additional placement of stock issues, purchased with federal budget funds;
— developing regulatory acts as part of the legal literacy program at Corporation and nuclear industry entities;
— protecting rights of the Russian Federation and Rosatom State Corporation as owners of intellectual assets, which were created in fulfillment of orders by Rosatom State Corporation.

2.6. FINANCIAL MANAGEMENT

NIKOLAY SOLOMON
First Deputy CEO of Rosatom State Corporation for Corporate Functions, Chief Financial Officer

IS IT POSSIBLE THAT OJSC ATOMENERGOPROM OR ANY OF ITS SUBSIDIARIES WILL ISSUE EUROBONDS?

I don't think that it would make sense for our subsidiaries to issue debt securities, OJSC Atomenergoprom is better placed to act as issuer, since it has consolidated all its main assets and it has a credit rating. We do not want to create artificial competition for financing within the industry. However, OJSC Atomenergoprom may issue Eurobonds, and we expect that to happen in the future.

Our main task is to expand the range of available financing tools so that we can reduce the cost of debt servicing and ensure timely and full financing of the investment programs of industry entities on acceptable terms. Based on best international practice for fund raising on markets, our other main option (apart from Eurobond issue) is to take syndicated loans from an international banking pool, possibly on the security of export credit agencies.

IS AN IPO BY SUBSIDIARIES AN OPTION?

We do not rule out the sale of non-controlling holdings in some of our organizations to strategic investors. But it is important to understand the importance of timing – carrying out sales when the companies have achieved a decent level of capitalization. At present Rosatom is ready to negotiate strategic partnerships in two of its projects: Baltic NPP in Russia, and Akkuyu NPP in Turkey. Both projects may be available for IPOs in the future.

WHAT IS THE SITUATION WITH INTRA-GROUP LOANS (CASH POOLING)?

Cash pooling, managed by OJSC Atomenergoprom, has nearly doubled in the last two years. But scale is not an end in itself: the point is to use cash, which is surplus to requirements at certain organizations, for financing programs in other organizations at better rates. The economic effect from intra-group financing is about 2 bln RUB annually as an average.

THE NUMBER OF MAIN BANKS PROVIDING SERVICES TO ROSATOM HAS BEEN CONSIDERABLY REDUCED IN RECENT PERIODS...

Certainly, the post-crisis period has forced us to stop and think about how we control risks in our relationships with banks. We coined the terms 'support banks' and 'partner banks' in April 2010, when we adopted our current financial policy, to describe the most financially stable banks that service Corporation companies and units. Three major banks met our criteria to qualify as 'support banks' (Sberbank, VTB, and Gazprombank) and Rosselkhozbank was later added to the list. About 30 institutions currently meet our criteria for 'partner banks', and this is more than enough to ensure the necessary level of competition. We have decided that this list is sufficient in the immediate post-crisis period, though it may well expand in the future.

GOVERNMENT-OWNED COMPANIES HAVE RECENTLY CARRIED OUT LARGE-SCALE REFORMS OF THEIR I.T. SECTOR. WE KNOW THAT ROSATOM HAS BEEN ACTIVE IN THIS FIELD SINCE 2010. WAS THIS IN RESPONSE TO AN ORDER FROM ABOVE?

We received no specific instructions, but calls for greater transparency at state corporations have been frequently heard in recent periods. This is as it should be. After all, the government invests unprecedented funds in the nuclear industry, with about 1 trillion rubles spent for its development, and control over efficient use of federal and corporate funds is impossible without advanced IT applications.

WHAT CONSOLIDATED ECONOMIC EFFECT DO YOU EXPECT THE I.T. PROGRAMS TO PRODUCE?

In 2011, savings from digital document flow alone amounted to 172 mln RUB. Starting from 2016 we expect to save some 14 bln RUB annually, which is comparable with the annual construction costs of a nuclear power unit. In addition, our colleagues in the nuclear arms complex plan to commercialize the standard solution which is now being implemented in other industries (defense, aerospace, aviation, rocket-building, and ship-building). However, that is for the future. Our plan for 2012 is to deploy the digital document flow system at 60 organizations in the Corporation, replicate SAP ERP in our Fuel Division and Electric Power Division, and achieve a breakthrough in industrial automation.

2.6.1. FINANCIAL MANAGEMENT

FINANCIAL STRATEGY OF ROSATOM

THE MAIN STRATEGY GOALS ARE TO ENSURE THE FINANCIAL STABILITY OF ROSATOM AND ITS COMPANIES IN THE CHANGING EXTERNAL ENVIRONMENT, OBTAIN FINANCING ON THE MOST EFFICIENT TERMS AND OPTIMIZE FINANCIAL RISK MANAGEMENT.

On November 8, 2011, the Governing Board of Rosatom held an annual review, at which it confirmed the main aspects of the Corporation's financial strategy for 2012–2013. The strategy sets out performance targets, describes tasks and specifies tools for achieving them.

The Corporation reacted to the banking liquidity crisis in the second half of 2011 and the threat of emergence of a financial crisis in 2012–2013 with a set of measures to avert liquidity shortages, including a complete ban on non-centralized borrowings in the nuclear industry and reduction in the use of advanced payments.

The strategy calls for use of more varied fundraising tools in the industry (strategic investors, Eurobonds, export insurance agencies, etc.) to reduce refinancing and liquidity risks.

TRANSFORMING FINANCIAL DEPARTMENTS IN 2011

The program for transformation of financial departments at Rosatom and its companies began in 2009, with a timetable of 160 projects to be implemented in the period up to 2014.

COMPUTERIZATION OF FINANCIAL MANAGEMENT

In 2011 Rosatom implemented an automated system to control its administrative and business project costs. This objective, achieved by means of Enterprise Resource Planning (ERP) systems and project management, helped to enforce financing limits and prevent runaway overspending.

Processing and accounting of financial transactions was automated in 2011 by deployment of the Rosatom Clearing Center. The first phase of this project (ruble payments, financial transaction accounting) was implemented at nine Rosatom organizations from April 1, 2011. First steps have also been taken to integrate automated financial management with the industry's SAP systems, a unified system for management of legal and reference information has been put in place, a standard ERP 1C solution has been designed, and work has begun to replicate main functionality throughout Rosatom subsidiaries and affiliates (see the Report section, "IT Management").

MULTI-FUNCTIONAL SHARED SERVICE CENTER

In parallel with unification and centralization of their business processes and IT systems, Rosatom companies are also developing a multi-functional shared service center around CJSC Greenatom. The center provides business and tax accounting and IT services to industry companies (also HR services, starting from 2012).

As of December 31, 2011, the multi-functional center provided business and tax accounting services to 44 companies and IT services to 84 companies, including OJSC Atomenergomash, OJSC Atomenergoprom, OJSC TVEL, OJSC Techsnabexport, OJSC Atomredmetzoloto, Uralsk Electro-chemical Plant, Machine-Building Plant, and Novosibirsk Chemical Concentrates Plant.

CJSC Greenatom is building a network of branch units in the towns and cities of Elektrostal, Kovrov, Vladimir, Podolsk, Glazov, Novouralsk, Novosibirsk, Zelenogorsk, Angarsk, Sarov, and Seversk in order to provide IT support to companies away from the Rosatom corporate center. In 2012, branch units will open in Nizhny Novgorod and St. Petersburg.

In 2012, the multi-functional center will add more than 30 companies to its customer base for business and tax accounting services and provide IT services to a further 30 companies. By 2014, the center should be serving more than 100 of the most important companies in the Russian nuclear industry.

IMPROVING TREASURY OPERATIONS

Work, which began in 2009-2010 for centralization of treasury operations and development of intra-group financing, was continued in 2011. Size of the intra-group cash-pool more than doubled in 2011 to over 130 bln RUB. The number of pool members expanded by half to 55 companies, which are now able to place surplus cash more efficiently and raise financing at below-bank interest rates. Extra value obtained from operation of the cash-pool in 2011 was in excess of 2.8 bln RUB.

The Rosatom Treasury Department continued its work with Russian and foreign banks during 2011. On March 28, 2011, the Corporation signed its first international syndicated loan, with OJSC Techsnabexport as borrower and OJSC Atomenergoprom as guarantor. The loan principle of USD 500 mln, provided for 5 years, was drawn in the course of 2011. Another Corporation company – OJSC Energomashspecstal (Ukraine) – agreed a USD 79 mln seven-year loan from the European Bank for Reconstruction and Development on November 7, 2011. The money will be used for investment needs.

RISING CREDIT RATINGS FOR OJSC ATOMENERGOPROM AND CJSC TENEX-SERVICE

ON DECEMBER 14, 2011, THE CREDIT RATING UNIT OF STANDARD & POOR'S RAISED THE LONG-TERM RATING FOR OJSC ATOMENERGOPROM FROM BBB- TO BBB, AND ON JULY 19, 2012, THE COMPANY'S SHORT-TERM RATING WAS RAISED FROM A-3 TO A-2. THE NATIONAL SCALE RATING ON RUAAA, WITH STABLE FORECAST).

The OJSC Atomenergoprom rating from S&P is on a level with those of major Russian government-owned companies: RZhD (Russian Railways), Gazprom, and the pipeline monopolist Transneft (BBB, Stable).

In 2011 OJSC Atomenergoprom provided audited IAS-compliant financial reports for 2010. These were the first-ever IAS reports by the company, and were welcomed by S&P as a sign of improving transparency and reduction of information risks.

S&P wrote in its report that the vertically integrated business model of Atomenergoprom and its guaranteed monopoly in the civil nuclear industry in Russia have a positive impact on its credit profile.

The ratings awarded to OJSC Atomenergoprom represent very high probability that the holding can secure timely and adequate support from the Russian Government in case of financial stress. It was also noted that Atomenergoprom has strong positions on the global market for uranium production, conversion, enrichment, and making of fuel elements. Its liquidity indicators are regarded as adequate, and access to credit lines worth 70 bln RUB in 2012 was noted by S&P as a positive factor for liquidity. S&P believes that Atomenergoprom has considerable safety margin with respect to its existing debt covenants.

Improvement of Atomenergoprom's credit rating occurred despite negative trends in analogous ratings of foreign competitors and partners. Atomenergoprom compares favorably with other nuclear power companies thanks to its vertical integration and strong financial results. Its rating is also supported by high margins from operations and low level of debt (see the Report section, "Financial Results").

Other fruits of Rosatom's project to build a closer relationship with the investment community included an S&P credit rating awarded in 2011 to the Russian leasing company, CJSC TENEX-Service. The company obtained counterparty credit ratings from S&P on July 14, 2011 as follows: long-term BB+ and short-term B, plus national scale rating ruAA+. Subsequently (after the reporting period), the long-term and short-term credit ratings of CJSC TENEX-Service were raised from BB+/B to BBB-/A-3 and the national scale rating from ruAA+ to ruAAA. The rating forecast is Stable.

ECONOMICS AND CONTROL

Steps towards consolidated financial planning in 2011 included design of five-year and one-year action plans to guide key investment decisions and credit limits.

Reference targets have been prepared for raising production efficiency in the medium term, with assignment of tasks to specific companies and preparation of detailed programs. Monthly reporting of key performance indicators (KPI) was adopted in 2011 and has improved control over the Corporation's most important indicators.

The start of IAS reporting sends a positive signal to the investment community that the company is open to dialog and that its financial information will now be more transparent. Preparations for issue of consolidated statements to international standards took two years: Rosatom had to build a system for collection and automated processing of data and to assess its Russian reporting data from an "IAS standpoint".

Rosatom hosted a roundtable for the investment community on 06.06.2011 entitled "Investment Projects in the Nuclear Industry. Results and the Future". The aim of the event, held as part of the ATOMEXPO-2011 International Forum, was to give a full picture of current and future investment projects in the Russian nuclear industry, and to nurture interaction with the investment community.

A tax planning model for the nuclear industry was adopted in 2011, regulating distribution of tax planning and control functions between subdivisions of Rosatom's management companies, enterprises and organizations. A standardized methodology and uniform accounting system have been implemented for routine and year-on-year planning of tax liabilities at individual companies, business units, and in the Corporation as a whole, and also for purposes of target-fact analysis.

The plan for 2012 includes raising the quality of target-fact accounting by creation of a corporate data bank, setting and monitoring achievement of business efficiency targets on the Corporation's various markets, as well as steps to improve financial and business planning, and to integrate it with production planning.

2.6.2. IT MANAGEMENT

The IT transformation program at Rosatom for 2010-2014 uses the best internationally available products: SAP, Documentum, Oracle Primavera, etc. The program will provide IT support for achievement of Rosatom's strategic goals by providing reliable information to improve and speed up managerial decision-making at all levels of governance.

Until November 2010, the program only involved companies in the nuclear power complex, but it has since been extended to companies in the nuclear arms complex. The Institute of Experimental Physics designed and piloted a standard IT system. The nuclear arms complex will build a unified IT space for its enterprises, analogous to that already in place for nuclear energy, modernizing its IT infrastructure and automating control and production processes. The program for creation of a standardized IT system in the weapons complex should be completed in 2014.

MAIN RESULTS IN 2011

Main pilot projects for business IT applications were concluded in 2011 at major companies and organizations of the nuclear energy sector, creating a shared information space in the industry (with about 40,000 users as of December 31, 2011). Standard solutions tested in pilot projects during 2011 will be replicated in 2012 at division companies.

An SAP-based automated personnel management system is used at six of the biggest management companies in the nuclear industry and work is in progress for replication of the system to production companies. Over 200 companies and organizations now build their annual purchasing programs using SAP SRM software, which enables a unified industry-level purchasing system. SAP has also been used to create an automated asset management system at Rosatom. A resource management solution based on 1C is now used at 10 pilot companies and will be adopted by another 26 companies in 2012. A project has also been initiated to automate personnel tasks using 1C ZUP (salaries and personnel management).

In 2011, the Rosatom IT Panel:

- updated the IT transformation program to align with changes in the Corporation's structure;
- approved regulatory documents for information security in IT projects;
- approved a system of evaluation criteria for IT projects;
- approved quality evaluation criteria for IT services to users;
- set up an expert team, answering to the Panel, to deal with issues of IT support for life cycles of nuclear power facilities.

Rosatom is implementing one of Europe's largest digital document flow systems (by user numbers) based on the Documentum platform, including automation of management and contract documentation and creation of a digital archive.

Production companies are adopting systems for industrial automation: CJSC AEM-Technologies and OJSC Petrozavodskmash have commissioned an automated system that controls pre-production engineering design activities using the Intermex solution; a concept for geological modeling of mines and mining work has been developed for OJSC ARMZ; and routine production management and pre-production design systems are ready for OJSC TVEL.

Annual financial gain after completion of all the projects in Rosatom's IT transformation program will be about 14 bln RUB (from 2016).

An integrated system based on Oracle Primavera has been designed and commissioned to manage the project portfolio and will be replicated at more than 100 industry companies during 2012.

Rosatom companies are also working to upgrade and build IT infrastructure, setting up data processing centers, and building a corporate data exchange network. In 2011, 30 corporate data exchange nodes were set up, IT infrastructure and an IT security system were put in place for the data processing center, and phase one of a platform for consolidated monitoring and control of Rosatom IT infrastructure was commissioned.

A user administration and support service has been set up to provide assistance to IT system users, including an automated contact center which receives and processes user queries.

2.6.3. INVESTMENT MANAGEMENT

The Corporation's investment activities are guided by the Regulation on Investment Policy at Rosatom State Corporation, and the Regulation on the Investment Committee at Rosatom State Corporation.

Investment management mechanisms:

— collegiate investment decision-making by the Rosatom Investment Committee and investment committees in divisions (the level at which decisions are made depends on the value and strategic importance of the relevant investment project);
— investment plans for the medium-term future, prepared annually by Corporation divisions and directorates, and presented to the Rosatom Investment Committee;
— issue of certificates for investment projects, based on assessment of the economic, engineering, and administrative grounds for investment decisions;
— use of a "gate" approach in implementation and supervision of investment projects.

Documents regulating Corporation investment projects and programs:

– Standard for Management of Investment Projects and Programs at Rosatom State Corporation, its units, controlled businesses, and their subsidiaries;
– Investment Planning Standard of Rosatom State Corporation;
– Standard for Certificates of Investment Projects and Programs at Rosatom State Corporation, its units and their subsidiaries, and at subordinate federal state unitary enterprises.

RESULTS IN 2011

Work on investment policy design at Rosatom was completed in 2011 with the following outcomes:

— regulatory documentation on investment management and requirements for administrative structures was put in place, enabling unification of administrative structures at divisions;
— strategic, investment, medium-term planning, budgeting, and KPI assessment processes were integrated;
— a project management study program was set up (at the Rosatom Corporate Academy).

The Company audited its investment management system during the reporting year. According to third-party auditors, the Corporation's investment management system meets the requirements of international best practice. Recommendations to adapt divisional regulatory documents were prepared as part of the audit process.

Decision-making levels have been clearly distinguished, and investment committees have been set up at divisions and directorates to help speed up investment decisions. Investment committees at various levels considered more than 100 investment projects in the course of 2011.

Rosatom hosted an investment roundtable at the ATOMEXPO 2011 international forum to raise awareness among the investment community of current and future projects of the Corporation.

The Corporation had prepared a consolidated list of investment projects and a project portfolio by the end of 2011, following integration of investment plans at all major organizations in the nuclear industry.

Work continued in 2011 to automate the investment management system. The IT system for project portfolio management should be commissioned in experimental mode in spring 2012.

INVESTMENT ACTIVITIES IN 2011

Division/organization	Investment activity
Mining division (OJSC Atomredmetzoloto)	Developing the raw material base and production of natural uranium in Russia. Developing the raw material base and production of natural uranium worldwide (Uranium One Inc.). Leadership in uranium production and processing technologies. Diversification in strategic and innovative materials.
Fuel division (OJSC TVEL)	Support for production of nuclear fuel to international standards. Developing non-nuclear production facilities. Developing infrastructure, utilities, and social amenities. Asset re-organization. R&D to develop and improve gas centrifuges and new prototypes of auxiliary equipment for use in the separation process. R&D to develop new types of nuclear fuel and new fuel cycles.
Electric power division (OJSC Rosenergoatom)	Construction of power units for NPPs. Extending operating life of existing power units. Handling irradiated nuclear fuel and radioactive waste. Other investment projects (“Program to raise generation of electric power at existing NPPs”, “Program to increase the installed capacity ratio at existing NPPs”, “Program to ensure safe and stable operation of existing power units” etc.).
Machine-Building division (OJSC Atomenergomash)	Developing production technology at companies. Implementing modernization programs through purchase of high-output equipment. Purchase of a Czech-made engineering system to manufacture industrial cooling systems for nuclear and conventional generating.
OJSC Techsnabexport	Developing industry-level transportation infrastructure. Making nuclear power facilities compliant with Federal standards and rules for use of nuclear energy. Ensuring safety of shipped uranium products by creation of the company's own fleet of vehicles and equipment for transportation.
OJSC Atomenergoprom, OJSC Nizhny Novgorod Atomenergoproekt, OJSC St. Petersburg Atomenergoproekt	Implementing a program to make existing equipment more productive. Equipping construction sites for construction and installation. Developing engineering competencies of construction companies. R&D for higher reliability, safety, and performance of NPP projects. Developing IT infrastructure and software.
OJSC Nuclear Reactor Institute	Developing technologies and setting up production of mixed oxide fuel for fast-neutron reactors. Creating a multi-purpose experimental fast-neutron reactor. Updating production technology at the Institute.

FINANCING OF INVESTMENT ACTIVITIES OF THE CORPORATION AND ITS COMPANIES

INVESTMENTS IN 2011 WERE FINANCED USING OWN FUNDS OF CORPORATION COMPANIES, FINANCIAL RESERVES OF THE RUSSIAN NUCLEAR SECTOR, FEDERAL BUDGET ALLOCATIONS (INCLUDING FUNDS ALLOCATED UNDER FEDERAL TARGET PROGRAMS) AND LOANS. SOME NUCLEAR COMPANIES ARE ALSO RECIPIENTS OF INTERNATIONAL TECHNICAL ASSISTANCE.

The Corporation assesses the efficiency of its investments and investment decisions using multi-factor analysis, which includes:

— analysis of the impact of investment decisions on strategy and operations of the Corporation and its companies (including targets and budget indicators indirectly influenced);
— calculation of financial and business indicators for investment projects;
— analysis of key risks and proposals to control risk, and also of administrative and legal procedures, and of the impact of external factors;
— assessment of social impact, etc.

VALUE OF INVESTMENT PROGRAMS AT ROSATOM ORGANIZATIONS DURING 2011

Organization /company	Actual financing for investment programs in 2011, mln RUB, including VAT	Actual financing for investment programs in 2010, mln RUB, including VAT
OJSC Atomredmetzoloto	46,394	31,554
OJSC TVEL	43,434	27,195
OJSC Techsnabexport	1,186	2,169
OJSC Rosenergoatom	260,684	177,450
OJSC Atomenergomash	5,245*	6,854**
OJSC Afrikantov	588	472
OJSC Nuclear Reactor Institute	1,706	892
OJSC Atomenergoproekt	548	786
OJSC Nizhny Novgorod Atomenergoproekt	608	587
OJSC St. Petersburg Atomenergoproekt	382	397
RosRAO	6,000***	2,653
Mining and Chemicals Combine	10,026***	5,796

* Within the perimeter of investment information disclosure.
** Excluding transactions to purchase OJSC Energomashspetsstal.
*** Actual spending in financed programs and projects, not including VAT.

PLANS FOR 2012 AND THE MEDIUM TERM

— Further optimization of investment planning at the Corporation and its divisions, to simplify and speed up investment decisions;
— control of strategic investment projects in divisions at the level of the Corporation;
— automation of investment management: experimental operation of the project portfolio management IT system, and its replication in the Corporation's companies and units;
— developing and implementing uniform principles to measure progress and results of investment projects, and standard reporting forms for projects (including use of the project portfolio management IT system);
— synchronizing processes of medium-term planning and investment planning in the Corporation.

2.7.

HUMAN RESOURCE MANAGEMENT

DMITRY BULAVINOV
HR Director

A LARGE-SCALE PROGRAM FOR CONSTRUCTION OF NEW ATOMIC POWER PLANTS WILL REQUIRE LARGE NUMBERS OF SKILLED PERSONNEL. BUT MANY EXPERTS REPORT FALLING STANDARDS IN HIGHER EDUCATION, DECLINING PRESTIGE OF INDUSTRIAL PROFESSIONS, AND IMPACT FROM NEGATIVE DEMOGRAPHIC TRENDS (FEWER SCHOOL LEAVERS AND COLLEGE GRADUATES). HOW WILL YOU ADDRESS THE PROBLEM?

We need far fewer personnel to build new power units now than previously, and this reduces our exposure to the demography problem. But the process of training a skilled specialist nowadays has to begin in school, and we have been making intensive efforts during the last three or four years to organize it. We now have a number of industry-level programs underway, which are designed to provide career consulting and raise awareness of the advantages of nuclear industry professions, to select and recruit young talent, and to raise education standards in technical colleges and universities.

HOW LONG DOES IT TAKE TO TRAIN A SPECIALIST FOR THE NUCLEAR INDUSTRY?

10 years is the absolute minimum and a plant manager needs at least 20-25 years of training and experience. Even a highly intelligent and gifted person cannot become a plant manager with less than 20 years of experience – he simply will not know enough.

WHOSE IS RESPONSIBLE FOR ENSURING QUALITY OF WORKFORCE TRAINING?

HR services in our companies need to learn to work systematically with schools, to measure and plan their quantity and quality needs for the long term, and organize efficient feedback to tell the schools what must be changed and how. Today, it's up to schools to decide whom they want to teach, and what they teach. But this should be determined by the employer. We must work out occupational standards with a list of requirements and skills that our entry-level employees should have: they must be motivated, skilled, and competent. Unless we make sure that universities are aware of that, we cannot blame them for inadequacies of their graduates.

WHY DO THE CORPORATION AND ITS ENTITIES HOLD AWARENESS DAYS?

Our employee involvement poll in summer 2011 showed the existence of a communication gap between executives and employees. Employees lack information about changes in the industry – about the nature and objectives of these changes. Absence of efficient communication breeds misunderstanding of where the industry is heading, what strategic goals and objectives each unit is facing, and this has negative impact on our overall efficiency, because employees are not committed to achieving goals and objectives.

We arranged visits by industry top executives to our companies, but it soon became clear that the problems cannot be overcome through occasional visits by senior executives to each company (often located at vast distances from one another). Hence the idea of Awareness Days, which represent an efficient communication tool for an industry of our scale and size.

Such meetings give employees the chance to talk with executives in person, give their feedback and pose questions to their company's top manager or an official from a higher level. Awareness Days will become industry-wide from 2012.

2.7.1. HUMAN RESOURCE MANAGEMENT STRATEGY

MAIN GOALS OF HR MANAGEMENT AT ROSATOM ARE:

- *More efficient HR management services at Corporation entities*
- *Building and retaining a skilled workforce*
- *Improving productivity*
- *Building a system to train and promote business leaders*
- *An efficient system of remuneration and motivation*
- *Efficient training and career growth for personnel*

The Corporation's HR management strategy is designed to help achieve Rosatom's strategic goals, through preparation of specialists at universities in the quantity and to the quality required by the Corporation, through recruitment of competent personnel, efficient work by personnel, greater use of annual employee assessment, building and developing an industry-level succession pool, and installing a competitive system of remuneration and welfare.

The efficiency of HR management at Rosatom is being enhanced by automation of HR processes, KPI targets for heads of HR services, uniform administrative structure of HR services, and transfer of HR transaction processes to a shared service center (this should raise the efficiency of Rosatom HR services by more than 20% by 2015).

Rosatom and its companies are deploying automated HR management systems, mainly the SAP HCM solution for large businesses and 1C Salary and Management for smaller companies (up to 400 employees). SAP HCM is being used to automate HR administration, administrative management, paycheck calculation, efficiency management (executive KPIs, and annual employee assessment using the RECORD system), and personnel training management. By the end of 2011, SAP had been deployed in 11 industry organizations, including three organizations that together employ more than 9,000 people.

2.7.2. MAIN PERSONNEL STATISTICS

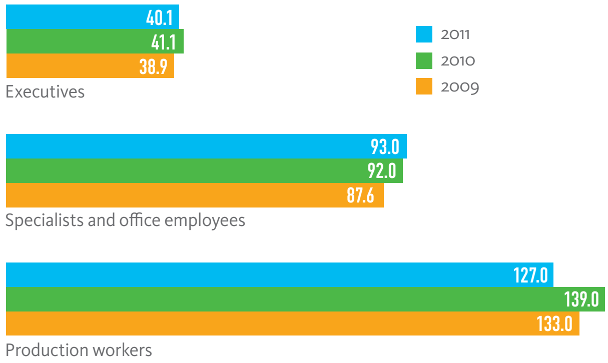
The average staff list at Rosatom Corporation in 2011 consisted of 260,100 people*: 40,100 executives (15.4%), 93,000 specialists and office workers (35.7%), and 127,000 workers (48.8%).

The average age of industrial employees in 2011 was 43.6 years and for executives was 48.5 years*. The average age of employees has been declining for the last four years: 28.5% of specialists were aged under 35 in 2011, compared with 27.2% in 2010, 26.5% in 2009 and 25.0% in 2008.

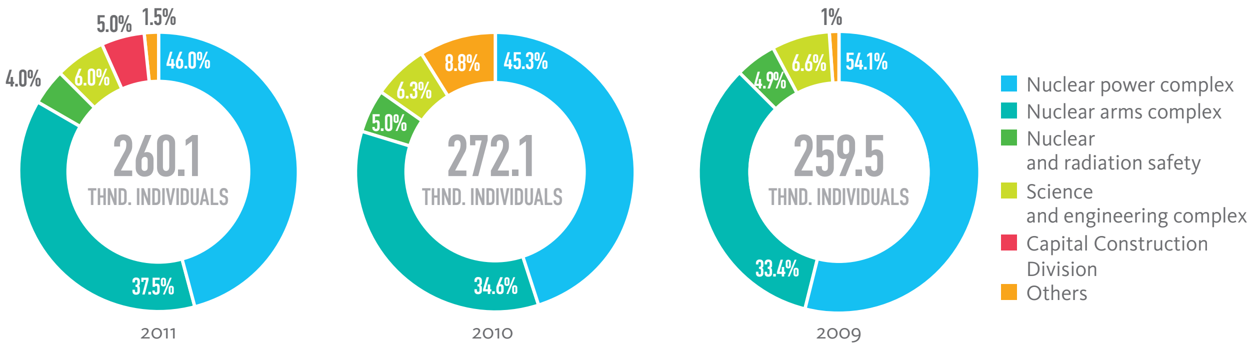
The share of university graduates in the workforce was 42.8% in 2011, which is much higher than the overall share among people of working age in the Russian Federation (29.0% according to government statistics in 2010). Rosatom has 4,500 employees who are doctoral candidates and doctors of science (1.7% of all employees).

A total of 43,900 employees* left the Corporation during the reporting year (7,800 of whom were made redundant). Not including redundancy, workforce turnover in 2011 was 13.9%.

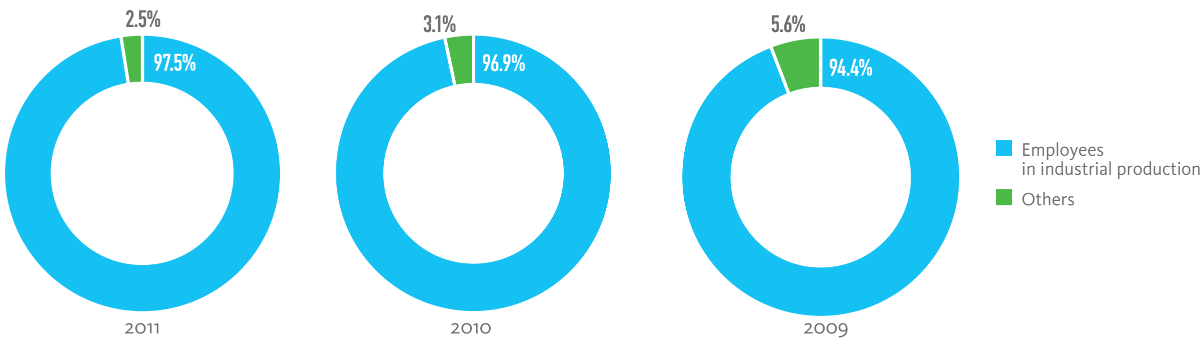
AVERAGE STAFF LIST OF ROSATOM BY EMPLOYEE CATEGORIES, THOU. INDIVIDUALS



AVERAGE STAFF LIST BY BUSINESS TYPES



MANUFACTURING EMPLOYEES



* Gender structure of the Corporation workforce (over 350 organizations) is not aggregated.

2.7.3. REMUNERATION AND SOCIAL POLICY

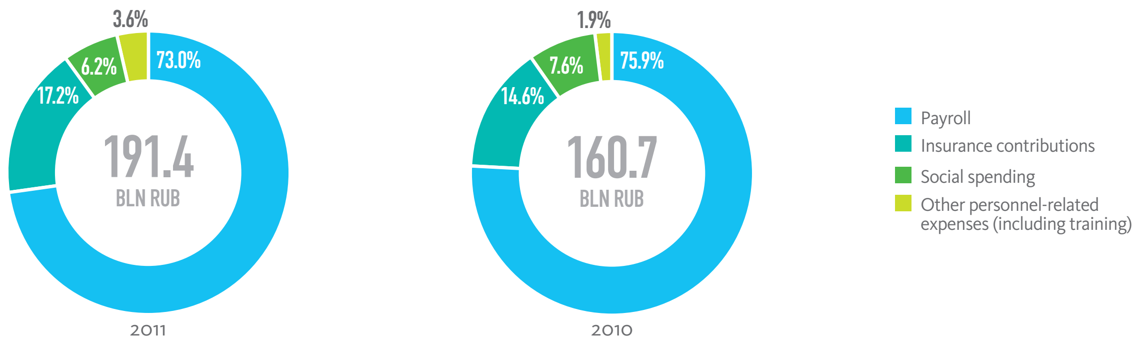
LABOR COSTS

Total personnel spending in 2011 was 191.4 bln RUB, or 19.1% more than in 2010. Spending per employee rose from 596,600 rubles in 2010 to 736,000 rubles in 2011 (an increase of 23.4%).

Levels of employment remuneration within Rosatom are relatively high. The average monthly pay check per employee rose by 26% in 2011 compared with 2010 to 44,600 rubles per month. The average monthly pay check at the Corporation was 44.3% above the Russian average (according to government statistics, the average monthly paycheck in Russia in December 2011 was 30,900 rubles).

Regulations stipulate that the minimum rate of pay for an entry-level employee (class 1) cannot be below the regulated minimum subsistence level for people of working age in the relevant region of Russia. In fact, minimum rates of pay at Rosatom enterprises in the Corporation's main regions of presence• (where key nuclear organizations and production companies are located) were considerably higher than the regional subsistence level. For example, the minimum wage of a class-1 worker at Mayak Production Enterprise (Chelyabinsk Region) was 33% above the subsistence level. Comparable figures were 35% at OJSC Urals Electro-chemical Combine (Sverdlovsk Region), and 18% at Balakovo NPP (Saratov Region)[5].

STRUCTURE OF LABOR SPENDING AT ROSATOM IN 2011, %



STANDARD UNIFORM REMUNERATION SYSTEM

In 2011, Rosatom completed replication of its standard uniform remuneration system throughout the nuclear industry (the project was launched in 2009). The system ensures uniform industry-wide employment policy, including consistent job grades which provide a basis for incentive mechanisms.

The main principle of the corporate remuneration system is to ensure a strong connection between wage levels and personal efficiency (including KPI achievement). KPIs assigned to Rosatom executives use achievement of the Corporation's strategic goals (defined by the Supervisory Council) as a criterion, while strategic objectives for units and companies are translated into KPI maps for their executive officers. The uniform remuneration system is based on standardization of payments and payment algorithms, which helps to apply automated systems for salary calculation, budgeting, accounting, and reporting.

In 2011, more than 50,000 employees in 78 industry organizations switched to the new remuneration system, and individual KPI cards were prepared for more than 7,500 corporate executives using a uniform corporate standard. A total of 133 units employing 95% of the industry workforce have switched to the new system of remuneration since its introduction.

SOCIAL PROGRAMS

Rosatom's social policy is transmitted through corporate social programs. Corporation companies decide independently to launch social programs, based on their HR objectives and financial capabilities, and taking account of benefits that exist in specific companies (as defined in collective employment contracts).

In 2011 Rosatom and its companies continued to apply a uniform social policy for standardization of their social programs, and the industry-level committee for social and employment regulation approved an employee assistance program.

TOTAL SOCIAL SPENDING IN 2011 WAS 11.8 BLN RUB. TOTAL SOCIAL SPENDING PER EMPLOYEE IN 2011 WAS 45,300 RUBLES (44,100 RUBLES IN 2010).

5 Under Russian federal law, the minimum monthly wage for full employment cannot be less than the official subsistence level.

CORPORATE SOCIAL PROGRAMS

Corporate social programs	Financing (bln RUB)		Results in 2011
	2011	2010	
Health insurance	**1,4**	1,1	206,200 individuals had voluntary health insurance.
Resort/spa treatment and recreation for employees and children, incl.:	**1,0**	1,2	
— resort, spa, and treatment for employees	**0,9**	1,0	45,200 employees received resort and spa treatment services, including: — 18,100 in resorts and spas; — 27,100 in corporate health institutions.
— resort, spa, and recreation for children	**0,1**	0,2	11,300 children of employees received resort treatment and recreation.
Injury and sickness insurance	**0,1**	0,1	Injury and sickness insurance covers 125,100 employees.
Housing for employees	**0,2**	1,7	The program operates at 45 industry companies. More than 3,400 employees moved into new homes. More than half of them are young specialists.
Pensions	**1,9**	2,0	57,000 employees• (over 22% of the workforce) subscribe to a non-government retirement pension program. The program operates at 53 industry companies. Non-government pensions are paid to 28,700 retirees. The average non-government monthly pension is 1,500 rubles. Single-time allowances were paid upon retirement to more than 5,500 individuals, averaging over 300,000 rubles. By 2012, non-government co-financing retirement pension programs were in place for 10,000 individuals.
Assistance to veterans and retirees	**1,1**	2,5	Assistance was in the form of cash payments, free provision of voluntary health insurance policies, reimbursement of spa and resort treatment (received by 5,100 retirees) and of health treatment.
Hosting sports and culture events	**0,9**	0,7	Sports and culture events were held, including celebration of historic anniversaries.
Meals for employees	**1,1**	0,8	Food catering at organizations.
Assistance to employees	**1,4**	1,2	Cash and other assistance available to employees.
Other	**2,7**	0,7	Various social benefits (free transport services, etc.), and costs to maintain social infrastructure.
TOTAL	**11,8•**	**12,0**	

Substantial efforts were made in 2011 to improve targeted assistance to both employees and retirees. Responding to data submitted by companies, the Corporation prepared lists of types of assistance that are most in demand, set minimum amounts of financial assistance (2,000 rubles for employees) and changed the main qualifying criteria. Low-income employees and individuals in difficult circumstances have priority for receiving awards. Parent and child benefits, provided by Rosatom, were increased: bonuses are paid when a child is born, and financial assistance is available to women on maternity leave with children aged under thee, to large and single-parent families, for children attending kindergartens, and for children with serious illnesses. The Company reimburses the costs of resort and spa treatment for children.

2.7.4. HEALTH AND SAFETY

HEALTH AND SAFETY ORGANIZATION

Nuclear industry companies continued systematic efforts to further improve levels of safety in 2011, including work to reduce industrial injuries and hazards to personnel.

Rosatom companies are taking steps under collective employment contracts to improve working conditions and ensure steady reduction of industrial injury rates. The Corporation and employers in the industry are performing obligations assumed under the industry agreement for 2009-2011, guided by national regulatory documents, to design and apply local regulations and safety instructions for employees by occupation, in association with trade unions.

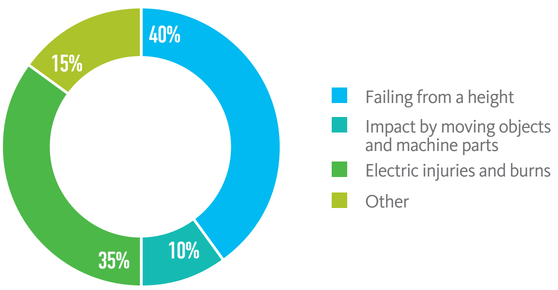
Rosatom is creating an industrial safety management system and will approve and apply system documents at its companies.

The Corporation has also prepared an industrial safety policy (consents are currently being obtained).

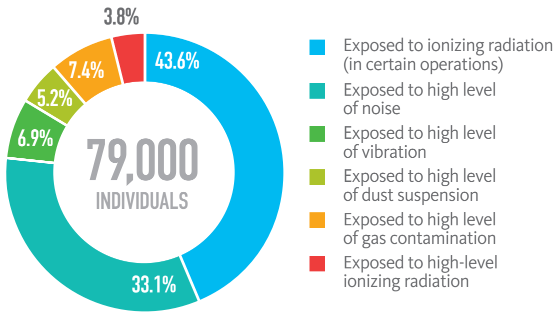
Employers and trade unions have agreed that decisions made by panels investigating accidents and sickness must be approved by representatives of both parties, and employers promise to enable and assist the unions in independently investigating accidents. The unions promise to enforce legal rights and interests of employees affected, and to represent them when issues of compensation are decided.

Employers provide mandatory social insurance against accidents and work-related sickness, as well as other insurance for employees.

MAIN TYPES OF ACCIDENTS WITH GRAVE AND LETHAL OUTCOME, 2011



EMPLOYEES WORKING IN ADVERSE CONDITIONS, 2011, % OF TOTAL EMPLOYED NUMBER



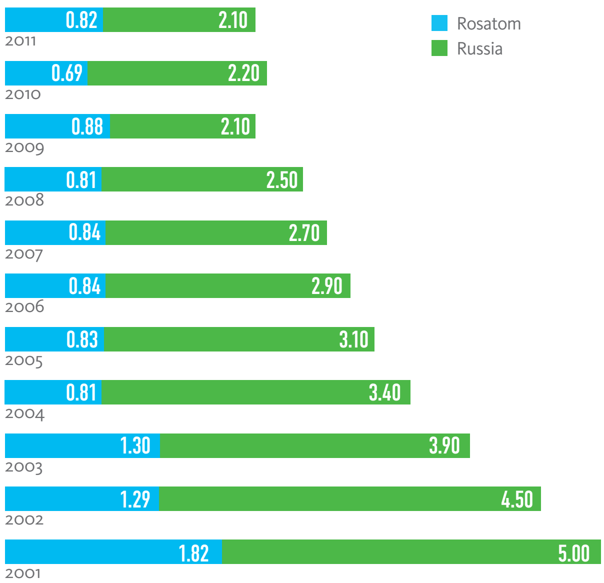
INDUSTRIAL INJURIES

The industrial injury rate per 1,000 employees in the nuclear industry in 2011 was 0.82•, which is much lower than the national average. In 2011, the rate of industrial injuries in the nuclear industry rose compared to 2010 (0.69) due to an increase in the number of accidents at certain companies: OJSC ZIO-Podolsk Machine-Building Plant, OJSC Priargunskoye Mining and Chemical Union, and Atomflot (the nuclear icebreaker complex). However, the number of disability days for victims of accidents per 1,000 employees dropped from 39 in 2010 to 33 in 2011, suggesting fewer injuries with serious consequences for the victims.

OJSC TVEL performed best among Rosatom companies in terms of reducing injury rates: the rate at its facilities dropped by 35% compared with 2010 to 0.36. As in previous years, the lowest injury rate was at OJSC Rosenergoatom (0.17).

There were six fatal accidents (seven deaths) at Rosatom companies in 2011, caused by failure to observe industrial, fire, electrical and labour safety rules•.

COMPARATIVE DATA ON THE INDUSTRIAL INJURY RATE IN RUSSIA AND AT ROSATOM



SICKNESS RATE

All companies in the Corporation provide health checks for personnel to ensure timely detection and prevention of work-related illness (mainly musculoskeletal system and eye, nose and throat disorders). The most common causes of illness are high levels of noise and vibration, cold, and unnatural posture.

A total of 33 employees• were diagnosed with work-related illnesses in 2011 (down from 37 in 2010). The share of employees who work in adverse conditions is close to the Russian national average.

Production rooms at most Rosatom companies did not have excessive levels of airborne radioactive aerosols and hazardous chemicals in 2011. The exceptions were some production areas at Mayak Production Union and OJSC Sibirsky Chemicals Combine, where temporary concentrations of radioactive aerosols above permissible levels were registered, caused mainly by loss of equipment seals during repairs and pre-launch work and by ruptured gauntlets. High levels of radon were detected at some working areas at OJSC Priargunskoye Mining and Chemicals Union, mainly caused by poor local exhaust ventilation, non-compliance with production processes, and failure of seals on dust-emitting equipment.

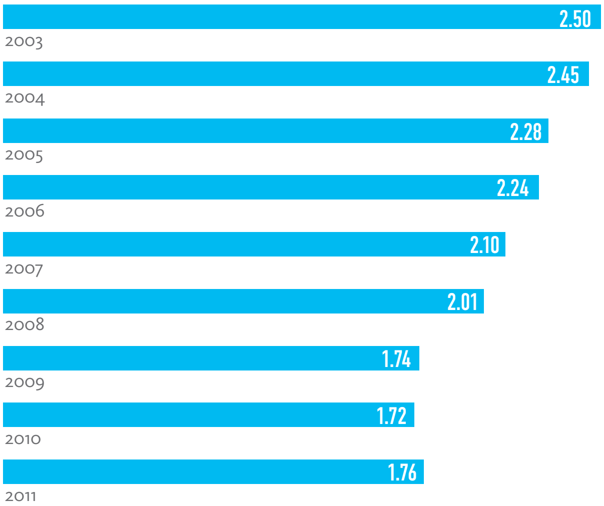
There were instances of air pollution by dust, xylene, toluene, thinners, etc. above permitted levels when toxic chemicals were used for welding and mechanical processing of materials, and during repairs, construction, and painting at some areas of Mayak, Sibirsky Chemicals Combine, Chepetsk Mechanical Plant, Alexandrov Technology Institute, and Priargunskoye Mining and Chemicals Union.

Personnel working at production areas with high levels of air contamination used individual protection equipment and other means to protect their respiratory systems. Shared protection equipment was also used, and exposure of personnel was limited depending on radiation background levels and rules for use of protective equipment. This helped to minimize impact on personnel.

RADIATION EXPOSURE

In 2011, industry companies continued systematic efforts to ensure radiation safety and most companies fully complied with regulations.

ANNUAL RADIATION EXPOSURE OF PERSONNEL, MSV



In 2011, a total of 68,461 individuals, or 26.3% of all employees in the industry, were registered on the Rosatom dosimetry control list. That compares with 70,286 persons, or 25.8% of employees, in 2009 and 70,600 persons, or 25.7%, in 2010. Decline of numbers by 3% reflects restructuring and optimizing of staff numbers at Corporation companies and outsourcing of certain functions.

The levels of exposure to which Rosatom personnel are subject has been in steady decline for about 10 years. The average dose is considerably lower than the annual base limit prescribed by Radiation Safety Standard 99/2009 (NRB-99/2009), which is 20 mSv on average for any five consecutive years, but not to exceed 50 mSv annually.

Annual effective doses above 20 mSv but less than 50 mSv were registered for 28 individuals•, as follows: 23 employees of the Nuclear Reactor Institute, 2 employees of the Khlopin Radium Institute, and one individual apiece at Atomflot, the Reactor Materials Institute and Energospetsmontazh. The increase in numbers of individuals exposed to doses of 20-50 mSv compared to the previous year is explained by large amounts of work carried out in 2011 by the Nuclear Reactor Institute examining the casing of reactor unit BK-50 to establish its residual resource.

The share of employees exposed to under 1 mSv per year was 52.7%. In 2011 no personnel were exposed to more than 50 mSv and there were no individuals with efficient aggregate doses above 100 mSv for five consecutive years.

DISTRIBUTION OF PERSONNEL BY RANGE OF EFFECTIVE RADIATION DOSES DURING 2011

Number of individuals tested	Individuals with annual effective dose in specified range, mSv					
	Under 1	1–2	2–5	5–20	20–50	Over 50
68,461	36,058	14,116	12,554	5,677	28	0
100%	52.7%	20.6%	18.3%	8.3%	0%	0%

INDIVIDUAL RADIATION RISKS FOR PERSONNEL

In 2011, industry companies continued to implement Version 5.0 of the ARMIR system (Automated Workplace for Individual Risk Assessment). ARMIR assesses radiation risks of individual employees, helps to optimize means of protection, enables minimization of risks, and alerts personnel to their individual risks. This can be done in situ or remotely, in compliance with international standards.

In 2011 ARMIR was applied for 61,893 individuals (58,633 in 2010) or 90.4% (83.5% in 2010) of all those on the dosimetry control list. For 866 persons, individual radiation risk exceeded the NRB-99/2009 regulated limit of 10^{-3} (843 persons in 2010, and 755 of 52,438 people who were measured in 2009). The ratio of high-risk persons was 1.4% in 2011.

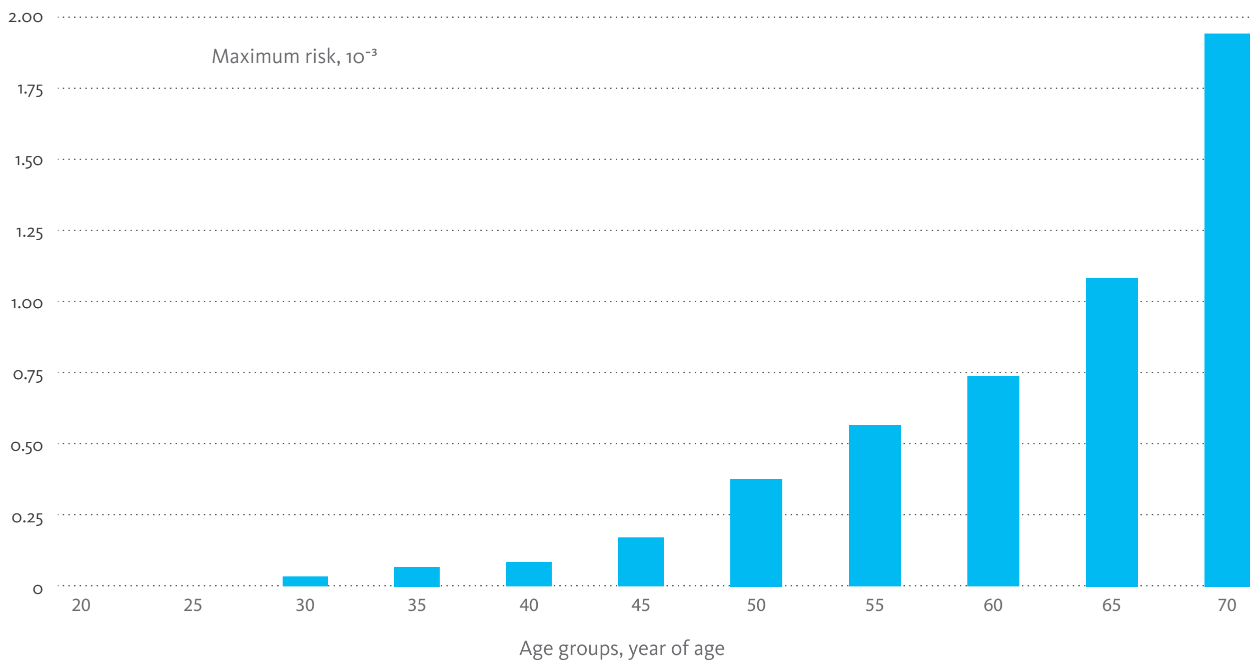
The average level of individual radiation risk was $0.76 \cdot 10^{-4}$. Most employees (89% of males and 93% of females) are exposed to acceptable occupational risk. High individual life-long risk is found among older employees, who received most of their radiation dose shortly after the Soviet nuclear industry was established.

Corporation companies where numbers of those with higher radiation risks are quite large, include some nuclear plants (Leningrad, Beloyarsk, Kursk, Novovoronezh), OJSC Atomenergoremont, Mining and Chemicals Combine, Sibirsky Chemicals Combine, and Mayak. These organizations employ about 80% of all those who have high radiation risk.

Rosatom's radiation risk management system has been improved in the interests of social protection and employee rights to access adequate information about health risks related to their jobs. The technologies currently used meet the requirements of effective law and regulatory documents on radiation safety, as well as recommendations of international agencies.

Attributive risk (percentage probability of radiation causing cancer disease) of Rosatom personnel was assessed for the first time in 2011 at individual facilities. It was established that 99.4% (16,942 individuals) of dosimetry-monitored personnel at Mayak, Mining and Chemicals Combine and Sibirsky Chemicals Combine had acceptable levels of attributive risk in 2010. Attributive risk assessment for the industry as a whole will be carried out in 2013.

HIGHEST RISK IN AGE GROUPS OF PERSONNEL MONITORED IN THE ARMIR SYSTEM



2.7.5. IMPROVING PERSONNEL MANAGEMENT

NON-FINANCIAL MOTIVATION 1

Rosatom Corporation uses a non-financial motivation system based on corporate awards. Timely and adequate awards help employees to feel involved in corporate goals, increase commitment to personal and company performance, and to the success of the Corporation as a whole. Recommendation of outstanding individuals and teams as candidates for government and national awards is a powerful tool for stimulating best performance in the workplace.

In 2011, 225 employees received governmental and national awards. More than 16,000 employees received awards within Rosatom, and about 10,000 employees were nominated "Veterans of the Nuclear Power Industry"•.

UNIFIED ASSESSMENT OF PERSONNEL EFFICIENCY 2

In 2011 Rosatom continued implementation of its unified system to assess personnel efficiency (the RECORD system and the KPI system), which helps to assess employee performance, monitors skills development (through individual career plans), creates candidates for the succession pool, and contributes to other target programs, including international programs.

The system covered 18,000 employees• in the reporting year: 6.5% of industry employees and 30% of executives (assessment mainly concerns executive positions, though technical specialists are also eligible in some organizations). Rosatom implemented a training and information program (publication of articles, a training session for executives and in-house coaches entitled RECORD as an efficient management tool at the Rosatom Corporate Academy, and a multimedia course entitled Business efficiency management).

In 2011, 80% of employees at Corporation headquarters were assessed for efficiency (KPI and RECORD systems). The KPI system assesses all executive positions in the Corporation and the RECORD system assesses all employees in the Corporation, except for secretaries, assistants, and part-time employees.

SUCCESSION POOL 3

Succession pool programs are designed to realize the professional potential of employees at Rosatom and its companies. Such programs make the Company less dependent on the labor market, and ensure career growth, and improvement of competencies and skills. The assessment system is used to identify high-potential employees, and succession pool candidates are selected on three levels: the Corporation succession pool (the Rosatom Golden Reserve), succession pools at divisions, and at specific entities. For each participant, an individual development plan is prepared that includes involvement in key industry projects.

Training was provided in 2011 for the Rosatom Golden Reserve (23 individuals) at the Skolkovo School of Management, which also trained the succession pool for the Fuel Division. In 2011, Rosatom agreed to work with Skolkovo on the Technology Innovation Management program for executives who will be in charge of innovative business.

25 out of 43 individuals (58%) from the succession pool were appointed to open positions in 2011.

By the end of 2011, a central industry-level succession pool had been formed to fill senior management positions (executive positions at key Rosatom entities, and heads of subdivisions and companies that manage the divisions). The final succession pool list was amended to include participants of the Rosatom Golden Reserve program for 2010–2011, and now contains 195 individuals.

2.7.6. ROSATOM CORPORATE CULTURE

PROJECT TO RAISE EMPLOYEE COMMITMENT

The practices of global leaders show that commitment of personnel (desire of employees to maximize their contribution to corporate growth and success) is a necessary condition for good performance by any company.

High levels of commitment depend on three key factors: employee desire to do their best for the company; employees' positive perception of their company; and their desire to remain with the company for a long time.

In 2011, Rosatom launched a project to assess employee commitment•. The project aims to:

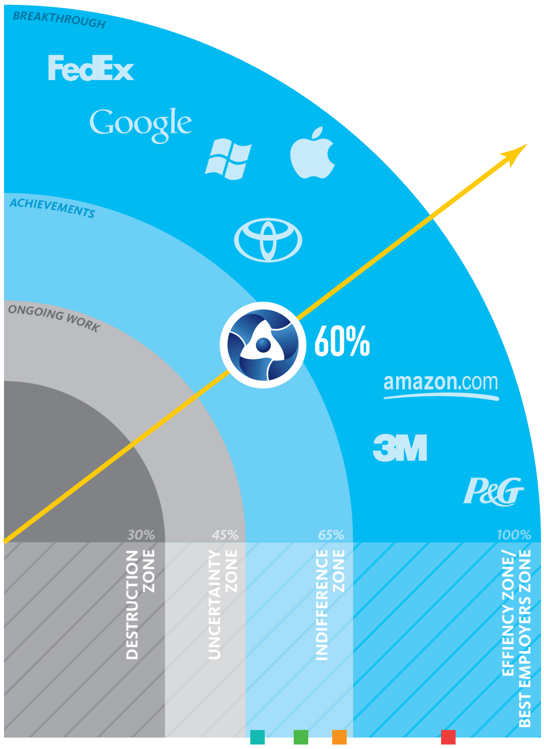
— measure levels of employee commitment at industry companies (by departments and directorates for the Corporation and its divisions; by bureaus/workshops/services/offices and other subdivisions that employ at least 100 staff for individual companies);
— compare the results with those of the best companies in Russia and Europe (in comparable sectors);
— identify priority areas for change, find programs that can genuinely influence employee commitment, and improve business performance of the Corporation;
— work out plans for each organization to raise employee commitment.

The 2011 research found that commitment of Rosatom employees was 60%, which is a fairly high indicator (14 percentage points higher than at Russian manufacturing companies, and equal to the level at major European power companies).

Based on the results of research, employee focus groups were set up to identify the determinants of present commitment levels and actions needed to raise these, and action plans were designed at the level of individual companies, divisions, and the Corporation.

It is intended to measure employee commitment annually, and the objective is to achieve levels of personnel commitment equal to those of global technology leaders within 3-5 years.

LEVEL OF WORKFORCE COMMITMENT



46% Russia, Production
56% Russia, 2010
60% Europe, Power generation
82% Europe's best employers, 2010

2.7.7. BASIC AND ADVANCED TRAINING FOR EMPLOYEES

ROSATOM'S STAFF TRAINING SYSTEM INCLUDES VOCATIONAL COURSES AT UNIVERSITIES AND TECHNICAL COLLEGES, AS WELL AS RETRAINING AND ADVANCED TRAINING PROVIDED BY ROSATOM'S CENTRAL INSTITUTE FOR ADVANCED TRAINING AND THE ROSATOM CORPORATE ACADEMY.

New training programs were designed in 2011, which included: handling of radioactive waste and UNF; back-end of the nuclear fuel cycle; personnel training for floating NPPs; maintenance and repair of NPPs; power management and power efficiency; asset protection; confidential document flow; etc. (see the Report section, “Central Institute of Advanced Training”).

THE ROSATOM CORPORATE ACADEMY

The Rosatom Corporate Academy was established in 2011 as part of the Corporation's HR management strategy.

The Academy's main objectives are: assessing and developing managerial competencies and skills in executive personnel; implementing the programs, “Economics and Finance”, “IT systems”, “Procurement”, “Personnel Management”, “Legal Issues”, etc.; and implementing projects to make Rosatom companies more attractive as an employer for young specialists.

In 2011, the Corporate Academy developed a new curriculum for executive personnel, “Executive Minimum” (a set of training programs to develop leadership and managerial competencies), and a total of 2,200 officers of different levels (from section managers to company CEOs) received training. The Academy was the first in Russia to certify coaches under the international program “Seven habits of highly effective people”, enabling further training as part of the program using Rosatom's own resources (more than 200 executives have received training).

During the reporting period, the Corporate Academy realized comprehensive projects to train personnel of OJSC Rosenergoatom, OJSC TVEL, OJSC Nizhny Novgorod Atomenergoproekt, CJSC Greenatom, the Automation Research Institute, OJSC ZiO-Podolsk Machine-Building Plant, etc., including a program to train speakers for internal work (100 people for OJSC TVEL companies located in territories with restricted-access). In total 5,778 employees of Rosatom companies received training at the Corporate Academy in 2011, with nine training hours per employee on average•.

A Personnel Assessment Center was also set up at the Corporate Academy in 2011, designed mainly to develop special assessment procedures and materials, and carry out assessments (both in person and via remote tests and interviews). During the reporting period, more than 1,500 employees of Rosatom companies (5.8% of the total number) passed assessment procedures at the Academy's Assessment Center for purposes of building the succession pool, making promotions to executive positions, and implementing career growth programs for young specialists.

In February 2011 the Academy, jointly with the Department for Procurement Methodology and Organization, prepared programs entitled Procurement in the nuclear industry. These programs were addressed to both company personnel and suppliers and provided training to more than 800 individuals.

In 2011, the Corporate Academy, also provided employee training connected with projects in Rosatom financial and IT departments; in particular, over 200 individuals received training in the use of the unified digital document flow system.

The Center for Relations with Schools and Young Specialists, which was set up at the Academy in 2011 has become an industry-level center of expertise and competencies, and provides a venue for workshops attended by staff of Rosatom companies. The pilot project, the Young Professionals Contest TeMP-2011, was also set up as a tool to raise efficiency of interaction between Rosatom companies and universities, and to select, recruit, adapt, and develop young specialists.

Raising safety culture among employees at nuclear and facilities and facilities that represent a radiation hazard is a valuable means of minimizing impact of the human factor on nuclear power operations. The Federal Law No. 35-FZ, dated 08.03.2011, "On the code of discipline for employees at organizations that operate facilities with nuclear and radiation risk and nuclear energy units" helped to improve safety culture during the reporting year.

Plans for 2012

Priorities of the Corporate Academy for 2012 include development of a logistics base and infrastructure for modern training methods and technologies. The Academy's methodological base will also be developed, with the launch of new training capacities in executive and business competencies (the "Executive Minimum" programs will be enhanced and new training programs will be launched to support the introduction of new IT systems, such as SAP SRM, SAP HR, budget system, etc.). In 2012, the Corporate Academy plans to provide training to more than 7,500 employees from nuclear industry companies.

CENTRAL INSTITUTE FOR ADVANCED TRAINING

The Central Institute for Advanced Training has provided advanced training to industry executives and specialists for more than 40 years. As of December 31, 2011, it had 12 branch units (located at nuclear plants and in major industry companies).

Much was done in 2011 to restore the industry-level system of advanced training. The Central Institute for Advanced Training was merged with the Moscow Atomenergo Institute for Advanced Training (now the Moscow branch of the Central Institute for Advanced Training) and the Atomprof Institute for Additional and Professional Training (now the Saint-Petersburg branch of the Central Institute for Advanced Training).

During 2011 the Central Institute provided training in the following areas:

— advanced training for executives and specialists;
— occupational retraining for specialists;
— crash courses (curricular shorter than 72 hours);
— field studies at industry companies.

The Central Institute for Advanced Training provided services to 14,560 trainees in 2011 (8,792 in 2009, and 10,730 in 2010).

	Total	Advanced training	Retraining	Crash courses
Central Institute for Advanced Training (Obninsk)	6,374	5,903	16	455
Moscow branch of the Central Institute for Advanced Training	5,143	2,538	-	2,605
St. Petersburg branch of the Central Institute for Advanced Training	3,043	2,348	222	473
TOTAL:	**14,560**	**10,789**	**238**	**3,533**

Occupational training and advanced training in nuclear and radiation safety

Efficient functioning of the industry-level system to provide training, retraining, and advanced training for executives and specialists in nuclear and radiation safety is vital for ensuring safety at nuclear installations and installations that represent a radiation hazard.

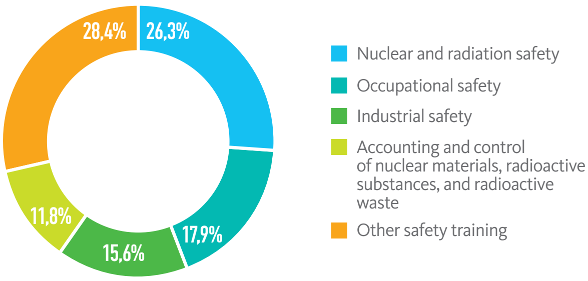
Of the 14,560 individuals trained in 2011 by the Central Institute for Advanced Training, 4,338 executives and specialists were trained in the safety field, notably 26.3% in nuclear and radiation safety, 17.9% in occupational safety, 15.6% in industrial safety, and 11.8% in accounting and control of nuclear materials, radioactive substances, and radioactive waste. Other safety training was in the fields of environmental safety; emergency response; instrumental, methodological and metrological safety measures; preparing company employees for certification in the use of nuclear energy; preparing executives and specialists for certification in use of radioactive materials for national defense; and international safety courses (28.4%).

In compliance with Federal Law No. 317, dated 01.12.2007, "On State Atomic Energy Corporation ROSATOM" and Rosatom executive order No.1/625-P, dated 23.12.2010, "On issue of certificates authorizing use of nuclear energy in 2011", training and methodological materials were prepared to train executives, chief engineers and their deputies in companies that operate facilities representing nuclear and radiation hazards. The training involved 14 study groups, and after being examined on safety issues, the students received certificates authorizing them for employment in the field of nuclear energy.

The Central Institute for Advanced Training conducted conferences, workshops, and meetings on safety, attended by about 1,100 individuals from 540 organizations during the reporting year.

14,560
individuals trained in 2011 by the Central Institute for Advanced Training

4,338
executives and specialists were trained in the safety field



International activities

In order to implement Rosatom's strategic initiative for global expansion of the VVER technology platform, the International Training Center for the Nuclear Power Industry (part of the Central Institute for Advanced Training), continued to develop training courses in 2011 to prepare specialists for maintenance of nuclear infrastructure in countries which are recipients of Russian nuclear power technologies. Seven new curricular were developed: reactor physics, engineering and equipment of circuit 1 (the nuclear island) for engineers; thermo hydraulics, engineering and equipment of circuit 2 (the turbine island) for engineers; project management for NPP construction; handling of radioactive waste and UNF; a course for executives (initializing national nuclear power programs); NPPs with low-capacity nuclear reactors in Russia; and Russian computer codes for safety validation.

In 2011, training was provided to top managers of national nuclear programs from the Socialist Republic of Vietnam (17 persons), the Republic of Belarus (10 persons), and the Republic of Bangladesh (9 persons). The managers attended six training sessions, five of which were held jointly with the IAEA. Training was also provided to specialists from Vietnam, Turkey and Bangladesh on preparation of tender documents for construction of a first nuclear plant, selecting and validating a construction site for an NPP, features and design of nuclear fuel, and physical protection of nuclear materials.

On September 19, 2011, at the 55th session of the IAEA General Conference, tripartite practical agreements were signed between the Central Institute for Advanced Training, OJSC Rosenergoatom, and the IAEA on training of nuclear infrastructure specialists in nations that are beginning development of a domestic nuclear power industry.

A development program for 2012–2015 was prepared for the International Training Center for International Specialists, including NPP operators for nations that are building Russian-designed nuclear plants.

Plans for 2012

Main directions for development of the Central Institute for Advanced Training in 2012 are determined by its role in implementation of Rosatom's strategic initiatives to expand the VVER technology platform and increase the share of nuclear generation in Russia.

The International Training Center at the Central Institute will continue preparing curricular and training for nuclear infrastructure executives and specialists in nations which use Russian nuclear power technologies. The number of students is expected to grow by more than four times.

Work will also start in 2012 on creation of an industry-level system to train nuclear industry personnel for nations that are starting development of a nuclear power industry using Russian technologies, and for Russian personnel who commission Russian-designed nuclear plants built abroad. For this purpose, a Consortium has been established between OJSC Rosenergoatom, OJSC Atomtekhenergo, the Central Institute for Advanced Training, and the Nuclear Power Plant Institute•. As its first project, the Consortium will develop a standard set of training programs and methodological materials for a nuclear plant training center, to which the Central Institute will contribute basic and theoretical training for nuclear plant personnel.

It is intended to develop methodological materials that will be used to train and maintain skills of personnel on floating NPPs.

Also in 2012, works will continue in a number of other projects:

- creating administrative and methodological documents, and providing pricing system data for scientific research and experimental design, and defense contract mass production for the nuclear arms complex;
- use of a systematic approach to executive analysis of personnel for emergency response systems, development of methodological materials, and conduct of pilot training groups;
- design of integrated nuclear plant control structure (not separated into operating sections);
- changeover to uniform standard training policy for nuclear plant personnel in order to make the human factor more reliable;
- developing a regulatory methodological basis for confidential document flow, and protecting confidentiality in companies and organizations of the nuclear industry, etc.

Development of industry-level systems to train personnel in managerial and engineering competencies will continue.

It is expected that the number of students in all formats will increase by at least 15% in comparison with 2011.

2.7.8. NATIONAL RESEARCH NUCLEAR UNIVERSITY MEPHI

NATIONAL RESEARCH NUCLEAR UNIVERSITY MEPHI (NRNU MEPHI, THE MOSCOW ENGINEERING AND PHYSICS INSTITUTE) WAS ESTABLISHED IN 2009, AND CO-FINANCED ON A PARITY BASIS WITH THE RUSSIAN FEDERAL MINISTRY OF EDUCATION AND SCIENCE.

147 NRNU MEPhI staff obtained work experience at leading nuclear industry companies, such as the (the Nuclear Reactor Institute, and the Institute of Experimental Physics (www.vniief.ru/), FSUE GNC RF – FEI (http://www.ippe.ru/).

MAIN RESULTS IN 2011:

- a higher-education association (a Consortium of universities with a special relationship to Rosatom) was set up, bringing together institutions that train specialists for the nuclear industry;
- a large-scale career consulting campaign was carried out, which enabled achievement of target figures for all specializations, raising interest among young people in a career in the nuclear industry;
- a coordinated approach was designed for evaluation of training quality, industry-level certification of graduates, and accreditation of training programs;
- NRNU MEPhI joined Rosatom's innovative development and modernization program, with the special function of ensuring development of human resources and research potential in the industry;
- the range of science research fields was expanded.

Workforce training for the nuclear industry

In 2011, NRNU MEPhI designed a workforce training system for Rosatom's nuclear energy complex, prepared a forecast up to 2017 comparing Rosatom recruitment needs with university entrant and graduate numbers, prepared a list of most–needed occupations in which specialists receive training; and named key users (organizations) and their needs for college graduates trained in innovative nuclear technology subjects. These organizations hired 336 NRNU MEPhI graduates in 2011.

In 2011, NRNU MEPhI signed 283 contracts with nuclear companies and organizations, including contracts concerning employment issues. Joint work is underway between NRNU MEPhI and nuclear companies on corporate grant programs, and NRNU MEPhI is also involved in science festivals, Olympiads, and roundtables with school headteachers, spokesmen for regional chambers of commerce and employment agencies, as well as other motivational activities.

In 2011, tripartite agreements were signed on cooperation in workforce training for the nuclear industry, between administrations of restricted-access territories, main industry-level companies, and NRNU MEPhI branches in restricted-access territories: Snezhinsk Institute of Physics and Engineering (Snezhinsk), the Institute of Technology (Lesnoy), Trekhgorny Technology Institute (Trekhgorny), and Ozersk Institute of Technology (Ozersk). The agreements call for coordinated apprenticeship and employment plans for students, involvement of leading specialists from nuclear companies in the training process, financial support from companies for universities, and assistance in resolving social problems faced by graduates.

A special methodology was devised to train particularly talented specialists for work at Kurchatov Institute. Training is provided in focus groups using NRNU MEPhI curricular adjusted to match the Institute's needs. In 2011, 73 NRNU MEPhI students received apprenticeships and 47 found employment at Kurchatov Institute, representing about half of the Institute's annual needs for young specialists.

In 2011, 42 programs of advanced training and retraining were provided at NRNU MEPhI to 1,405 specialists from the nuclear industry and from other science-intensive industries in Russia.

One important task carried out by NRNU MEPhI in 2011 was provision of advanced training to 10 candidates selected by Rosatom for international positions in fulfillment of Russian Presidential Decree No. 603, dated 06.05.2011, "On dispatch of representatives of Rosatom State Corporation to work abroad".

NRNU MEPhI National Nuclear Research University

In 2011 NRNU MEPhI:
- provided apprenticeships for a second group of specialists from Mongolia in accordance with the agreement between Rosatom State Corporation and the Mongolian Nuclear Power Agency on cooperation in nuclear power generation and uranium mining, and a memorandum of intentions for training of specialists;
- provided apprenticeships for groups of specialists from Vietnam and Armenia under the IAEA Technical Assistance Program.

International cooperation in education

NRNU MEPhI prepared a forecast of numbers of foreign nationals who will require special training as part of effective and prospective international contracts to build nuclear power facilities abroad. As agreed with the Corporation, NRNU MEPhI trained about 200 foreign students from Vietnam, Turkey, Mongolia, Jordan, Kazakhstan and other nations in 2011.

Infrastructure is being created by NRNU MEPhI with assistance from the Central Institute for Advanced Training to provide courses for foreign specialists at the Obninsk Nuclear Power Institute, as part of Rosatom's global expansion program. Capacity will be put in place for intakes of 1,100 students to receive training.

Career consulting

In 2011 NRNU MEPhI hosted the Rosatom national contest in physics and mathematics, and a series of contests for high school students in physics, mathematics and IT. Special visits (26 in total) were arranged for students from other cities: NRNU MEPhI welcomed about 550 visitors from Ryazan, Angarsk, Dmitrov, Podolsk, and Novovoronezh.

As of December 31, 2011, about 500 Russian high schools had signed cooperation contracts with NRNU MEPhI and received explanatory, training and methodological materials.

NRNU MEPHI'S MAIN OBJECTIVES IN 2012

— continue joint efforts with Rosatom to review future needs for young specialists, and carry out relevant optimization of training facilities at the Institute's various campuses;
— further involvement of NRNU MEPhI in R&D contracts for the nuclear industry and activities under federal target programs, including the program, "R&D in priority areas of Russia's science and technology complex during 2007-2013";
— launch of training capacities for international cooperation projects in science and technology, including training of international R&D managers;
— increase the number of dormitories of decent quality for students in Moscow and other locations (Sarov, Seversk, Obninsk, etc.) in order to accommodate larger student intakes at NRNU MEPhI, including foreign students, and implement mobile training patterns (provision of training by different providers);
— accept more foreign students to be trained for the Corporation by NRNU MEPhI.

INTERACTION WITH UNIVERSITIES

ROSATOM WORKED HARD TO DEVELOP ITS INTERACTION WITH UNIVERSITIES DURING 2011 IN ORDER TO SECURE A SKILLED WORKFORCE FOR NUCLEAR INDUSTRY INNOVATIONS AND TO BUILD A PARTNERSHIP NETWORK FOR INDUSTRY R&D AND JOINT PARTICIPATION IN TECHNOLOGY PLATFORMS.

Rosatom offers a number of grants and prizes to stimulate recruitment and win young talent for the industry, and to improve specialist training.
These include:
– 150 monthly allowances of 5,000 rubles to college students studying occupations relevant to the nuclear industry;
– 100 prizes of 100,000 rubles each to gifted and promising young researchers in nuclear industry companies;
– eight prizes of 600,000 rubles each to authors (teams of authors) of new text books and reference books on nuclear power generation.

The Consortium of universities with special relationships to Rosatom was set up to address innovation tasks, bringing together Russia's leading universities that train nuclear industry specialists and have science competencies in the Corporation's key fields, in order to train specialists for the Corporation's strategic goals, creating an efficient innovative system for the nuclear industry (see the Report section, "Science and Technology").

The Consortium includes: NRNU MEPhI National Nuclear Research Institute, Ivanovo State Energy University, Moscow State Construction University, Moscow State Bauman Engineering University, Moscow Energy Institute, MISiS National Research and Technology University, Nizhny Novgorod State Engineering University, Nizhny Novgorod State University, Mendeleyev Chemical Technology University, St. Petersburg State Polytechnical University, Tomsk Polytechnical University, Urals Federal University, and St. Petersburg State University. NRNU MEPhI is the host entity that supports interaction and coordinates the Consortium's activities.

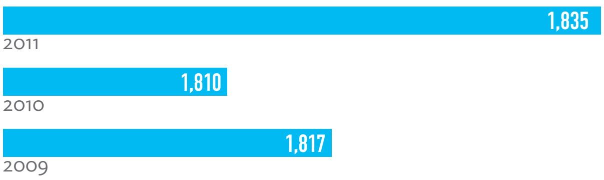
Interaction between the Corporation and the Consortium has led to various research, innovation, and workforce training projects, including a program to raise education standards and train specialists for employment in the nuclear industry. It is intended to involve Corporation representatives in efforts to improve curricular and plans of the Consortium universities, delegate specialists from the Corporation to serve as lecturers, develop a system of student apprenticeships and internships, and allow post-graduates and university teachers to gain practical experience at Rosatom units. There are also plans to develop a system of continuous education for personnel, joint participation in technology platforms and projects to support innovative small and medium-sized businesses (including use of business incubators).

AS A RESULT, THE SHARE OF GRADUATES FROM THE CONSORTIUM UNIVERSITIES WHO OBTAIN EMPLOYMENT MATCHING THEIR QUALIFICATIONS SHOULD RISE TO 75% BY 2020 (COMPARED WITH 35% IN 2011), AND THE VOLUME OF R&D CONTRACTS PLACED WITH THE UNIVERSITIES SHOULD REACH 10% OF ALL R&D WORK FOR ROSATOM (COMPARED WITH 2.7% IN 2011).

The number of apprenticeships at Corporation companies for students from universities with nuclear specializations rose to more than 5,000 in 2011.

A system of university enrolment targets has been organized as part of a national plan to train scientific researchers and specialists for the Russian defense industry. As recommended by industry companies, about 500 individuals entered universities providing training in nuclear skills during 2011.

NUMBER OF UNIVERSITY GRADUATES OBTAINING EMPLOYMENT IN THE NUCLEAR INDUSTRY ORGANIZATIONS



2.8. PROCUREMENT MANAGEMENT

ROMAN ZIMONAS
Director of Procurement Management Methodology and Organization Department

WHAT WAS THE MAIN OUTCOME OF 2011 IN YOUR VIEW?

Our main achievement was a saving of 31.5 bln RUB of Russian budget money and our own money. We made best use of federal budget funds, and did that much more successfully than the year before. The part of our procurement, financed from our own pocket was also implemented in full. There were minor issues with deadlines (caused by the tough construction schedule and the intensive nature of the Rosatom industrial program), but all of our procurements were carried out.

TO WHAT EXTENT WERE KPIS ACHIEVED?

Practically all of our companies achieved all of their KPIs, and some even outperformed them. For example, our objective was to spend at least 80% of all procurement through public tender procedures, and the result was even higher. The number of contracts placed through digital trading increased, helped by the procurement training system used by our companies and by their suppliers and contractors.

WHAT ARE THE ADVANTAGES OF THE ANNUAL PROCUREMENT PROGRAM THAT WAS PUBLISHED FOR THE FIRST TIME IN 2011?

Suppliers who study the program in advance can prepare for our procurement procedures: they can collect all required certificates and licenses, research prices, and thus prepare high quality tenders.

We expect that competition among contractors for contracts offered by our companies will grow, thus leading to better quality tenders. There should be more successful procedures and fewer failed procedures; production programs should be accomplished in good time, maximizing economic effect.

The annual program enables procurement subdivisions and authorized bodies hosting tenders to plan in advance, prepare their employees and experts, create procurement panels, and prepare relevant documentation.

HOW DID YOUR SUPPLIERS REACT TO THE CHANGES IN THE CORPORATION'S PROCUREMENT SYSTEM?

The 2011 online poll of nuclear industry suppliers shows appreciation of increasing transparency of the procurement system compared with previous years. There were 79% affirmative answers to the question, "Are you aware of the new procurement system of State Atomic Energy Corporation ROSATOM?", 76% of respondents said that the system is now more transparent, accessible, and understandable for suppliers, and 88% said that the official website used by the Corporation to place orders for products, works and its services are user friendly.

HOW DOES THE GOVERNMENT VIEW THE EXISTING PROCUREMENT SYSTEM IN THE NUCLEAR INDUSTRY?

From May to August 2011, we were audited by the Control Office of the President of Russia. The auditors described the procurement system at Rosatom as one of the most efficient in the country, and proposed using it as a prototype for replication.

2.8.1. THE ROSATOM INDUSTRY PROCUREMENT SYSTEM

REGULATORY BASE

Procurement by Rosatom Corporation is mainly regulated by the unified nuclear industry procurement standard, governing relations that arise in the course of purchases for the needs of the Corporation and its companies. The standard is designed to ensure:
— efficient spending;
— development of competition based on good faith;
— openness and transparency of orders;
— combating corruption and abuse;
— creating the conditions for timely and adequate supply to the nuclear industry of quality products at a fair price;
— observing safety in operations as required by federal law.

MANAGEMENT AND CONTROL BODIES

Rosatom carries out general management of procurement at all companies in the nuclear industry.

The central collegiate authorizing body for procurement is Rosatom's Central Procurement Panel (CPP). Decisions of the CPP have priority over decisions by all other authorizing bodies (except those of the Corporation's CEO). Authorizing functions are also granted to standing procurement panels formed in divisions by decision of the Rosatom CEO.

Controlling functions are performed by the Internal Control and Audit Department of Rosatom State Corporation.

The collegiate body for claims procedures is the Central Arbitration Committee.

ACTIVITIES OF DIGITAL TRADING SITES

Digital procurement procedures are enabled by three digital trading vehicles: OJSC Unified Digital Trading Vehicle (OJSC EETP), LLC Fabrikant.ru, and LLC A-K-D.

These vehicles have set up separate sections for nuclear companies to conduct procurement procedures. Functionality of the sections takes account of all specifics of the industry procurement system and is compliant with procurement regulations for the nuclear industry.

Work is underway to standardize the system of tariffs and functionality of the digital vehicles, and to automate the creation of a substantial archive of digital trading purchases in the Central Industry Procurement System.

The digital vehicles enable users to build qualification document packages in the participant's "personal office" in the Internet (there is no need to prepare a new package for each procurement procedure). Participants can also subscribe to a nomenclature of the specific supplier profile (parties are automatically alerted of the positions to which they have subscribed when the procurement procedure begins).

WAYS TO ENSURE PUBLIC AND TRANSPARENT PROCUREMENT:

— conducting open competitive procurement procedures;
— raising the share of digital-format competitive procedures to 100%;
— use of a renegotiation procedure during competitions;
— allowing alternative offers to be filed;
— setting the starting (maximum) price for the current year at the level of last year's factual price;
— standard templates for draft contracts;
— standard templates for document forms in bids;
— uniform criteria to select and evaluate bidders;
— signing long-term contracts at a fixed price for the entire effect of the contract;
— more competition with more bidders and higher quality of their offers.

POLICY, PRACTICAL APPROACHES TO PROCUREMENT FROM LOCAL SUPPLIERS; SHARE OF SUCH PURCHASES IN MAIN REGIONS OF OPERATIONS

When the bids are evaluated, the procurement system allows preferences (awarding of extra points) to favor Russian manufacturers, or suppliers and manufacturers which are geographically closest to the client (to minimize the costs of delivery and movement of equipment and resources). Also, there is a simplified contracting procedure for suppliers and manufacturers within the nuclear industry, which make strategically critical products for the industry. The list of such products and names of the manufacturers and suppliers is available on the website of Rosatom Corporation (see the Report section, “Business Influence”).

The share of procurement from local suppliers in main regions of presence exceeds 50% of total products purchased. Overall, purchases from Russian suppliers exceed 80% of total industry procurement.

SHARE OF MAIN SUPPLIERS, CONTRACTORS AND OTHER BUSINESS PARTNERS EVALUATED FOR HUMAN RIGHTS, AND ACTION TAKEN

When delivery and use of products purchased by the Company can potentially endanger the life and health of any employees of the suppliers, contractors, clients, or members of the general public, there are special requirements for safety systems, insurance of liability for damage (including damage to human life and health), special licenses and permits for operations and deliveries, etc•.

Clearance to begin works on nuclear industry facilities and related administrative buildings is regulated by Russian federal law and corporate standards.

The Corporation has provided communication mechanisms that are accessible to the representatives of various stakeholders: profile forums, exhibitions, roundtables, public consultations, public hearing sessions, meetings with the Corporation’s CEO (attended by suppliers and contractors) to address problems with the procurement system, etc. (see the Report section, “Engagement of Stakeholders”).

Thus, suppliers, contractors and partners are not only assessed in terms of human rights (as far as possible for the Corporation), they are also involved in a public dialog that ensures constructive interaction.

In case of claims in the course of procurement procedures, bidders can petition the Central Arbitration Committee, which is authorized to officially examine such claims. The email address for proposals to improve the procurement system is: zakupki-info@rosatom.ru.

2.8.2. RESULTS IN 2011

OBJECTIVES OF THE INDUSTRY PROCUREMENT SYSTEM IN 2011:

- greater competition, maximizing the number of bidders, timely preparation of procurement bidders;
- reduction of non-compliance with regulations and procedures;
- improving the competence of procuring parties (at company level) through a system of training and advanced training;
- adopting “right-through” KPIs for procurement;
- lowering transaction costs and simplifying procedures for purchases within the industry;
- completing activities to automate the procurement process, including conduct of procurement procedures, in order to expand the list of parties involved, uniformity of documents used by buyers during procurement, reducing the impact of the human factor on processes of supplier qualification and selection, detecting non-compliance, and preventing incorrect user action, building reliable reports in real time, minimizing misrepresentation, reducing time costs of transactions during purchases;
- continuing activities to prepare legal regulation of procurement.

MAIN RESULTS IN 2011

Annual procurement program for the industry

Rosatom prepared an annual procurement program (APP) for the first time in 2011, which was published on the Corporation's official website (http://zakupki.rosatom.ru/Web.aspx?node=gpz). Publication of the APP was intended to implement the government's policy for procurement at government-owned corporations, natural monopolies, and housing and communal service organizations, and to enhance the openness and transparency of procurement at industry companies.

The published part of the APP showed public procurements to be conducted through competitive procedures.

In 2011, procurement was financed from the Federal Government budget and Rosatom's own funds, and also using own and off-budget funds of Rosatom companies. The procurement host was OJSC Atomkomplekt.

The share of digital procurement was 37.4% and 92.6% of all procurement was via public competitive procedures.

To raise transparency of the procurement system, online polling was used to collect information needed to analyze transparency trends as viewed by manufacturers, contractors and suppliers. The results showed positive trends in perceived transparency.

Share of competitive procurement at Rosatom Corporation, and resulting savings

In 2011, Rosatom and its companies used their own funds to close 34,699 competitive purchase contracts to a total value of 422.8 bln RUB, which gave savings of 27.9 bln RUB (6.7% of total competitive procurement).

In 2011, Rosatom used federal budget funds to close 1,365 procurement contracts with total value of 32.6 bln RUB, which gave savings of 3.6 bln RUB (10.1% of the public tenders value).

During 2011, 4.42% of appeals against action/inaction by a client, host or procurement panel during purchases arranged by the Procurement Department and OJSC Atomkomplekt were upheld (27 appeals).

Examples of savings thanks to procurement procedures

A public invitation to tender was announced in February 2011 for a contract to supply a set of block-module pipeline systems for a condensation unit (three cases) to service the turbine of power unit 1 in Balakovo NPP. The starting price was 849.7 mln RUB. Two of four bids passed qualification, and the contract was awarded to LLC Rosenergokomplekt at a price of 544.9 mln RUB, offering a saving of 304.8 mln RUB (35.9%). The ratio of starting (maximum) price to contract price was 156%.

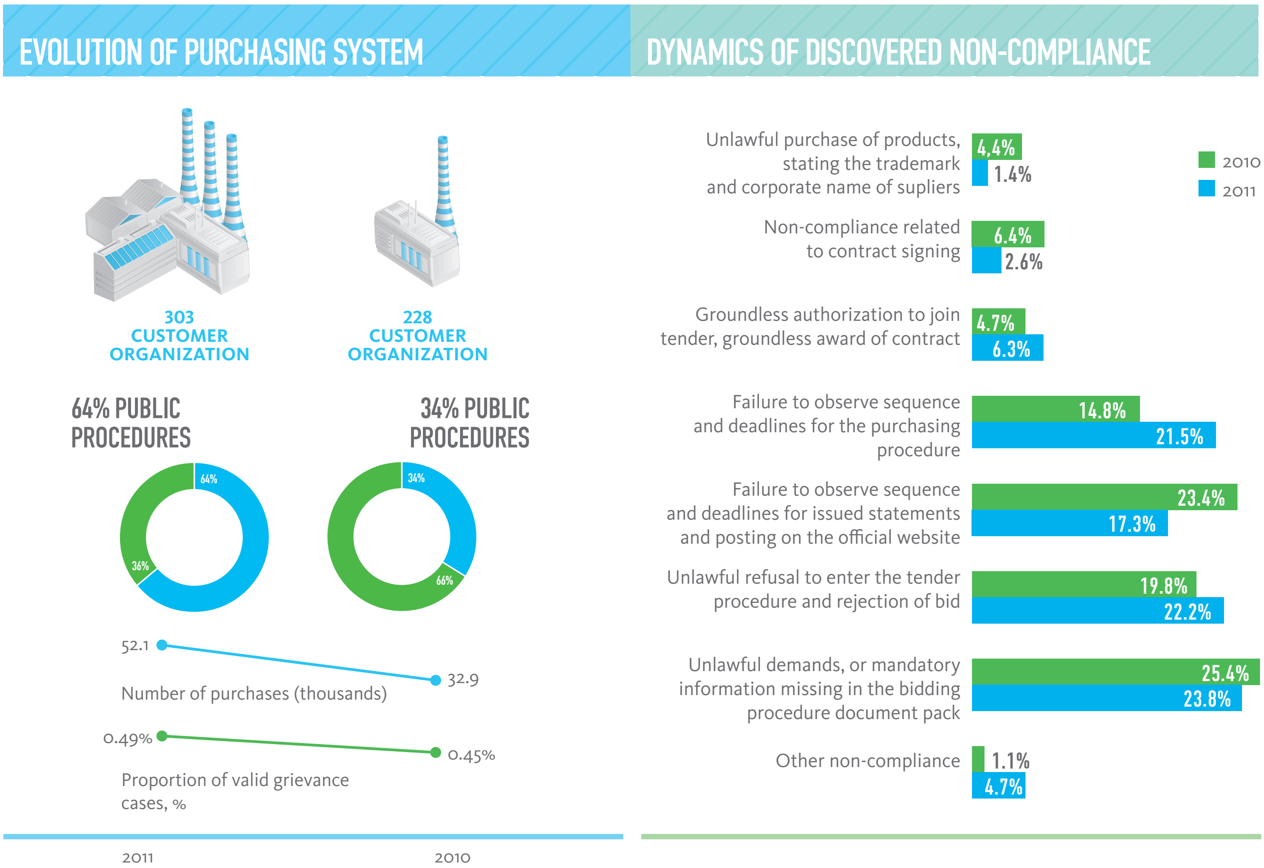
When a public invitation to tender was announced in April 2011 for a contract to provide engineering design, manufacturing, delivery, and installation works for block-module pipeline systems at the condensation unit for turbine K-1000-60/1500 at power unit 1 of Kalinin NPP, the starting price was 1,374.9 mln RUB. Three bids passed qualification, and the contract was awarded to LLC KomplektEnergo for 899.9 mln RUB. The saving was 475.0 mln RUB (34.5%), and the ratio of starting price to contract price was 153%.

A public tender was announced in August 2011 to sign a contract for construction and installation of facilities at Novovoronezh NPP-2 (evaporation cooling tower (20URA), cooling tower cold water removal channel (20URH)). The starting price was 2,837.5 mln RUB. Of the five bids, four were dismissed, and the contract was awarded to LLC Mostostroy-6 at a price of 2,493.6 mln RUB. The saving amounted to 343.9 mln RUB (12.12%), and the starting price to contract price ratio was 114%.

PROCUREMENT CONTRACTS AND TOTAL SAVINGS

	2011	2010	2009
Total value of public procurement tenders, bln RUB, of which:	***422.8***	*166.4*	*20.5*
from Rosatom's own funds	**390.2**	145.0	9.2
from the federal budget	**32.6**	21.4	11.3
Total economy, bln RUB (%), of which:	***31.5*** **(6.94%)**	*19.7* (10.58%)	*1.4* (6.9%)
savings of own funds, bln RUB	**27.9 (6.7%)**	18.0 (11.0%)	0.9 (10.0%)
savings for the federal budget, bln RUB	**3.6 (10.1%)**	1.7 (7.3%)	0.5 (4.3%)

Findings of non-compliance in the procurement system in 2010–2011



Main conclusions of monitoring and analysis of the Rosatom procurement system by the Transparency International-R Center for Anti-Corruption Research and Initiatives: Evolution of the regulatory base at State Atomic Energy Corporation ROSATOM is towards lowering of corruption risk and lower probability of corruption.
The procurement system raises the level of information openness at the Corporation.

Efficiency improvements in procurement by Rosatom Corporation

Rosatom has reduced the list of special products, works and services for the nuclear industry, which are exempt from competition procedures. The Corporation approved standard documents for procurement procedures, and standard methodologies to examine and evaluate bids. Uniform selection and evaluation criteria have been adopted. The procedure for presenting reports on procurement has been simplified. The list of organizations whose procurement practices are controlled by Rosatom has been expanded to 350. The contracting procedure has been simplified for internal, industry-level suppliers and manufacturers making products which are strategically important for industry development.

Regular training is provided for purchasers, clients and suppliers: the Corporate Academy trained over 850 industry employees in procurement practices, and prepared a pamphlet and an interactive training program entitled “Becoming a supplier for the nuclear industry”.

The Company created an automated document flow management system for procurement in 2011 and carried out changeover to digital procurement. The unified industry procurement system included 219 nuclear industry companies in 2011, and 2,500 people worked in the system.

Methodological recommendations have been enacted on penalties and liability for non-compliance with procurement procedure at the Corporation and its companies.

The Company uses a “right-through” system of key performance indicators in procurement.

Cost cutting thanks to automated procurement processes included:

- reduced labor costs to generate internal reporting (regulations and analysis) and external reporting (for auditors and supervisors, including the Russian Nuclear Ministry, Ministry of Economic Development, Federal Board of Statistics, Federal Service for Defense Contracts, and the Corporation's Supervisory Council);
- lower labor costs to collect information from organizations, and for hard copy document flow, data coordination, validation, and integration, and building reports in required formats;
- lower labor costs for supervising and monitoring functions (prior to commissioning of the auditing system, an audit required a business trip by two inspectors lasting four days; now all materials and analytical information are immediately accessible);
- it is now possible to audit all organizations simultaneously from a workstation, thanks to standard-format reports and analysis of data on all relevant positions;
- the quality of purchase-related information has improved, resulting in fewer errors.

KEY EVENTS IN 2011

- Federal Law No. 223-FZ, dated 18.07.2011 "Procurement Products, Works, and Services by Corporate Entities of Specific Type" took effect;
- A Council was set up to improve transparency of Rosatom business, with the main objective of preparing and implementing joint decisions for greater transparency, minimizing corruption risks in procurement procedures, and ensuring rational control and improvement of the procurement system (one of the Council meetings presented the results of monitoring and analysis of the procurement system at Rosatom by the Transparency International-R Center for Anti-Corruption Research and Initiatives);
- holding forums for nuclear industry suppliers (ATOMEX North-West in St. Petersburg and ATOMEX 2011 in Moscow) to support dialog with suppliers and promote genuine competition;
- an audit by the Control Office of the Russian President recognized the procurement system at Rosatom to be highly efficient.

2.8.3. PLANS FOR 2012 AND THE MEDIUM TERM

FOR 2012:

As required under Federal Law No. 223-FZ, dated 18.07.2011, "On procurement of products, works, and services by corporate entities of specific types":

- adopt the updated version of the unified industry procurement standard for 350 companies and organizations of the nuclear industry;
- assist preparation of the following under Federal Law No. 223-FZ:
  - a procedure for posting purchase-related information on the official website;
  - a planning procedure for purchase of products, works, and services;
  - a list of products, works, and services to be purchased digitally;
- implement the sub-project, "Category strategies for various types of purchases, including internal purchases" as part of the project, "Optimizing the logistics system in the nuclear industry";
- conclude automation of the procurement process as regards public access to information about contract signing, modification, and execution;
- use the central procurement website, zakupki.gov.ru, for purchases financed by the Corporation;
- convert all purchases to digital format, integrated with internal accounting solutions;
- reduce costs of purchased products, works, and services per product unit by 10% annually.

OBJECTIVES FOR THE MEDIUM-TERM FUTURE:

- prepare a central procurement training system jointly with the Russian Ministry of Economic Development under Federal Law No. 223-FZ of 18.07.2011, "Procurement of products, works, and services by corporate entities of specific type", and provide lecturers and consultants for purposes of the training who are experienced in procurement for the nuclear industry.

2.9.

ROSATOM PRODUCTION SYSTEM

SERGEY OBOZOV
Director for Development of the Rosatom Production System

WHAT IS THE ROSATOM PRODUCTION SYSTEM?

The Rosatom Production System (RPS) succeeded the well-known "scientific work organization" approach and the techniques of the USSR Ministry of Medium Machine-Building, which enabled the nuclear industry to achieve multiple growth rates in efficiency. In addition, the RPS integrates and adapts some of the best practices from other contemporary methodology platforms, primarily the Toyota production system based on lean production, for the purposes of our industry.

So the RPS is a complex of ideology, principles, methodologies, and other specific tools to raise production and managerial efficiency of Rosatom Corporation and its constituents.

SO, FORMALLY SPEAKING, THE RPS COMES FROM JAPAN. ARE JAPANESE PRODUCTION SYSTEMS TRULY EFFICIENT?

Japanese experience is impressive, and we need to examine and adopt it. I am aware that this may sound strange in the light of recent events, but it is an undisputable fact: Japan is one of the global leaders in the nuclear power industry, a nation that can build nuclear power units in record-breaking time. Specifically, they have achieved 37 months from laying of the first concrete block to grid connection (power unit No. 6 at the Kashiwazaki-Kariwa NPP). It is interesting that their achievement used our experience in serial construction of Zaporozhye NPP.

The events of spring 2011 in Japan changed a lot, but they affected a different field – that of global perceptions of safety. Many relied on the probability approach before, but now we must operate in terms of absolute reliability.

WHAT IS CHANGING AT COMPANIES AS THE RPS IS IMPLEMENTED?

The main concept of phase one of RPS implementation is to reduce various types of losses: redundant human action, redundant shipments, loss of time when the employee is waiting for a part to arrive, redundant stocks (equivalent to frozen cash), unnecessary processing stages, rejects and corrections, and overproduction. These are the seven classic types of loss. Gains are made when we get rid of them, when we organize workplaces correctly, when we choose correct layout and configuration of equipment, and rational logistics.

IS THE RPS PROJECT SCHEDULED FOR ANY SPECIFIC TIME PERIOD?

The project has been developed at separate pilot sites for three years. We are pleased with the results: production efficiency at those sites is now 50% higher.

So if you ask me about the "specific time period", my answer is "forever". Phases may change. The three-year pilot stage is now over. The Corporation has established the Directorate for RPS Implementation. The objective for the next 18 months is to replicate the lead experience at all companies in the industry.

ARE EMPLOYEES READY TO ADOPT THE NEW SYSTEM?

Our experience with implementing the RPS has shown that when people learn about the system, even at the training stage, they get internally motivated to adopt the tools. Simply because it is human nature to seek higher personal efficiency. If the employee is honest, he or she will strive to keep his workplace in good order and to do high quality work.

At the same time, the objective is to modify effective regulations on incentives at companies, based on each employee's contribution to evolution of the company's production system. We considered specific best practices, and rewarded proactive employees, who were promoted. Regulations on incentives for the RPS have been adopted at some Corporation companies, for example Balakovo NPP, OJSC VNIINM, and AEHK.

2.9.1. GOALS AND OBJECTIVES OF THE ROSATOM PRODUCTION SYSTEM

THE MAIN GOAL OF THE RPS IS TO REDUCE ALL TYPES OF LOSS IN PRODUCTION AND BUSINESS PROCESSES, AND TO RAISE OPERATING EFFICIENCY OF THE CORPORATION'S ORGANIZATIONS AND COMPANIES.

Objectives of the RPS:
— optimizing production and business processes;
— developing methodological documents for diagnostics of the production management system and HR management system, as well as use of the process optimization toolkit;
— launching comprehensive programs to raise production efficiency at divisions (based on the results of diagnostics).

Implementation of the RPS uses a three-step strategy:
— keeping production sites clean and in order;
— building process flows;
— standardizing workplaces.

The strategy seeks to create an integral set of principles, methods and tools to optimize production.

In 2011, Rosatom Corporation established a Council for quality management, technical regulation, and metrology.
During the reporting period, the Council:
- approved a 2012–2013 program to develop joint regulatory technical documents of Rosatom and self-regulating organizations in the nuclear industry;
- prepared proposals for the draft of Federal Law No. 243819-5, "Changes to specific legal acts of the Russian Federation for safety regulation in use of nuclear energy";
- approved the Rosatom standards: "Accounting and control of nuclear materials. Requirements for nuclear material measurement programs", "Accounting and control of nuclear materials. Defining permissible inventory differences", "Requirements for supply and use of imported materials (semi-products) and components for nuclear power facilities".

IMPLEMENTATION STAGES FOR THE ROSATOM PRODUCTION SYSTEM

PREPARATORY STAGE (2008–2011)

The RPS has been implemented at the Corporation's organizations and companies since 2008. The first pilot sites were OJSC Machine-Building Plant (Elektrostal) and OJSC ZiO-Podolsk Machine-Building Plant (Podolsk).

The preparatory stage provided efficient tools to raise production output and reduce losses in production. Labor efficiency at various subdivisions of OJSC ZiO-Podolsk rose by 2-2.5 times, and time needed to optimize office processes was reduced by 2-4 times. OJSC MSZ reduced its warehouse inventory stocks by 20%.

By the end of 2011, the Corporation had 121 pilot projects implemented in 35 organizations.

IMPLEMENTATION STAGE (2011–2013)

The project for overall optimization of nuclear sector companies began in 2011 and is a continuation of the three-year preparatory stage, when the RPS was introduced at individual units and pilot areas. Specifics of the new project are its coverage (100% of industry companies in 2013), large scale transformation, and systematic adoption of success stories from RPS implementation.

Installation of Turbo-Unit K-1000-60/3000 at Kalinin NPP, Power Unit 4

Project start: April 2010.

Project end: June 2011

EFFECT OF THE RPS*

Production target	Period of RPS use	Result
517 days	450 days	Savings of 67 days

* Installation without temporary storage, parallel operation processes and production analysis.

2.9.2. MAIN RESULTS IN 2011

THE PRIORITY OBJECTIVE FOR 2011 WAS TO REDUCE THE DURATION OF PRODUCTION PROCESSES. SAVINGS FROM RPS IMPLEMENTATION IN 2011 AT THREE DIVISIONS ONLY WERE 2,445 MLN RUB.

Results for the year:

FUEL DIVISION	MACHINE-BUILDING DIVISION	ELECTRIC POWER DIVISION
• production space made available: 9,765 m² (up to 10% in some units), • warehousing space made available: 9,054 m² (up to 30% in some units), • production in progress reduced by 29% for gas centrifuges, and by 68% for the separation-sublimation complex.	• production space made available: 26,218 m² (up to 20% in some units).	• time of scheduled repairs at NPPs reduced by 70.5 days, • time to commission power unit 4 at Kalinin NPP reduced by 233 days

The Rosatom Strategy up to 2030, adopted in 2011, sets greater operating efficiency as a medium-term objective, targeting output increase of 40% by 2014 (compared with 2010). Implementation of the RPS is a way of achieving the target. In 2011 a project was launched for comprehensive production optimization at nuclear industry companies (scheduled to end in 2013). The project perimeter in 2012 covered 82 companies with 237 projects underway. Each project has specific goals for reducing duration of key processes, production in progress and warehouse inventory, raising output, cutting costs, etc.

2.9.3. PLANS FOR 2012 AND THE MEDIUM TERM

In 2012, Rosatom plans to approve comprehensive programs for higher production efficiency at its divisions.

The main objective for the comprehensive production optimization project in 2012, is to reduce duration of production-related engineering and business processes. The objective for 2013 is to cut production costs.

2,445
mln RUB savings from RPS implementation in 2011 at three divisions

>1,200
employees received training in the reporting year.

2.10.

INTERNAL CONTROL SYSTEM

ALEXANDER LOKTEV
Director of the Department for Internal Control and Audit

WHAT WERE THE MAIN EVENTS OF 2011 FOR YOU

One important event was approval last December by the Rosatom Governing Board of the Concept for development of the internal control system in 2011–2015. This will help us to build a reliable and efficient internal control system, and to raise management efficiency. Approval of an internal control policy for Rosatom and its companies, based on international standards was also important.

WHAT ARE THE UNDERLYING PRINCIPLES OF YOUR CORPORATE INTERNAL CONTROL SYSTEM?

We use traditional control principles, such as legal compliance, independence, objectivity, etc., and we have also adopted some new approaches: shared involvement, proactive attitude, and openness.

WHY DO YOU NEED TO UPGRADE THE INTERNAL CONTROL SYSTEM? AFTER ALL, THE NUCLEAR INDUSTRY ALWAYS HAD STRONG CONTROL FUNCTIONS.

The reasons are, firstly, the scale of our objectives to develop the nuclear power industry and establish ourselves on external markets. Secondly, after the many instances of financial reporting fraud, which have been exposed in major US and European corporations, the world is looking for ways of strengthening internal control in order to prevent fraud and secure investor confidence. This transition to new internal control formats (duplicating external controls, and controlling vital processes in operations and corporate development) goes hand in hand with active government policies to reset corporate control systems, and to develop new controls.

WHAT IS SPECIAL ABOUT THE INTERNAL CONTROL SYSTEM OF ROSATOM STATE CORPORATION COMPARED WITH THAT AT OTHER COMPANIES?

General rules exist that are used to build internal control systems in global corporations: they integrate administrative structures and processes, and use standards of control, auditing, and examination, etc. Naturally, we rely on the same rules, but we also consider the specifics of the nuclear industry. The control system we created has been highly acclaimed by the international professional community, including the UK Institute of Chartered Accountants.

Our specifics include involvement of our stakeholders in control procedures. For this purpose, we have various formats to interact with stakeholders, such as the Corporation's Central Arbitration Committee, a hotline, and a Transparency Council. Such institutions make the control system more dependable and better able to respond rapidly to non-compliance. They also reduce costs associated with internal control.

2.10.1. THE INTERNAL CONTROL SYSTEM OF ROSATOM STATE CORPORATION

The main document that regulates internal control at Rosatom is the Federal Law No. 317, dated 01.12.2007, "On State Atomic Energy Corporation ROSATOM".

The nature and principles of the internal control system as well as plans for its development in 2011–2015 are outlined in the Concept for development of the internal control system at Rosatom and its companies (approved 13.12.2011) and the Internal control policy of Rosatom State Corporation and its companies (approved 28.12.2011).

GOALS AND OBJECTIVES OF THE INTERNAL CONTROL SYSTEM

The purpose of the internal control system is to help achieve strategic goals and good corporate governance at Rosatom Corporation, and to ensure uniform control of the Russian nuclear industry. A specific aim is to support corporate governance mechanisms, primarily controls, in an adequate state to respond to the changing external and internal environment.

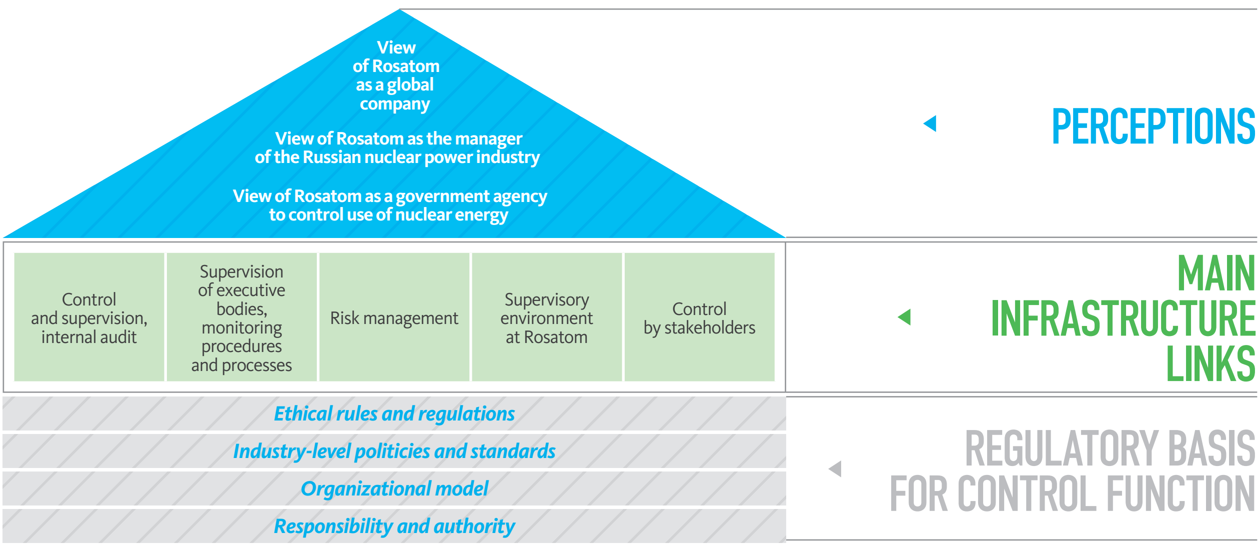
The system of internal controls is expected to undergo major changes in the near future, enhancing control mechanisms by application of new control technologies, and upgrading of those already in use.

SUBJECTS AND OBJECTS FOR CONTROL

The internal control system (ICS) at Rosatom Corporation is mainly exercised by the Supervisory Board, Audit Committee, Chief Executive Officer, Governing Board, collegiate bodies of control (including the Control Committee), and institutions for stakeholder engagement (such as the Central Arbitration Committee), as well as by management and the Internal Control and Audit Department. Control is also exercised by specialized bodies at Rosatom organizations, corporate governance bodies, and auditing panels at corporate entities whose stock is held or controlled by the Corporation, and at their affiliates and subsidiaries.

The objects of control are Rosatom State Corporation and its companies, their structural subdivisions, and the activities they pursue.

INTERNAL CONTROL SYSTEM



2.10.2. RESULTS IN 2011

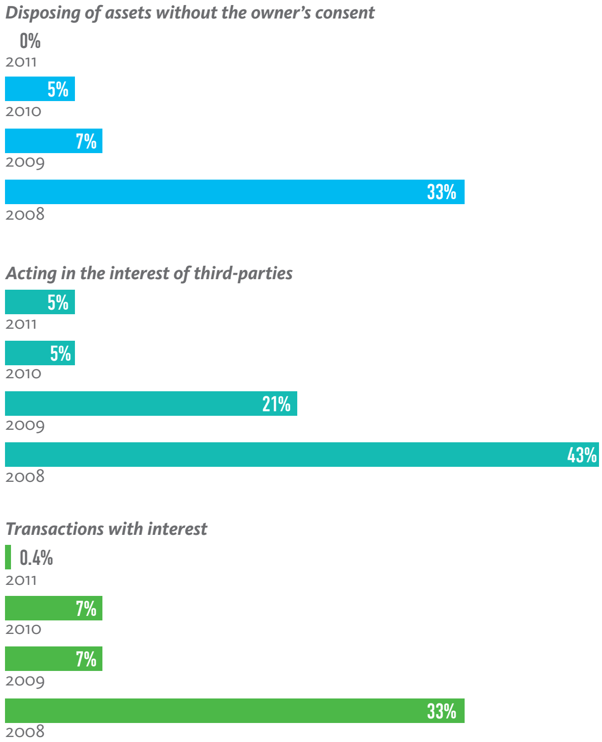
INTERNAL CONTROL AND AUDIT

A vertical system of internal control dedicated bodies, consisting of 191 employees in 27 organizations, is responsible for the exercise of internal control at Rosatom.

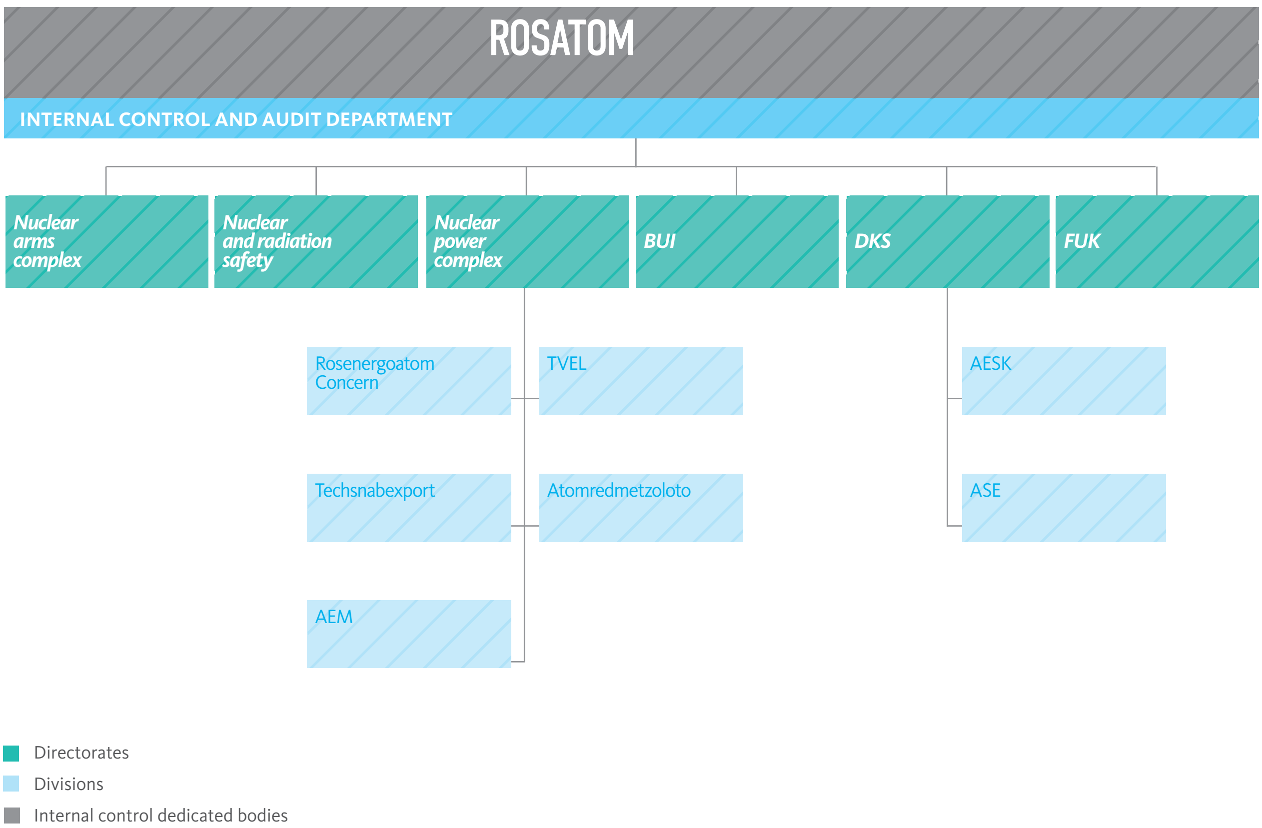
Work carried out by these specialized bodies in 2011 included 449 audits and 83 annual reviews at subsidiaries and affiliates (57% more than in 2010). In total some 30% of Corporation companies were audited. Findings confirmed a steady reduction in instances in non-compliance with proper financial and business practice, including fewer cases of corruption.

The Corporation takes cases of non-compliance very seriously: in 2011, 254 individuals were held to account, including dismissal of 22 top executives•.

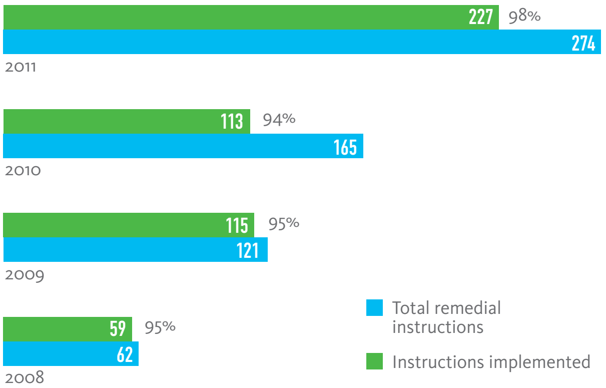
VIOLATIONS INVOLVING CORRUPTION



A VERTICAL SYSTEM OF INTERNAL CONTROL DEDICATED BODIES



NUMBER OF REMEDIAL INSTRUCTIONS ISSUED BY ROSATOM AND IMOLEMENTED, AS FOUND BY CHECKS AT SUBSIDIARIES AND AFFILIATES IN 2011



Violations and failures are addressed and eliminated using a list of binding instructions from the CEO of Rosatom, as well as reports by the Control Committee and Chief Controller. A total of 622 instructions were issued in 2008–2011, 274 of which in 2011 alone.

Adhering to the transparency principle, the Corporation is involving ever more stakeholder representatives in its control activities. In April 2011, the Transparency Council was formed from representatives of the Federal Duma, the Federal Audit Chamber, the Chamber of Commerce, and non-profit organizations.

These measures have helped to improve the transparency of business transactions and decision-making, and to ensure that actions, which contradict the interests of the government and Rosatom, as well as other misguided acts are avoided.

CONTROL BY STAKEHOLDERS

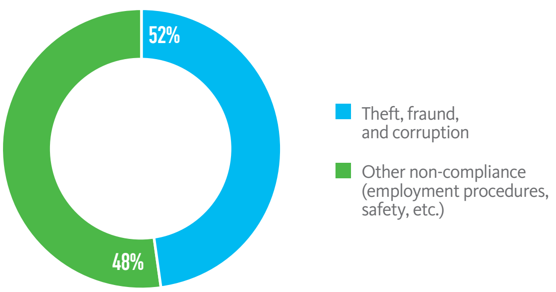
During 2011, the Central Arbitration Committee examined 657 claims from suppliers alleging violation of the uniform industry-level procurement standard. 257 claims (39%) were recognized as valid, preventing violations of the standard with respect to 28% of clients.

A hotline, available since 2010 enables any employee or individual to confidentially report facts of theft, fraud or other abuse. In 2011, the hot line received 281 reports, and responded to all of them.

The hotline proved helpful in detecting theft with potentially dangerous consequences, and generally in prevention of theft and abuse.

"Hotline"
Free call: 8 (800) 100-07-07.
Email: 0707@rosatom.ru.
Website URL:
http://www.rosatom.ru/wps/wcm/connect/rosatom/rosatomsite/employee/theft/.

BREAKDOWN OF STATEMENTS RECEIVED VIA THE HOTLINE (BY ISSUES)

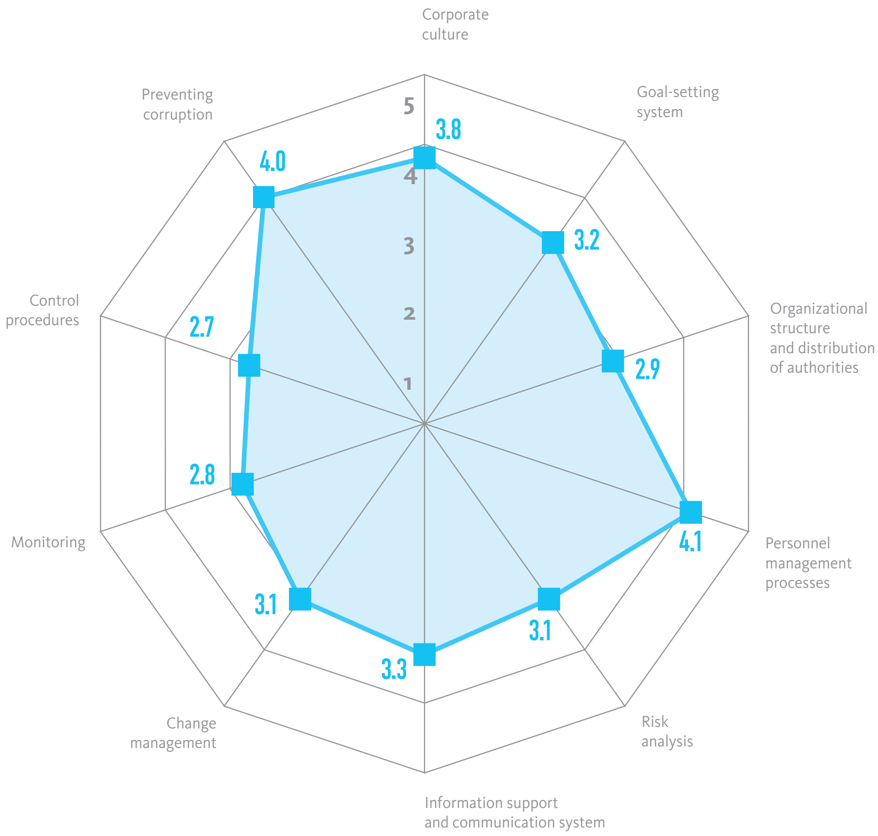


ASSESSMENT OF FINANCIAL CONTROL EFFICIENCY

An expert report by the Federal Science Research Institute of Systems Analysis (subject to the Federal Audit Chamber), based on a review of the Rosatom auditing methodology, showed efficiency of internal financial controls and mechanisms for preventing corruption at Rosatom and its companies, as the internal control system (ICS) has most of the features that are needed in order to carry out its tasks. The integrated efficiency ratio for performance of internal controls was 3.5 on a scale of 5.

Independent assessment by LLC IBS Expertiza found the Corporation's ICS to be properly regulated and found that elements such as anti-corruption and personnel management processes, which are directly related to the level of financial and business discipline, scored the highest points.

EVALUATION OF THE INTERNAL CONTROL SYSTEM



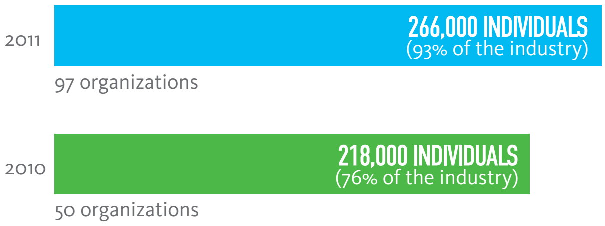
PLANS FOR 2012 AND THE MEDIUM TERM

— design of internal regulations to implement the Concept for development of the internal control system of Rosatom State Corporation and its companies;
— raise internal control of processes to a level that enables rapid and efficient response to risks;
— implement internal financial audit of budget funds (under the Russian Budget Code), and create a subdivision to perform the relevant function;
— implement a program to raise the quality of internal control and audit;
— implement a mechanism for comprehensive assessment of internal control systems (self-assessment, internal and external assessment) to measure efficiency, adequacy, and relevance;
— replication of the ICS in divisions and subdivisions;
— establish an inter-departmental experimental methodological site to create test samples and standards for internal control systems as part of the transformed vision of government control in corporate ICS of companies where the government is a stockholder.

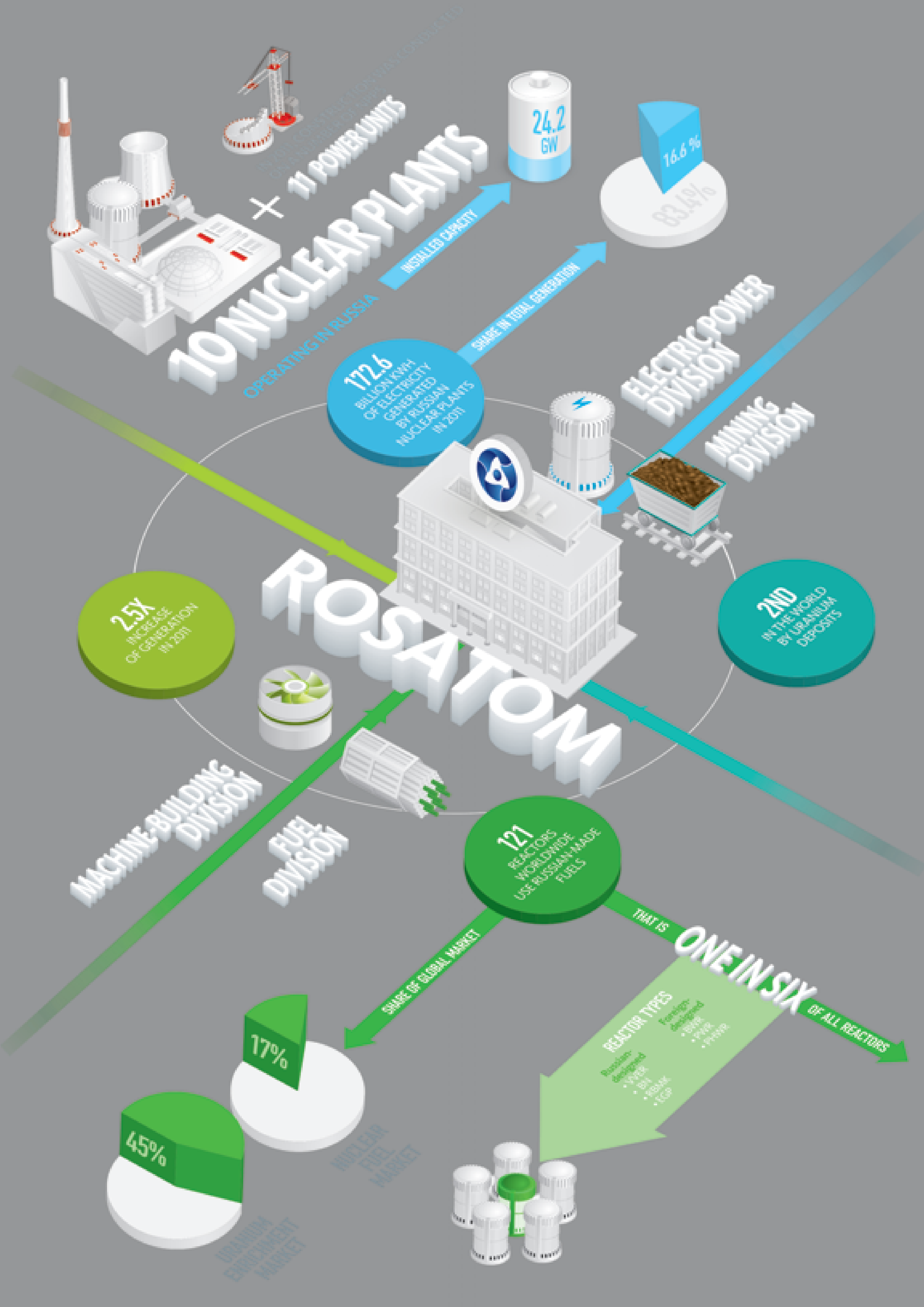
2.10.3. INTEGRATED PROGRAM TO COMBAT THEFT AND FRAUD IN 2010–2011

In the reporting year, implementation of the Integrated Program to combat theft and fraud in 2010–2011 (the Program) was completed. Under the Program, the Company set up a hotline, launched an awareness campaign to create an atmosphere of good faith, and deployed security and control hardware worth 1.05 bln RUB. The Program gave savings of more than 0.5 bln RUB in 2011.

COVERAGE OF AWARENESS ACTIVITIES*

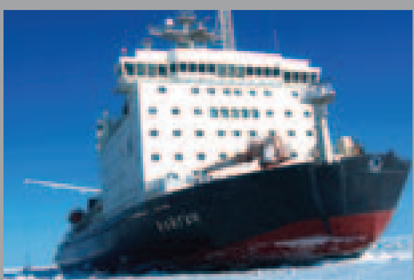


* Number of people employed by the Corporation.


10 NUCLEAR PLANTS
+ 11 POWER UNITS
OPERATING IN RUSSIA
INSTALLED CAPACITY
24.2 GW
SHARE IN TOTAL GENERATION
16.6 %
83.4%
172.6 BILLION KWH OF ELECTRICITY GENERATED BY RUSSIAN NUCLEAR PLANTS IN 2011
ELECTRIC POWER DIVISION
MINING DIVISION
ROSATOM
2.5X INCREASE OF GENERATION IN 2011
2ND IN THE WORLD BY URANIUM DEPOSITS
MACHINE-BUILDING DIVISION
FUEL DIVISION
121 REACTORS WORLDWIDE USE RUSSIAN-MADE FUELS
THAT IS
ONE IN SIX
OF ALL REACTORS
SHARE OF GLOBAL MARKET
17%
NUCLEAR FUEL MARKET
45%
URANIUM ENRICHMENT MARKET
REACTOR TYPES
Russian-designed
• VVER
• BN
• RBMK
• EGP
Foreign-designed
• BWR
• PWR
• PHWR

3. OPERATING RESULTS

Rosatom is responsible for implementing national nuclear energy policy; it is a multi-purpose company with assets in every link of the nuclear power and related industry chains: from geological exploration and uranium mining, nuclear plant design and construction, machine-building, generation of heat and electricity, enrichment and conversion of uranium products, and fuel manufacture, to decommissioning of nuclear facilities for recycling of used nuclear fuels and radioactive waste.



3.1. PERFORMANCE OF GOVERNMENT FUNCTIONS

TATYANA YELFIMOVA
Deputy CEO for Government Functions and Budgeting, State Secretary

IN JULY 2011, A FEDERAL LAW TOOK EFFECT ON HANDLING OF RADIOACTIVE WASTE. WHAT ARE THE FUNCTIONS OF ROSATOM STATE CORPORATION IN THE EMERGING SYSTEM OF WASTE HANDLING?

Rosatom has been put in charge of radioactive waste dumps owned by the Federal Government, as well as government accounting and control of radioactive waste, including registration of waste and storage facilities, approval of radioactive waste generation estimates for organizations, and financing of activities to bury waste generated by operators of highly hazardous radiation and nuclear facilities. Supervision remains the function of the Federal Service for Environmental, Technological, and Nuclear Supervision, as previously.

UNDER THE FEDERAL LAW, THE COST OF WASTE STORAGE IS BORNE BY THE PARTY THAT GENERATES THE WASTE. HOW WILL BURIAL OF WASTE FROM THE SOVIET ERA BE FINANCED?

The legal status of radioactive waste was a problem before now. But the new Law clearly states that radioactive waste generated before the Law came into force is owned by the Federal Government, while newly generated waste is owned by the organization that produced it.

HOW WILL FINANCING OF FEDERAL TARGET PROGRAMS BE SPENT?

The nuclear and radiation safety program up to 2015 addresses the most acute problems inherited from the Soviet nuclear project. The aim of the next program will be to prevent new problems rather than cure old ones. This means the creation of long-term storage facilities and dumps, which are advanced and safe. This is an innovative approach, and is globally unique.

WHAT IS THE OUTLOOK FOR DESIGN OF A FEDERAL LAW ON HANDLING OF USED NUCLEAR FUEL (UNF)?

Attitudes towards used nuclear fuel are a major issue. Different practices exist globally regarding the status of UNF as part of the next production stage. Some countries simply regard used fuel as waste (and deal with it as with radioactive waste); others believe that UNF is a product for the next production cycle. I can only say that any talk of a legislative solution is premature until we have decided how to classify UNF.

WHAT OTHER LEGAL REGULATION IS NEEDED TO HELP THE INDUSTRY'S FUTURE GROWTH?

In addition to the UNF Law, we need a basic law on government regulation of safety in the use of nuclear energy, although we do already have a Law on technical regulation that contains such requirements. The nuclear industry is adopting more stringent safety standards that must be legislated.

Another issue of no less importance is better ordering of the industry audit system. Audits are a must, but they should not be time-consuming to the extent that they handicap operations. Therefore, the system of control and supervision should be transformed to a 'one window' principle, if I can put it like that.

The nuclear arms complex presents a different set of challenges. Nowadays nuclear arms companies also make a lot of civilian products, and they also market their products, but the set of rules that govern them have not changed since the Soviet period; naturally, this makes engagement in business more difficult for nuclear arms companies.

I hope that these bills – on used fuel, the nuclear arms complex, and government regulation of safety – will help us to build a core for future nuclear legislation, a sort of legal code for the nuclear industry.

UNDER FEDERAL LAW NO. 317, DATED 01.12.2007, "ON STATE ATOMIC ENERGY CORPORATION ROSATOM", THE CORPORATION WAS ESTABLISHED AND OPERATES WITH THE PURPOSE OF ENFORCING NATIONAL POLICY, STANDARDS AND LEGAL REGULATION, PROVIDING GOVERNMENT SERVICES, MANAGEMENT OF GOVERNMENT ASSETS FOR USE OF NUCLEAR ENERGY, DEVELOPMENT AND SAFE OPERATION OF ORGANIZATIONS IN THE NUCLEAR POWER GENERATION AND NUCLEAR ARMS COMPLEX OF THE RUSSIAN FEDERATION, TO ENSURE NUCLEAR AND RADIATION SAFETY, NON-PROLIFERATION OF NUCLEAR MATERIALS AND TECHNOLOGIES, PROMOTION OF NUCLEAR SCIENCE, ENGINEERING, AND OCCUPATIONAL TRAINING, AND INTERNATIONAL COOPERATION IN THE NUCLEAR FIELD.

3.1.1. LEGAL REGULATION

Intensive development of the nuclear power industry in recent years, and wider application of nuclear technologies and services have required equally intensive amendments to legislation.

In 2011, Russia adopted three federal laws to support the operations of Rosatom State Corporation, as well as four laws on government control over the use of nuclear energy, one law authorizing the Corporation as an agent for the government as client, six laws to ensure safe use of nuclear energy, four on international cooperation, and one federal law that regulates competitive sales of generating capacity on the wholesale market for electric energy (generating capacity).

Overall, Rosatom prepared and enabled the passage of more than 60 regulatory legal acts to support the functions of the Corporation and development of the nuclear industry (see the report by Rosatom State Corporation to Federal Government).

Federal Act No. 190, dated 11.07.2011, "On handling of radioactive waste and modifications to specific legal acts of the Russian Federation" opened a new stage in evolution of the nuclear industry and enforcement of nuclear and radiation safety, addressing issues connected with burial of both newly generated and previously accumulated radioactive waste. This is the first Russian legal act to regulate the end stage in the life cycle of nuclear power facilities. Federal Law No. 347, dated 30.11.2011, "On changes to specific legal acts of the Russian Federation for regulation of safe use of nuclear energy" is a momentous step in evolution of government regulation of safe use of nuclear power. It aims to ensure maximum safety in the use of nuclear energy.

3.1.2. FULFILLMENT OF INSTRUCTIONS FROM THE RUSSIAN PRESIDENT AND GOVERNMENT

In 2011, Rosatom State Corporation carried out the following instructions issued by the Russian President and the Federal Government:

- instructions from the President and the Federal Government to reduce the cost of purchased products, works, and services per product unit by at least 10% annually for three years in real terms. Actual cost reductions in Q4 2011 were 5.75%, exceeding the target of 2.5%;
- instructions from the Russian President following a meeting of the Presidium of the State Council of the Russian Federal. Based on the instructions, Federal Law No. 347, dated 30.11.2011,"On changes to specific legal acts of the Russian Federation for regulation of safe use of nuclear energy" was enacted, and a draft law, "On changes to specific legal acts of the Russian Federation for regulation of environmental safety in the use of nuclear energy" was prepared;
- instructions of the Russian President on cooperation with Japan in the field of nuclear power safety, including response to the disaster at the Fukushima-1 Nuclear Power Plant. In response, the Corporation prepared specific proposals for improvements to the international legal system for ensuring nuclear safety, which were subsequently approved by the Russian President and dispatched to the leaders of the CIS, G8, BRIC, and the Head of the IAEA. The proposals were also integrated in the relevant section of the final Declaration of the G8 Summit Meeting in Deauville (see the Report section, "International Cooperation");
- Instruction No. VP-P17-344 issued by the Prime Minister on 17.05.2010. Responding to the Instruction, the Corporation developed a base document for nuclear and radiation safety jointly with relevant federal executive agencies, entitled "Foundations of national policy to ensure nuclear and radiation safety in the Russian Federation up to 2025", which was approved by the Russian President;
- instructions issued by the Prime Minister on provision of statements of income and asset-related liability of corporate executives in government-owned organizations. In response to the instructions, declarations were presented by executives of Rosatom State Corporation, organizations and companies of the industry, and members of their immediate families;
- instructions issued by the Prime Minister to ensure transparency of business and financial transactions, including prevention of conflict of interests and other abuse of office. In response to the instructions, the Corporation implemented the IT system, "Counterparty Management" to store information on counterparties and beneficiaries of Rosatom State Corporation and its companies. The system is updated monthly.

3.1.3. INTERACTION WITH THE RUSSIAN FEDERAL ASSEMBLY

Rosatom State Corporation cooperated with the Federal Assembly in monitoring of over 80 draft laws during 2011. As part of this work, 31 bills were amended and 29 were passed.

The Corporation's representatives participated in nine roundtables, seven parliamentary sessions, 40 meetings of committees, panels and expert boards of the Federal Assembly, and 13 international and inter-regional forums and congresses.

Representatives of Rosatom State Corporation, the Federal Assembly, and Russian administrative regions made a joint visit to France to discuss legal regulation of the handling of radioactive waste and used nuclear fuel.

The Corporation took part in a working meeting of the Federal Duma with representatives of the US High Commission on America's Nuclear Future (the "Blue Ribbon Commission"), which was set up under the US Ministry of Nuclear Energy.

The Corporation also attended a joint meeting of MPs from Russia and North European nations (Denmark, Finland, Norway, Iceland, Sweden, Greenland, the Alan Islands, the Faroes) to discuss issues associated with the nuclear power industry in Northern Europe.

The Federal Duma Committee for Nuclear Power held a field meeting at Kursk NPP, and two working visits were arranged for the Deputy Chairman of the Federal Duma to the Novovoronezh and Kolsky NPPs.

The work plan for 2012 includes 19 joint activities with the Federal Duma, Federal Assembly, and the Association of Closed Administrative Territories. Representatives of Rosatom, the Federal Assembly and Russian administrative regions will visit countries with a developed nuclear power industry and with experience in handling of radioactive waste and spent nuclear fuel (Belgium, Germany, Sweden, Finland, and France).

3.1.4. ALLOCATION OF BUDGET FUNDS

Rosatom State Corporation is authorized to act as chief budget manager for the nuclear industry in Russia, carrying out budget accounting for the Russian Federal Treasury.

Rosatom is the chief administrator of budget revenues, including proceeds from exports of highly enriched uranium and the raw material content of low-enriched uranium.

The function of chief budget manager, entrusted to Rosatom State Corporation, enables better control of budget spending by the Russian Ministry of Finance and the Russian Audit Chamber, and raises the efficiency of budget management.

Under the 2010 Action Plan to implement the Federal Government Program for efficient budget spending in the period until 2012, approved by Federal Government Decree No. 1101-p, of 30.06.2010, Rosatom State Corporation prepared and approved a plan for higher efficiency of budget spending in 2011 and during 2012–2013. The related 2011 progress report was submitted to the Federal Government.

FEDERAL BUDGET FUNDS RECEIVED BY ROSATOM STATE CORPORATION IN 2011, MLN RUB

Type of spending	Amount received
FEDERAL BUDGET, TOTAL	**140,446.7**
incl.*:	
contribution in kind	92,423.5
contribution to registered capital	1,515.0

* Only separate cost types are stated.

3.1.5. IMPLEMENTATION OF FEDERAL TARGET PROGRAMS

During 2011 companies and organizations of Rosatom State Corporation supported activities listed in section I "Nuclear power industry" of part 3 "Development of the nuclear power industry complex" of the Long-term Action Program for Rosatom State Corporation (2009–2015), and also assisted implementation of 7 open federal target programs and 3 closed federal target programs (FTPs).

In accordance with Federal Law No. 357, dated 13.12.2010, "On the Federal Budget for 2011 and for the 2012 and 2013 planning periods", allocated financing in 2011 for open FTPs and for section I "Nuclear power industry" of part 3 "Development of the nuclear power industry complex" of the Long-term Action Program for Rosatom Nuclear Power State Corporation (2009–2015) amounted in 2011 to 89,140.7 mln RUB. Co-financing from the budgets of administrative regions of the Russian Federation and from local budgets is expected to be 142.0 mln RUB, with 107,454.9 mln RUB to be received from off-budget funds.

IMPLEMENTATION OF FEDERAL TARGET PROGRAMS IN 2011

FTP	Actual financing, total, mln RUB.	of which: from the Federal Budget, mln RUB	from budgets of administrative regions, mln RUB.	from off-budget sources, mln RUB.	Implementation of FTP in the reporting period, %	of which: From the Federal Budget,%	from the budgets of federal subjects,%	from off-budget sources, %
Ensuring nuclear radiation safety in 2008 and up to 2015	**1,5471.1**	13,683.3	142.0	1,645.8	**101.1**	99.8	100.0	113.0
Sub-program, "Industrial recycling of nuclear submarines, nuclear-powered surface ships and nuclear maintenance boats, and rehabilitation of facilities which represent a radiation hazard in 2011-2015 and up to 2020"	**7,665.7**	3,114.9	–	4,550.8*	**88.3**	100.0	–	81.8
Fire safety in the Russian Federation up to 2012	**14.0**	14.0	–	–	**100.0**	100.0	–	–
National technology basis for 2007-2011	**1189.1**	511.0	–	678.1	**116.4**	100.0	–	132.7
Next-generation nuclear power technologies for 2010-2015 and up to 2020	**6,779.3**	5,904.5	–	874.8	**100.0**	100.0	–	100.2
Developing the pharmaceutical and medical industry in the Russian Federation until 2020 and beyond	**48.2**	39.2	–	9.0	**77.7**	91.1	–	47.4
Developing the electronic component and radio electronics industries in 2008-2015	**631.1**	400.0	–	231.1	**100.9**	100.0	–	102.7
R&D in priority areas of Russian science and technology in 2007-2013	**65.4**	65.4	–	–	**100.0**	100.0	–	–

* All funds from off-budget sources are provided under international technical assistance programs.

Under all FTPs, work planned for 2011 was accomplished in full.

3.1.6. MANAGEMENT OF GOVERNMENT ASSETS

In its role as a manager of Government assets, Rosatom State Corporation conducted monitoring of Federal Government property entitlements in respect of federal state unitary enterprises (SUEs), and regulated use and ownership of land.

Government ownership titles were registered for 19,184 asset items, representing 99.2% of the total, for which such registration was required.

As of December 31, 2011, a total 19,347 items of real estate were in use by SUEs, but registration was not available for 162 items. Government titles will be registered for at least 136 more items in 2012.

3.1.7. PROTECTING CLASSIFIED INFORMATION. ENSURING SECURITY AT NUCLEAR ENERGY SITES. CONTROL AND ACCOUNTING OF NUCLEAR MATERIALS

The Corporation carried out work in 2011 to organize safe functioning of nuclear industry facilities and companies in fulfillment of its duties to guard classified government information and prevent unauthorized access to nuclear energy sites. Audits by relevant supervisors during the reporting period found no instances of non-compliance.

In 2011, Rosatom conducted ten audits to assess the efficiency of classified information protection. Seven internal investigations were carried out in connection with violations of rules for classified information. Industry companies carried out six special audits to check efficient protection of classified information.

In 2011, as part of work to protect classified information, a group was established to enforce the instructions and decisions of supreme federal agencies with respect to issues within the Corporation's competence. During 2011, 504 instructions were added to the group's monitoring list.

12 audits were carried out to assess levels of site security at industry organizations. The levels of security were generally compliant with applicable requirements. Industry companies registered no instances of theft of nuclear materials or unauthorized entry to restricted areas with malicious intent during 2011.

In its Government-authorized function to ensure safe use of nuclear energy, Rosatom State Corporation ensured that all its nuclear power facilities operated during the reporting period without compliance failures above class 2 on the INES scale (see the Report section, "Ensuring Nuclear and Radiation Safety").

272 certificates were issued allowing transportation of nuclear materials, radioactive substances and products. Government control is exercised on a continuous basis to ensure safe shipments of nuclear materials, radioactive substances, and products made from them with the exception of nuclear materials.

During 2011, Rosatom State Corporation issued 68 licenses to organizations engaged in use of nuclear materials and radioactive substances for defense purposes.

In the reporting year, the Corporation prepared a federal registry of nuclear materials owned by the Federal Government, a list of nuclear materials owned by Russian corporate entities, and a list of such materials owned by foreign governments and corporate entities resident in Russia.

In 2011, the Corporation issued ten statements validating operators of nuclear plants, including six validations to organizations within the Corporation itself.

In its Government-assigned function to control national reserves of special and fissionable materials, the Corporation accomplished all activities for maintenance, servicing, and restocking of the national reserves of special and fissionable materials, in compliance with rules for protection of confidential information, protection of classified information, physical protection of nuclear materials, and nuclear, radiation, engineering, and fire safety. 11 audits were carried out to inspect accounting and control of nuclear materials in industry organizations, and no compliance failures were identified.

3.2.

NUCLEAR WEAPONS COMPLEX

IVAN KAMENSKIKH
First Deputy CEO, Head of the Directorate for the Nuclear Arms Complex

WHAT ARE THE OBJECTIVES OF THE CURRENT REFORM IN THE NUCLEAR ARMS COMPLEX?

The Rosatom Program, "Transformation of the nuclear arms complex", targets reduction of employee numbers in the complex to 27,000 by 2020. A required number of core companies will be retained to ensure national defense objectives, while other companies will migrate to conventional arms using dual technologies and conversion products.

The main purpose of the reform is to reduce costs. We need to work on the principle that people must be properly paid for productive work carried out using high-quality technologies and equipment. This is unrealistic unless we change our attitude to costs. At the same time, managers of sector enterprises must fully assume their responsibility: new jobs need to be created. Municipal governments and major local employers must work together to create a supportive environment for private businesses, using the infrastructure, human resources and production capacity made available by release of employees.

The personnel issue is a difficult one. To date we have created about 1,500 jobs and saved another 500 jobs by development of projects in the fuel and energy complex, medicine, automation of production management, super-computers, and a transportation energy module based on nuclear engines of megawatt class. But there are major challenges ahead: we will need to find employment for about 7,000 individuals in the years to come. One of the most difficult problems is restricted access to Closed Administrative Territories: this seriously handicaps the development of local business, particularly business with foreign involvement.

WHAT OTHER DIFFICULTIES DO YOU FACE?

Our experience as businessmen is limited, because the nuclear industry has generally worked to government orders. A mentality that has evolved over decades is hard to change. However, our personnel are highly intelligent people and I am optimistic that we will learn to earn money instead of having it allocated to us. There has already been significant progress in that direction.

WHAT ARE YOUR PLANS FOR 2012?

In addition to the usual 100 percent execution of the Federal Government defense contract, we will also need to increase the proportion of other products. We have set high targets for revenue and output in the civil sector, partly so that we can use that money to increase the paychecks of our employees.

3.2.1. NUCLEAR DETERRENCE POLICY

MAINTENANCE OF RUSSIA'S NUCLEAR ARSENAL ON A SCALE AND LEVEL OF TECHNICAL/TACTICAL QUALITY THAT ENSURES EFFECTIVE NUCLEAR DETERRENCE IS ONE OF THE KEY OBJECTIVES OF ROSATOM STATE CORPORATION. IT IS ACHIEVED BY THE ACTIVITIES OF THE NUCLEAR ARMS COMPLEX (NAC).

For more than 65 years, nuclear and thermonuclear weapons have not been used in warfare. After the global community understood the dangers associated with such weapons and after USSR-US nuclear parity was established, the process began of reducing and limiting nuclear arsenals. An important step along this road was taken when the Russian Federation and the United States signed a Treaty on Reduction of Strategic Offensive Weapons in 2010.

Despite the positive trend towards reduction of strategic offensive weapons, there are threats related to international terrorism and growing membership of the nuclear club. A reliable nuclear shield is therefore crucial for guaranteeing national security.

3.2.2. FEDERAL TARGET PROGRAMS

FEDERAL TARGET PROGRAMS IMPLEMENTED BY THE NAC ARE AS FOLLOWS:

- Development of the nuclear arms complex of the Russian Federation in 2007–2015 and up to 2020;
- Development of the defense industry of the Russian Federation in 2011–2020;
- Design, restoration and installation of strategic production, production of materials in short supply, of import substitutes, and of small-batch chemicals for weapons and special military application in 2009–2011 and up to 2015;
- Industrial recycling and disposal of weapons and military equipment of the nuclear arms complex during 2011–2015 and up to 2020;
- Development of the electronic components and radio electronics industries in 2008–2015;
- Next-generation nuclear power technologies in 2010–2015 and up to 2020, etc.

Implementation of the above programs involves 26 companies. All assigned targets and reference indicators for 2011 were fully achieved.

Rosatom is addressing a range of interrelated objectives in current FTPs: upgrading and optimizing experimental production and technology, creating human resource potential, and retaining skilled employees. Federal budget funds and the funds of contractor companies assigned for these and other defense-related programs with Rosatom involvement were fully investedin as intended in 2011.

3.2.3. IMPROVING THE EXPERIMENTAL, TESTING, AND PRODUCTION TECHNOLOGY BASE OF THE NAC

IN 2011, DEVELOPMENT OF THE NAC'S EXPERIMENTAL TESTING AND PRODUCTION TECHNOLOGY BASE WAS FOCUSED ON MAINTENANCE AND SUPPORT OF THE NUCLEAR ARSENAL.

WORK TO IMPROVE THE NAC PRODUCTION BASE INCLUDES:

- *Implementing full-scale mathematical modeling with super-computers*
- *Developing dual technologies to increase output of civil products*
- *Developing low-manpower technologies*
- *Creating centers for joint use of the experimental production and IT base*

3.2.4. CONTRIBUTION TO THE CIVIL SECTOR

The NAC makes major contributions to development of the science and civil sectors of the Russian economy, being one of the main sources of innovation for the civil nuclear sector.

NAC companies carry out fundamental research in the field of ultra-high energy, pressure, and temperature, ultra-dispersed and nano-structured materials, as well as applied research in nuclear medicine. Projects are being developed for reactor units to be used in long-distance space travel. The NAC also builds laser units and super-computers for various purposes.

Main consumers of civil products of the NAC are the nuclear industry, as well as the oil and gas, railway and automotive industries.

SUPER-COMPUTERS

Creation of super-computers is a crucial part of the effort to modernize the Russian economy. This high-tech project makes Russia less dependent on foreign equipment manufacturers and supports the development of Russia's scientific research potential.

In 2011, non-military products accounted for 21% of total sales by NAC companies.

3.2.5. MAIN RESULTS IN 2011

CARRYING OUT THE FEDERAL GOVERNMENT DEFENSE CONTRACT

During the reporting year, NAC companies fulfilled 100% of the Federal Government defense contract to develop, upgrade, deliver, and maintain special-purpose products and military power units in usable and safe condition, as well as dismantling and disposing of weapons and military equipment, and observing the obligations assumed by the Russian Federation under international treaties.

In February 2011, a petaFLOP-class super-computer was commissioned, assuring Russia a place among the top 10 global leaders in super-computer manufacture. Computing capacity of the super-computer system with aggregate output of 320 Tflops have been allocated to meet the needs of the civil economy.

By the end of 2011 access to the super-computer had been granted to 36 organizations in the nuclear power, aviation, automotive, and aerospace industries (more than 1,000 users). Russian program packages were created to carry out modeling on the super-computer (LOGOS, LEGAC-DK, NIMFA, DANKO-GEPARD, TDMCC), covering at least 80% of the main classes of industry. Computing performance was at best global levels measured by several indicators, such as efficiency in multisequencing computations for complex technical systems (up to 10,000 computing cores).

In 2011, the Corporation received 38 certificates of state registration for computer programs. Russian software packages were verified and validated at companies in strategic sectors, and more than 10,000 calculations were carried out to confirm accuracy of the physics and mathematical models which had been developed.

In 2011, Rosatom developed a draft design for a reactor unit for a transportation power module with a megawatt-class nuclear propulsion unit (see the Report section, “Science and Engineering Complex”).

NAC RESTRUCTURING

NAC companies worked actively in 2011 to implement the efficiency program, “Transformation of the nuclear arms complex of Rosatom State Corporation”. Labor productivity was increased by 23% as a result.

Overall NAC companies have achieved the following results during the last five years:

BY 4.5 TIMES FINANCING OF THE MATERIALS AND EQUIPMENT BASE HAS BEEN INCREASED	BASE AND CRITICAL NUCLEAR TECHNOLOGIES ENSURING COMPETITIVENESS OF RUSSIA'S NAC HAVE BEEN MAINTAINED	BY 2.6 TIMES THE SHARE OF EQUIPMENT WITH SERVICE LIFE UP TO 10 YEARS HAS INCREASED	BY 3.3 TIMES EMPLOYEE PAYCHECKS HAVE INCREASED

3.2.6. ENSURING NUCLEAR AND RADIATION SAFETY

After the Fukushima events, NAC companies carried out additional audits of nuclear and radiation safety. The results confirmed the reliability of NAC nuclear power facilities. Also during the reporting year, NAC companies carried out scheduled work to improve levels of nuclear, radiation and environmental safety, and health & safety measures.

3.2.7. PLANS FOR 2012 AND THE MEDIUM-TERM

In 2012, NAC companies plan to:

— implement the program “Transformation of the nuclear arms complex of Rosatom State Corporation” in order to make the NAC into a highly efficient structure;
— carry out 100% of tasks assigned under the government defense contract;
— develop a regulatory base for NAC companies to go private in the future;
— ensure growth in output of civil-use products by NAC companies;
— continue implementation of FTPs;
— carry out projects of the Russian Presidential Commission for Upgrading and Technological Development of the Russian Economy: “Development of super-computers and grid technologies”; and “Creation of a transportation power module based on a megawatt-class nuclear power unit”;
— develop a program for interaction between Rosatom and the Federal Space Agency to support innovative industrial development.

3.3.

NUCLEAR ICEBREAKER COMPLEX

VYACHESLAV RUKSHA
Chief Executive Officer, Atomflot State Unitary Enterprise

WHEN WILL RUSSIA RECEIVE A NEW GENERATION OF ATOMIC ICEBREAKERS?

In 2012, the Russian Government signed a decree, "On Federal Budget investments for construction of the principal all-purpose atomic icebreaker". The plan is to commission the first icebreaker in 2018, with a total of three all-purpose atomic icebreakers to be built. They will be commissioned at intervals of two years.

WHAT SOURCES WILL BE USED TO INCREASE COMPANY REVENUES IN COMING YEARS?

We plan to raise revenues through greater volume of services provided, primarily on the Northern Sea Route (NSR). So the objective will be to increase cargo flows of our customers and expand the list of services provided. We are now negotiating with major oil producers as regards services to their oil fields in ice-bound seas, and consulting with major ship-owners on construction of heavy-duty icebreaker ships for use on the NSR.

Major increase in cargo traffic is expected in 2016 after OJSC Yamal LNG commissions phase one of its liquefied natural gas plant. From 2016 to 2018, all three phases will begin operation with estimated production volume of 15 mln tons. It has been decided to transport the LNG using ice-resistant tankers, and the entire cargo traffic will follow the NSR.

We are also working to expand our client base and create conditions to maximize existing cargo traffic. The main competitive advantage of the NSR (compared with traditional southern routes) is economy of time and fuel per voyage. But we need to take account of other costs for ship-owners, which may be decisive in their choice of route. For example, the size of insurance premium per voyage is an important factor. After a series of meetings and conferences, insurance carriers agreed to considerably lower the level of premiums for ships on the NSR. The first reduction of premiums occurred in 2011 after pilot voyages in 2010. We expect further reductions in 2012, based on results in 2011.

WHAT STEPS DID THE ATOMIC FLEET TAKE IN REACTION TO THE FUKUSHIMA DISASTER?

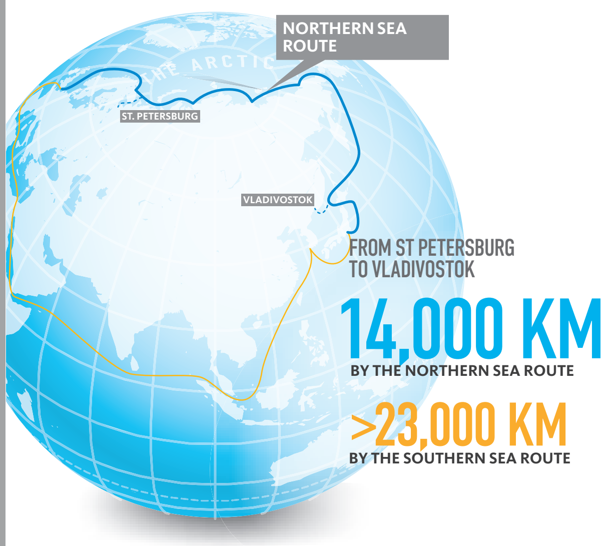
Atomflot is a member of the World Association of Nuclear Operators (WANO). We received the WANO report on the emergency at the NPP in Japan. The report discussed the causes of the event, and offered recommendations on how to better calculate time margin if the cooling system of used nuclear fuel storage fails. We tested one of our floating bases used to store UNF. The test proved that we have at least 30 days margin for action to restore cooling of the storage without compromising the limits of usual operation. WANO recommended that extra safety measures be taken if the time margin is less than 72 hours.

WHAT IS ATOMFLOT DOING TO RECRUIT YOUNG TALENTS?

A lot. For example, we have a program to assist employees with housing. This program is addressed to young specialists (aged under 35), and skilled employees in key groups. They are entitled to financial aid to repay bank mortgage loans when they purchase housing. The average compensated interest rate is 12%, and the Company compensates up to 75% of total interest. The program started in March 2011, since when 54 employees have benefited, 36 of whom have moved into new homes. Total compensation of mortgage loans was 1,338,000 rubles last year.

THE ARCTIC IS A SPECIAL REGION FOR RUSSIA, ACCOUNTING FOR 10% OF NATIONAL GDP AND MORE THAN 20% OF ALL RUSSIAN EXPORTS. THE ARCTIC HAS CONSIDERABLE DEPOSITS OF HYDROCARBONS, FERROUS AND NON-FERROUS ORES AND OTHER MINERALS, AND THEIR EXTRACTION IS DIRECTLY RELATED TO THE NORTHERN SEA ROUTE.

Geographical advantages make Russia uniquely well placed for international transit, At present the North Sea Route is little used as an alternative to southern routes, but research shows that Russia could handle 10-15% of all cargo traffic between Asia and Europe, as it has the world's biggest icebreaker fleet and unparalleled experience in building and operating atomic icebreakers.



THE NUCLEAR ICEBREAKER COMPLEX OF ROSATOM STATE CORPORATION IS MANAGED BY ATOMFLOT STATE UNITARY ENTERPRISE.

NUCLEAR ICEBREAKER COMPLEX

Ship name	Year built	Output, kW	Expiry of original service period	Expiry of extended service period
OPERATING ATOMIC ICEBREAKERS				
Rossiya	1985	54,000	2006	2017
Sovetsky Soyuz	1989	54,000	2008	2020
Yamal	1992	54,000	2009	2022
50 Let Pobedy	2007	54,000	2030	–
Taimyr	1989	35,000	2004	2015
Vaigach	1990	35,000	2005	2016
ATOMIC ICEBREAKERS AND SHIPS WITH NUCLEAR PROPULSION IN OPERATIONAL RESERVE				
Sovetsky Soyuz	1989	54,000	2008	2020
NLCC Sevmorput	1988	29,400	2014	–
NUCLEAR SERVICE VESSELS				
SS Rossita	2011	2,600	–	–
DS Imandra	1980	4,485	–	–
ST Serebryanka	1974	1,472	–	–
DS Lotta	1960	–	2014	–
DCS Rosta	1986	–	–	–
VESSELS WITHDRAWN FROM SERVICE				
Arktika	1974	–	–	–
Sibir	1977	–	–	–
DS Lepse	1961	–	–	–
DS Volodarsky	1928	–	–	–

Abbreviations used in the table:
NLCC – nuclear light carrier/container carrier
SS – steam ship
DS – depot ship
ST – special tanker
DCS – dosimetry control ship

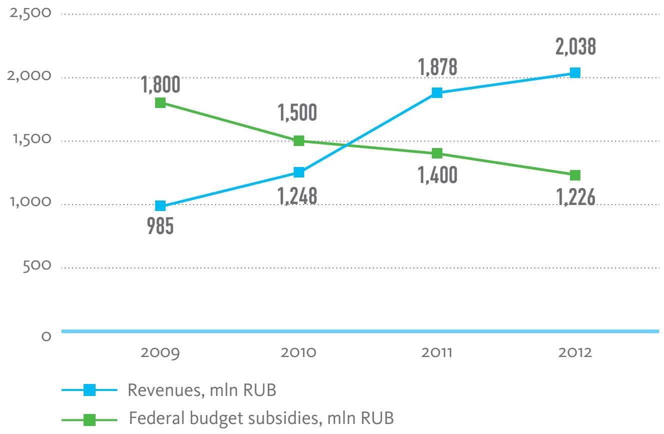
"The Arctic is a shortcut between markets in Europe and Asia: it is one third shorter than the traditional southern route. This offers an excellent opportunity to optimize transportation costs, so that governments and corporations which choose the Arctic route for their shipments will undoubtedly obtain major advantages and dividends".

Vladimir Putin, Russian Prime Minister, 2nd International Arctic Forum in Arkhangelsk, 22.09.2011.

3.3.1. LONG-TERM PROGRAM FOR DEVELOPMENT OF THE NUCLEAR ICEBREAKER COMPLEX

A LONG-TERM PROGRAM FOR DEVELOPMENT OF RUSSIA'S NUCLEAR ICEBREAKER COMPLEX WAS APPROVED IN 2008.

CHANGES IN MAIN SOURCES OF INCOME OF ATOMFLOT IN 2009-2012



Budget financing for the nuclear icebreaker complex will be provided until 2018 and will be kept at the level of 2012 until 2016. This is necessary because of growing operating costs as the fleet ages, and in order to ensure nuclear and radiation safety and extend working resource of reactor units and ships.

Cargo carrying on the Northern Sea Route is expected to reach 20 mln tons by 2019, when commercial revenues will cover all fleet costs, and first profits should be achieved in 2020.

Long-term program for development of the nuclear icebreaker complex

STAGE 1 2008

ANTI-CRISIS PROGRAM

- Administrative, legislative, and structural changes.
- Federal government subsidies (800 mln RUB).
- Provisional solutions for winter navigation.

STAGE 2 2009–2011

STABILIZATION PROGRAM

- Reduction of operating costs.
- Obtaining federal government subsidies, to be reduced year-on-year.
- Building a new regulatory base.

STAGE 3 2012–2020

DEVELOPMENT PROGRAM

- Dismantling of decommissioned ships.
- Extension of service life to 175-200,000 hours for the icebreakers *Taimyr* and *Vaigach*, and to 150,000 hours for *Sovetsky Soyuz* and *Yamal*.
- Building and commissioning of next-generation atomic icebreakers, and design of a principal icebreaker ship.
- Raising performance capacities to enable service provision at Varandey (Pechora Sea) and at Yamal oil & gas field.
- Modernization of the repair and service base: building a floating dock and depot to handle radioactive waste and spent fuel (necessary to support operations of next-generation atomic icebreakers and their complete repair cycle).

3.3.2. MAIN OPERATING RESULTS IN 2011

The main tasks of Atomflot in the reporting year were as follows:

- INCREASING VOLUMES OF CARGO TRAFFIC
- ORGANIZING AN ICE CORRIDOR FOR TRANSPORT SHIPS
- BUILDING AND COMMISSIONING SHIPS TO CARRY SOLID UNF AND RADIOACTIVE WASTE WITH CAPACITY FOR 18 CONTAINERS

MAIN RESULTS IN 2011

In the reporting year:

- construction of the steamship Rossita was completed at the Fincantieri shipyard in Italy (construction was financed by the Italian Ministry of Economic Development under an agreement signed on 05.11.2003 between the Russian and Italian governments on cooperation in dismantling of retired Russian nuclear submarines and safe handling of radioactive waste and UNF);
- 567 escort missions were carried out along the Northern Sea Route (not including transit voyages);
- 67 ships were escorted through the White Sea by the atomic icebreaker Rossiya;
- 258 ships were escorted by the Vaigach icebreaker through the Gulf of Finland;
- 34 transit voyages were made along the NSR (ships led by atomic icebreakers carried a total of 820,800 tons of liquid and bulk cargos, including 10 ships in ballast; for comparison in 2010 there were 4 transit voyages carrying 110,0 thou. tons of cargo, including 2 ships in ballast);
- the atomic icebreaker Rossiya supported the SS Academik Fedorov in work to explore the limits of the Russian continental shelf, helping to carry out accurate mapping of the national border on the Arctic continental shelf (researchers maintain that Russia may well be able to add a further 1.2 mln km² to its continental shelf area beyond the 200-mile economic zone, including mineral and hydrocarbon deposits to be found in the area);
- the North Pole-38 Scientific Research Station was relocated (its name was changed to North Pole-39).
- the 50 Let Pobedy atomic icebreaker made four cruise voyages to the North Pole;
- work was carried out for maintenance and repair of ships, onboard equipment and mechanisms on the icebreakers: Vaigach, Sibir, Taimyr, and 50 Let Pobedy;
- work was done to ensure safety and functionality of the Sovetsky Soyuz atomic icebreaker and the Sevmorput light container carrier, and to organize that ships withdrawn from service are kept in safe condition. On August 20, 2011, the Arktika icebreaker was put into “cold” out-of-service status (manning of unused ships by a uniform crew reduced labor costs and use of power, giving annual savings of about 30 mln RUB);
- scientific research was carried out to enable longer radiation service life in the casings of atomic reactors on ships: the objective was to extend the service life of reactor units on operating icebreakers to 200,000 hours (the work is scheduled for completion in 2014);
- adoption of IT solutions continued with complete transition to the 1C UPP 8.2. technology platform;
- repair and reconstruction of onshore infrastructure was continued.

50,4 %

growth of commercial services provided by Atomflot in 2011.

In August 2011, the Yamal atomic icebreaker was the venue for an international conference hosted by the Russian Security Council, entitled: The Northern Sea Route to Strategic Stability and Equal Partnership in the Arctic.

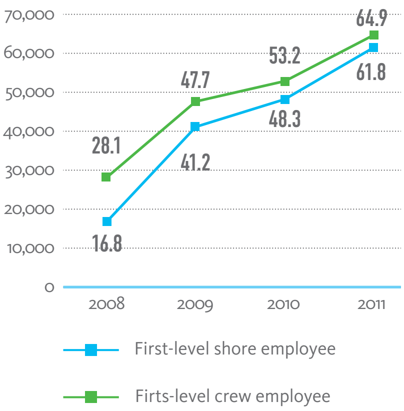
FINANCIAL AND BUSINESS RESULTS OF ATOMFLOT

Item*	2011	2010	2009
Revenues, mln RUB	**1,877.6**	1,248.0	985.5
Government financing for maintenance of nuclear energy facilities, mln RUB	**1,400.0**	1,500.0	1,800.0
Cost of operations, mln RUB	**1,891.7**	1,489.4	1,878.4
Gross profit, mln RUB	**(14.1)**	(241.4)	(885.8)
Net profit, mln RUB	**(363.1)**	(551.8)	(926.0),
Escort of transit voyages on the NSR, total cargos, thnd. t	**820.8**	110.0	—
Average monthly salaries, ‘000 rubles	**61.6**	49.3	41.2
Labor productivity, mln RUB/person	**1.7**	1.4	1.3
Reduction of fixed costs as a share of revenues, %	**28.8**	10.3	—

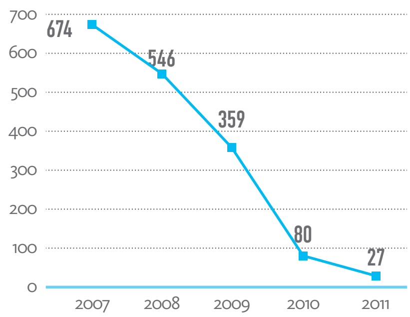
* Growth of indicators was due to increase of commercial revenues.

KEY PERFORMANCE INDICATORS OF ATOMFLOT

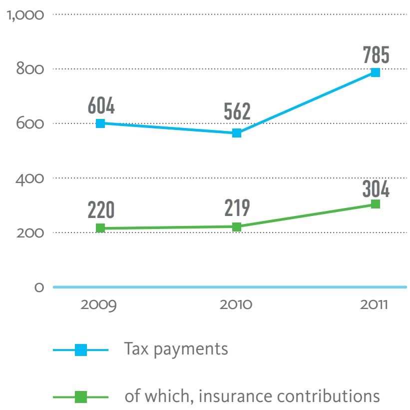
Salaries dynamic at Atomflot, rubles



Radioactive waste in need of processing, containers



Tax payment by Atomflot, mln RUB



3.3.3. MAIN OPERATING CHALLENGES AND MEANS OF ADDRESSING THEM

CHALLENGES OF ATOMFLOT AND MEANS OF ADDRESSING THEM

CHALLENGE	SOLUTION
Shortcomings of current legislation and regulation in respect of status, functions and authority of the national atomic fleet operator	— Passing of a new law on the Northern Sea Route, outlining limits of the NSR, payment of duties by ship owners for use of NSR routes, and the entity authorized to issue NSR navigation licenses.
Rising cost of active zones of nuclear fuel	— Loans through the Rosatom cash pool. — Contracts signed for 3-5 years.
Lack of a floating dock that can provide repair facilities for the nuclear icebreaker complex , including all-purpose atomic icebreakers, Arctic-type icebreakers, and construction of a new floating service depot	— Renting a 30,000-ton floating dock in Kola Bay for 5 years. — Building a new 60,000-ton floating dock within 5 years
Rising costs due to ageing and more intensive use of the fleet; burden associated with facilities used to store previously accumulated radioactive waste and UNF; need to maintain decommissioned nuclear-powered ships	— Continuation of government subsidies for maintenance of assets and creation of new assets; financing their disposal and recycling (of decommissioned atomic icebreakers, and of depot ships used to store UNF and radioactive waste).

3.3.4. ENSURING NUCLEAR AND RADIATION SAFETY

Main objectives in safety:

- upgrading reactor units on nuclear-powered ships to improve safety; replacing main equipment and systems at the end of their service life;
- improving conditioning of low-level radioactive waste from previous years, using advanced processing technologies and NZK-1.5 containers that enable safe storage and disposal;
- modernization of the plant for incineration of low-level solid radioactive waste;
- processing of liquid radioactive waste;
- preparing documentation, making and purchasing equipment for utilization of medium- and high-level radioactive waste;
- upgrading storage and equipment to ensure safe handling of UNF generated during operation, decommissioning and utilization of nuclear ships and ATO ships;
- upgrading the UNF transhipment facilities, including building an onshore site to load UNF into a transportation packaging container.

AFTER THE FUKUSHIMA-1 DISASTER, ALL SHIPS UNDERWENT AN EXTRAORDINARY AUDIT OF THEIR SAFETY-CRITICAL SYSTEMS AND EQUIPMENT, WITH MEASUREMENTS OF THE HIGHEST TEMPERATURE REACHED BY COOLING WATER IN UNF STORAGE TANKS ON THE ATO SHIP WHEN THE COOLING SYSTEM IS DISABLED.
EXAMINATION OF NUCLEAR POWER UNITS ON SHIPS AND OF UNF STORAGE FOUND A SUFFICIENT LEVEL OF NUCLEAR AND RADIATION SAFETY.

In 2011, adoption of new production processes to condition radioactive waste of various levels continued. Production lines were created to condition low-level waste in the seventh bay of Repair and Service Building A, and the solid waste storage building. The production lines are capable of conditioning all accumulated low-level waste and preparing it for long-term storage or disposal.

Radioactive waste and UNF handling

In 2011, the Company generated and accounted for 84.6 m³ of solid radioactive waste (SRW) with activity levels of 8.5•10^{+12} Bq, including:

— 16 metal containers with combustible SRW,
— 26 containers with non-combustible SRW,
— 167 used and sealed radionuclide sources,
— 242.6 m³ of liquid radioactive waste with activity levels of 1.62•10^{+11} Bq.

During the reporting year, the Company conditioned and prepared for disposal 90.5 m³ of SRW with activity levels of 2.86•10^{+13} Bq, including:

— 56 metal containers with non-combustible SRW,
— 12 core-18 units with sorbent and ion-exchange resin,
— an accumulation container with used fuel array suspensions,
— a metal container with ion-exchange resin,
— 167 used sealed radionuclide sources.

Conditioning work was carried out to prepare for burial of 50 reinforced-concrete protective non-reusable containers with SRW of various levels. In order to reduce the volume of SRW in radioactive waste storage, core-03 was transferred to the Arktika atom icebreaker pending its recycling. Work was carried out to accept 74 sealed radionuclide sources from third-party organizations for long-term storage and conditioning.

As part of the FTP, "Ensuring nuclear and radiation safety in 2008 and up to 2015", the Company:

— concluded work for SRW handling under the Government contract for dismantling of the Lepse depot ship (Murmansk). 23 containers of low-level radioactive waste were unloaded from the ship and 3 units of large high-level equipment; all were conditioned and placed in long-term storage;
— completed work for SRW handling under the Government contract to change conditions of SRW storage. The project conditioned 12 packs of core-18 SRW, purchased equipment to create a line for conditioning of medium- and high-level SRW, and packaging sets for radioactive waste;
— completed planned activities for 2011 under the investment agreement with Rosatom State Corporation to upgrade the onshore loading station, and upgrade mooring facility No. 5. In 2012, the Company will open a modern center to tranship UNF with packed weight up to 100 tons from water to railroad, and to tranship UNF in transportation containers (if required) for delivery to the regeneration plant.

HANDLING OF UNF

In 2011:

— 64 packs of fresh fuel rod arrays were accepted ;
— 295 used fuel rod arrays were distributed onboard the Lotta depot ship;
— the nuclear reactor on the Vaigach atomic icebreaker was recharged;
— two TK-120 containers with UNF from the nuclear icebreaker complex were loaded at the loading station of the Lotta depot ship, and delivered to container storage;
— three TK-18 containers with UNF from the nuclear icebreaker complex were loaded and dispatched for processing;
— two batches of radio isotope thermoelectric generators were loaded from watercraft to road vehicles;
— UNF from nuclear submarine No. 542 was unloaded and dispatched for processing;
— UNF was unloaded from dry storage units in the town of Gremikha, and prepared for shipment to Mayak Production Union.

DECOMMISSIONING OF SHIPS

In 2011:

— radiation and engineering examination of the Lepse depot ship, and the atomic icebreakers Sibir and Arktika was carried out;
— options were agreed for transportation and holding of the Lepse depot ship at Nerpa shipyard, and issues of equipping and UNF handling technology onboard the depot ship were resolved;
— the concept for dismantling of ships with nuclear power units and ATO ships was approved.

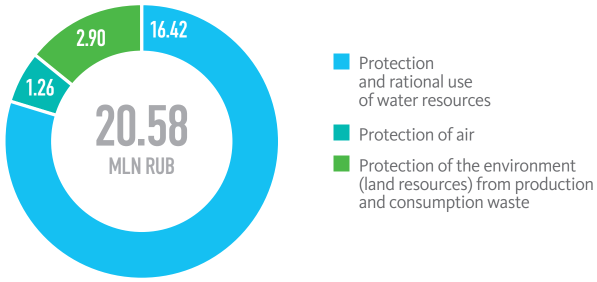
3.3.5. ACTIVITIES TO MINIMIZE ENVIRONMENTAL IMPACTS

AN ENVIRONMENTAL POLICY FOR ATOMFLOT WAS ADOPTED IN 2009.

ENVIRONMENTAL SAFETY IS MONITORED IN COMPLIANCE WITH:

— a program to measure quality of waste waters, regular observations of Kola Bay and its water protection zone during 2009–2013;
— a radiation control schedule for Atomflot in its buffer area and observation area during 2011–2012;
— an environmental control program to monitor air contamination sources during 2008–2012.

COSTS OF ENVIRONMENTAL ACTIVITIES OF ATOMFLOT IN 2011



In 2011 the "Draft for standard limits to generation and placement of waste by Atomflot" was updated. An Environmental Control Sector was set up to improve environmental monitoring.

In the reporting year, the Company did not receive criticisms or injunctions from any Government supervisory agencies in the field of environmental protection.

3.3.6. SOCIAL SUPPORT FOR EMPLOYEES

The Company has a program of voluntary health insurance that covered 2,004 individuals as of December 31, 2011.

Since January 2011, the Company has operated a non-Government pension program (provision of an additional cumulative part of the retirement pension). In 2011, the program involved 165 Company employees.

Employees of Atomflot make full use of a program that provides resort and spa services to them and their children. Central provision ensures that nuclear industry employees obtain greatest possible benefit from resort and spa services.

3.3.7. PLANS FOR 2012 AND THE MEDIUM TERM

The plan for 2012 includes:

— start of construction work on the principal all-purpose atomic icebreaker (22220);
— use of atomic icebreakers in the White Sea, Gulf of Finland, and on the River Yenisey for OJSC GMK Norilsk Nickel; and in the River Ob Bay for OJSC Yamal LNG;
— four cruise voyages to the North Pole;
— support for transit voyages on the Northern Sea Route (estimated transit cargo traffic of 1,200,000 tons compared with 110,000 tons in 2010 and 820,800 tons in 2011);
— relocating North Pole-39 Science Research station (to be replaced with North Pole-40).

Objectives for the medium-term future:
— extending service life of active icebreakers until 2020;
— restoring and commissioning the Sovetsky Soyuz atomic icebreaker;
— dismantling of atomic icebreakers and ATO ships at the end of their service life.

3.4. FINANCIAL AND BUSINESS ACTIVITIES

VICTORIA ANDRIYENKO
Chief Accountant

WHAT ARE THE MAIN RESULTS OF 2011?

Last year we switched to International Accounting Standards (IAS). In September 2011, OJSC Atomenergoprom prepared its first IAS compliant consolidated financial reports for 2010, then in August 2012, Atomenergoprom filed IAS compliant consolidated reports for 2011 with a full set of comparable indicators, or "full reporting" as it is properly called. Reporting to international standards helps Atomenergoprom to maintain its credit rating and reputation as a dependable borrower.

In addition, the Corporation and some major industry companies adopted purpose-built accounting systems in 2011 using SAP ERP and 1C ERP platforms, based on uniform solutions for business and tax accounting, with uniform scenarios and tools to integrate with centralized systems. In other words, the organizations have adopted a corporate financial template. The systems use automated control procedures that greatly reduce the probability of human error. This impressive effort marks the successful conclusion of deployment of SAP ERP in the Corporation, which has had impact both on our accounting and on many other processes.

HOW DOES THE INTERNAL CONTROL SYSTEM OVER REPORTING BY THE CORPORATION AND ITS COMPANIES OPERATE?

Since 2010, the nuclear industry has pursued a policy to build and implement internal control systems over financial reporting. Accordingly, corporate accounting services work to raise the quality of their processes and to ensure accurate reporting. Our focus is on major entities, whose performance substantially affects our consolidated reports. Such entities have had their accounting process formalized, defined, and assigned to those responsible for control procedures. All this work is designed to minimize the risk of material errors in reporting.

WHAT ARE THE MAIN OBJECTIVES FOR 2012?

We will continue our migration to international accounting standards throughout the nuclear industry. For more than 70 of our companies, this is an entirely new objective (about 80 companies already switched to IAS in 2011 together with OJSC Atomenergoprom). Changeover to IAS is not only a matter for accounting specialists. Clearly, such a major project cannot be implemented without the assistance of HR management, experts in nuclear and radiation safety, and specialists of engineering and business subdivisions at Corporation companies. I am confident that we can successfully achieve our targets, and that we will file all our reports to international standards starting from 2013.

Also in 2012, we will continue to improve our internal control system over financial reporting. Deployment of comprehensive IT systems and the arrival of ERP functionality shifts the focus towards more formalized accounting processes, automation of control procedures, and stricter requirements over access control and distribution of functions for IT systems.

In another major initiative, we are preparing to set up a consolidated taxpayer group (CTG), starting from 2013, which should embrace 35 of the Corporation's largest companies. We will need to work out principles for CTG operation in the nuclear industry, raise the efficiency of tax planning and prepare documents to regulate CTG activities under applicable law.

3.4.1. MAIN FINANCIAL AND BUSINESS RESULTS IN 2011[6]

MAIN FINANCIAL RESULTS, BLN RUB

	2011	2010	2011/2010, %
Revenues	**388.2** •	391.4	99.2
Cost of sales	**(221.9)**	(206.3)	107.6
Gross profit	**166.3**	185.1	89.8
Sales and administrative expenses	**(69.7)**	(60.3)	115.6
Other income and expenses, net	**(10.6)**	(9.9)	107.1
Financial income and expenses, net	**(8.2)**	8.6	(95.0)
Share in net profit/loss of companies, calculated by equity participation	**2.7**	(1.0)	(276.8)
Profit tax expenses	**(19.7)**	(29.6)	66.6
Profit for the year	**60.8**	92.9	65.5
Net operating profit after tax (NOPAT)	**66.3**	85.3	77.8

In 2011, revenues fell by 3.2 bln RUB (0.8%) compared to 2010. Although generation of electric power grew by 2.6 bln kWh compared to 2010 (including 0.2 bln kWh produced by power unit No. 4 at Kalinin NPP), negative factors created by introduction of the capacity market and decline in average selling price of electric power on the day-ahead market caused a decrease in revenues from electric power sales compared to 2010.

Overall decline of revenues in the electric power segment was 6.0 bln RUB. the decline of revenues was partly compensated by growing generation of electric power for sale and own use by OJSC Rosenergoatom (2.6 bln RUB). Power unit No. 4 of Kalinin NPP, to be commissioned shortly, is expected to boost revenues from electric power sales in the near future.

Shrinking exports of nuclear fuel (caused in part by the Fukushima-1 events) and falling exchange rates (annual average rate in 2010 was 30.04 rubles/USD, but only 29.38 rubles/USD in 2011) also had impact on revenue dynamics. As a result, there was an overall drop in revenues from the sales and trading segment by 3.3 bln RUB (mainly due to reduced supplies under the Chinese contract), and by 1.3 bln RUB from the fuel company segment (mostly as supplies to Europe fell).

Lower revenues in 2011 were compensated to an extent by addition to the consolidated perimeter of entities purchased by Atomenergoprom Group at the end of 2010, including the Canada-based Uranium One Inc. (revenues from the mining segment rose by 0.8 bln RUB), and Ukrainian PAO Energomashspetsstal (total rise in revenues of the machine-building segment was 4.8 bln RUB).

6 This section represents information of OJSC Atomenergoprom and its subsidiaries (together “Atomenergoprom Group”), filed to International Accounting Standards (IAS). The Atomenergoprom Group is an integrated group of companies that consolidates civil assets of the Russian nuclear industry, ensuring the complete production cycle in nuclear power generation. Its subsidiaries are Russian public corporations, closed corporations, limited liability companies (as defined in the Russian Civil Code), and companies incorporated in other countries.

STRUCTURE OF REVENUES FROM SALES TO EXTERNAL BUYERS, BLN RUB

Operating segment	2011	% of total	2010	% of total	2011/2010, %
Electric power	**202.3**	52.1	208.3	53.2	97.1
Sales and trading	**81.2**	20.9	84.5	21.6	96.1
Fuel company	**61.6**	15.9	62.9	16.1	97.9
Machine-building	**20.8**	5.4	16.0	4.1	130.0
Mining	**6.4**	1.6	5.6	1.4	114.3
Other	**15.9**	4.1	14.1	3.6	112.8
TOTAL	**388.2**	**100.0**	**391.4**	**100.0**	**99.2**

Increase of sales and administrative costs by 15.6% was mainly caused by projects for large-scale re-organization of corporate governance in the industry, underway in 2010–2013. Further devaluation of accounts receivable had additional adverse impact.

Compared with 2010, profit in 2011 dropped by 34.5% (32.1 bln RUB), mainly caused by lower revenues, increase in cost of sales by 7.6% (15.6 bln RUB), and increase of sales and administrative expenses by 15.6% (9.4 bln RUB), for the reasons explained above.

3.4.2. COST STRUCTURE

STRUCTURE OF COSTS

Sales costs	2011	2010	2011/2010, %
Personnel expenses	**73.4**	58.8	124.9
Depreciation	**60.8**	54.9	110.8
Materials and fuel	**35.4**	35.1	100.8
Cost of purchased electric power, incl.:	**20.3**	15.1	134.6
cost of electric power for reselling and own needs of OJSC Rosenergoatom	**11.9**	9.5	125.3
Works and services by third-party contractors	**22.6**	19.1	118.0
Other costs	**38.5**	35.3	109.3
Change in finished product inventory and production in progress	**(29.1)**	(12.0)	242.4
TOTAL	**221.9**	**206.3**	**107.6**

HIGHER COST OF SALES WAS DUE TO THE FOLLOWING FACTORS

+7,6%

Higher standard payments to insurance funds, and inclusion of organizations purchased at the end of 2010 in the consolidation perimeter

Higher cost of purchased electric power for reselling and own needs of OJSC Rosenergoatom after regulations on the wholesale market for electric power and capacity took effect in 2011

Higher depreciation costs as new fixed assets were commissioned

Increase in works and services outsourced to third-party contractors

The above-mentioned rise in sales costs was partly compensated by an increase of production in progress and finished goods inventory.

3.4.3. MAIN FINANCIAL AND ECONOMIC INDICATORS

BUSINESS SOLVENCY INDICATOR

Indicator	2011	2010
Debt-to-equity	0.37	0.27

LIQUIDITY INDICATORS

Indicator	2011	2010
Quick assets ratio	1.39	1.54
Working capital ratio	2.01	2.21

TURNOVER RATIO, DAYS

Indicator	2011	2010
Time of inventory turnover	195	166
Time of accounts receivable turnover	41	41
Time of accounts payable turnover	65	51

PROFITABILITY INDICATORS, %

Indicator	2011	2010
Return on sales (ROS)	15.7	23.7
Return on assets (ROA)	3.4	6.0
Return on equity (ROE)	5.0	8.6

The quick and current liquidity ratios fell by 10% and 9% respectively in the reporting year, compared to 2010, mainly due to increase of accounts payable and short-term loans, partially compensated by higher cash balance and short-term financial investments, and increase of inventory.

In 2011, turnover days were reduced (from 166 to 195) as material inventories, finished goods and production in progress grew, mainly in the fuel company and sales and trading segments. Days of accounts receivable for buyers and customers did not change (41 days), while days of accounts payable to suppliers and contractors grew (from 51 to 65 days).

0.37
Debt-to-equity

2.01
Current liquidity ratio

15.7
Net profit to sales (ROS)

3.4
Net profit to assets (ROA)

3.4.4. ASSET STRUCTURE

Goodwill appreciated by 28 bln RUB in 2011 after the Company purchased Mantra Resources Limited and Uranium One Inc.

Intangible assets appreciated by 18 bln RUB in the reporting year, mainly due to fair value appraisal of licenses ("mineral use contracts") of Mantra Resources Limited.

Book value of fixed assets rose by 74 bln RUB compared to the previous year, thanks to the intensive program of NPP construction and restatement of the estimated reserve for decommissioning of fixed assets.

Financial investments increased by 42 bln RUB in 2011, mostly because OJSC Atomenergoprom purchased long-term notes issued by OJSC VTB-Leasing and OJSC VTB.

Increase of 9 bln RUB in other non-current assets consisted mainly of deferred tax assets.

Increase of 33 bln RUB in inventory in 2011 compared to 2010 was mostly caused by rising costs of production in progress in the fuel company and sales and trading segments.

Increase by 9 bln RUB in long- and short-term accounts receivable in the reporting year was mainly caused by increase in short-term loans to companies of CJSC Atomstroyexport, and increase of VAT reimbursable.

Growth of cash and equivalents in 2011 compared to 2010 by 35 bln RUB is explained by increase of cash balances on accounts of Atomenergoprom Group companies in banks (OJSC VTB, Sberbank, and Gazprombank).

In the reporting year, miscellaneous turnover assets rose by 11 bln RUB, mainly as a result of short-term deposits in banks.

STRUCTURE OF ASSETS OF ROSATOM STATE CORPORATION, BLN RUB

+28 BLN RUBLES
growth of goodwill after the Company purchased Mantra Resources Limited and Uranium One Inc.

+74 BLN RUBLES
increase of book value of fixed assets

+42 BLN RUBLES
growth of financial investments

3.4.5. STRUCTURE OF CAPITAL AND LIABILITIES

Increase of equity and reserves by 72 bln RUB in 2011 was due mainly to new stock issue by OJSC Atomenergoprom with total value of 69 bln RUB.

Retained earnings rose by 60 bln RUB thanks to profits obtained in the reporting period (attributable to OJSC Atomenergoprom stockholders). This increase was partly canceled out by dividends paid (22 bln RUB) and losses from transactions with minority holders (10 bln RUB). As a result, retained earnings in 2011 increased by 28 bln RUB.

The share of non-controlling stockholders grew by 49 bln RUB in 2011, mostly due to changes of ownership stakes in some Atomenergoprom Group companies, caused by additional issue of stock by Rosatom State Corporation.

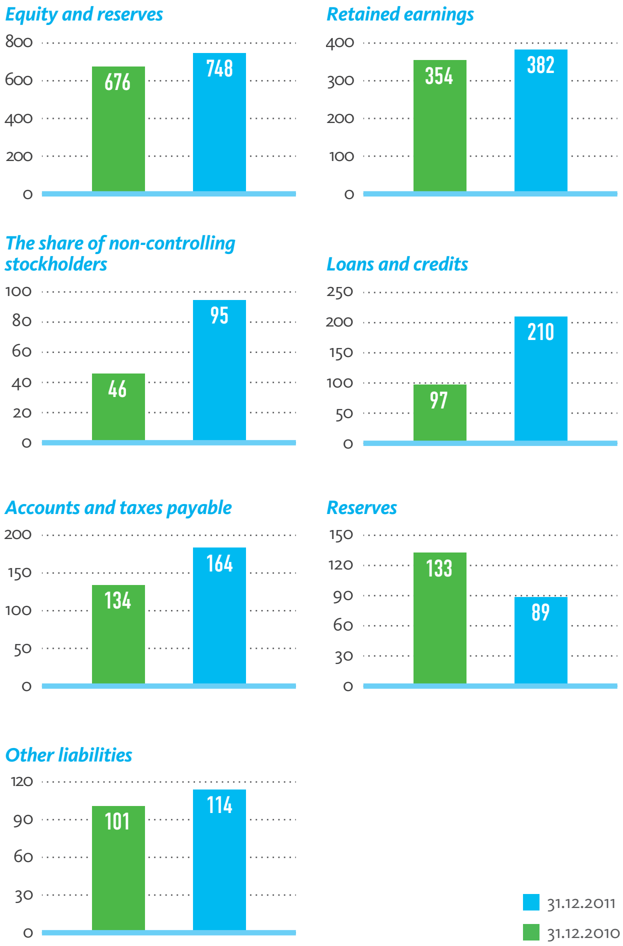
The rise of loans and credits by 113 bln RUB in the reporting year was mostly due to long-term loans of OJSC Atomenergoprom, a long-term syndicated loan to OJSC Techsnabexport, and revenue from corporate bonds issued by Uranium One Inc.

The increase of accounts payable by 30 bln RUB in 2011 was mainly due to growth of current payments related to main operations, and larger amounts advanced by counterparties.

Lowering in the value of reserves by 44 bln RUB in the reporting year was mostly caused by the reduction of reserves for fixed asset decommissioning after the reserve was reassessed. This change was partly offset by the increase of the UNF handling reserve, and charging of a radioactive waste handling liability after Federal Law No. 190, “Handling of radioactive waste and modifications to specific legal acts of the Russian Federation” took effect.

Other liabilities increased by 13 bln RUB in 2011, mainly due to deferred profit tax.

CAPITAL AND LIABILITIES STRUCTURE AT ROSATOM STATE CORPORATION, BLN RUB



+72
BLN RUBLES
increasing of equity and reserves

22
BLN RUBLES
dividend payments

+49
BLN RUBLES
growth of share of non-controlling stockholders

3.5.

INTERNATIONAL COOPERATION

NIKOLAY SPASSKY
Deputy CEO for International Activity

WHAT MAIN ACHIEVEMENTS CAN YOU POINT TO IN 2011?

We had a difficult but productive year in 2011. We secured a leading role for Russia in reform of the international nuclear safety regime after the Fukushima events. We obtained real results in development of a regulatory base for future cooperation with both old and new partners. And it is a matter of pride that Rosatom now has official representations abroad, which is a sign of the maturity and scale of our international cooperation.

WHAT LESSONS HAVE INTERNATIONAL NUCLEAR PLAYERS LEARNED FROM THE FUKUSHIMA-1 DISASTER?

The main lesson, of course, is that nuclear safety must have top priority. We already came to that conclusion 25 years earlier, with Chernobyl. That is why we were in a position to work out comprehensive proposals for strengthening the whole nuclear safety system and present them to the international nuclear community straight away last spring. The Russian proposals were stated in the concluding document of the G8 Summit in Deauville. Another achievement is that our proposals provided much of the basis for the IAEA nuclear safety action plan.

The next thing is to enforce these useful documents, which is always a much more difficult task.

WHAT IS THE PURPOSE OF OPENING ROSATOM REPRESENTATIONS AT RUSSIAN EMBASSIES AND TRADE MISSIONS IN FOREIGN COUNTRIES?

The main objective of the Corporation's international unit is to ensure optimal external conditions for development of our nuclear industry and greater presence of Russian companies on global markets for nuclear technologies and services. Rosatom's representations at Russian embassies and trade missions are advance posts in that campaign.

We are setting up these representations in countries with which we have particularly close cooperation, even on a daily basis. They enable continuous communication with government agencies in such countries, promote projects that are important for us, keep us informed of new developments, and do many other things that cannot be done efficiently at a distance, even with the help of state-of-the-art communication technologies.

Another issue: the nuclear industry, both in mature nuclear nations and those new to the club, requires direct government assistance. This is normal and it is the case in Russia too. Such an algorithm depends on active engagement of government mechanisms, including the institution of official representations outside Russia, i.e. embassies and trade missions.

WHAT ARE THE PRACTICAL CONSEQUENCES OF THE RUSSIA-US AGREEMENT ON NUCLEAR COOPERATION, THE 123 AGREEMENT?

First, it is important to be clear about what is at stake. The so-called "123 Agreement" is a framework agreement on cooperation in peaceful use of nuclear power signed between Russia and the US, the two global leaders in the field. No such agreement existed before. The lack of such an agreement was an anomaly, and it would be fair to say that enactment of the 123 Agreement has eliminated one of the last remnants of the cold war. We now have a standard basis in international law to cooperate with the US in all issues of peaceful nuclear power. We no longer need to sign a separate treaty for every project, however minor, as we had to do in the 1990s. The conditions for launching major cooperation projects in innovative technologies have become much simpler, and this is useful for modernization in Russia, and for dramatic expansion of our presence on the US market.

What makes the 123 Treaty special is that it offers a basis for specialized documents on future work. We are using this mechanism to prepare an inter-governmental agreement with the US on scientific, engineering, and innovative cooperation in the nuclear power industry.

ARE THERE PLANS TO EXPAND THE LIST OF COUNTRIES WITH WHICH ROSATOM HAS A LEGAL BASIS FOR INTERNATIONAL COOPERATION? WHAT ARE THOSE COUNTRIES?

Overall, the international legal basis for our cooperation with foreign partners is already in place. We have basic government treaties with all the countries we already work with, as well as most countries that we intend to work with. It is highly important that we have signed a whole range of specific documents in specific sectors and created implementation mechanisms with such key partners as the US, India, China or Kazakhstan. We have signed profile inter-governmental treaties with nations where we are building nuclear power facilities, such as Turkey where for the first time in global practice we prepared and signed an inter-governmental treaty on the "build, own, operate" model.

In a sense, evolution of the international legal base is a never-ending process. New cooperation projects emerge with specific countries and new inter-governmental treaties are needed. For example, we are now working on a framework inter-governmental treaty with the United Arab Emirates. Specific issues come to the fore, as in the pilot inter-governmental treaty on nuclear safety, which we are now developing with Belarus. New circumstances also arise. For example, approval of the international target program, "Land reclamation in member states of the Eurasian Economic Community affected by uranium production", required rapid creation of framework inter-governmental treaties with Tajikistan and Kyrgyzstan. We must have them before 2013, when implementation of the program is scheduled to begin.

THE INTERNATIONAL ACTIVITIES OF ROSATOM STATE CORPORATION IN 2011 PURSUED THE CREATION OF FAVORABLE INTERNATIONAL LEGAL AND POLITICAL CONDITIONS FOR THE CORPORATION'S GLOBAL EXPANSION TO SECURE LEADERSHIP ON THE WORLD MARKET FOR NUCLEAR TECHNOLOGIES, ENSURING BETTER NUCLEAR SAFETY AND NUCLEAR NON-PROLIFERATION.

Objectives were achieved in a number of fields: nuclear and radiation safety, strengthening the international legal basis for cooperation, political and legal support for major international projects, nuclear non-proliferation, ensuring Russia's interests in work with the IAEA and other international organizations, and observing international obligations and national law with respect to export control.

3.5.1. NUCLEAR AND RADIATION SAFETY

ROSATOM'S INTERNATIONAL ACTIVITIES DURING THE REPORTING YEAR WERE IN THE CONTEXT OF CONSEQUENCES OF THE FUKUSHIMA-1 NPP DISASTER AND ITS IMPACT ON THE GLOBAL COMMUNITY. THE CORPORATION'S MAIN OBJECTIVE WAS TO SUPPORT COMMITMENT TO CONTINUED USE OF NUCLEAR POWER INTERNATIONALLY, AND TO SECURE RUSSIA'S LEADERSHIP IN REFORM OF INTERNATIONAL NUCLEAR SAFETY BASED ON THE LESSONS LEARNED FROM THE EVENTS IN JAPAN.

Rosatom prepared specific proposals to improve international nuclear safety regulation, which were later approved by the Russian President and communicated to the heads of the CIS, G8, BRIC, and the IAEA Secretariat. The proposals were almost entirely incorporated in the relevant section of the concluding declaration at the Deauville G8 meeting.

At the 5th meeting of the Parties to the Nuclear Safety Convention in April 2011, Russia confirmed its commitment to development of the nuclear power industry as the most economical, environment-friendly and safe method of electric power generation (assuming strict compliance with applicable safety requirements). The international community was informed of the measures that Russia is taking in order to make its NPPs safer. The Russian party emphasized that a very thorough analysis is needed in order to learn lessons from the Fukushima-1 disaster, ensuring further improvement of the international regulatory basis and national legislation concerning safe use of nuclear energy.

The June 2011 IAEA Conference examined three sets of Russian proposals: on amendments to the Convention on Nuclear Safety, and to the Convention on Rapid Reports about Nuclear Emergencies, and a proposal to improve IAEA safety standards. The concluding declaration of the Conference incorporated the Russian proposals.

The 55th session of the IAEA General Conference in September 2011 adopted an action plan to implement the above declaration, incorporating Russia's proposals to a considerable extent. This document will be the foundation for practical steps by the IAEA for reform of the international nuclear safety regime in years to come.

3.5.2. STRENGTHENING THE LEGAL BASE FOR INTERNATIONAL COOPERATION

IN 2011, EFFORTS CONTINUED TO EXPAND THE INTERNATIONAL LEGAL BASE FOR PROMOTION OF RUSSIAN NUCLEAR POWER TECHNOLOGIES WORLDWIDE.

During the period, 4 inter-governmental, and 8 inter-departmental documents were signed (respectively, 13 and 17 in 2009; 17 and 20 in 2010) (I 2.4.1.1.). Three of the signed inter-governmental agreements open the way for construction of new Russian-designed nuclear power facilities abroad: construction of nuclear plants in Belarus and Bangladesh, and establishment of a Nuclear Research Center in Vietnam.

Results of cooperation with key partners in 2011

PEOPLE'S REPUBLIC OF CHINA

- Enactment of a general contract to build phase two of the Tianwan NPP (power units Nos. 3, 4).
- Start of generation at the experimental fast-neutron reactor unit.
- Phase four of the gas-centrifuge uranium enrichment plant was commissioned for commercial operation nine months ahead of the contract schedule.

FRANCE

- Heads of state signed a Russian-French declaration setting out the shared vision of Russia and France on development of the global nuclear power industry, and setting strategic priorities for cooperation.
- The parties exchanged methodologies for nuclear plant stress tests conducted in Russia and in France.

ISLAMIC REPUBLIC OF IRAN

- Start of generation at Busher NPP. The station started to supply power to the Iranian electric grid.

REPUBLIC OF KAZAKHSTAN

- Russia and Kazakhstan signed an updated integrated program for bilateral cooperation in peaceful use of nuclear power.

AUSTRALIA, CANADA, UNITED STATES OF AMERICA

- Administrative agreements were signed , which enact inter-governmental treaties on cooperation in peaceful use of nuclear power, enabling provision by Russia of commercial services to process uranium products from these nations.

JAPAN

- The ratification process was completed for a framework inter-governmental treaty, by which Russia will enrich Japanese-made uranium products.

UNITED STATES OF AMERICA

- Enactment of the Russia-US Inter-Governmental Agreement on Cooperation in Nuclear Energy ("123 Agreement"). The parties signed a comprehensive statement that describes long-term cooperation priorities for execution of the 123 Treaty.
- The inter-governmental treaty on utilization of plutonium, which has been declared no longer necessary for purposes of national defense, was ratified by Russia, with related protocols.

54 COUNTRIES
a legal basis was in place for Rosatom's cooperation, as of December 31, 2011

12 DOCUMENTS
were signed during the period, 4 inter-governmental, and 8 inter-departmental

3 AGREEMENTS
open the way for construction of new Russian-designed nuclear power facilities abroad

3.5.3. POLITICAL AND LEGAL SUPPORT FOR INTERNATIONAL PROJECTS

SECURING LOW-COST URANIUM MINING RESOURCES AND RELATED ASSETS IN CENTRAL ASIA, AFRICA, AUSTRALIA AND CANADA IS A PRIORITY OBJECTIVE FOR ROSATOM STATE CORPORATION

Jointly with the Russian Ministry of Foreign Affairs, the Corporation has supported projects to consolidate existing and purchase new uranium assets.

The reporting year saw the issue of Russian Presidential Decree No. 603, dated 06.05.2011, "On dispatch by State Atomic Energy Corporation ROSATOM of its representatives for employment in international positions". In 2011, agreements were signed with the Federal Ministry of Foreign Affairs and Ministry of Economic Development, by which Rosatom will establish representations in Russian embassies and trade missions abroad. The first group of Corporation representatives has already been dispatched to France, USA, China, Turkey, Germany, Japan, and Vietnam.

3.5.4. STRENGTHENING NUCLEAR NON-PROLIFERATION

IN THE REPORTING YEAR, ROSATOM JOINTLY WITH THE RUSSIAN FOREIGN MINISTRY CONTRIBUTED TO EFFORTS TO STRENGTHEN NUCLEAR NON-PROLIFERATION. FOR THE PURPOSE, THE CORPORATION ENSURED THAT HIGHLY ENRICHED NUCLEAR FUEL IS TRANSPORTED FROM THIRD-PARTY NATIONS UNDER THE RUSSIAN-US PROGRAM TO RETURN NUCLEAR FUEL FROM RUSSIAN-DESIGNED EXPERIMENTAL REACTORS (THE PROGRAM EXTENDS TO 14 NATIONS).

The inter-sectoral occupational training center (Obninsk) hosted two international IAEA courses in physical protection (the school has provided 26 such courses since 2001, with more than 500 foreign specialists trained).

In October 2011, the IAEA again audited the storage facilities at the International Uranium Enrichment Center in Angarsk (OJSC MCOU), as part of the obligations assumed on July 1, 2010 when the facilities became an object of IAEA guarantees under the Guarantee Agreement in the Russian Federation (ensuring that nuclear materials are used exclusively for peaceful purposes). During the audit, the IAEA inspectors verified and confirmed that the quantity of nuclear material declared by Russia actually existed in storage.

Storage and maintenance of the guarantee reserve continued, as set up on November 25, 2010 under the agreement between the Russian Government and the IAEA to establish in Russia a reserve of low-enriched uranium (LEU), from which the IAEA will supply such uranium to IAEA member states. The guarantee reserve was created to ensure that member states can rely on predictable, uninterrupted, stable and affordable access to nuclear fuel provided that they remain compliant with nuclear non-proliferation rules. In fact, the guarantee reserve is the world's first ever "nuclear fuel bank". Jointly with the Russian Foreign Ministry, in September 2011, the Company sent communiqués to IAEA member states that OJSC MCOU will be used for purposes of the low-enrichment uranium bank created by the IAEA.

3.5.5. INTERACTION WITH INTERNATIONAL ORGANIZATIONS

During the reporting year, Rosatom State Corporation participated in the activities of various international organizations.

INVOLVEMENT OF ROSATOM STATE CORPORATION IN ACTIVITIES OF INTERNATIONAL ORGANIZATIONS

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

In 2011, apart from issues of nuclear safety, Rosatom State Corporation also interacted with the IAEA in other fields.

All international financial obligations assumed by Russia were performed. A contribution of 23.0 mln RUB was paid to the IAEA off-budget fund to implement the 2008–2012 plan as part of the IAEA International Project for innovative nuclear reactors and fuel cycles. An annual voluntary contribution of 23.6 mln RUB was paid to the IAEA Technical Cooperation Fund. The National Program of Science and Engineering Support to IAEA Guarantees was carried out (the Program has carried out 7.8 mln RUB of work annually since 2009).

Russian voluntary contributions were paid to IAEA off-budget funds for future years: 39.8 mln RUB for 2012–2013 and 39.9 mln RUB for 2014 to the Technical Cooperation Fund; 24.6 mln RUB annually as an INRFC partner for 2013–2015; and 7.8 mln RUB annually under the Russian National Program of Science and Engineering Support to IAEA Guarantees for 2012–2014.

In September 2011, practical agreements were signed on cooperation between the IAEA, the Central Institute of Advanced Training, and OJSC Rosenergoatom, to establish an International Center of Advanced Training in Russia to train nuclear plant employees.

Preparations began for practical implementation of the IAEA agreement on training for junior employees, signed in 2010. The agreement envisages organization of internships in the IAEA Secretariat for young Russian specialists, who can gain practical working experiences in a major international organization guided by competent tutors from among officers of the Secretariat. The IAEA is examining candidates for internships.

In November 2011, the session of IAEA managers approved the 2012–2013 IAEA Technical Cooperation (TC) Program, which included the Russian draft project proposed by Rosatom State Corporation for advanced training of medical physicists in the CIS nations, specialized in radiation therapy and cancer treatment, based on the Russian Association of Medical Physicists and the Blokhin Cancer Studies Center.

In 2011, 300 Russian specialists participated in technical meetings of the TC Program (156 as experts, and 144 as participants), 52 specialists attended training activities of the IAEA, seven received internships as part of R&D visits. Russian companies organized internships for 11 foreign specialists, received 33 scientist visits and 36 foreign specialists participated in training courses. Technical meetings hosted in Russia as part of IAEA technical cooperation were attended by more than 100 foreign experts.

As part of the IAEA international project for innovative nuclear reactors and fuel cycles (INRFC), new projects were initiated in 2011 for joint research, including:
- the INRFC-SYNERGY project to prepare scenarios and development strategy for the nuclear power industry at regional and global levels (including analysis of institutional issues related to creation of regional centers for NFC), with 28 nations ready to participate;
- comprehensive assessment using INRFC Methodology of nuclear power systems in Belarus and Indonesia; representatives of these countries confirmed efficiency of the Methodology.

As initiated by the Russian President in 2006, the 2012–2013 INRFC Action Plan was amended with a new objective to set up an IAEA international training course at the Moscow Institute of Physics and Engineering. There are also plans to create an advanced training center in Russia for young specialists from the CIS, using the INRFC Methodology to assess national nuclear power systems.

Work started in 2011 on the initiative declared by Rosatom in 2010 to build an international program for multilateral cooperation in fast reactors research and development. The first meeting (04-06.07.2011, Vienna) was attended by representatives from India, China, and the Czech Republic and discussed activities to build an international program of multilateral cooperation in fast reactors (based on MBIR). Representatives from seven countries that are interested in further cooperation in fast-neutron reactors met at an IAEA workshop held at the Nuclear Reactor Institute in October 2011.

In December 2011, as part of its interaction with the IAEA Secretariat, the Corporation initiated a practice of annual meetings with the IAEA Director General and his deputies to discuss the results of the year, and priorities for joint efforts during the next year.

NUCLEAR ENERGY AGENCY OF THE ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (NEA OECD)

In 2011 Rosatom State Corporation jointly with the Russian Foreign Ministry, Ministry of Economic Development, and Federal Service for Environmental, Technological and Nuclear Supervision, worked to prepare for Russia's membership of the NEA OECD. In October 2011, the Russian Government decided that Russia will seek NEA OECD membership.

In 2011 the Corporation as executive under the Framework agreement on cooperation in scientific research and experimental design for fourth-generation nuclear power systems, joined the Treaty on the super-critical water reactor and the Memorandum of mutual understanding in the fast reactor with lead core. Russia now cooperates in three fourth-generation reactor systems (Russia already joined the Treaty on the fast-neutron reactor with sodium core in 2010).

To promote Russian interests on the global market for radio-isotope products, the Corporation in 2011 maintained its presence in the High-Level Group (HLG) of the NEA OECD for securing supplies of Molybdenum-99. €20,000 was donated to finance HLG activities in 2011.

Work was done in the group that assesses new NPP designs (the multinational design assessment program) under the NEA OECD to set up a task force on Russian NPP design. €80,000 was paid to finance the program in 2011.

COUNCIL ON COOPERATION IN PEACEFUL USE OF NUCLEAR ENERGY UNDER THE INTEGRATION COMMITTEE OF THE EURASIAN ECONOMIC COMMUNITY

By its Decree No. 2358-p of 26.12.2011, the Russian Federal Government approved the draft International Target Program "Land reclamation in EEC member states affected by uranium mining". In 2011, the Council held its 8th (22.07.2011) and 9th (17.11.2011) meetings on cooperation in peaceful use of nuclear energy under the EEC Integration Committee; the meetings adopted an interaction system to implement the program.

In addition to the above, the Committee:

- adopted and published a list of terms in the fields of accounting, control, and storage of ionizing radiation sources;
- approved a draft agreement on information interaction between EEC member states with respect to movement of radioactive sources;
- decided to create a web-based school of EEC member states to train specialists in nuclear science and technology in the EEC member states;
- decided to work out an agreement for policy harmonization in legal and standard technology regulation of peaceful use of nuclear energy.

COMMITTEE OF CIS MEMBER STATES ON PEACEFUL USE OF NUCLEAR ENERGY

As part of the international exhibition to mark the 20th anniversary of the Commonwealth of Independent States, a workshop was held in Moscow on July 1, 2011 "20 years of the CIS. Results and prospects for future cooperation between CIS member states in peaceful use of nuclear power".

The Committee of CIS member states arranged activities to implement a priority action plan for implementation of the Framework cooperation program of CIS member states in peaceful use of nuclear power up to 2020 (ATOM-CIS Cooperation), dated 19.05.2011.

A draft agreement was harmonized on coordination of inter-governmental relations in peaceful use of nuclear energy in the Commonwealth of Independent States. The draft was prepared for submission to the CIS Executive Committee for further examination.

Draft concepts and regulations on the Center for Collection and Analysis of Information on the Safety of Experimental Nuclear Units in the CIS were written.

EUROPEAN UNION (EU)

Work with the EU in the field of nuclear safety continued in 2011, including issues of stress tests at nuclear plants.

THE CHERNOBYL SHELTER FUND (CSF)

A number of actions were organized to coincide with the 25th anniversary of the Chernobyl disaster:

- The Federal Government issued Instruction No. 659-p, dated 15.04.2011, to pay additional Russian contributions in 2011–2012 as follows: to the Chernobyl Shelter Fund, €20 mln for 2011 and €20 mln for 2012; and to the Nuclear Safety Account (NSA), €5 mln for 2012;
- the Federal Government issued Instruction No. 1106-p, dated 29.06.2011, to pay an additional €5 mln to CSF for 2012;
- a Russian delegation attended the activities of the Kiev Summit Meeting on safe and innovative use of nuclear energy, which was timed to coincide with the 25th anniversary of the Chernobyl disaster; a special conference of the Assembly of CSF and NSA Donors was held during the Summit Meeting.

Russia also participated in the activities of other international organizations:

see the Report section: "Scientific and Technical Complex"):

- European Center of Nuclear Research (CERN),
- International Thermonuclear Energy Organization (ITER),
- International Science and Technology Center (ISTC),
- International Acceleration Center for Research of Heavy Ions and Antiprotons (FAIR),
- UN Science Committee on consequences of nuclear radiation (UNSCEAR),
- Preparatory Commission for the CTBTO.

3.5.6. PERFORMING INTERNATIONAL OBLIGATIONS AND ENFORCEMENT OF INTERNATIONAL EXPORT CONTROL LEGISLATION

On June 23–24, 2011, the Corporation's representatives participated in the annual plenary session of the Nuclear Suppliers Group (NSG), where the participant nations approved amendments to the NSG guiding principles on the criteria for transfer of sensitive technologies. The amendments will substantially improve amendments to export-import policy as regards exchange of units, equipment, and technologies for uranium enrichment.

To enforce UN Security Council Resolution 1540, a workshop was held in Moscow on October 25–27, 2011, on export controls for technical experts from CIS Member States (Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Ukraine).

In 2011, three regional workshops were organized for officers in charge of export control in the companies of Rosatom State Corporation, and three workshops were held for technical experts responsible for correct identification of products to be exported.

NO FAILURES OF COMPLIANCE WITH EXPORT CONTROLS WERE REGISTERED AT CORPORATION ORGANIZATIONS DURING THE REPORTING YEAR.

3.5.7. MAIN OBJECTIVES FOR 2012 AND THE MEDIUM-TERM FUTURE

Signing inter-governmental agreements with:
- the Republic of Belarus, on cooperation in nuclear safety;
- Nigeria, on cooperation to build an NPP;
- with the United Arab Emirates, Kyrgyzstan and Uzbekistan, on cooperation in peaceful use of nuclear power.

Signing a roadmap and protocol on cooperation with China for construction of Power Units Nos. 3 and 4 at Tianwan NPP.

Support for enactment of the inter-governmental agreement with Japan on cooperation in peaceful use of nuclear power.

Ensuring political and legislative support for cooperation in construction of nuclear plants in India, China, Turkey, Belarus, Ukraine, Armenia, Vietnam, and Bangladesh, and for construction of a Nuclear Research Center in Vietnam.

Assistance to OJSC Atomredmetzoloto in obtaining coordination and permits required for uranium production at the Mkuju River field in Tanzania.

Supporting the adoption of specific rules by specialized working bodies of the IAEA, based on Russian proposals for strengthening the global system of nuclear safety.

Completion of the procedure for Russia to join the Nuclear Power Agency of the OECD.

Obtaining IAEA consent for Russia's proposal to hold the IAEA International Conference, "Nuclear Energy in the 21st Century", in St. Petersburg in 2013.

Signing inter-governmental agreements with Vietnam and Uzbekistan on transport of HEU fuel, arranging transport of HEU fuel from Ukraine, Poland, and Uzbekistan.

Obtaining approval of the international target program "Land Reclamation in EEC Member States Impacted by Uranium Mining", creating program directorates, and commencing the program.

Completing formation of the system of Rosatom representation at embassies and trade missions of the Russian Federation in foreign countries.

3.6. INTERNATIONAL BUSINESS

KIRILL KOMAROV
Deputy CEO for Development and International Business

ROSATOM STATE CORPORATION SIGNED MANY AGREEMENTS IN 2011 FOR CONSTRUCTION OF NEW NUCLEAR PLANTS. WAS IT EXPECTED?

It was expected – we are achieving our targets for business development. We doubled our contract portfolio in 2011, which clearly proves high levels of confidence in Russian technologies. By the end of the year, the Corporation had projects to build 21 nuclear power generating units abroad. The Corporation also has about 35 other potential projects, and 22 for which we are in negotiations, taking part in tenders, preparing offers, etc.

THERE ARE SUGGESTIONS THAT THE FUKUSHIMA-1 DISASTER HAS LED TO A SHARP DECLINE IN DEMAND FOR NUCLEAR PLANT CONSTRUCTION WORLDWIDE. IS THAT TRUE?

No, that is not the case. Atomic power generation has only been rejected by countries, which were not planning to build nuclear plants even prior to the events in Japan, or which had no meaningful atomic power program. Germany and Italy are the most obvious examples.

HAVE THE JAPANESE EVENTS HAD AN IMPACT ON ROSATOM'S CONTRACT PORTFOLIO?

They have, but I would say that the effect has been positive. This may seem surprising, but it is the fruit of intensive work by the Corporation in recent years. What is in demand now is not merely nuclear power, but safe nuclear power. Customers want to see reference projects – projects which have already been successfully implemented. And in this respect Russia has the best possible credentials, because we are not only offering nuclear plants to other countries, but are also building numbers of such plants at home, and this is the best evidence that we know our technologies to be safe.

HOW DO YOU EXPECT THE GLOBAL MARKET FOR NUCLEAR GENERATING TO DEVELOP IN THE NEXT 10-15 YEARS?

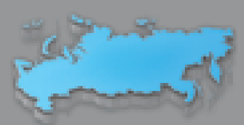
We believe that up to 350 nuclear power generating units could be built worldwide by 2030. Forecasts have been somewhat moderated after the events in Japan, but the order of magnitude has not changed. This is not merely our own viewpoint – estimates by the IAEA, the International Association of Nuclear Plant Operators and the Global Nuclear Association are similar.

WHAT SHARE OF THE GLOBAL MARKET DOES ROSATOM AIM TO ACHIEVE?

As of today, Russia commands about 25% of the global market for nuclear plant construction, and we believe that we can keep that share. Our present foreign contract portfolio is worth USD 50 bln. This represents an important source of earnings for the Russian economy, since we strive to maximize the share of deliveries and services which are provided by Russian companies in implementation of our foreign projects.

ROSATOM'S BUSINESS IN FOREIGN MARKETS IS CREATING AN ALTERNATIVE TO RUSSIA'S TRADITIONAL RAW MATERIAL EXPORTS. DO YOU HAVE THE SUPPORT OF THE FEDERAL GOVERNMENT IN THIS?

We certainly do. Some foreign counties have come to view Russia as no more than an exporter of raw materials to the global market. Everybody knows that we sell natural gas, petroleum, aluminum, and other metals. We have very few high-tech products that are genuinely competitive on the global market. The nuclear power industry represents an opportunity to develop our high-tech capabilities, and we are pleased that senior figures in the Russian government share our priorities in this respect and are providing every possible support.



1 RUSSIA

Geological exploration, uranium production, design and construction of nuclear plants, machine-building, generation of heat and electricity, enrichment and conversion of uranium production, fuel manufacturing, decommissioning of nuclear facilities, processing of nuclear waste and used fuel.

10 NETHERLANDS

Supplies of regenerated uranium fuel to Borsel NPP.

2 USA

Projects to create uranium mines in Wyoming, Arizona and Utah. Supplies of highly-enriched uranium (under the HEU Purchase Contract) and enriched uranium products. Enactment of inter-government agreement on nuclear cooperation (123 Treaty).

11 GERMANY

Supplies of uranium products. Supplies of regenerated uranium fuel to Neckarwestheim NPP.

3 CANADA

Headquarters of Uranium One (mining company) in Toronto.

12 SWITZERLAND

Supplies of uranium products. Supplies of regenerated uranium fuel to Beznau and Gesgen NPPs.

4 MEXICO

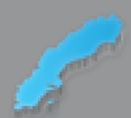
Supplies of uranium products.

13 SOUTH AFRICA

Supplies of uranium products.

5 BRAZIL

Cooperation with Brazilian companies under the inter-government treaty on cooperation in use of peaceful nuclear energy.



14 SWEDEN

Supplies of uranium products.

6 ARGENTINA

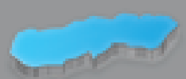
Cooperation with Argentinian companies under the inter-governmental treaty on cooperation in use of peaceful nuclear energy.

15 CZECH REPUBLIC

Supplies of uranium fuel for the Dukovani 1-4 and Temelin 1-2 NPPs. Creation of a Technology Service Center.

7 UNITED KINGDOM

Supplies of uranium products. Supplies of regenerated uranium fuel to Sizewell B NPP.



16 SLOVAKIA

Supplies of uranium fuel for the Mohovce 1-2 and Bohunice 3-4 NPPs.

8 FRANCE

Supplies of uranium products.

17 HUNGARY

Supplies of uranium fuel for Paks 1-4 NPP.

9 BELGIUM

Supplies of uranium products.

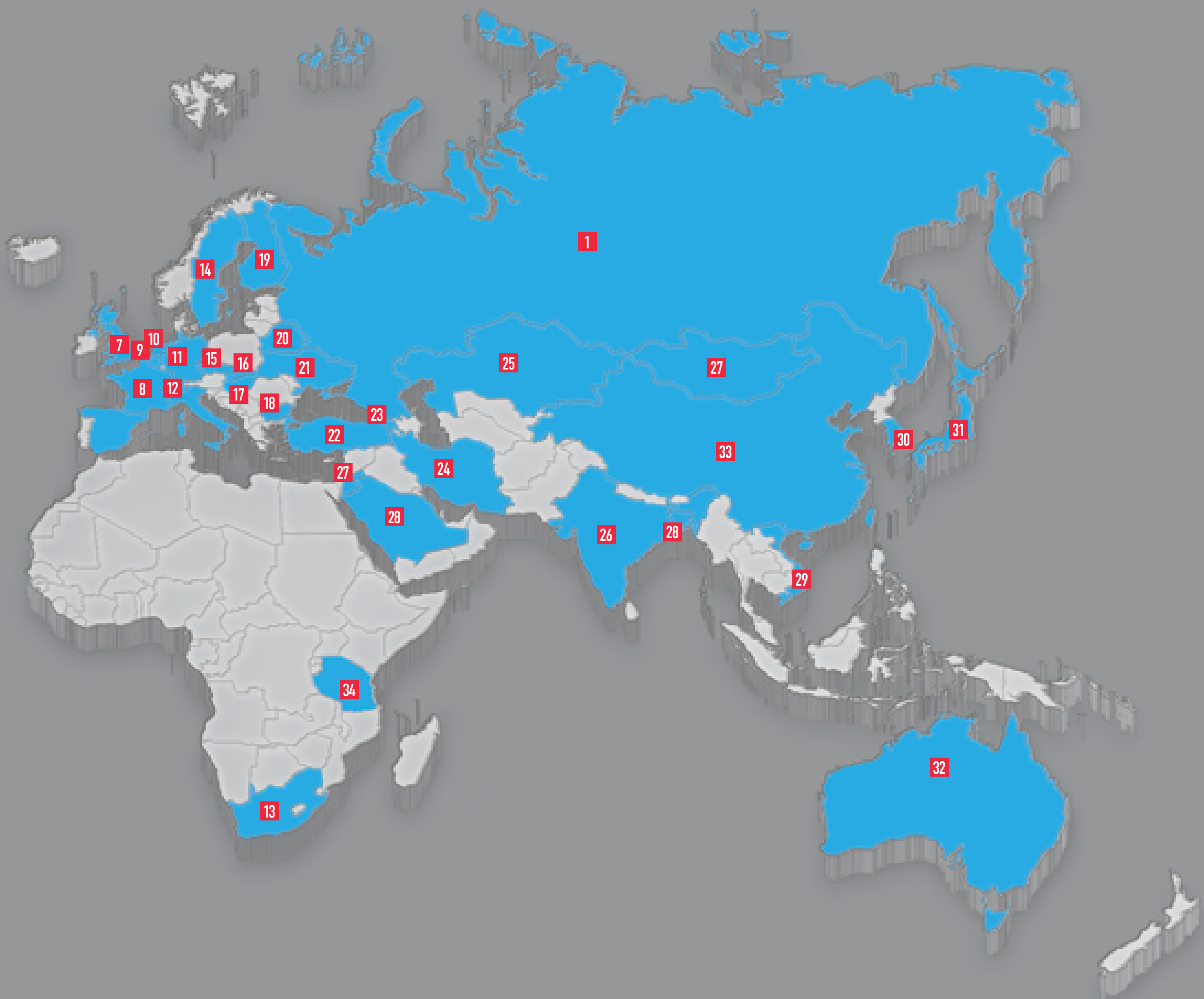
18 BULGARIA

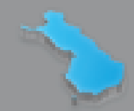
Supplies of uranium fuel for Kozloduy 5-6 NPP.

ROSATOM GLOBAL PRESENCE

Country	**Russia**	Canada	USA	Mexico	Brazil	Argentina	Great Britain	France	Spain	Morocco	Namibia	Belgium	Netherlands	Germany	Switzerland	Italy
Uranium mining	●	○	●								○					
Supply of low enriched uranium and enrichment services	●	○	●	●			●	●	●			●	○	●	●	
Supply of nuclear fuel and its components	●		○				●			○			●	●	●	
Construction of NPPs	●				○	○										○

● Ongoing projects ○ Future projects





19 FINLAND

Supplies of uranium products. Supplies of regenerated uranium fuel to Loviisa 1-2 NPP.

27 MONGOLIA

Implementation of the Russia-Mongolia inter-governmental agreement on establishment of the Dornod Uran joint venture.

20 BELARUS

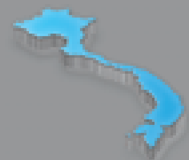
Export loan to finance nuclear plant construction. Preparation of the construction site.

28 BANGLADESH

Inter-governmental treaty on cooperation for construction of Ruppur NPP.

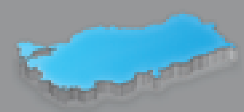
21 UKRAINE

Supplies of uranium products. Supplies of uranium fuel for nuclear plants in Ukraine. Contract agreement signed for construction of Khmelnitskaya NPP. Joint venture established to produce nuclear fuel using Russian technologies.



29 VIETNAM

Inter-governmental agreement on an export loan to finance NPP construction and set up a Nuclear Science and Technology Center.



22 TURKEY

Construction of Akkuyu NPP.

30 SOUTH KOREA

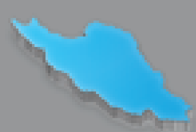
Supplies of uranium products.

23 ARMENIA

Geological exploration. Supplies of nuclear fuel for the Armenian NPP. Preparations to build a new power unit at the NPP.

31 JAPAN

Supplies of uranium products. Work to set up a joint venture (with Toshiba Corp.) to market Russian uranium products.



24 IRAN

First delivery of replacement fuel for Busher NPP. Generating launch of Unit 1 at Busher NPP (start of supplies to the national power grid).

32 AUSTRALIA

Establishing a business to produce uranium by underground well leaching (the Honeymoon Project).

25 KAZAKHSTAN

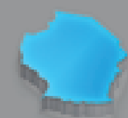
Joint venture companies:
OJSC JV Zarechnoye,
OJSC JV Akbastau, LLC Karatau,
LLC JV Betpak Dala, LLC Kyzylkum.
Creation of the Russia-Kazakhstan Center for Uranium Enrichment.
Signing of a comprehensive program for cooperation between Russia and Kazakhstan in peaceful use of nuclear energy.

28 CHINA

Generating launch of experimental fast-neutron reactor (CEFR). Supply of components for fuel fabrication to reload Units 1 and 2 of Tianwan NPP. Completion of project for construction of a gas centrifuge plant.

26 INDIA

Completion of construction of Kudankulam 1 NPP. Supply of natural enrichment pellets to produce fuel for Rajastan NPP.



34 TANZANIA

Analysis and assessment of future uranium mining projects.

30% Foreign revenues of total revenues of the Corporation in 2011.

28.6 BLN US$ Amount of foreign orders portfolio for five years

21 Power units

3.6.1. TRANSFORMING ROSATOM INTO A GLOBAL BUSINESS

ROSATOM

LEADER ON THE GLOBAL MARKET OF NUCLEAR TECHNOLOGIES AND SERVICES

FIRST PLACE by the number of power units currently under construction

FIRST PLACE by volumes of uranium enrichment

SECOND PLACE by uranium reserves at its mining assets.

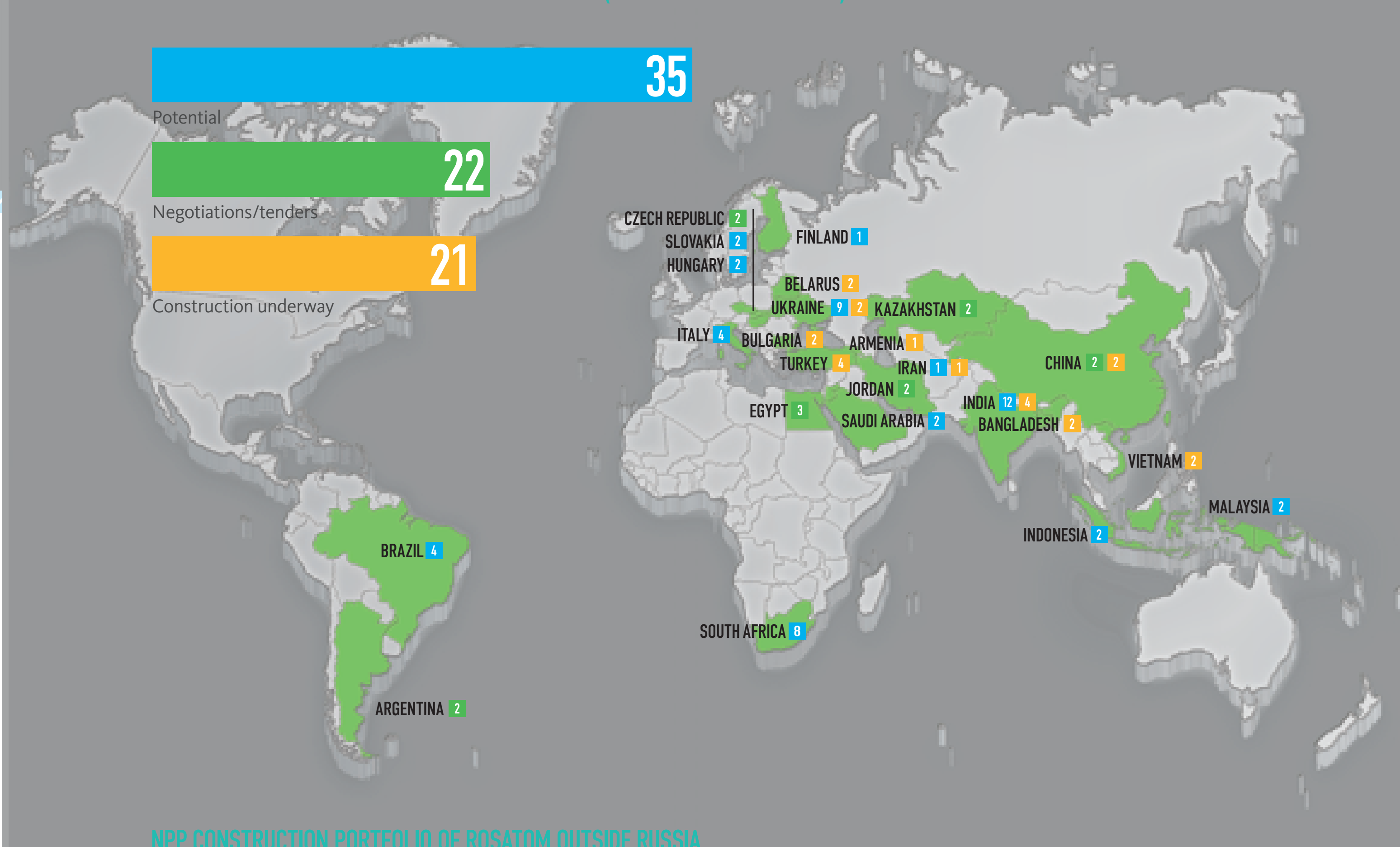
ROSATOM HAS SET ITSELF THE STRATEGIC GOAL OF ACHIEVING GLOBAL TECHNOLOGY LEADERSHIP IN THE NUCLEAR INDUSTRY.

The Corporation and its component companies also intend major expansion of their international business to achieve the following targets by 2030:

- **JOINING THE TOP THREE GLOBAL LEADERS** BY REVENUES IN ALL KEY BUSINESS SEGMENTS OF THE NUCLEAR MARKET
- **REVENUES FROM FOREIGN OPERATIONS EQUAL TO AT LEAST 50%** OF TOTAL REVENUES
- **REVENUES FROM FOREIGN ASSETS TO REPRESENT AT LEAST 25%** OF TOTAL REVENUES

3.6.2. THE GLOBAL MARKET FOR NUCLEAR POWER PLANT CONSTRUCTION

NPP CONSTRUCTION BY ROSATOM OUTSIDE RUSSIA (NUMBER OF POWER UNITS)



NPP CONSTRUCTION PORTFOLIO OF ROSATOM OUTSIDE RUSSIA

2011

GENERATING LAUCH

BUSHER (Iran)	1 power unit

PROJECT PORTFOLIO:

2011		2010	
CONSTRUCTION IN PROGRESS:		CONSTRUCTION IN PROGRESS:	
KUDANKULAM (India)	2 power units	**BUSHER** (Iran)	1 power unit
TIANWAN (China)	2 power units	**KUDANKULAM** (India)	2 power units
BELENE (Bulgaria)	2 power units	**BELENE** (Bulgaria)	2 power units
AKKUYU (Turkey)	4 power units	**AKKUYU** (Turkey)	4 power units
SCHEDULED PROJECTS:		SCHEDULED PROJECTS:	
METSAMOR (Armenia)	1 power unit	**METSAMOR** (Armenia)	1 power unit
KHMELNITSKAYA (Ukraine)	2 power units	**KHMELNITSKAYA** (Ukraine)	2 power units
NINTUAN (Vietnam)	2 power units		
OSTROVETSKAYA (Belorussia)	2 power units		
KUDANKULAM (India)	2 power units		
RUPPUR (Bangladesh)	2 power units		
TOTAL:	21 POWER UNITS	TOTAL:	12 POWER UNITS

FUTURE PROJECTS:

TEMELIN (Czech Republic)	2 power units
PAKS (Hungary)	2 power units
ATUCHA (Argentina)	2 power units
NPP IN JORDAN	2 power units
NPP IN SOUTH AFRICA	8 power units

The main factors that have enabled Rosatom to become the global leader by numbers of NPPs under construction are as follows:

CONSIDERABLE EXPERIENCE IN NUCLEAR POWER GENERATION AND CONSTRUCTION OF NPPS

- Experience of Rosatom in NPP operation dates back to 1954
- The Corporation currently operates 24.2 GW of nuclear power capacity (second only to Électricité de France). The Corporation has been continuously active in construction of nuclear plants both in Russia and abroad, and has maintained design, research and testing work, modernizing its range of reactors and developing active and passive safety systems

A UNIQUE AND SAFE DESIGN FOR GENERATION III+ NPPS

A LIST OF NPPS ALREADY BUILT USING ROSATOM DESIGNS

- The Corporation never builds a plant in another country to a design that has not already been used in Russia or by another contactor outside Russia. A prospective customer can examine all stages of NPP construction by Rosatom, from the laying of the first concrete block (as at the Baltic NPP, now under construction in Russia) to the ready-to-launch facility compliant with all "post-Fukushima" safety standards (Kudankulam NPP in India)

FLEXIBILITY IN INTERNATIONAL OPERATIONS

- For example, work by Rosatom on the Tianwan NPP in China included design, building of a nuclear island, supervision of construction and warranty, while in Turkey (Akkuyu NPP) the Corporation used a build-own-operate scheme, comprising design, investment, construction, and sale of electric power

THE BULK OF DEMAND FOR NPP CONSTRUCTION IS INCREASINGLY FROM COUNTRIES FOR WHICH NUCLEAR POWER OFFERS THE SOLE SOLUTION TO LONG-TERM POWER SHORTAGES. MORE THAN 45 COUNTRIES (INDIA, TURKEY, SAUDI ARABIA, SOUTH AFRICA, COUNTRIES IN SOUTH-EAST ASIA, ETC.) ARE NOW CONSIDERING IMPLEMENTATION OF LARGE-SCALE NUCLEAR GENERATING PROGRAMS.

RESULTS IN 2011

Ongoing integration of the Russian nuclear power industry with the global nuclear market moved ahead at record rates in 2011, driven by cooperation with established partners (France, UK, USA, Ukraine, China, India, Kazakhstan, Armenia) and also with countries, which are planning to create or upscale their nuclear power industries (Bangladesh, Vietnam, Kuwait, Qatar, Namibia, Argentina, South Africa, and Saudi Arabia).

The number of NPP construction projects in Rosatom's international portfolio nearly doubled in 2011, from 12 to 21 power units. By the end of the year, contract documents had been prepared for projects in India, Turkey, Vietnam, China, Ukraine, Armenia, Belarus and Bangladesh.

GROWTH OF THE CONTRACT PORTFOLIO FOR NPP CONSTRUCTION ABROAD

	2011	2010	2011 to 2010, %
Portfolio of foreign contracts for the next five years, bln US$	**28.59**	22.37	128
Portfolio of NPP projects abroad, units	**21**	12	175

In September 2011, Rolls-Royce and Rosatom State Corporation signed a memorandum of mutual understanding in the presence of the Russian President Dmitry Medvedev and the UK Prime Minister David Cameron. I have been pleased by rapid implementation of the memorandum, and I look forward to the results of our joint efforts, particularly as concerns projects in Turkey and the Czech Republic.

Dr. Lawrie Haynes
President of the Nuclear Division, Rolls-Royce

PROGRESS OF INTERNATIONAL NPP CONSTRUCTION PROJECTS DURING 2011

PROJECT	RESULTS
BUSHER NPP, Iran	— Start of generation at Busher NPP, 12.09.2011.
CEFR EXPERIMENTAL FAST-NEUTRON REACTOR, China	— Start of generation at the CEFR reactor, 05.07.2011.
AKKUYU NPP, Turkey	— First funds were allocated from the Russian federal budget (21.9 bln RUB.). — License requests were filed for generation of electric power and environmental compliance.
BELENE NPP, Bulgaria	— Effect of the project agreement was extended until April 2012.
KUDANKULAM NPP, India	— Construction of Power Unit No. 1 was completed (launch will follow authorization by the Indian Government).
NINTHUAN NPP, Vietnam	— An inter-governmental agreement was signed on an export loan to finance plant construction and to establish a nuclear science and technology center in Vietnam.
OSTROVETSKAYA NPP, Belarus	— An inter-governmental agreement was signed on cooperation in NPP construction and on an export loan to finance the construction. — A contract agreement for the project was signed.
KHMELNITSKAYA NPP, Ukraine	— A contract agreement for the project was signed.
TEMELIN NPP, Czech Republic	— A tender was prepared for construction of two power units (as part of the Russian-Czech consortium between Skoda JS a.s., CJSC Atomstroyexport, and OJSC Gidropress Design Bureau). — A Technological Services Center was set up to provide fuel services to Czech nuclear plants and subsequently to other countries.
RUPPUR NPP, Bangladesh	— An inter-governmental agreement was signed on cooperation in NPP construction.
SOUTH AFRICA	— Rosatom (OJSC Energy Technology Institute, OJSC Nizhny Novgorod Atomenergoproekt, CJSC Rusatom Overseas, NUKEM Technologies GmbH) applied to take part in a tender for construction of an isotope reactor in South Africa.

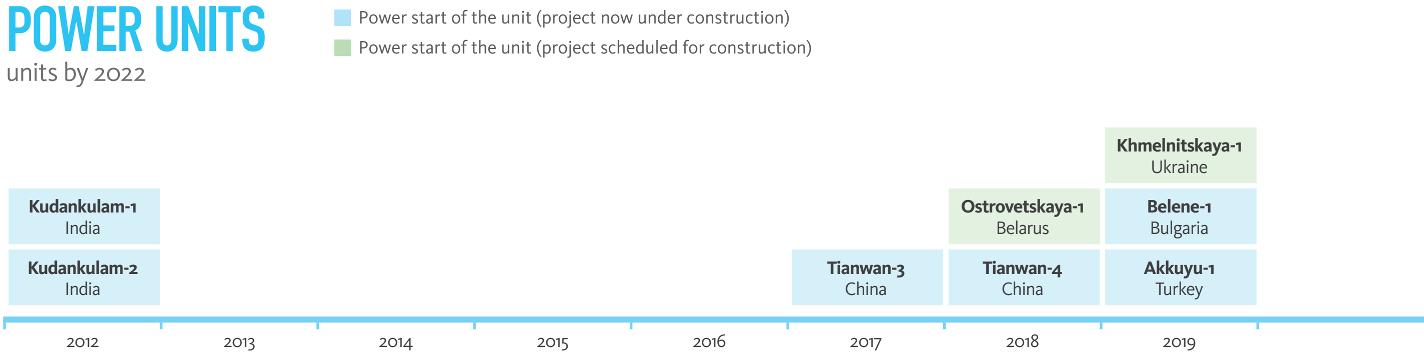
INTEGRATED NPP CONSTRUCTION SERVICES

Rosatom offers its customers a full range of services for nuclear plant construction. In 2011 the Corporation completed the formation of an integrated package of services with the following main components:

- power generating solutions (the latest NPP design using generation III+ technologies and full life-cycle support for facilities);
- financial solutions (various options for financing of construction, from BOO to provision of government loans);
- localization (a substantial part of orders for equipment and works can be offered to businesses in the customer's home country);
- legal regulation (assistance in creation of a national regulatory system);
- HR development assistance (assistance in training of specialists);
- support to ensure public acceptance (building a constructive dialog with stakeholders concerning development of the nuclear power industry).

ROAD MAP OF NPPS TO BE BUILT OUTSIDE RUSSIA

21
POWER UNITS
units by 2022



THE SYSTEMS INTEGRATOR FOR RUSSIAN NPP ENGINEERING ON FOREIGN MARKETS IS CJSC RUSATOM OVERSEAS, WHICH WAS ESTABLISHED IN AUGUST 2011 (100% OF COMPANY STOCK IS HELD BY OJSC ATOMENERGOPROM).

CJSC Rusatom Overseas carries out the following tasks:

— at the pre-contract stage, provides marketing services (including monitoring and analysis of markets), promotes Russian know-how in NPP construction and holds negotiations with the customer, coordinates activities within business units of Rosatom State Corporation and helps prospective customer countries to create and develop infrastructure for their national nuclear power industry (training of personnel, design of legal regulation, etc.);
— at the tendering stage, defines make-up and functions of the Russian project team, puts together the integrated tender, coordinates project financing activities (including BOO-type proposals) and negotiates with the customer;
— at the stage of NPP construction, coordinates and communicates with the customer, manages the shares of project companies (asset holder function);
— at the stage of operation, manages the shares and related rights of project companies and of acquired assets.

CJSC Rusatom Overseas works closely with subsidiaries of Rosatom State Corporation from the stage of preliminary (pre-tender) contacts with potential customers to the stage of NPP construction and operation.

CJSC Rusatom Overseas has been designated as the operator of foreign marketing offices of Rosatom State Corporation for purposes of international business development. The creation of marketing offices is of crucial importance for the globalization of Russian nuclear power technologies. The offices will consolidate the work of Russian nuclear companies on foreign markets and make it more efficient. The Corporation plans to open about 20 marketing offices in the next few years.

2020	2021	2022
Kudankulam-3 India		
Mezamor-3 Armenia		
Ostrovetskaya-2 Belarus	**Kudankulam-4** India	
Ruppur-1 Bangladesh	**Khmelnitskaya-2** Ukraine	
Ninkhuan-1 Vietnam	**Ruppur-2** Bangladesh	
Belene-2 Bulgaria	**Ninkhuan-2** Vietnam	
Akkuyu-2 Turkey	**Akkuyu-3** Turkey	**Akkuyu-4** Turkey

Fortum has a long history of cooperation with Rosatom, and we view our relationship as one of partnership. We have worked with the Corporation's Soviet and Russian predecessors since the 1970s, when the Loviisa NPP was designed and built in Finland.

In November 2010 Fortum and Rosatom signed a memorandum on cooperation in nuclear power engineering. The growth of nuclear power markets offers excellent opportunities to expand our long-standing cooperation and to apply our technologies and capacities to best advantage. Fortum can offer its competences in nuclear technologies and safety, and Rosatom's numerous projects create new business opportunities for Fortum.

Fortum and Rosatom, together with other NPP operators, also engaged in important interaction last year through the World Association of Operators of Nuclear Power Plants (WAO NPP). We view the WAO NPP as a highly important international forum for improving nuclear safety worldwide.

In conclusion, our cooperation with Rosatom State Corporation represents an important part of Fortum's business strategy, because nuclear power engineering is among the key components of that strategy

Matti Ruotsala
Executive Vice-President, Fortum

PLANS FOR 2012 AND THE MEDIUM-TERM FUTURE

Rosatom has the following plans for 2012, in addition to ongoing NPP construction work:

— commissioning of Power Units No. 1 and 2 at Kudankulam NPP (India) and start of power generation at Power Unit No. 1;
— taking part in tenders to build five power generation units (in the Czech Republic, Jordan and Hungary);
— making preparations to take part in tenders for the construction of power units in South Africa and Argentina.

The Corporation will pursue business development on new markets, including the signature of framework agreements to build NPPs in African and Middle Eastern countries (Nigeria, Saudi Arabia, Oman, Kuwait).

Rosatom plans to develop its infrastructure and network of representative offices in regions which it views as business priorities, in order to focus its competencies and resources in those regions.

3.6.3. THE GLOBAL MARKET FOR COMMODITIES AND SERVICES IN THE FIRST STAGE OF THE NUCLEAR FUEL CYCLE

Rosatom State Corporation has strong positions on the global market for commodities and services for the initial stage, or "front end", of the nuclear fuel cycle. The Corporation:

13% ACCOUNTS OF GLOBAL URANIUM PRODUCTION (including Uranium One and its holdings in mining assets);

45% OF THE URANIUM ENRICHMENT MARKET

45 NUCLEAR AND **12** EXPERIMENTAL REACTORS OUTSIDE RUSSIA SUPPLY NUCLEAR FUEL

20 COUNTRIES WHERE ROSATOM HAS A MARKET PRESENCE

The front-end market lost ground in 2011 following the events at Fukushima-1 NPP (due to shutdown of power units in Japan and Germany), which led to a temporary imbalance between supply and demand. However, the natural uranium market actually became less volatile due to the departure of a large number of speculative players.

The emergence of new challenges in nuclear plant safety checked rates of growth in reactor numbers, due to the shift in demand to reactors that meet post-Fukushima safety standards. More stringent safety standards have also appeared for nuclear fuel.

All major players on the market readjusted their long-term investment and production programs to reflect new forecasts for growth in the number of nuclear reactors worldwide. Global production of natural uranium in 2011 remained at the previous year's level of 53,650 tons.

Current trends in nuclear power engineering and the nuclear fuel cycle (design and enforcement of new safety standards, new reactor concepts and approaches to organization of the fuel cycle, changes in production capacity structure, etc.) are expected to reshape the global market for front-end commodities and services within the next 5 to 10 years.

BUSINESS RESULTS IN 2011

Production of uranium

Business results of OJSC Atomredmetzoloto:

— uranium production increased by 37% (to 7,100 tons);
— the reserve base was increased to 757,500 tons of uranium;
— a transaction was closed for purchase of 100% of shares in Mantra Resources Limited.

Production of nuclear fuel

Business results of OJSC TVEL:

— a contract was signed with a European operator to supply a sample consignment of TVS-Kvadrat sets for NPPs; the contract envisages quality validation of fuel production by the manufacturer (OJSC Novosibirsk Chemical Concentrates Plant) and delivery of sets for testing;
— a package of agreements was signed with AREVA on further cooperation in production of nuclear fuel from regenerated uranium;
— deliveries of Russian nuclear fuel were completed to fully substitute US-made fuel elements at Power Unit No. 2 of Temelin NPP in the Czech Republic;
— fuel was supplied for the first refueling operation at Busher NPP (Iran);
— a joint venture was established to build a nuclear fuel plant for Russian-designed VVER-1000 reactor units in Ukraine.

Export of commodities and services for the nuclear fuel cycle

Business results of OJSC Techsnabexport:

— sales by OJSC Techsnabexport reached a record level of USD 2.34 bln;
— 11 new contracts were signed to supply Russian-made fuel cycle products to foreign partners and two earlier contracts were extended (the portfolio of long-term contracts with schedules after 2025 rose by more than 35% compared with the previous year to USD 27 bln);
— Work to implement the HEU Purchase Contract with USEC and a contract with a group of Western companies (AREVA, Cameco, Nukem) to supply natural LEU, as well as physical transfer of unused natural LEU to Russia led to 88% completion of the 20-year target set by the HEU Purchase Contract and meant that about 36% of the uranium enrichment needs of Western-designed reactors in the reporting year were met from Russia;
— the contract with CNEIC to provide technical assistance for construction of a gas-centrifuge plant in China was fully implemented: phase 4 of the gas-centrifuge plant with rated output of 500,000 SWUs was commissioned nine months earlier than scheduled.

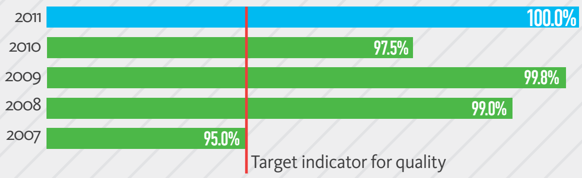
EFFORTS BY OJSC TECHSNABEXPORT TO RAISE LEVELS OF CUSTOMER SATISFACTION AT THE FRONT END OF NUCLEAR FUEL

Customer satisfaction is the main criterion of success applied to operations by OJSC Techsnabexport, the principle Russian exporter of commodities and services for the nuclear fuel cycle. Levels of customer satisfaction are monitored annually.

Two aspects of customer satisfaction with export contract execution were assessed in 2011: organization and conduct of nuclear fuel imports and exports, and management of projects to build NFC-related facilities.

The customer satisfaction index for the reporting period was 100%, which is 5 percentage points above the target.

OJSC TECHSNABEXPORT CUSTOMER SATISFACTION INDEX (LEVELS, TARGETS, TRENDS)



PLANS FOR 2012 AND THE FUTURE

PLANS FOR 2012	PLANS FOR THE MEDIUM-TERM FUTURE	PLANS FOR THE LONG-TERM FUTURE
Meeting current contract commitments. Scheduled construction work on a plant in Ukraine. Start of commercial operations at an R&D center in the Czech Republic. CJSC Uranium Enrichment Center (a Russian-Kazakh joint venture) to sign a sale-and-purchase contract for a shareholding in OJSC Urals Electrochemical Combine.	Ensuring supplies of fuel for Russian-designed reactors built in Russia and abroad. Completing construction of the plant in Ukraine. CJSC Uranium Enrichment Center to begin business. Further cooperation with AREVA in nuclear fuel production. Completion of experimental operation and licensing for design of TVS-Kvadrat fuel-element sets (LTA type) under a contract with a European operator; promotion of TVS-Kvadrat products on the PWR reactor market. Preparation of a comprehensive service package (supply of fresh nuclear fuel and services for the back-end of the nuclear fuel cycle). Cooperation to process regenerated uranium for Japanese power companies.	Ensuring supplies of fuel for Russian-designed reactors built in Russia and abroad. Reinforcing presence on conventional markets, including localization and globalization of R&D. Strong presence on the nuclear fuel market for foreign-designed reactors. Securing leadership in global production of uranium. Promoting a comprehensive service package (supply of fresh nuclear fuel and services for the back-end of the nuclear fuel cycle).

3.6.4. COOPERATION WITH INTERNATIONAL NUCLEAR COMPANIES

Rosatom State Corporation continued its cooperation and interaction with major players in the international nuclear sector during 2011.

MAIN RESULTS OF COOPERATION IN 2011

Partner	Results of cooperation
EDF, France	EDF and OJSC Rosenergoatom won a tender to upgrade Power Units Nos. 5 & 6 at Kozloduy NPP (Bulgaria); the contract is expected to be signed in 2012. The memorandum of cooperation envisages: – manufacturing and engineering; – nuclear fuel cooperation; – cooperation in third countries; – analysis of the consequences of the Fukushima-1 accident.
ROLLS-ROYCE, UK	On September 12, 2011, Rosatom and Rolls-Royce signed a memorandum of mutual understanding, creating joint working groups for: – supply chain management; – special steels and heavy components; – automation of production processes; – servicing and upgrading of NPPs.
AREVA, France	On December 14, 2011 the Corporation and AREVA signed a memorandum of mutual understanding for joint work in training and retraining of nuclear power engineering personnel.
FORTUM, Finland	The Corporation and Fortum are considering potential joint projects pursuant to a memorandum of strategic cooperation signed on November 25, 2010. In particular, work is underway on the project for construction of the Belene NPP in Bulgaria (as envisaged by another memorandum signed by the Corporation, Fortum and NEK EAD on November 29, 2010).

3.7.

SCIENTIFIC AND TECHNICAL COMPLEX

VYACHESLAV PERSHUKOV
Deputy CEO, Director of the Innovation Management Unit

HOW DID MANAGEMENT STRUCTURE OF THE SCIENCE AND ENGINEERING COMPLEX CHANGE IN 2011?

The Science and Engineering Unit has been transformed into the Innovation Management Unit. CJSC Science and Innovation Management Company was set up to consolidate Rosatom R&D institutes. Our science and engineering councils were reformed.

We were partially able to realize a "triad" principle, where three managers are appointed for each project: a science manager, a chief designer, and a chief project engineer (a customer-developer was also appointed in capital construction projects). This is our attempt at a transition to project-based management of innovation projects. The triads will be responsible for nearly all works in the creation of a new production platform at Rosatom. Part of our projects have been merged into a super-project, entitled the "Breakthrough project".

WHAT IS THE PURPOSE OF THIS CONSOLIDATED PROJECT?

The Breakthrough project is highly ambitious. Russian specialists have embarked on something, which has never been attempted in the world before now. Our aim is to create a new, competitive and commercially viable nuclear power industry that excludes serious accidents, uses the full energy potential of uranium (instead of a mere 0.7% of its potential), solves problems of UNF accumulation and disposal of high-level nuclear waste, and reinforces non-proliferation technology. We have set ourselves the objective of resolving these issues within a decade.

WHAT ARE THE CHALLENGES FOR THE R&D COMPLEX?

First of all, we need a human resource program. We will obtain it in full when the capacities of all our institutes are consolidated within the same management system. This is a task for 2012. Obviously, it will require more than the recruitment of young specialists. Our main objective is to attract specialists in engineering and science. In the recent period, university education has become dominated by courses in business and law, which was justified in the period of economic restructuring, but today our priorities are shifting to engineering support for development of the innovation economy. I see Rosatom as having a role and a responsibility (notably through the Breakthrough Project) to show that the science and engineering community can ensure Russia's transition from a raw materials exporter to a provider of knowledge and advanced technologies.

WHAT ARE YOUR OTHER OBJECTIVES FOR THE COMING YEAR?

Our R&D activities will grow dramatically in 2012, with a forecasted increase in productivity of 32%. The average paycheck in R&D must increase by 24%, which is considerably more than expected 12% growth of salaries in the whole of Rosatom. Achievement of these goals depends on further progress towards the project-based organization of R&D.

Another task is to define the list of critical technologies. This requires a full survey of the advanced technology landscape.

We also need to develop a knowledge management system in 2012.

Main achievements and failures in 2011

MAIN ACHIEVEMENTS +	MAIN FAILURES −
— Commencement and completion of an innovative development program — The project began for a knowledge management system — Science units were reorganized (creation of CJSC Science and Innovation) — Councils on science and engineering were reformed — A management system was built for the Breakthrough Project — International activities were stepped up	— Failure to achieve transition from subject-based R&D planning to 100% project-based R&D at the level of Rosatom divisions — No road maps for science and technology development — A management system has not been created for the Breakthrough Project, meaning that a year has been lost — Low involvement of research specialists and R&D units in business processes — The science complex has no system of internal and external communications

STRENGTHENING INNOVATIVE DEVELOPMENT OF RUSSIAN NUCLEAR TECHNOLOGIES AND EXPANDING THEIR SPHERE OF APPLICATION ARE KEY STRATEGIC GOALS FOR ROSATOM STATE CORPORATION.

They involve:

— creating next-generation nuclear technologies and building potential for future development of the Russian nuclear industry;
— expanding the application of nuclear technologies and developing capacities of the nuclear power engineering industry for testing and experimental production;
— ensuring efficient implementation of projects in the nuclear power industry, and developing technology initiatives for innovative development (including projects of the Russian Presidential Commission for Upgrade and Technology Development in Russia).

In 2011, the Company implemented federal target programs and projects of the Russian Presidential Commission for upgrade and technological development in Russia, as well as carrying out R&D and design work, and work to create an experimental base to achieve Russian pre-eminence in nuclear science research, and to support participation by Russian entities in international projects.

Volume of external R&D contracts in 2011 grew by 13.4% against the previous year, exceeding the target of 10%.

3.7.1. KEY EVENTS IN 2011

JANUARY	Rosatom's private company, the ITER Project Center, was given responsibility for making Russia's know-how contribution to ITER (the International Thermonuclear Energy Organization) as part of the international project for creation of an experimental thermonuclear reactor. The document assigning responsibility was Federal Government Decree No. 75-p, dated 26.01.2011.
FEBRUARY	The federal target program, "Development of the pharmaceutical and medical industry in the Russian Federation up to 2020 and for the long term" was ratified by Federal Government Decree No. 91, dated 17.02.2011. Terms of reference were prepared for a fast-neutron reactor unit with lead-bismuth core, to be used for nuclear power generation in Russian regions.
MARCH	The pyrochemical unit of chamber K-16 was commissioned for regular recycling of mixed oxide fuel (MOX fuel) from reactor units BOR-60 and BN-600. The unit has an annual output capacity of 100-150 kg of UNF, and will support innovative solutions for the new technology platform.
APRIL	The Rosatom Supervisory Council approved the Program for innovative development and technology modernization of the Corporation's civil business up to 2020.
JULY	Terms of reference and design tasks were defined for a multifunctional radiochemical research complex to carry out full-scale R&D work on recycling of UNF from fast-neutron reactors.
AUGUST	Russia was among the first ITER project countries to make equipment supplies (four copper cables and one niobium-titanium prototype cable for the poloidal magnetic field of the ITER).
DECEMBER	A first 50-ton industrial batch of superconductor strands was manufactured by OJSC Chepetsk Mechanical Works, which achieved the target rate of strand production. A technology was developed for production of uranium-plutonium oxide fuel for fast-neutron reactors using vibrocompaction. The technology reduces the production costs of uranium-plutonium mixed oxide fuel.

3.7.2. MAIN RESULTS OF FEDERAL TARGET PROGRAMS IN 2011

FEDERAL TARGET PROGRAMS (FTPS) IMPLEMENTED DURING 2011

FTP	Total planned financing for FTP, mln RUB	including: Federal budget, mln RUB	including: Off-budget sources, mln RUB	Actual FTP spending, total: mln RUB	Actual FTP spending, total: % of target	including: Federal budget, mln RUB	including: Federal budget, %	including: Off-budget sources, mln RUB	including: Off-budget sources, %
Nuclear power and next-generation technologies for 2010–2015 and up to 2020*	7,091.1	6,218.4	872.7	7,093.2	100.0	6,218.4	100.0	874.8	100.2
Priority R&D for development of Russian science and technology in 2007–2013	65.5	65.4	–	65.4	100.0	65.4	100.0	–	–
National technology base in 2007–2011	1,022.0	511.0	511.0	1,189.1	116.4	511.0	100.0	678.1	132.7
Development of the pharmaceutical and medical industry in the Russian Federation up to 2020 and in the long term	62.0	43.0	19.0	48.2	77.7	39.2	91.1	9.0	47.4

* Including 313.9 mln RUB from the federal budget to finance work by the Kurchatov Institute.

RESULTS OF THE FEDERAL TARGET PROGRAM, "NEXT-GENERATION NUCLEAR POWER TECHNOLOGIES FOR 2010-2015 AND UP TO 2020"

Achievements in 2011 under this program were as follows:

— a technology was developed to make vibrocompacted uranium-plutonium oxide fuel (MOX fuel) for fast reactors. The technology reduces cost of fuel rods and sets by dispensing with some of the traditional production stages;
— the pyrochemical unit of chamber K-16 was commissioned for regular recycling of mixed oxide fuel (MOX fuel) from reactor units BOR-60 and BN-600, providing vital support for new technology solutions;
— experimental compact-fuel elements and sets were developed for testing on a BOR-60 reactor;
— austenitic EK-164 steel was developed for sodium reactors. The material has 1.5 times greater resistance to radiation swelling caused by high exposure of the fuel rod shell;
— a total of 57 patentable technologies were developed;
— project and budget documents were prepared for installation of MOX fuel production at the Mining and Chemicals Combine (a state unitary enterprise); work continued to prepare working and design documents, and to manufacture and deliver standard and non-standard equipment;
— work continued to manufacture and supply non-standard equipment for modernization and re-equipment of laboratory facilities at the Technical Physics R&D Institute;
— plans were completed for re-equipment of large testing benches at the Physics and Energy Institute;
— high-vacuum removal systems for tokamak T-15 were renewed at the Kurchatov Institute.

All target levels for the program in 2011 were achieved.

IMPLEMENTATION IN 2011 OF THE PROGRAM, "NEXT-GENERATION NUCLEAR POWER TECHNOLOGIES FOR 2010–2015 AND UP TO 2020"

Indicator	Target	Fact
Innovative products and services created under the program as a share of total sales of products and services in the industry, %	0.6	0.6
Reduction of amounts of UNF and radioactive waste in storage per unit of NPP electric capacity, %	0.8	0.8
Number of new nuclear technologies matching or surpassing global standards	1	1
Number of patent applications for inventions and registered engineering solutions per 100 R&D personnel	6.7	6.7
Number of publications in peer-reviewed international periodicals specializing in nuclear power (per 100 R&D personnel)	6.6	6.6

Activities planned in 2012 as part of the FTP project are as follows:

— project for a next-generation power unit with a fast-neutron reactor using primary sodium as the moderator;
— developing the first version of a code system to support safety calculations in fast-neutron reactor projects;
— developing project documents for a multi-purpose experimental fast-neutron reactor;
— developing design documents for life-cycle support systems and main production equipment of a multi-functional radiochemical research complex;
— projects to upgrade emergency electricity supply and production control systems;
— manufacturing a 22R automated management and protection system to upgrade the system currently used on the BOR-60 reactor unit;
— start of experimental manufacturing of fuel rods and sets made from mixed oxide fuel using vibrocompacting technology at the Nuclear Reactor Institute (annual output to be 60 fuel sets);
— producing a test batch of core components from advanced materials.

THE BREAKTHROUGH PROJECT

The Breakthrough Project, launched in 2011, brings together projects to develop fast-neutron reactors, closed fuel-cycle technologies and new types of fuel and materials, with the overall objective of a new level of quality in the nuclear power engineering industry.

The Project aims to create a nuclear power complex that incorporates NPPs with fast-neutron reactors, facilities to regenerate (process) and refabricate nuclear fuel, and the preparation of all types of radioactive waste for their final removal from the fuel cycle. The following requirements are to be met:

— preventing emergencies at nuclear plants;
— ensuring that the nuclear power industry can compete with fossil fuel generation, taking account of all the costs of fossil fuel generating and of a closed nuclear fuel cycle;
— closing the fuel cycle to enable full use of the energy potential of uranium materials;
— consistent progress towards disposal of radioactive waste in a manner that is radiation-equivalent (in respect of natural materials);
— use of technology to strengthen the non-proliferation regime (full rejection of uranium enrichment for the nuclear power industry, creation of military plutonium using a blanket, and separation during UNF recycling, reducing transportation of nuclear materials);
— lowering the capital costs of building a fast-reactor NPP (at least to the level of a thermal-reactor NPP) by use of fast-neutron reactor technology and design solutions.

Thanks to these efforts, Rosatom should obtain:

— a nuclear power complex (by 2025) that meets all of the above requirements, including NPPs with 1,200 MW fast-neutron reactors, and facilities to regenerate and refabricate nuclear fuel, and to prepare all types of radioactive waste for final disposal in a fully closed nuclear fuel cycle;
— pilot production of compact fuel;
— R&D, design and construction of a power unit with a BREST-OD-300 reactor (fast-neutron reactor with a lead moderator), meeting natural safety requirements, to be used in pilot regime and for demonstration purposes;
— R&D, design and construction of a closed nuclear fuel cycle adjacent to the pilot generating unit with a BREST-OD-300 reactor and of NPPs with BN-600 and BN-800 reactors;
— R&D and design of a BN-1200 reactor unit meeting natural safety requirements;
— R&D and design of all parts of the closed fuel cycle (in the form of a specialized line at a centralized plant).

Terms of reference for the Breakthrough Project were approved in September 2011 and work began to synchronize specifications of individual projects with those terms. A site was chosen to begin Project design work on a 1,200 MW BREST-OD-300 fast-neutron reactor with lead moderator and fuel cycle installations.

The Corporation has created the following management structures to ensure successful implementation of the Breakthrough Project and its components:

A management system has been created for implementation of the Breakthrough Project, comprising:

— a Coordination Council to support implementation at corporate and inter-departmental levels. The Council consists of representatives of Rosatom, OJSC TVEL, Rosenergoatom, the Federal Service for Environmental, Technological, and Nuclear Supervision, and the Russian Academy of Sciences;
— a Technical Committee of leading industry specialists to review science and engineering issues prior to their adjudication by the Coordination Council, as well as action plans, technical drafts, etc. The Committee helps to assign resources for specific projects, prevent parallel and duplicate operations, and restore Russia's nuclear science and engineering potential in order to create competitive products.

The following bodies have been established to support the implementation of individual projects within the Breakthrough Project:

— a Breakthrough Project management group, with a science manager (in charge of scientific research), chief design/technology engineer (in charge of experimental design and technology), and chief engineer (in charge of project research);
— project management groups ("triumvirates"), with membership similar to the management group, but assigned to implement individual projects.

RESULTS OF THE FEDERAL TARGET PROGRAM, "PRIORITY R&D FOR DEVELOPMENT OF THE RUSSIAN SCIENCE AND TECHNOLOGY COMPLEX IN 2007–2013"

Work is being carried out as part of this program for creation of a proton acceleration-storage complex (start up complex) at the Institute of High Energy Physics. Work on construction and installation of the ring tunnel was carried out to schedule in 2011, ensuring long-term, fail-free maintenance.

Earth-moving and general construction work, installation and commissioning of engineering systems to ensure long-term, failure-free maintenance of underground shafts for the ring tunnel will be carried out in 2012.

RESULTS OF THE NATIONAL TECHNOLOGY BASE FEDERAL PROGRAM FOR 2007–2011

This program was completed, as scheduled, in 2011. Work was carried out by 30 entities on more than 50 projects, involving 160 doctors of science and doctoral candidates, more than 400 engineering and technical personnel, as well as post-graduate and graduate students. All of the program objectives were achieved.

Reconstruction and re-equipment of a facility at the Technical Physics and Automation Institute was carried out as part of the program in 2011, creating pilot production areas and mobile complexes to control high-load nuclear equipment and detect explosive substances. Three facilities at the Non-Organic Materials Institute were also upgraded, creating:

- experimental production areas and pilot production units to develop next-generation safer nuclear fuel with core resource life extended by 1.5-2 times;
- experimental production areas to make zirconium alloys with improved properties for use in small nuclear power units;
- experimental areas and pilot production units for testing of UNF storage, transportation, and processing technologies, in order to reduce the risk of accidents.

A total of 20 technology regulations and documents, regulatory and methodological materials for the nuclear sector and other sectors of the economy were issued in 2012; and 19 experimental prototypes of equipment units, stands, and materials for use in the nuclear sector and other sectors of the economy were developed and manufactured. Rosatom filed or prepared 18 patent applications, and was granted one patent and four know-how certificates.

A demonstration batch of fuel rods was designed and manufactured using nuclear fuel with high uranium-capacity from low-enriched uranium (under 20%) for small NPP reactors and for ship and submarine power units.

Test samples were produced of ultrasonic devices for detection and real-time measurement of residual stress in the welded joints of circulating pipelines and equipment at nuclear plants.

Strip-casting technology was applied on an experimental-production line for power-intensive nano-structured magnetic materials.

A modular sorption membrane unit using natural sorbents was manufactured to process liquid radioactive waste.

Experimental nano-filtering modules based on nano-structured compositions of tubular and tabular membranes were made and tested. The modules are intended for use in extreme environments.

The National Technology Base program has enabled the development of important science-intensive products, encouraged the commercialization of new technologies and made a contribution to protection of the environment.

RESULTS OF THE FEDERAL TARGET PROGRAM, "DEVELOPMENT OF THE PHARMACEUTICAL AND MEDICAL INDUSTRY IN THE RUSSIAN FEDERATION UP TO 2020 AND IN THE LONG TERM"

Work as part of this federal program has included reconstruction and re-equipment of:

- production premises at the Electrophysical Equipment Institute for manufacture of cyclotrons under the Efatom brand to be used in nuclear medicine and gamma tomography;
- capacities at the Technical Physics and Automation Institute to manufacture, assemble and maintain diagnostic medical equipment units, and a center at the same Institute to create equipment for synthesis of cyclotron radiology pharmaceuticals.

Project documents for these tasks were prepared in 2011 and were given a positive assessment by Rosatom experts. The reconstruction and re-equipment work will continue on this basis in 2012.

3.7.3. CONCEPT FOR MODERNIZATION AND DEVELOPMENT OF THE EXPERIMENTAL BASE FOR NUCLEAR POWER ENGINEERING AND FUNDAMENTAL SCIENCE IN 2010–2020

SCIENCE AND TECHNOLOGY DEVELOPMENT IS BEING CARRIED OUT IN ACCORDANCE WITH ROSATOM'S PROGRAM OF INNOVATIVE DEVELOPMENT AND MODERNIZATION FOR THE PERIOD UP TO 2020, WHICH ALLOCATES SUBSTANTIAL SUMS FOR UPGRADE OF EXPERIMENTAL CAPACITIES

See the Report section:
"Innovations".

MAIN OBJECTIVES ARE:

- to ensure that equipment and functionality meet the latest standards for experimental research, ensuring efficiency of priority science and engineering R&D at Rosatom and throughout the Russian nuclear industry;
- to raise levels of safety at experimental facilities in compliance with the latest requirements for nuclear and radiation safety.

Work in 2011 was focused on safety and modernization of experimental nuclear reactors and hot testing chambers. Intensive work was carried out for modernization of the most sophisticated thermo-technical test stands.

A total of 25 experimental stands and three test complexes were modernized by the installation of new equipment, enabling more advanced experiments to be carried out.

Investments in science and engineering infrastructure in 2011 amounted to 1,238.4 mln RUB, of which 971.0 mln was invested directly and 267.4 mln was allocated as part of the federal target program "Next-generation nuclear power technologies for 2010–2015 and up to 2020".

Work to improve safety of experimental facilities and upgrade of testing stands will continue in 2012 and a substantial increase of financing is planned.

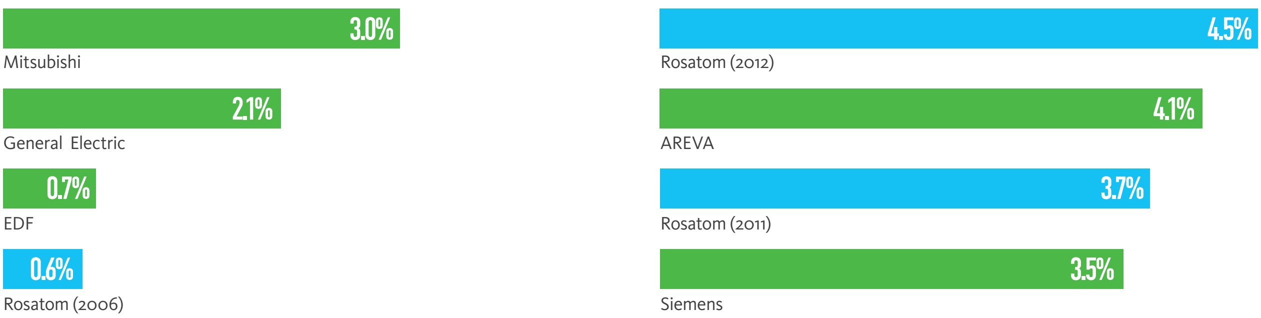
3.7.4. RESULTS OF R&D AND DESIGN WORK IN 2011

R&D SPENDING BY ROSATOM STATE CORPORATION, MLN RUB

	2011	2010	2009
Federal budget funds	**13,421.7**	7,062.6	3,579.0
Off-budget sources	**7,933.1**	7,064.6	6,487.0
TOTAL	**21,354.8**	**14,127.2**	**10,006.0**

27 BLN RUB
R&D spending by Rosatom in 2012 is expected

R&D INVESTMENTS



* Data on foreign companies is for 2011.

INVENTIONS

Item	2011	2010	2009
Number of patents obtained for inventions, useful models and industrial prototypes, registrations of classified know-how and certificates for computer software, databases and integral microchip topology	660	749	501
Number of applications filed for intellectual property protection	357	278	184

Main achievements in fundamental science during 2011

The Institute of High-Energy Physics succeeded in driving a charged beam of $_{12}C^{+6}$ carbon ions along a chain of I-100 accelerators–booster–U-70, accelerating them to 34.1 GeV per nucleon, and slowly exited a charged beam of $_{12}C^{6+}$ carbon nuclei with intermediate energy of 453 MeV per nucleon, which is optimal for radiotherapy.

The Company merged the resources of experiments D0 and CDF (Fermilab, US) to detect Higg's Boson decaying to a WW pair. Integral luminosity used in both experiments (D0 and CDF) was 8.2 fb-1. Consolidated statistics with 95% accuracy excluded a 158-173 GeV/sec² mass range for Higg's Boson from the study work.

Staff at the Institute of Theoretical and Experimental Physics have developed a theory of dual-component quark-gluon plasma: for the first time, a theoretical explanation was proposed to explain ultra-low viscosity of quark-gluon plasma; the scientists also proposed a linkage between the superconductivity of a vacuum in an ultra-strong magnetic field and interference from strong and electromagnetic interactions.

The BELLE experiment carried out by physicists at the Institute of Theoretical and Experimental Physics and the Budker Institute of Nuclear Physics gave the first indisputable evidence to support the existence of hadrons outside a simple quark model.

Preparations are underway for the DANSS project, which aims to create a low-background solid scintillation spectrometer to register reactor antineutrinos and measure reactor parameters. Such technology would enable measurement of:
— thermal capacity of a reactor with 2% accuracy per day of measurement;
— amount of generated 239Pu with 3-4% accuracy for five days,
— tomography of the reactor core,
— composite structure of fuel before and after refueling.

Total financing of research into new ways of using nuclear energy in the reporting year was 1,048.3 mln RUB.

Re-organization of the Institute of High-Energy Physics and the Institute of Theoretical and Experimental Physics

Pursuant to Russian Presidential Decree No. 1691 (27.12.2011) and Federal Government Order No. 2412 (28.12.2011), control over the Institute of High-Energy Physics and the Institute of Theoretical and Experimental Physics has been reassigned from Rosatom to the Kurchatov Institute. Studies of the fundamental properties of matter are not a core business sphere of Rosatom, and their transfer to the Kurchatov Institute (which has the status of a National Research Center) will help Rosatom to focus its research resources on nuclear science and engineering within its scope of competence.

3.7.5. INNOVATIONS

ROSATOM IS COMMITTED TO MAKING ITS PRODUCTS AND SERVICES MORE COMPETITIVE BY UPGRADING OF ITS CURRENT TECHNOLOGIES AND RE-EQUIPPING ITS FACILITIES.

The emphasis in this process is on innovative development through best use of the Corporation's own technologies and competences. But innovation also depends on cooperation with external industrial and technology partners, including joint projects with such partners. Rosatom purchases patents and licenses to use various technologies and also pursues mergers and acquisitions with other market players.

In April 2011, the Corporation's Supervisory Council approved the Program of innovative development and modernization for Rosatom State Corporation up to 2020 (for civil divisions of the Corporation) (http://www.rosatom.ru/wps/wcm/connect/rosatom/rosatomsite/aboutcorporation/nauka/)

In 2011, Rosatom State Corporation ranked fifth among the most innovative businesses in Russia (according to Fast Company magazine).

In 2011, Rosatom State Corporation created a collegiate body to make decisions on innovative management: the Innovations Committee.

UPGRADE AND INNOVATION PROJECTS AS PART OF THE INNOVATIVE DEVELOPMENT PROGRAM

UPGRADE OF EXISTING TECHNOLOGIES

- Managing the life cycle of nuclear facilities
- VVER standard upgrade
- TVS-Kvadrat (project to create fuel for Western-designed reactors)
- Gas centrifuges
- Higher usage rates of NPP capacity
- Modernizing the technology platform for nuclear fuel production
- Ensuring nuclear and radiation safety with respect to nuclear power facilities, their personnel, the general public, and the environment
- Development of the Rosatom production system
- Energy efficiency
- Computerization of technologies and control systems

CREATING NEW TECHNOLOGIES FOR POWER GENERATING MARKETS

- New technology platform for the nuclear power industry based on a closed nuclear fuel cycle with fast reactors
- Development of technologies to handle UNF and radioactive waste
- "New" power generation (alternative sources of power, electricity storage, superconductors)
- Reactor unit with lead-bismuth moderator (SVBR-100)
- Megawatt nuclear generating unit
- Alternative power generation
- Superconductors
- Controlled thermonuclear synthesis

NEW APPLICATIONS OF NUCLEAR TECHNOLOGIES

- Expanding the range of application of nuclear technologies
- Radiation technologies
- Nuclear medicine
- Systems of x-ray inspection and non-destructive control
- Radiation treatment
- Environmental studies
- Recycling of solid household waste
- Water treatment
- Modeling of complex systems
- Carbon fibers

3.7.6. IMPROVING SCIENCE AND TECHNOLOGY MANAGEMENT

ROSATOM STATE CORPORATION IS INVOLVED IN THE DEVELOPMENT IN RUSSIA OF "TECHNOLOGY PLATFORMS", WHICH SET AND IMPLEMENT SCIENCE AND TECHNOLOGY PRIORITIES IN VARIOUS SOCIAL AND BUSINESS SEGMENTS.

The scale and comprehensive nature of the objectives of technology platforms, and the impossibility of predicting the outcome of technology changes with any degree of certainty entails a need for extensive cooperation between large government-owned institutions and industry.

A technology platform can be defined as a form of private-public partnership in innovation, a way of mobilizing stakeholders (government, business, the scientific community and universities) in order to achieve goals, which have priority for Russia's national development.

Rosatom acts as coordinator for the following platforms: closed nuclear fuel cycle for fast-neutron reactors; controlled thermonuclear synthesis; radiation technologies and solid minerals. So the Corporation's technology platforms relate both to its established energy business (the closed fuel cycle platform) and to new activities on non-energy markets that are new for the Corporation (the radiation technologies platform).

Total spending to improve technologies in the existing technology platform during the reporting year were 8,430.2 mln RUB, and spending for creation of future energy technologies was 14,739.2 mln RUB.

In 2011 Rosatom launched an initiative (as part of the Russian Government's efforts to build an efficient national innovative system) to develop innovative clusters, which nurture the emergence of new innovative SME businesses.

In 2011, the first innovative clusters were established in four towns and cities where Rosatom organizations and companies are located: Sarov (Nizhny Novgorod Region), Zheleznogorsk (Krasnoyarsk Territory), Dimitrovgrad (Ulyanovsk Region), and St. Petersburg. Administrative bodies were also set up in the form of “cluster councils”, consisting of representatives of the Federal Government, regional and local governments and of companies and organizations located in the clusters. Strategies were prepared for the main companies in each cluster (see the Report section, “Economic Impact”).

Rosatom has initiated a program for development of clusters, which will be entered to the Russian presidential competition, scheduled for 2012, as a result of which various locations will obtain the status of “federal pilot clusters”. In 2012–2020, the Corporation will support pilot clusters to raise competitiveness of the nuclear industry, ensure best use of the potential of its science and production centers, technology adaptation, and the growth of innovation in the nuclear industry and related industries.

During the reporting year, the Company examined the potential for setting up special funds to support innovative SME business concepts, and created one such fund – the Innovative Ideas Bank, – which will support promising concepts at the R&D stage, take receipt of experimental prototypes and secure rights to intellectual property, interacting with development institutions and providing project financing on a parity basis with the Skolkovo Fund. Rosatom has also provided support for the commercialization of successful start ups by creation of the Venture Financing Fund, which is expected to work in partnership with OJSC Russian Venture Company. Companies which show the best results thanks to this support will be recommended as prospective targets for investment by OJSC RUSNANO or the state-owned Bank for Development and Foreign Trade (Vnesheconombank). Budget planning and enactment of the corporate status of the funds is scheduled in 2012, and the funds will begin their investment activities in late 2012 or early 2013.

FUNCTIONAL UNITS OF THE KNOWLEDGE MANAGEMENT SYSTEM

Rosatom is setting up a Knowledge Management System to provide infrastructure support for the innovative development program.

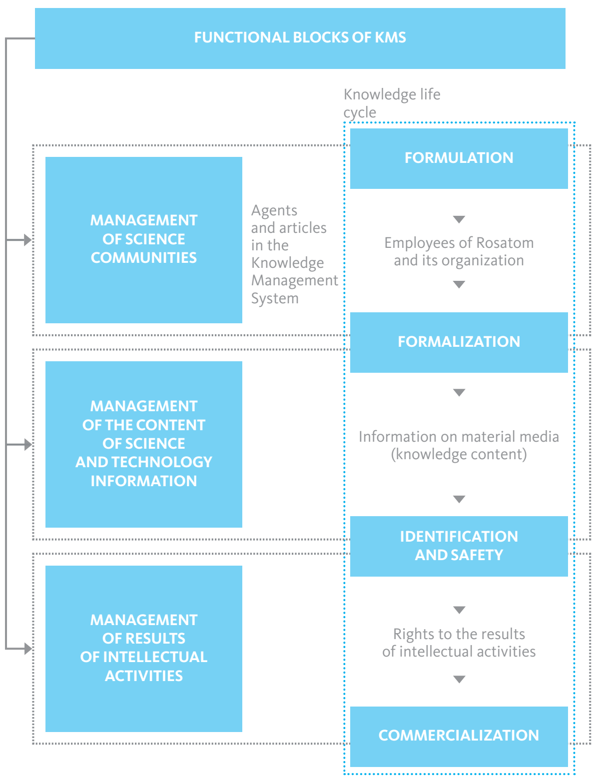
Tasks of Knowledge Management System:

- identifying and storing knowledge, including critical knowledge;
- organizing intensive circulation of knowledge;
- building mechanisms for commercial use of knowledge, including intellectual property.

Results in 2011:

- work began to convert paper archives of research institutes to digital formats;
- a corporate science and technology portal was set up, containing information and data from the Corporation’s institutes and from members of the consortium of higher education establishments with a special relationship to Rosatom;
- an anti-plagiarism system was enacted, which helps to detect the use of borrowings in R&D reports;
- work began to expand the practice of technology licensing;
- three executive reserve schools were set up to encourage involvement of specialists in the knowledge management system, develop the potential of research staff, and strengthen Rosatom’s HR reserves. The three schools are focused on the knowledge management system, new materials, and innovative project management, respectively.

KNOWLEDGE MANAGEMENT SYSTEM



CONSORTIUM OF HIGHER EDUCATION ESTABLISHMENTS WITH A SPECIAL RELATIONSHIP TO ROSATOM

The Consortium of higher education establishments with a special relationship to Rosatom was set up in 2011 to consolidate and coordinate interaction between the Corporation and major Russian major universities which carry out training and research in Rosatom's core fields. The purpose of the Consortium is to support innovative development and technology upgrade at Rosatom and its 13 members are prominent Russian universities (see Report section, "Personnel Management").

Tasks of the Consortium in 2012 are as follows:

- build a portfolio of technology rights for purposes of commercialization;
- create a corporate digital library of science and engineering information;
- obtain greater involvement by the scientific community in the innovation process through crowd-sourcing technology;
- apply technology for identifying and preserving key knowledge;
- host an international conference, "Knowledge Management: Practices of Technology Leaders".

REORGANIZATION OF THE ROSATOM SCIENCE AND ENGINEERING COUNCIL

The Science and Engineering Council (SEC) was set up in 2008 under federal law No. 317, "State Atomic Energy Corporation ROSATOM", dated 01.12.2007.

In 2011, the SEC had 389 members. Two enlarged sessions of the Council Presidium and 22 Council section meetings were held during the year.

The SEC was re-organized in 2011 based on the following principles:

- a divisional principle (aligning SEC structure with changes in the Corporation's administrative structure);
- independence (preventing senior officials of the Corporation, of divisions, of the SEC and of its sections from holding other posts simultaneously);
- optimization of numbers (optimizing the number of sections and members of the SEC, without reducing competences).

The reformed Council consists of a Presidium, College of Seniors, 10 specialized sections and the SEC for the nuclear weapons complex. The specialized sections have subdivisions of the Corporation (the innovation management block and Directorate for Nuclear and Radiation Safety) and also include Rosenergoatom, TVEL and Atomredmetzoloto. After its reorganization, the Council has 264 members. Dr. N.P. Laverov, Doctor of Technical Science and Vice-President and Member of Russian Academy of Sciences, has been appointed Chairman of the SEC.

Main objectives of the SEC for 2012 are as follows:

- assess the value of technology development strategies of Rosatom divisions as tools to implement overall development strategies of the Corporation;
- update and implement the Corporation's innovative development program.

3.7.7. ACTIVITIES IN THE FRAMEWORK OF THE PRESIDENTIAL COMMISSION FOR RUSSIA'S MODERNIZATION AND TECHNOLOGICAL DEVELOPMENT

PROJECTS OF THE PRESIDENTIAL COMMISSION FOR MODERNIZATION AND TECHNOLOGICAL DEVELOPMENT OF THE RUSSIAN ECONOMY*

NUCLEAR TECHNOLOGIES

- New technology platform: closed nuclear fuel cycle, and fast-neutron reactors
- Creating a standard project for an optimized I.T.-enabled power unit base using VVER technology
- Controlled thermonuclear synthesis

SPACE AND TELECOMMUNICATIONS

- Creating a propulsion power unit based on a megawatt-class nuclear energy source

STRATEGIC COMPUTER TECHNOLOGIES AND SOFTWARE

- Development of supercomputers and grid technologies

MEDICAL EQUIPMENT AND PHARMACEUTICALS

- Creating production facilities to make Molybdenum-99 radioisotopes

ENERGY EFFICIENCY AND ENERGY SAVING

- Innovative power generation

The share of innovative products in the Corporation's revenues in 2011 was 2.9%, representing an increase from 2.6% in 2010 and 2.6% in 2009.

* For details on goals and objectives of the projects, see the 2010 Rosatom Annual Report.

NEW TECHNOLOGY PLATFORM (NTP): CLOSED NUCLEAR FUEL CYCLE AND FAST-NEUTRON REACTORS

FINANCING FOR THE CLOSED FUEL CYCLE AND FAST-NEUTRON REACTOR NTP, MLN RUB

	Federal budget funds	Off-budget sources	Total
2011	**5,714.5**	**920.7***	**6,635.2**
2010	3,170.0	1,407.9*	4,577.9

* The NTP is financed from the budget of the federal target program, "Next-generation nuclear power technologies for 2010–2015 and up to 2020". Rosatom allocated 50 mln RUB annually in 2010–2011 to create infrastructure and a management system for the project.

In July 2011, public hearings were held in Dmitrovgrad (Ulyanovsk Region) for a preliminary assessment of the environmental impact of an experimental NPP with a fast-neutron reactor using a lead-bismuth moderator (SVBR-100), which is scheduled to be built by 2017. Stakeholder representatives supported the project for plant construction.

RESULTS IN 2011:

— terms of reference were prepared for a reactor unit with a lead-bismuth moderator;
— materials were prepared to support investment in a multi-purpose experimental fast-neutron reactor, which will be used as a shared International Center;
— design documents were completed for production equipment to carry out pyrochemical processing of compact fuel (a key technology for closure of the nuclear fuel cycle);
— work was completed on experimental technologies to make core elements using new structural materials and technology for production of uranium-plutonium oxide fuel for fast-neutron reactors.

Targets for 2011 in the projects described above were fully achieved. Progress in the project to create fast-neutron reactors (extent of project completion) was 5% as of December 31, 2010, and 10% by December 31, 2011; progress with fuel cycle closure was 5% as of December 31, 2010, and 10% by December 31, 2011.
These results will make Russia the leader in next-generation, fast-reactor technologies, production of new fuel types and closure of the nuclear fuel cycle in the medium-term future. They will also lead to more efficient use of natural uranium and reduce environmental radiation loads, enabling progress towards the target of radioactive waste disposal which is radiation-equivalent (compared with natural materials).

CREATING A STANDARD PROJECT FOR OPTIMIZED AND I.T.-ENABLED VVER TECHNOLOGY (VVER UPGRADE)

FINANCING OF THE VVER UPGRADE PROJECT, MLN RUB

	Federal budget funds	Off-budget sources	Total
2011	**–**	**4,158.5**	**4,158.5**
2010	–	2,047.7	2,047.7

The purpose of the project is to ensure future competitiveness of Russian VVER technology and serial design and construction of nuclear plants using 3D and 6D technologies (see the Report section, "Capital Construction").

RESULTS IN 2011:

— developed a concept for I.T. common space and I.T. model control throughout the life cycle of a power unit, as well as main requirements for such control;
— developed a business model for all stages of a power unit life cycle, created a database for information on cost of materials and labor used to build and operate an NPP with upgraded VVER;
— created a "3D cave" to demonstrate the system that emulates nuclear plant construction and optimization in real time, using a 3D-6D digital model of a nuclear plant.

The level of project completion as of December 31, 2011, was 71.8%.

CONTROLLED THERMONUCLEAR SYNTHESIS (CTS) PROJECT

FINANCING FOR THE CTS PROJECT, MLN RUB

	Federal budget funds	Off-budget sources	Total
2011	**5,395.8**	**49.5**	**5,445.3**
2010	4,601.1	49.5	4,650.6

In accordance with the 2030 Federal Energy Strategy, the Russian power engineering industry should work to increase the share of environment-friendly power generation using renewable (unlimited) resources. Controlled thermonuclear synthesis represents one such method of power generation. The main objective of the project is to control the energy of thermonuclear synthesis using Russian innovative technologies, assisted by the results of international cooperation (see the Report section, "Participation in International Projects").

RESULTS IN 2011:

— the gyrotron complex for tokamak T-10 was brought to about 4.5 MW capacity, and was used to enable plasma discharges with strong and weak connections between electronic and ionic components, using ohmic and intense microwave heating;
— tokamak T-11M was used to test the prototype of a stationary lithium limiter (vertical option);
— the millisecond section of the MOL unit was commissioned in start-up mode;
— a sequence of project documents were prepared for modernization and upgrade of CTS experimental production facilities;
— the manufacturer of superconductor strands for ITER (OJSC Chepetsk Mechanical Plant) reached its planned output level and delivered a first batch of 50 tons of superconductor strand;
— deliveries of ITER equipment began: five poloidal field cables, made by Russian manufacturers to ITER requirements, were dispatched to EU countries;
— full-scale process prototypes of insulation coiling technology were created to prepare for manufacture of PF-1 poloidal field coil;
— certification operations were carried out on an IDTF bench which will be used to test sets of the ITER diverter; the stand was prepared for the testing of Japanese-made diverter targets in 2012;
— the first full-scale experimental sample of the bearing structure for the first wall of the blanket module was produced and successfully used to develop key manufacturing processes;
— the structure of the ITER plasma research project center was completed; five training and laboratory clusters were set up and equipped at the center.

TRANSPORT AND GENERATING MODULE USING A MEGAWATT-CLASS NUCLEAR PROPULSION UNIT

FINANCING FOR THE PROJECT TO CREATE A MEGAWATT-CLASS PROPULSION UNIT, MLN RUB

	Federal budget funds	Off-budget sources	Total
2011	**670.0**	**–**	**670.0**
2010	430.0	–	430.0

The Project aims to create a megawatt-class nuclear reactor unit for new, high-powered space craft.

RESULTS IN 2011:

In 2011, a 3-D model of the reactor unit was created, which defines the external appearance, size and mass of the unit, enables three-dimensional grids for design calculations, and can be used to prepare design documents and production plans.

Reactor tests were carried out on samples of structural materials and fuel rod prototypes with carbonitride and dioxide fuel, and draft design drawings of the reactor unit were issued. Terms of reference for a test complex, with the working name of "RESOURCE", were approved.

DEVELOPMENT OF SUPER-COMPUTERS AND GRID TECHNOLOGIES

FINANCING FOR THE SUPER-COMPUTER AND GRID TECHNOLOGIES PROJECT, MLN RUB

	Federal budget funds	Off-budget sources	Total
2011	**1,824.3**	**932.0**	**2,756.3**
2010	1,100.0	808.0	1,908.0

The project is intended as a contribution to development of the Russian super-computer and super-computation sector.

RESULTS IN 2011:

In 2011, nine months ahead of schedule, the Institute of Experimental Physics commissioned a super-computer to the best world standards (1.7 Pflops). The machine ranks 14^{th} in the global Top-500 rating and first in the CIS, and has made 320 Tflops available to 36 users via remote channels.
The Institute of Experimental Physics created and delivered four Russian emulation applications for super-computers (43 compact super-computers with speed 1.1 and 3 Tflops, complete with Russian software) to corporate users (157 work stations have been equipped with Russian emulation software packs, and 209 workers have been trained).
Companies in strategic sectors of Russian industry (aircraft-building, nuclear power engineering, automotive manufacturing, and the rocket and space industry) are adopting super-computer emulation methods: a total of 5,100 computations have been carried out, enabling solutions to be obtained with fewer field tests. Notable successes include:

- a full cycle of estimates to analyze explosion-proof and bullet-proof performance of the KAMAZ-43269 special motor vehicle;
- a technology to calculate safety levels in emergency landing scenarios for the SSJ-100 regional jet aircraft (the results have been submitted for certification by the European Flight Safety Agency);
- first calculations were carried out for aerodynamic qualities of the SU-30MKI fighter plane in an integral setting (the aircraft was found to match best global peers by overall criteria of the physical and mathematical model, and safety in launch of airborne weapons was confirmed).

SETTING UP PRODUCTION FACILITIES FOR THE MOLYBDENUM-99 RADIOISOTOPE

FINANCING FOR THE PROJECT TO PRODUCE MOLYBDENUM-99, MLN RUB

	Federal budget funds	Off-budget sources	Total
2011	**–**	**283.8**	**283.8**
2010	398.0	246.7	644.7

The Project will enable supply of molybdenum-99 for the needs of the healthcare sector.

RESULTS IN 2011:

Phase 1 of the complex was commissioned in 2011. Molybdenum-99 is now supplied regularly to the Russian market, and exported: several consignments have been sold to Canada under a contract with Nordion Inc. The phase-1 production facilities fully meet the current needs of the Russian market (see Report section, “Radiation Technologies”).

INNOVATION IN THE POWER ENGINEERING INDUSTRY

FINANCING FOR THE POWER ENGINEERING INNOVATION PROJECT, MLN RUB*

	Federal budget funds	Off-budget sources	Total
2011	**765.0**	**0**	**765.0**
2010	765.0	70.00	835.0

* Total financing for the project in 2010–2015 will be 4,730.0 mln RUB, according to the approved project map. Financing is from targeted funds of the federal budget, which are at the disposal of Rosatom (4,300.0 mln RUB), and from off-budget sources (430.0 mln RUB). Allocation of budget funds for the project is subject to annual approval by the Federal Government.

The project fully covers two development initiatives: creation of second-generation flat and 3D high-temperature superconductors (HTSC) (this is a key objective for the superconductor industry); and development of experimental prototypes and production facilities for future superconductor electric devices to be used in electric power generation, vehicles, and in manufacturing, including a range of superconductor short-circuit current limiters for electric grids, a kinetic energy accumulator with superconductor magnetic suspension, a superconductor inductive energy accumulator, a superconductor transformer, a superconductor generator, a superconductor electric motor, and current leads.

RESULTS IN 2011:

— technologies have been developed for production of second generation, HTSC ribbon; sample ingots, an experimental batch of precursors and targets, and experimental batches of samples with buffer layers and superconductive layers on metal and dielectric plates have been manufactured. All of these have been tested and plans have been prepared for experimental facilities to manufacture second generation HTSC ribbon;

— terms of reference have been prepared, an open tender has been held, and a contract has been signed for transfer of long HTSC ribbon manufacturing technology using impulse laser deposition, and for supply of an experimental production line to make superconductor ribbon;

— the prototype of a hybrid current lead with 2 kA and 1 kV rating was made and tested; draft designs were prepared for a 10 kA and 35 kV current lead;

— terms of reference were written for 3-phase superconductive power transformers with 10 kV rating; a Russian-made amorphous electric steel element for the HTSC transformer core was manufactured and tested;

— design drafts were prepared for a 1 MVA generator and 1 MW electric motor using HTSCs; prototype units of an HTSC generator and lower-capacity electric motor were manufactured, shown in operation, and tested;

— a working model (prototype test sample) of a superconductor high-capacity short-circuit limiter was designed, manufactured, and demonstrated.

All 2011 targets in the superconductor program were achieved. Progress towards completion in the project was 15.6% as of December 31, 2011

The R&D work will continue in 2012 using a modified project map. The following results are expected: development, manufacturing and demonstration of HTSC electric motor prototypes, an HTSC transformer, and an HTSC generator with performance matching project parameters; and the launch of experimental production of 3-D HTSC materials.

3.7.8. PARTICIPATION IN INTERNATIONAL PROJECTS

PROJECT FOR CREATION OF AN INTERNATIONAL THERMONUCLEAR EXPERIMENTAL REACTOR (ITER PROJECT)

In 2011 Rosatom:
- approved a strategic plan for the ITER Project, envisaging completion of construction and start of plasma production in November 2020;
- approved a range of measures to reduce ITER construction costs.

Four principal facilities are under construction at the site: a reactor casing, a casing to wind large magnet coils, an electric sub-station and a central administrative building. The first consignment of Russian-made superconductors was shipped and there was substantial progress in work on other equipment (gyrotrons, electro-physical equipment, diverter, and plasma diagnostic systems).

Russia's project commitments are being performed in full and in conformity with the agreement for development, manufacture, and delivery of ITER equipment, which was signed with the ITER International Organization (see the Report section, "Project for controlled thermonuclear synthesis").

Four new agreements were signed with the ITER International Organization in 2011 to provide PF-1 poloidal field coils, switchgear to energize and protect the superconductive magnetic system, vacuum-test and diagnostic stands, as per the list of Russian ITER deliverables.

The schedule for Russian manufacturers in 2012 incudes production and testing of ITER systems and equipment with total financing of 5,593.7 mln RUB, as follows:
- commissioning the ITER Diverter Test Platform Facility for thermal testing of the diverter targets of the ITER reactor (Institute of Electrophysical Equipment);
- test operation of winding and vacuum-impregnation equipment on the superconductor winding of the PF-1 poloidal field coils (Institute of Electrophysical Equipment);
- experimental operation of the jacket line for production of niobium-tin superconductors for the toroidal field of the ITER magnetic system (R&D and Design Institute for the Cable Industry, Institute of High-Energy Physics);
- completing a 50-ton industrial batch of niobium-tin and niobium-titanium superconductor strands for the ITER (OJSC TVEL, Chepetsk Mechanical Works).

FACILITY FOR ION AND ANTI-PROTON RESEARCH IN EUROPE (FAIR)

Rosatom bought at 17.45% stake in the Facility for Ion and Anti-Proton Research in Europe GmBH, which was created to implement the FAIR project.

Rosatom representatives have joined the board of directors of FAIR GmBH, its administrative-financial committee, and the supervisory council for in-kind contributions.

A contract was signed for supply by Russia in 2012 of leaden tungstate crystals worth €1.2 mln (supplies in 2009-2011 were €6.5 mln), and it was decided to sign a €7.0 mln contract with Russia's Institute of Electrophysical Equipment. Russia paid in 200.0 mln RUB as a contribution to FAIR in 2011.

The Corporation is preparing a system to coordinate participation by Russian organizations in the FAIR Project, which is focused on creation of a level-1 super-computer center to serve as the main Russian node in the FAIR Network.

Plans for 2012 include: international exchange of research personnel and young specialists; exchange of science and engineering information; creation of a level-1 super-computer center as the main Russian node in the FAIR network (with assistance from Germany); and payment of 300.0 mln RUB as the Russian contribution to FAIR in 2012.

MODULAR HELIUM REACTOR WITH GAS TURBINE (MHRGT)

This project was included in the Russia-US Agreement on the recycling of plutonium no longer required for defense purposes, and on processing of the plutonium and other relevant cooperation (the Agreement-2000), as stated in the protocol to the Agreement, which envisages further Russia-US cooperation on parity terms to support R&D work on a MHRGT reactor.

In 2011, OJSC Afrikantov Design Bureau, the designated contractor under the project, achieved all of the targets specified in its contract with Rosatom.

Plans for 2012 include:
- further actions under the contract between Rosatom and Afrikantov Design Bureau;
- actions under the contract between the National Nuclear Safety Administration of the US Department of Nuclear Power and Afrikantov Design Bureau.

COOPERATION TO BUILD THE CHINESE EXPERIMENTAL FAST-NEUTRON REACTOR (CEFR)

Experimental and scientific research work on the CEFR reactor was concluded in 2011, and power generation using the reactor was begun. On July 21, 2011 the reactor began grid supplies at 40% of rated capacity.

Russian specialists provided consulting and supervised the physical and generating launch of the reactor under effective contracts between Russian companies and the Chinese Nuclear Energy Institute.

HIGH-TEMPERATURE GAS-COOLED REACTOR (HTGR)

Work on the HTGR project approached the experimental stage, and further progress will require additional investments and interaction with industrial partners. The Corporation therefore held a number of working meetings in 2011 with representatives of various oil & gas companies and institutes (OJSC Zarubezhneft, Rosneft, VNIPIneft, GI VNIPIET, and others) to discuss possible use of the HTGR in oil and gas refining.

Rosatom and OJSC Zarubezhneft signed a cooperation agreement concerning the HTGR and technical meetings were held with OJSC VNIPIneft (a designer of petrochemical facilities) to define requirements for the power source and its insertion in production processes. A structure for preparation of feasibility studies with respect to petrochemical facilities was set up jointly with OJSC Zarubezhneft.

Work continued in 2011 under the “123 Agreement” (signed between the Russian and US Governments on cooperation in peaceful use of nuclear power): the parties exchanged information on technology to produce hydrogen using high-temperature electrolysis of water steam, prepared a report on the status of HTGR technologies in Russia and the US, and assessed the safety of HTGR units under scenarios similar to the Fukushima-1 NPP disaster.

Plans for 2012 include:
- commercial launch of the HTGR;
- selection of the customer and investor for a power source using the HTGR;
- statement of user requirements;
- design of the HTGR engineering concept for hydrogen production.

RUSSIA-US WORKING SUB-GROUP FOR CIVIL NUCLEAR POWER (A TASK AS PART OF THE 12TH KIRIENKO-PONEMAN ACTION PLAN)

When the 123 Agreement became effective in 2011, it lifted constraints on Russia-US cooperation in the civilian nuclear power industry (science and engineering, business, etc.).

Russia-US cooperation in this field is part of the action plan of the task force for nuclear power and safety within the bilateral Russia-US Presidential Panel formed by Sergei Kirienko and Daniel Poneman and assisted by the P. Lyons-V. Pershukov sub-group on technical cooperation.

In April 2011, the sub-group for civil nuclear power held a second meeting and approved a first joint annual report on key achievements in 2010, also approving civil nuclear plans for 2011 and beyond. The 2011 results are described in the Final Report on Implementation of Plans and Results of Cooperation.

After the Fukushima-1 NPP events, issues of safety in the civil nuclear power industry assumed special importance in Russia-US cooperation and were made into a separate topic.

At the end of 2011, a new administrative structure of the sub-group was approved to reflect new issues, which were submitted for its consideration: training, integral experiments and safety.

COOPERATION WITH THE USA TO CONVERT RUSSIAN EXPERIMENTAL REACTORS

There is a special working group to coordinate activities under the Executive Agreement between Rosatom State Corporation and the US Department of Nuclear Power on cooperation in research to examine the possible conversion of Russian experimental reactors. In 2011 the group held a number of meetings to summarize the main research outcomes:

— it is technologically feasible to carry out conversion of two of the six reactors considered by the Executive Agreement;
— uranium-molybdenum fuel must be used to convert some reactors, but it is not available yet;
— the list of Russian reactors awaiting conversion feasibility studies may be expanded.

Plans for 2012 include:

— cooperation in long-term demonstration projects for nuclear reactors (MBIR, HTGR pilot nuclear plant, low-capacity modular reactors);
— work on innovative technologies in the nuclear power engineering (modeling, emulation, fuel and materials, process technologies, project warranties);
— developing the structure of the global civil nuclear power industry.

GENERATION IV INTERNATIONAL FORUM

The Generation IV International Forum brings together representatives of countries who are working on a new 4th generation of nuclear reactors.

On May 10–13, 2011 in Moscow, the political group and the expert group of the Generation IV International Forum held their 31st and 24th meetings (respectively), attended by representatives of Euratom, the IAEA, Japan, the USA, France, South Korea, China, South Africa, Canada, the UK and Russia. The representatives visited the world's first nuclear plant (in Obninsk) and a number of fast physical stands.

In 2011, Rosatom made proposals for R&D as part of project agreements for the sodium fast reactor, and signed the Charter of the Generation IV International Forum (coinciding with its 10th anniversary), a systems convention on a super-critical water reactor, and a memorandum of mutual understanding on a lead fast reactor.

Plans for 2012 include:

— signing of project conventions under the fast reactor systems agreement, and coordinated exchange of information;
— analysis of R&D carried out or to be carried out by other parties under the project conventions, and preparation of action plans that could be implemented by Russian organizations through their internal contracts on terms of equivalent exchange.

DIVISION STRUCTURE OF ROSATOM STATE CORPORATION

ALEXANDER LOKSHIN
First Deputy CEO, Director of the Nuclear Energy Complex

IN 2011, ROSATOM STATE CORPORATION ANNOUNCED THE CREATION OF A NUMBER OF DIVISIONS. WHAT ARE THE PRINCIPLES UNDERLYING THE DIVISIONS?

The divisions were organized by product segments taking account of the need for a full range of competences, business scale, and market positioning. Business segments are only given the status of divisions within Rosatom if they have achieved maturity, hold leading positions in the market and have set themselves ambitious goals. As of late 2011, Rosatom State Corporation had four divisions: Mining, Fuel, Machine-Building, and Electric Power Engineering.

WHAT OBJECTIVES HAVE BEEN SET FOR THE POWER ENGINEERING DIVISION?

This Division was set up on the basis of OJSC Rosenergoatom, which is Russia's largest electric power generating company and ranks second worldwide by the scale of its nuclear power generation. The Division has ambitious goals: to raise the share of nuclear power in total Russian generating through construction of new nuclear plants and achievement of higher efficiency of generation; supporting global expansion through assistance to the program of NPP construction with Russian reactor technologies outside Russia, and by accessing foreign markets for electric power; and creating a new-generation technology platform with fast-neutrons and a closed fuel cycle, compliant with the most stringent standards for safety and the environment. Another important objective for the Division is to expand its service business, providing repairs, and technical and scientific assistance for Russian-designed nuclear plants built abroad. CJSC Rusatom Service was set up in July 2011 specifically to work in this market segment.

WHAT WAS THE PURPOSE OF BUYING URANIUM MINING ASSETS ABROAD?

Formation of a Mining Division based on OJSC Atomredmetzoloto began in 2007 with the consolidation of Russian uranium mining assets. The subsequent purchase of foreign uranium mines enabled us to double our natural uranium production in 2011 compared with 2007. Ownership of foreign assets with low mining costs has dramatically improved the structure of our uranium mining projects, and enabled us to stay competitive on the natural uranium market even when prices dropped due to temporary fall of demand following the shut-down of Japanese nuclear plants.

The Mining Division must remain among the leaders by uranium product costs, ensuring a reliable platform to support our nuclear plant construction program.

ROSATOM STATE CORPORATION

DIVISIONS

MINING	FUEL		MACHINE-BUILDING	ELECTRIC POWER DIVISION
Natural uranium mining	*Production of enriched uranium and nuclear fuel*	*Export of enriched uranium and enrichment services*	*Manufacturing of equipment for construction of nuclear and non-nuclear generating facilities*	*Electricity generation at NPPs*
OJSC Atomredmetzoloto	OJSC TVEL	OJSC Techsnabexport	OJSC Atomenergomash	OJSC Rosenergoatom

DOES THIS FOCUS ON INTERNATIONAL PROJECTS MEAN THAT DEVELOPMENT OF RUSSIAN ASSETS IS NOW LESS RELEVANT FOR THE MINING DIVISION?

By no means. Our top priority is efficient development of Russian projects, and investments in domestic projects will grow much faster foreign asset purchases. OJSC Priargunskoye Mining and Chemical Union, which is our largest active uranium mining business, commands good-quality current deposits of some 120,000 tons. For open fuel-cycle generation, this would cover 50 years of reactor needs at today's level of nuclear generation in Russia. We will systematically upgrade production at Priargunskoye, maintain stable mining outputs, and explore new deposits. We are also raising production levels using the efficient underground leaching method at two other Russian mining operators: CJSC Dalur, and OJSC Hiagda.

Work is also underway at the Elkon field in South Yakutia, which has the largest deposits in the world, in order to ensure adequate supply for growing nuclear generation in the long-term.

WHAT ARE THE PRIORITIES FOR DEVELOPMENT OF THE FUEL DIVISION?

Our program for overhaul of OJSC TVEL, which is the main component of our Fuel Division, has been underway for several years. In the future we intend to pay close attention to production efficiency, creating new competitive products to secure our leadership on the global nuclear fuel-cycle market. We need to address new challenges by entering the fuel market for foreign-designed reactors (with our TVS-Kvadrat product), optimize the geography of our production and globalize our R&D efforts.

WHAT ARE THE MAIN GLOBAL TRENDS IN POWER MACHINE BUILDING?

This is an international high-tech business and the market is changing: previously customers wanted to buy equipment with specific user characteristics, but now they want to be able to control the costs of product ownership throughout the life cycle. The customer is ready to pay for ease of use, and is less concerned about what the machinery contains and how it works. Essentially, the customer wants things to last longer and cost less. OJSC Atomenergomash, which heads up our Machine-Building Division, is writing its development strategy to respond to these market challenges.

3.8. MINING DIVISION

3.8.1. STRATEGIC GOALS OF THE MINING DIVISION, CONTRIBUTION TO IMPLEMENTATION OF ROSATOM STRATEGY

THE STRATEGIC GOAL FOR THE MINING DIVISION (ARMZ URANIUM HOLDING, OJSC ATOMREDMETZOLOTO, OJSC ARMZ) IS TO MAXIMIZE THE VALUE OF ITS MINING BUSINESS BY:

tapping the growing potential of the natural uranium market,
using the capacities of ARMZ, which has been integrated into Rosatom, and also through international expansion (Canada-based Uranium One Inc.);

taking new opportunities to develop and upscale the business
through diversification into strategic and innovative metals segments.

INTERNATIONAL EXPANSION CAN HELP ROSATOM TO SECURE LEADERSHIP IN THE URANIUM PRODUCTION SEGMENT, AND STRENGTHEN ITS EXPORT POTENTIAL IN SEGMENTS WITH HIGHER LEVELS OF PROCESSING.

CONTRIBUTION OF ARMZ TO ROSATOM'S PORTFOLIO OF STRATEGIC INITIATIVES

ROSATOM

ROSATOM STRATEGIC INITIATIVE

SECURING GLOBAL LEADERSHIP AT THE FRONT END OF THE NUCLEAR FUEL CYCLE

- ***Preserving and developing competences in uranium production and processing***
- ***Higher efficiency of uranium production***
- ***Enabling global expansion by Rosatom on the international market for natural uranium***
- ***Establishing a global mining company*** specializing in supplies of uranium for the global nuclear power industry, and mineral mining for other high-tech sectors

3.8.2. MAIN ACTIVITIES AND RESOURCES

ROSATOM'S MINING DIVISION IS AMONG THE LEADERS ON THE GLOBAL URANIUM MARKET. THE COMPANY IS IMPLEMENTING URANIUM AND NON-URANIUM PROJECTS AT VARIOUS STAGES FROM GEOLOGICAL EXPLORATION TO INDUSTRIAL OPERATION.

ARMZ POSSESSES UNIQUE COMPETENCIES IN PRODUCTION OF URANIUM, WITH MORE THAN 50 YEARS OF EXPERIENCE DEVELOPING FIELDS IN EXTREMELY VARIED GEOLOGICAL AND CLIMATIC CONDITIONS.

ARMZ uranium holding now commands 51.42% of stock in Uranium One Inc., which is one of the largest public corporations specialized in uranium mining, headquartered in Toronto (Canada) with projects in Kazakhstan, the USA and Australia.

Key Russian assets include OJSC Priargunskoye Mining and Chemical Production Association (Zabaikalsky Territory), which is one of the oldest uranium mines in the world. Since 2011 Priargunskoye has been engaged in a series of cost-cutting projects and long-term measures to improve operations: recruiting skilled labor, inventorization of reserves, improving relations with suppliers, etc. New mines are also being prepared for commissioning. A new development strategy is being developed for Priargunskoye up to 2020, taking account of scale, social significance and future outlook for the business.

Development of new assets is a key aspect of the business of ARMZ. Such assets include OJSC Hiagda (Republic of Buryatia) and CJSC Dalur (Kurgan Region), both of which are already producing natural uranium (they are expected to reach target output levels before 2020). Pre-project studies are continuing in the Elkon project, which will involve development of one of the largest uranium mines in the world.

MINERAL BASE

Adequate raw material supplies for the production program and stable growth of commercial deposits are preconditions for the success of any uranium mining company on the global market.

>10,000
PEOPLE
Russian companies in Rosatom's Mining Division employ

2nd
PLACE IN THE WORLD
of raw material base of any global uranium mining company

3.8.3. BUSINESS MODEL

ARMZ IS TARGETING A PLACE IN THE GLOBAL TOP 3 URANIUM MINING COMPANIES.

ARMZ SALES ORGANIZATION

FOREIGN CUSTOMERS ◄ АРМЗ урановый холдинг / uranium one — investing in our energy ► RUSSIAN CUSTOMERS

▲

RESOURCE BASE

URANIUM MINING BUSINESS IN RUSSIA	FOREIGN-BASED URANIUM MINING BUSINESSES	WAREHOUSE STOCKS	ADDITIONAL SOURCES

The company has recently taken important steps towards that goal, building a platform for global growth with Uranium One Inc. (acquired in 2010) and acquiring 100% of stock in Australia-based Mantra Resources Limited, which is engaged in the Mkuju River project in Tanzania. International expansion will help ARMZ to achieve the lowest possible costs, based on highly efficient assets in Kazakhstan, the USA, Australia and Tanzania.

Production in Russia will remain important for covering domestic demand and for preserving and increasing engineering and technology competences. Development of Russian assets, which will account for a half of total long-term production, is a key aspect of the strategy of ARMZ.

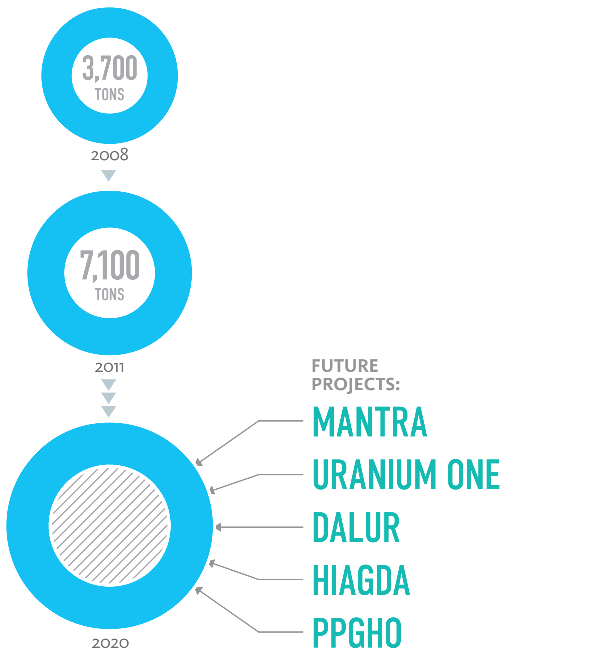
Natural uranium mining and processing will remain the Company's profile business up to 2030. However, some diversification is possible into the strategic and innovative metals segments, both to upscale the business and to mitigate specific risks of the uranium market.

MAIN DEVELOPMENT DIRECTIONS FOR THE MINING DIVISION

MINING DIVISION

- GEOLOGICAL SURVEY
- SALES GROWTH
- DEVELOPMENT OF EXISTING BUSINESS UNITS
- MERGERS AND ACQUISITIONS

DEVELOPMENT DYNAMICS OF OJSC ARMZ (VOLUMES OF URANIUM PRODUCTION)



3.8.4. MARKET SITUATION

GLOBAL PRODUCTION OF URANIUM IN 2011 REMAINED CLOSE TO THE LEVEL OF THE PREVIOUS YEAR AT 53,654 TONS. EIGHT COUNTRIES ACCOUNT FOR 92% OF GLOBAL SUPPLIES.

Kazakhstan was the largest producer of uranium in the reporting year with 19,450 tons or 9.3% more than in 2010 (Kazakhstan provided 36.2% of global production in 2011). Growing uranium production in Kazakhstan nearly compensated for falls in uranium mining in Namibia (by nearly 28% compared to 2010) and some other countries.

AO NAK Kazatomprom remains the world's largest uranium mining company, with 11,079 tons or 20.6% of total uranium production in 2011. Cameco is ranked second, followed by the alliance of OJSC ARMZ and Uranium One Inc.

NATURAL URANIUM MINING IN MAJOR PRODUCER COUNTRIES, TONS

	2010	2011
Kazakhstan	17,803	19,450
Canada	9,332	9,121
Australia	6,203	6,220
Niger*	4,200	4,200
Namibia	4,495	3,258
Russia	3,562	2,993
Uzbekistan	2,338	2,300
USA	1,629	1,535

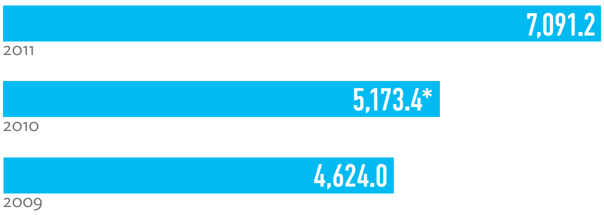
* AREVA estimate for Niger mines.

NATURAL URANIUM MINING BY MAJOR CORPORATIONS, TONS

	2010	2011
Kazatomprom	9,907	11,079
Cameco	8,770	8,654
ARMZ and Uranium One Inc.	7,157	7,091
AREVA NC	6,620	6,630
BHP Billiton	2,347	3,384
Rio Tinto	4,376	2,715
NGMK	2,338	2,300
Paladin Energy	2,088	2,282
SOPAMIN	1,453	1,527
CNNC	1,120	1,429

3.8.5. MAIN RESULTS IN 2011

URANIUM PRODUCTION BY ARMZ COMPANIES, TONS



* Including "offtake" contracts (a contract to buy part of products from a mining or power company before it is available; the producer expects to produce a certain quantity of material, and signs agreements with international companies ready to buy ("offtake") quantities of the material; such agreements may be binding for the buyer without obliging the provider to ensure that sufficient material is produced).

In 2011:

For more information
see OJSC Atomredmetzoloto Annual Report for 2011

— uranium production rose by 37.1% to 7,091.2 tons;
— a transaction was completed to buy 100% of stock in Mantra Resources Limited;
— ARMZ built a portfolio of long-term contracts with key consumers;
— OJSC Hiagda completed phase one of a shift camp at its field site;
— a long-term contract was signed with OJSC TVEL to supply materials for manufacturing of nuclear fuel and fuel components;
— 95.0% of all purchasing procedures in 2011 were public, and savings of 1.7 bln RUB were achieved as a result;
— Rosatom completed a program to relocate inhabitants from the town of Okyabrsky (Zabaikalsky Territory);
— ARMZ made substantial adjustments to its policy of corporate social responsibility, raising the share of activities and programs implemented in areas of business presence;
— children of employees at ARMZ companies took part for the first time in the NucKids international creative camp for children.

3.8.6. ENSURING NUCLEAR AND RADIATION SAFETY

The Federal Service for Environmental, Technological, and Nuclear Supervision and the Federal Agency for Medicine and Biology approved radiation safety rules for uranium mining and processing operations.

OJSC Priargunskoye Mining Association took steps to improve control of radiation levels in mines: 63 isolating partitions of concrete and timber were installed in underground shafts; 14 DV-1000 automated ventilation doors were commissioned; treatment units now use six RAA-3-01 Alpha-Aero alpha radiometers for radiation monitoring of the products of radon decay; 15 new cargo vehicles were commissioned; 34 heaters were repaired and replaced in water supply shafts; and personnel rotation systems were put in place based on the results of individual exposure monitoring at production units with over 0.5% uranium content.

OJSC Hiagda installed a DVG-02TM unit for dosimetry control of personnel.

3.8.7. R&D AND INNOVATION

Main R&D results

— The central scientific research laboratory of OJSC Priargunskoye Mining carried out experimental production tests of technology that will be used to process ores from the Elkon mining area;
— research was carried out to develop a technology for comprehensive use of ores at the Elkon mining area, extracting uranium, gold, silver, vanadium, platinum, and palladium;
— OJSC Priargunskoye Mining carried out research and cold tested technologies that increase grain size of ground ore, with separate leaching of silt and sand fractions;
— a prototype of an industrial fiber-packed filter device was manufactured;
— a feasibility study was carried out to develop ways of estimating rated output of an operating unit, to define and validate the best approach to development, and to select techniques for development and removal of overburden;
— tests of initial x-ray radiometry ore separation were carried out, producing backfill tails for uranium and gold.

A meeting of the ARMZ science and engineering council was held and was attended by representatives of relevant R&D institutes and major Russian science centers. The meeting reviewed the results of R&D in the Mining Division in 2011 and targets for 2012.

Plans for 2012 include:

— creation of a geodynamic area at Streltsovsky ore field;
— using acoustic emission to determine shock risk in rock formations;
— work in the project for testing of the feed water method at the Streltsovsky Ore Field,
— improvement of technology for processing of lower-quality ores at OJSC Priargunskoye Mining.

In 2011, ARMZ and its companies had 49 R&D contracts underway, with a total value of 156.6 mln RUB.

INNOVATIVE DEVELOPMENT PROGRAM

OJSC Atomredmetzoloto (ARMZ) launched an innovative development program in 2011 consisting of four projects:
— creating a new technology platform to use geotechnology methods in uranium production;
— developing technology to enrich and process resistant ores at the fields in the Elkon and Streltsovsky uranium mining areas;
— use of geological modeling systems for mining operations and production planning, creation of a unified geological database;
— developing a next-generation logging technique (with definition of equipment to be used) for direct detection of uranium in boreholes using the prompt-fission neutrons method.

OJSC ARMZ finances its innovative projects independently. Total financing in 2011 was 117.48 mln RUB. Spending of 156.75 mln RUB is planned in 2012.

3.8.8. IMPROVEMENT OF OPERATING EFFICIENCY

RAISING ENERGY EFFICIENCY

Measures implemented as part of the Mining Division's power saving and efficiency program in 2011 were as follows:

- OJSC Hiagda and CJSC Dalur completed work to create and implement business and technical systems to meter electric power, and systems for exchange of technology-related information; R&D work was carried out on a variable-frequency electric drive;
- OJSC Priargunskoye Mining performed all planned work to create business and technical systems for metering of electric power, implemented systems for exchange of technology-related information, and designed documents to create a power resource accounting system at the company (the project is scheduled for implementation in 2012);
- An energy audit was carried out at OJSC Priargunskoye Mining, and the results were used to prepare a power saving program for 2011–2014. An energy certificate was assigned to the company;
- Thermal imaging was carried out at Priargunskoye Mining.

Companies in the Mining Division reduced consumption of power resources by 12.88% in money terms during 2011 (in comparable terms to the base year, 2009), outperforming the target of 10%.

The power saving program should reduce consumption of power resources by at least 15% by 2014. Improvement of energy efficiency at ARMZ companies is critical for strategic development of the uranium holding as a global company aspiring provide to rational use of natural resources.

IMPLEMENTATION OF THE ROSATOM PRODUCTION SYSTEM (RPS)

Main RPS activities are being carried out at sites of OJSC Priargunskoye Mining, as the main mining unit within the Division.

Results of the first stage of implementation were as follows:

- 41 individuals completed the 5C Workplace Organization training course (training was also provided to 48 employees at subsidiary units of OJSC Priargunskoye Mining);
- 37 workplaces were organized using the 5C system;
- 211 m^2 of production space was made available;
- 240 m^3 or 1,624.75 tons of garbage and production waste were disposed of.

In 2011, OJSC Priargunskoye Mining organized a series of brainstorming sessions with its subsidiaries (OJSC Gidrometallurgichesky Plant, OJSC Teploelektrotsentral, Urtuyskoye Pit Management, and the Uranium Mining Directorate). The Company selected 60 initiatives which were used to create a program for efficiency improvement.

Labor productivity in the division in 2011 was 3.41 mln RUB per employee, which is 37% more than in 2010.

3.8.9. PLANS FOR 2012 AND THE MEDIUM TERM

Integration of ARMZ and Uranium One Inc. will be continued, as will implementation of the program to develop ARMZ's Russian assets, primarily OJSC Priargunskoye Mining

3.9. FUEL DIVISION

3.9.1. STRATEGIC GOALS OF THE DIVISION AND ITS CONTRIBUTION TO ROSATOM STRATEGY IMPLEMENTATION

THE STRATEGIC GOAL OF THE FUEL DIVISION IS TO WIN 30-32% OF THE GLOBAL MARKET OF PRODUCTS AND SERVICES FOR THE FRONT END OF THE NUCLEAR FUEL CYCLE BY 2030. THIS WILL BE ACHIEVED BY OFFERING TOP QUALITY PRODUCTS, CAPABLE OF EXPANDING THE PRESENCE OF ROSATOM ON THE ENRICHED URANIUM AND NUCLEAR FUEL MARKET.

FUEL DIVISION*

OJSC TVEL

OJSC TECHSNABEXPORT

* The operations of OJSC Techsnabexport are described in the "International Business" section of the present Report and the Annual Report of OJSC Techsnabexport

CONTRIBUTION OF OJSC TVEL TO IMPLEMENTATION OF ROSATOM STRATEGIC INITIATIVES

ROSATOM STRATEGIC INITIATIVE:

MAINTAINING GLOBAL LEADERSHIP IN THE FRONT END OF THE NUCLEAR FUEL CYCLE

- *Entering the fuel market for PWR reactors (TVS-Kvadrat)*
- *Creating an efficient science and engineering environment, developing an international network of R&D-centers*
- *Localizing manufacturing (fuel plant in Ukraine)*
- *Strengthening positions and building share on the global market for enriched uranium*
- *Optimizing the geographical location of facilities*
- *Upgrading centrifuge production and fabrication, creating a uranium conversion center, and raising efficiency of the separation complex*
- *Developing and adopting new competitive types of nuclear fuel and efficient fuel cycles*

3.9.2. MAIN ACTIVITIES AND RESOURCES

THE MAIN BUSINESS OF OJSC TVEL IS MANUFACTURING AND SALE OF NUCLEAR FUEL FOR POWER GENERATING AND EXPERIMENTAL REACTORS IN RUSSIA AND ABROAD. ALL RUSSIAN NUCLEAR PLANTS, EXPERIMENTAL REACTORS, AND THE PROPULSION UNITS ON RUSSIAN NUCLEAR SHIPS USE FUEL MADE BY OJSC TVEL.

OJSC TVEL provides for the needs of 76 generating reactors in Russia and in 15 other countries, as well as 30 experimental reactors worldwide. One out of six reactors in the world uses fuel made by OJSC TVEL.

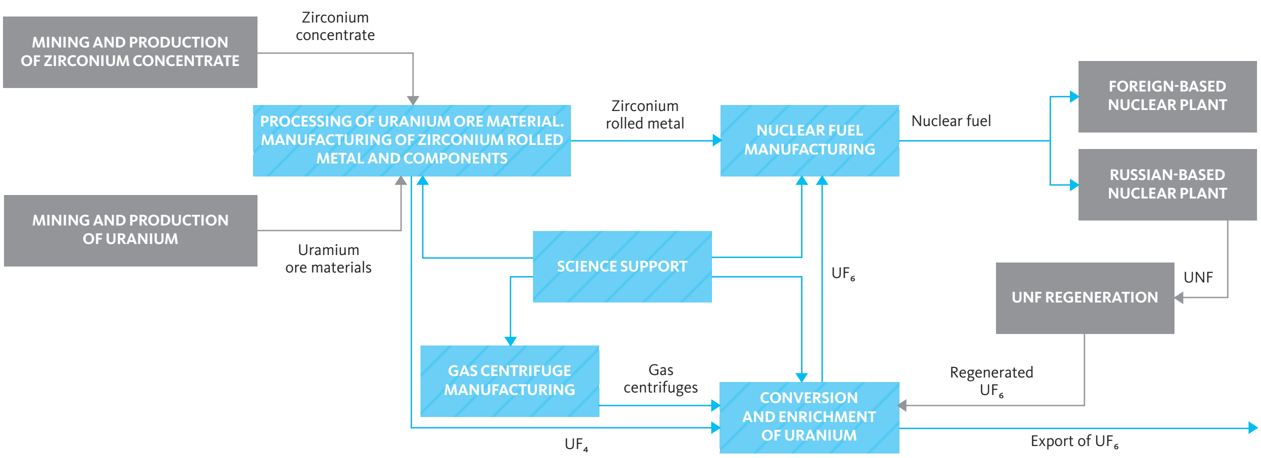
OJSC TVEL companies are divided into four functional complexes:

— nuclear fuel fabrication;
— separation and sublimation;
— gas-centrifuges;
— scientific research.

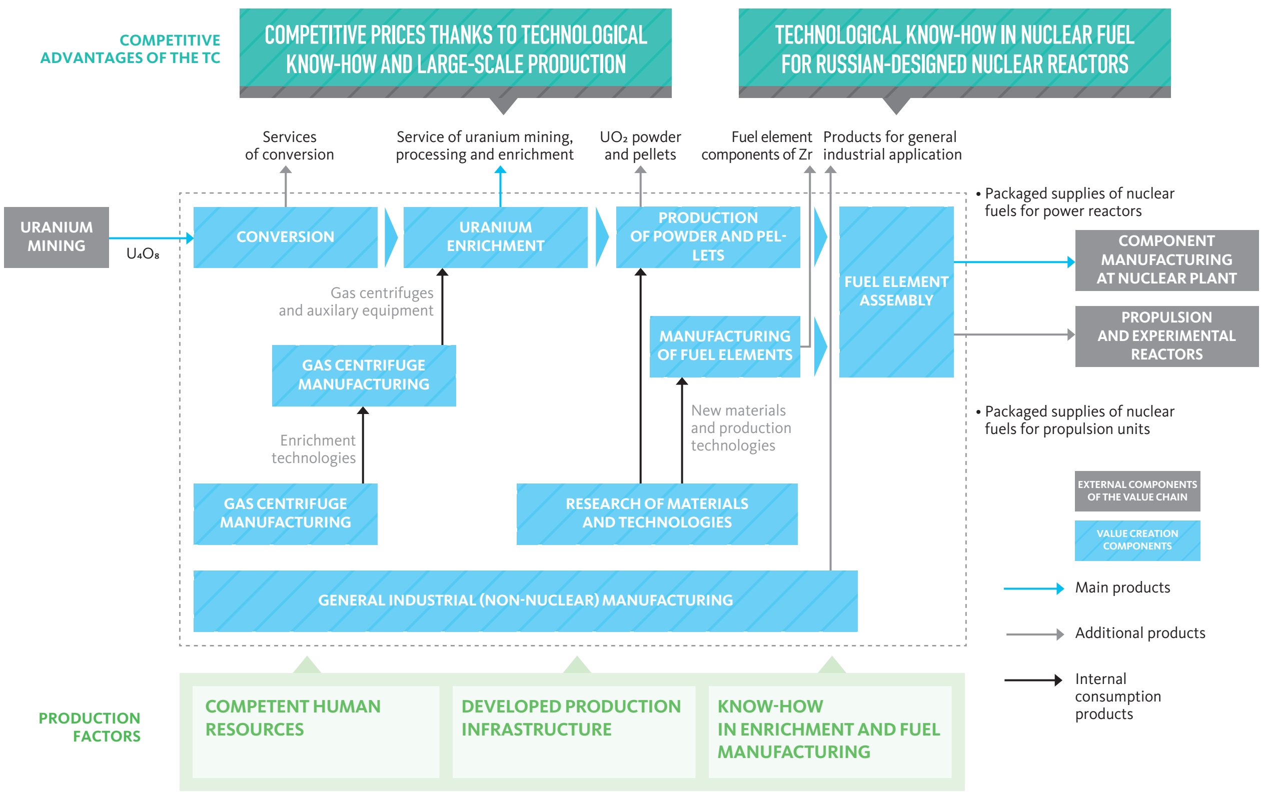
In addition to its main nuclear fuel manufacturing operations, OJSC TVEL sells a wide range of non-nuclear products on Russian and global markets: zirconium, lithium, calcium, magnets, thin-wall tubes, polishing powders, wire feeding machines, zeolite catalysts, superconductor materials, etc.

OJSC TVEL companies operate their own facilities for hydrometallurgy, metal-working, machine-building, and metal rolling, assisted by proprietary R&D and design units.

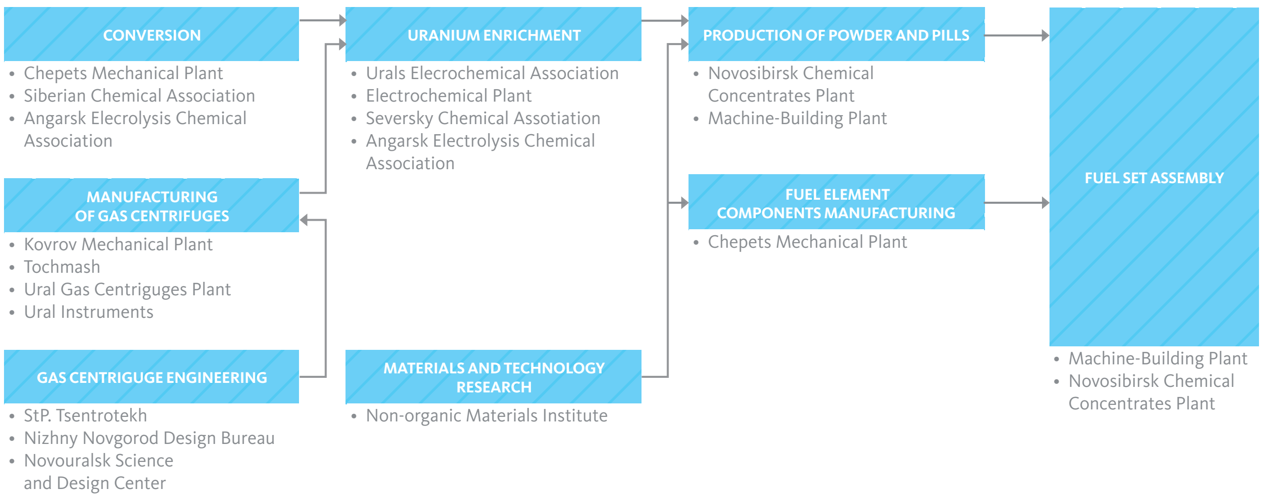
THE PLACE OF OJSC TVEL IN THE NUCLEAR FUEL CYCLE



3.9.3. BUSINESS MODEL



PLACE OF INDIVIDUAL COMPANIES OF OJSC TVEL IN VALUE CREATION CHAINS



3.9.4. CONDITIONS ON THE NUCLEAR FUEL MARKET

URANIUM ENRICHMENT MARKET

The market is focused on uranium enrichment services, which are measured in separative work units (SWUs). The defining feature of these services is their universality: demand does not depend on the reactor unit type, and price is the decisive factor in choice of supplier.

The major providers of enrichment services on the international market are the Rosatom Fuel Division (OJSC Techsnabexport and OJSC TVEL), URENCO, AREVA, and USEC, who together control about 95% of the world market.

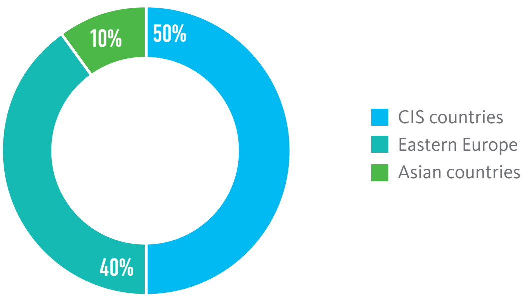
OJSC TVEL has about 17% market share (selling packaged fuel sets). Russian enrichment services (uranium enrichment or SWUs) are provided by OJSC Techsnabexport, which is also an authorized organization under the Russia-US HEU Purchase Contract.

During the reporting year, Russian uranium enrichment services provided for about 36% of the needs of Western-designed reactors.

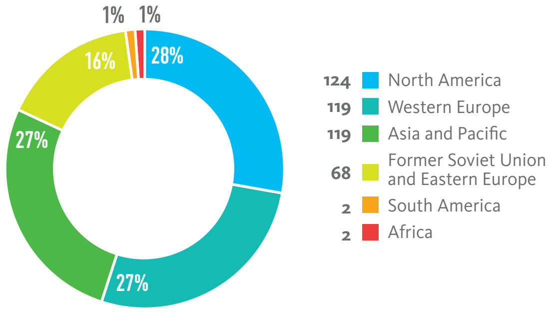
The overall share of Russian companies on the global market for uranium enrichment is 45%.

Products and services of the separation-sublimination complex account for approximately 40% of total export supplies of Rosatom State Corporation.

PROVIDING NUCLEAR FUEL AND FUEL SET COMPONENTS FOR FOREIGN-DESIGNED REACTORS, BY REGIONS



PROVIDING NUCLEAR FUEL AND FUEL SET COMPONENTS FOR FOREIGN-DESIGNED REACTORS, BY REGIONS (ABSOLUTE NUMBER, FOLLOWED BY PERCENTAGE OF TOTAL)



NUCLEAR FUEL MARKET

The largest regional segments of the nuclear fuel market are North America (USA, Canada, Mexico) and Western Europe (Belgium, Finland, France, Germany, Netherlands, Spain, Sweden, Switzerland, UK). In the future, Asia may become the largest regional segment (India, China, Japan, Pakistan, South Korea, and Taiwan).

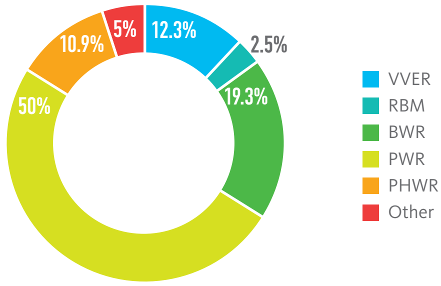
The market is subdivided between fuel for PHWR reactors, fuel for BWR reactors, fuel for PWR reactors (all Western-designed), and fuel for Russian-designed VVER reactors. The latter three subgroups (BWR, PWR and VVER) together represent the fuel market for light-water reactors (LWRs).

Total sales on the nuclear fuel market in 2011 were about 12,000 tons of heavy metal.

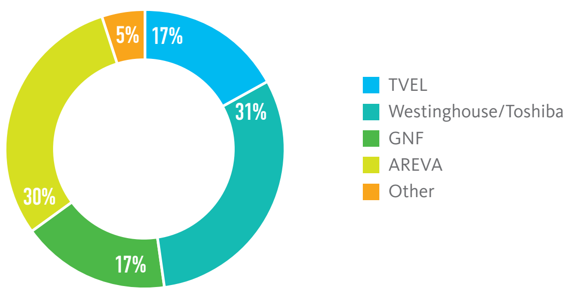
OJSC TVEL products are present in all segments of the nuclear fuel market. The company is the main supplier in the Russian-designed reactor fuel segment, and also sells fuel for Western-designed LWR reactors in cooperation with AREVA. In addition, OJSC TVEL supplies nuclear fuel components for Indian PHWR reactors.

The share of OJSC TVEL on the global nuclear fuel market is 17%.

REACTORS BY TYPES



NUCLEAR FUEL MARKET



OJSC TVEL intends to considerably expand its presence on the PWR market by promoting its proprietary fuel designed for PWRs with 17x17 standard size (TVS-Kvadrat) and through cooperation with foreign companies. PWR reactors represent the world's largest nuclear fuel market with 216 active units, of which 133 are of 17x17 size.
Preparations are underway to license TVS-Kvadrat fuel in the US and Europe. In 2011, the Company and a nuclear plant operator based in Sweden signed a contract to supply test sets made by TVS-Kvadrat.

3.9.5. MAIN RESULTS IN 2011

In 2011:

For more information:
see the OJSC TVEL Annual Report for 2011

- a development strategy for the Fuel Division was approved, calling for doubling of revenues by 2030 to USD 16 bln and an increase in market share of the front-end of the fuel cycle to 30-32%;
- the main stage of restructuring in the program for the corporate overhaul of OJSC TVEL was completed: a corporate outline was defined, optimization processes were completed and programs are underway to raise labor productivity and improve the quality of management mechanisms (overall financial gains from the overhaul program in 2011 were 4.8 bln RUB);
- revenues of OJSC TVEL rose by 11% compared with 2010, margin improved by 23%, average paycheck rose by 26%, and 40% was added to labor productivity;
- the Division achieved major successes on the international market: work to create a nuclear fuel plant in Ukraine reached the implementation stage, an agreement was signed to set up a production service center in the Czech Republic, and the first contract was completed to supply experimental fuel sets for Western-designed reactors;
- acceptance tests were carried out on head core 14-14 for reactor unit KLT-40S of the Academic Lomonosov floating NPP, which is under construction at the Baltic Plant in Saint-Petersburg;
- SAP ERP was commissioned, offering a standard corporate resource management solution at OJSC TVEL;
- OJSC TVEL launched an HR development program.

3.9.6. NUCLEAR AND RADIATION SAFETY

Ensuring nuclear and radiation safety at facilities, and preventing any possibility of hazardous radiation impact on personnel, the general public and the environment are top priority tasks for OJSC TVEL.

The efficiency of measures by the company to ensure nuclear and radiation safety is confirmed by the fact that there were no compliance failures in 2011 that qualify as emergencies and incidents on the INES Scale, that key exposure rates under NRB-99/2009 remained within acceptable limits and that radiation impact on the environment was reduced.

AUDITS BY THE FEDERAL SERVICE FOR ENVIRONMENTAL, TECHNOLOGICAL AND NUCLEAR SUPERVISION

In 2011, the Federal Service for Environmental, Technological and Nuclear Supervision conducted 69 scheduled audits at OJSC TVEL companies. The audit reports stated that radiation and nuclear safety at the companies was generally compliant with rules and regulations applicable to the use of nuclear energy.

ACTIONS UNDER THE FEDERAL TARGET PROGRAM, "ENSURING NUCLEAR AND RADIATION SAFETY IN 2008 AND UP TO 2015"

Work continued in 2011 as part of the federal target program, "Ensuring nuclear and radiation safety in 2008 and up to 2015", as well as activities financed from the Corporation's reserve fund for decommissioning and R&D.

Related spending in the reporting year was 1,042.8 mln RUB, including 888.0 mln RUB from the federal budget.

Main results were as follows:

- Uranium graphite reactors at OJSC Siberia Chemicals Combine were decommissioned;
- the radioactive waste pools at OJSC Siberia Chemicals Combine were put into storage;
- tail waste store No. 1 at OJSC Siberia Chemicals Combine was put into storage.

TARGET INDICATORS OF THE NUCLEAR AND RADIATION SAFETY PROGRAM

Description	Target	Fact
Eliminating facilities that represent a nuclear and radiation hazard, units	8.0	**8.0***
Reclamation of radiation-contaminated land, m^2	3190	**3190**

* Seven units of diffusion equipment (low-level waste) at the isotope separation plant and an unscheduled low-level waste mound, both at the Siberia Chemicals Combine site.

OJSC Novosibirsk Chemical Concentrates Plant reclaimed 3,190 m^2 of radiation-contaminated land in 2011.

OJSC Institute for Non-Organic Materials eliminated one unscheduled disposal site of 420 m^2, and moved 43 m^3 of radioactive waste to specialized storage service providers.

3.9.7. R&D AND INNOVATION

Main R&D results

R&D spending for development of new fuel types in 2011 was as follows:
— fuel NPPs with VVER and RBMK reactors: 1,037.6 mln RUB;
— fuel for experimental reactors and small nuclear plants: 64.0 mln RUB;
— fuel for NPPs with PWR reactors: 277.4 mln RUB.

Further work on design and development of the separation and sublimation complex (SSC) represents a priority task for OJSC TVEL. Work on this project in 2011 included: R&D to create future models of gas centrifuges; and development and improvement of separation facilities and special auxiliary equipment for separation facilities. R&D spending for the separation and sublimation complex in 2011 was 1,449.3 mln RUB.

Rights to 111 items of intellectual property were obtained in the reporting year (66 inventions, 14 useful models, and 31 know-how techniques). OJSC TVEL also filed 51 applications for property rights to inventions and 13 for useful models. The number of intellectual property rights obtained in 2011 was greater than in 2010. In particular, OJSC TVEL companies are now making more frequent use of protection for know-how techniques.

INNOVATION

The main document regulating innovation activity at OJSC TVEL is the Program for innovative development and modernization of Rosatom State Corporation up to 2020 (with respect to civil business).

Innovation work on separation and sublimation technology in 2011 was as follows:
— industrial testing of prototypes of generation-9 gas centrifuges at OJSC Urals Electrochemical Association;
— calculating design options for the future gas centrifuge;
— experimental design of auxiliary equipment with enhanced efficiency (computer and electronic controls, instruments, automation components, etc.) for cascades of the next-generation gas centrifuge;
— new solutions for technology and overall automation of separation facilities;
— investment feasibility study for a new plant with performance standards that are competitive with the best international peers.

Cooperation with OJSC RUSNANO

The Company worked on a range of joint projects with OJSC RUSNANO in 2010–2011. OJSC TVEL expects that its non-nuclear innovative production will generate revenues of USD 5-6 bln by 2030. In view of slower growth rates on the nuclear fuel market after the Fukushima-1 disaster, non-nuclear products will become the second pivotal business of the Fuel Division.

The total budget for projects implemented jointly with OJSC RUSNANO is 4.6 bln RUB, of which 0.95 bln RUB in 2011 (including 0.25 bln RUB from OJSC RUSNANO and other partners). Planned allocations in 2012 are 3.18 bln RUB (including 1.9 bln RUB from OJSC RUSNANO and other partners).

Investments of 400 mln RUB are planned in 2012 to set up the production of chemical sources for generating and storing power, and the production of rare earth elements and nickel powders.

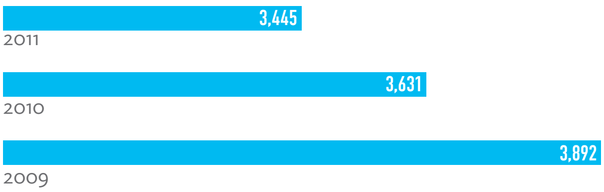
3.9.8. IMPROVEMENT OF OPERATING EFFICIENCY

RAISING ENERGY EFFICIENCY

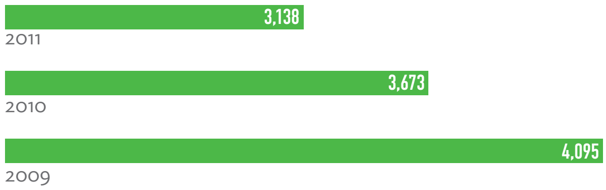
In 2011, OJSC TVEL companies reduced consumption of electric power by 11.5% (447 mln kWh) and of thermal energy by 23.4% (958,000 GCal). Consumption of energy in value terms (in comparable terms, with 2009 as base year) decreased by 15.3% (1,222 mln RUB), exceeding the target of 10%.

A reduction of energy consumption was achieved thanks to actions under the Program for energy saving and energy efficiency, spending on which totaled 2,567.7 mln RUB• in 2011. Levels of production were not affected by the reduction in energy consumption.

ELECTRIC POWER CONSUMPTION BY OJSC TVEL COMPANIES, MLN KWH



THERMAL ENERGY CONSUMPTION BY OJSC TVEL COMPANIES, '000 GCAL



A pilot project for OJSC Chepetsk Mechanical Plant, developed by the Energy Efficiency Center of OJSC INTER RAO UES (contracted by Rosatom), made a particularly large contribution to energy savings in 2011. The achievement target in 2011 for this energy saving and efficiency program at Chepetsk Mechanical Plant was a 10% reduction of consumption compared to 2009, but a figure of 14% was actually achieved.

Energy efficiency actions in 2012 will include:
— reduction of energy consumption by OJSC TVEL companies by 14.5% (in comparable terms, with 2009 as base year);
— further implementation of the Program for energy saving and efficiency at OJSC TVEL companies.

Forecast spending on the Program in 2012 is 3,720 mln RUB.

IMPLEMENTING THE ROSATOM PRODUCTION STRATEGY (RPS)

At the end of 2011, OJSC TVEL progressed from RPS implementation in individual pilot areas to implementation at all key production units.

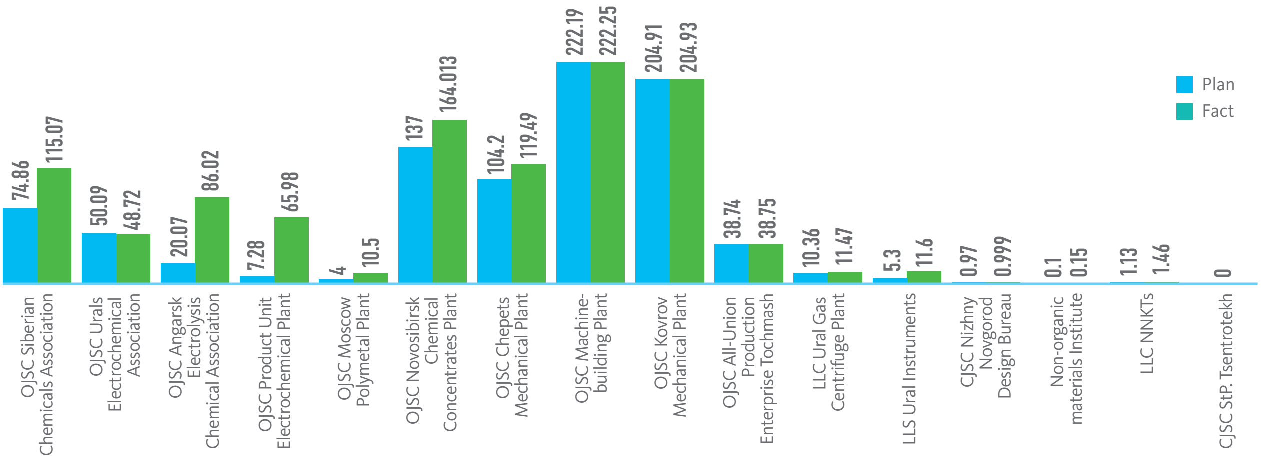
Main results were as follows:
— OJSC TVEL companies launched 42 projects under the RPS at 150 pilot sites, including units engaged in design;
— labor productivity at pilot sites rose by 30% on average;
— production costs were reduced by 13% on average;
— work in progress reduced by 48% on average;
— a central structure was created to control RPS progress at OJSC TVEL companies;
— RPS projects in 2011 gave total savings of 1,101 mln RUB, exceeding the target of 881 mln RUB.

Proposed improvements to RPS implementation, put forward by OJSC TVEL employees, enabled savings of 97 mln RUB in 2011.

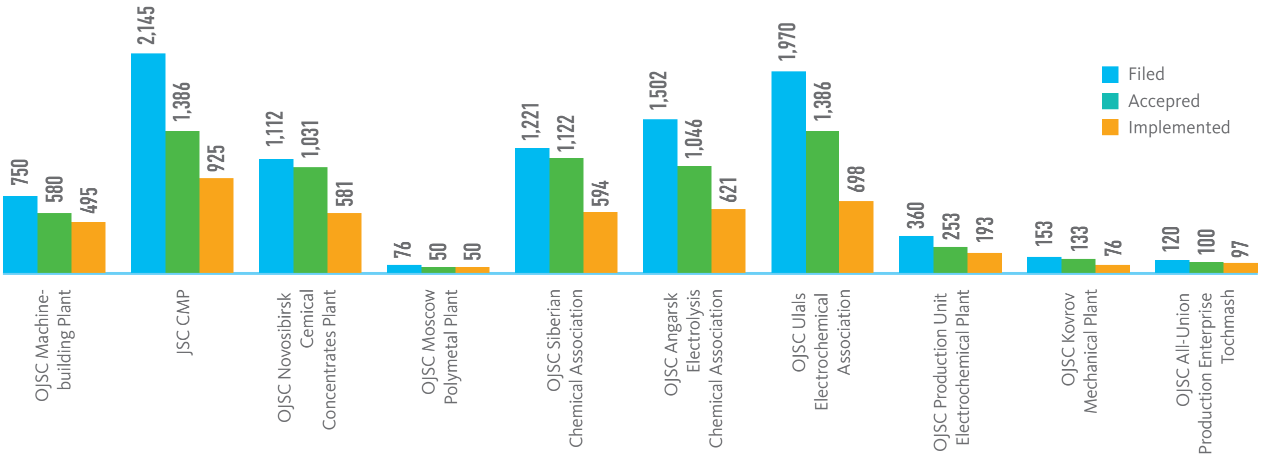
Actions scheduled for 2012 should give savings of at least 1.4 bln RUB and a comprehensive production efficiency program for OJSC TVEL in 2013–2015 is to be developed.

Labor productivity in the Fuel Division in 2011 was 2.96 mln RUB per employee, which is 40% more than in 2010.

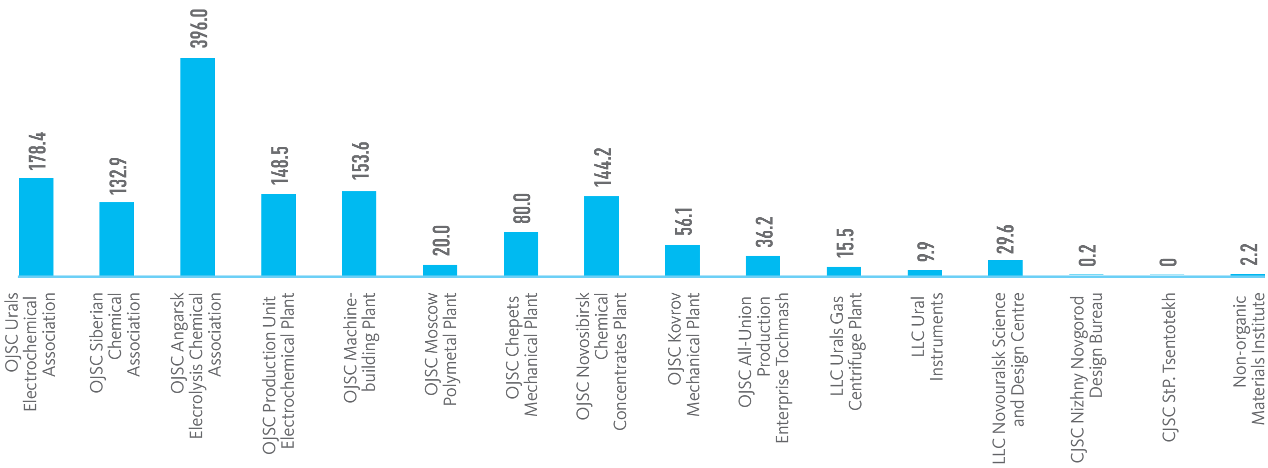
SAVINGS THANKS TO RPS IMPLEMENTATION IN 2011, MLN RUB



NUMBER OF PROPOSALS SUBMITTED, ACCEPTED, AND IMPLEMENTED IN 2011



TARGET SAVINGS IN 2012 FOR BUSINESS UNITS OF OJSC TVEL UNDER THE PROJECT, "COMPLEX OPTIMIZATION OF PRODUCTION AT NUCLEAR POWER ENTERPRISES", MLN RUB



3.9.9. PLANS FOR 2012 AND THE MEDIUM-TERM

— Developing new nuclear fuel types and fuel cycles for Russian-designed reactors, both active and under construction;
— developing new high-output models of gas centrifuges and improved auxiliary equipment for separation facilities;
— obtaining international licenses for TVS-Kvadrat;
— supplying an initial fuel batch for a BN-800 reactor;
— launching serial manufacture of next-generation gas centrifuges;
— developing the R&D-center in the Czech Republic (similar R&D centers may be set up in other countries, including Ukraine);
— further cooperation with OJSC RUSNANO.

3.10. MACHINE-BUILDING DIVISION

3.10.1. STRATEGIC GOALS OF THE DIVISION, CONTRIBUTION TO IMPLEMENTATION OF ROSATOM STRATEGY

A DEVELOPMENT STRATEGY FOR THE MACHINE-BUILDING DIVISION UP TO 2030 WAS APPROVED IN 2011 WITH THE STRATEGIC GOAL OF TRANSFORMATION INTO A GLOBAL DIVERSIFIED BUSINESS. THE DIVISION IS TO BECOME A LEADING SUPPLIER OF EQUIPMENT FOR THE NUCLEAR INDUSTRY, AND TO ACHIEVE SUBSTANTIAL AND SUSTAINABLE GLOBAL BUSINESS IN OTHER MARKET SEGMENTS (FOSSIL FUEL GENERATING, GAS AND PETROCHEMICAL INDUSTRY, ALTERNATIVE POWER INDUSTRY, ETC.).

The head company of the Machine-Building Division is OJSC Atomenergomash (Atomenergomash Holding, or OJSC AEM). The chief business of OJSC Atomenergomash is supply of main equipment to build Russian-designed nuclear plants inside and outside Russia.

A development strategy for the Machine-Building Division up to 2030 was approved in 2011 with the strategic goal of transformation into a global diversified business.

CONTRIBUTION OF OJSC ATOMENERGOMASH TO STRATEGIC INITIATIVES OF ROSATOM STATE CORPORATION

ROSATOM STRATEGIC INITIATIVE

BUILDING A SUSTAINABLE POWER MACHINE-BUILDING COMPANY WITH ADEQUATE SCALE

- ***R&D to improve existing and create new products and manufacturing technologies***
- ***Building competences to manufacture key equipment for nuclear plants,*** including asset integration with manufacturing and engineering companies that have the required production capacities
- ***Building service competences to maximize revenues at all stages of the NPP life cycle***
- ***Building production capacities of companies that manufacture key equipment for NPPs,*** through upgrade and modernization programs, enabling them to supply complete equipment sets for three NPPs per year
- ***Maximizing operations on the global market through localized production and creation of a system for international cooperation***

3.10.2. MAIN ACTIVITIES AND RESOURCES

OJSC Atomenergomash implements comprehensive equipment solutions (design, manufacturing, delivery, installation, engineering and maintenance) for various industrial sectors.

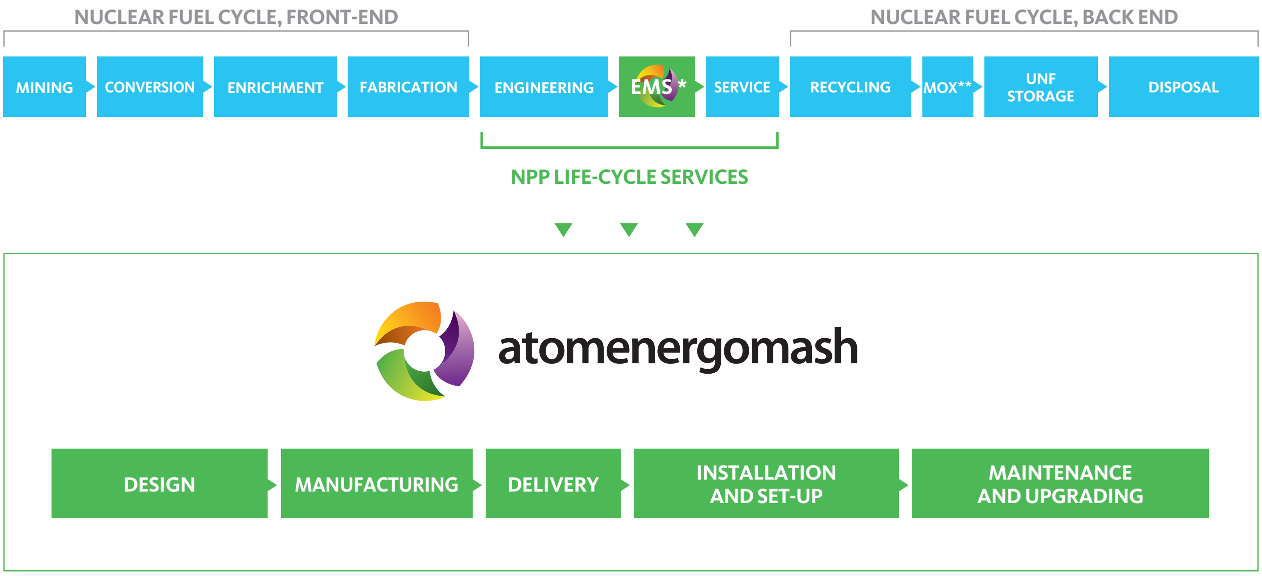
NUCLEAR POWER INDUSTRY	FOSSIL FUEL POWER INDUSTRY	GAS PETROCHEMICAL INDUSTRY	INSTRUMENT MANUFACTURE
- Casing for BN-800 fast-neutron reactors. - Casing equipment for VVER reactors. - Steam generators for all VVER reactors. - Separators-steam superheaters, heat exchangers and auxiliary equipment for nuclear plants (pipeline valves, high/low pressure pipeline elements, high-pressure heaters, water treatment filters, etc.). - Nuclear reactors and units for ships.	- Steam boilers with output up to 2,650 tons/hour for power units rated up to 1,200 MW. - Recovery boilers with output up to 456 tons/hour in a high-current circuit, and up to 91 tons/hour in a low-current circuit for sets of steam-gas units rated up to 450 MW. - Auxiliary equipment (pipeline valves, high/low pressure pipeline elements, high-pressure heaters, gas-tight valves, circulating water heaters, etc.).	- Dust collectors to remove mechanical impurities and liquids from natural gas at compressor plants of trunk gas pipelines. - Regenerators for gas-compressors on trunk gas-pipelines. - Heat exchangers. - Towers. - Production coils. - Air coolers (all modifications). - Auxiliary equipment for the gas and petrochemical industries, including pipeline valves, high/low pressure elements, etc.	- Control systems for production units in the reactor section, auxiliary equipment for nuclear plants. - Special systems for the reactor section. - Systems and radiation safety hardware for the nuclear power industry. - Entire range of radiation control instruments. - Controls and hardware for automation of fossil fuel generation, gas and petrochemical instrumentation (sensors for pressure, temperature, flow, level, deformation, etc.). - Control systems for the fossil fuel power industry (thermal power plants, combined cycle plants, and gas, fuel oil and coal boilers). - Local equipment control systems for the gas and petrochemical industry. - Controls for diesel-generator units. - Control and metering systems for energy saving.

The company also makes special cast and forged products (custom-made and small-scale serial production), including shafts (propellers, hot rolling shafts, support shafts, etc.), rotors, disks, casings, blades, shell rings, etc.

3.10.3. BUSINESS MODEL

OJSC ATOMENERGOMASH IS INVOLVED IN NPP CONSTRUCTION PROJECTS AT ALL STAGES OF THE VALUE CREATION CHAIN, FROM DESIGN TO POST-SALES MAINTENANCE AND EQUIPMENT UPGRADING.

OJSC ATOMENERGOMASH IN THE ROSATOM PRODUCTION CHAIN



* EMS = Power generation machine-building
** MOX-fuel

THE SALES GEOGRAPHY OF OJSC ATOMENERGOMASH IN ITS NUCLEAR BUSINESS IS DICTATED BY THE BUSINESS GEOGRAPHY OF ROSATOM. MOST OF THE COMPANY'S POWER ENGINEERING BUSINESS FOR FOSSIL FUEL GENERATION IS IN RUSSIA.

The output capacity of the Machine-Building division can manufacture two sets of key nuclear plant equipment annually.

INSTALLED NPP EQUIPMENT MADE BY OJSC ATOMENERGOMASH[7]

Parameters	Installed equipment
Number of steam generators manufactured for VVER-440 NPPs	>100 units
Number of steam generators manufactured for VVER -100 NPPs	>120 units

7 The units are the number of facilities on which any specific equipment type is installed.

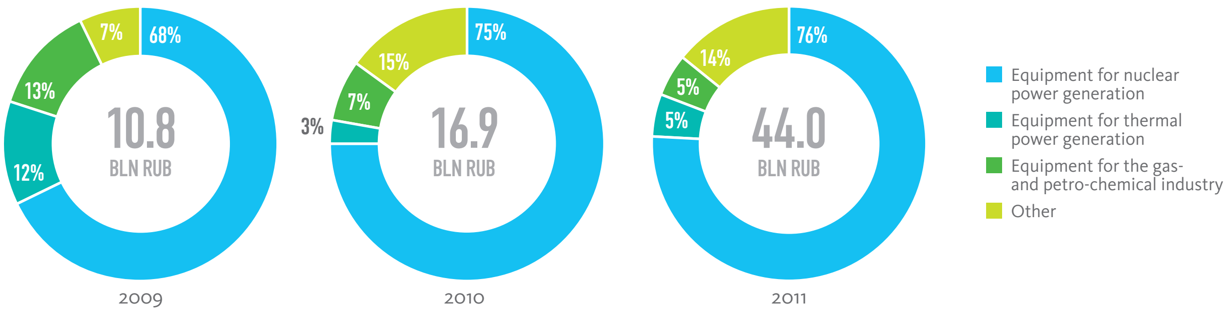
3.10.4. MAIN RESULTS IN 2011

In 2011:

For more information:
see the 2011 Annual Report of OJSC Atomenergomash

- a development strategy for the Machine-Building Division up to 2030 was approved;
- the level of monopolization in production of long-cycle equipment for nuclear plants was reduced to zero (from 85% in 2007);
- OJSC Atomenergomash together with Alstom (France) won the contract to supply machine room equipment for Power Units Nos. 1 and 2 of the Baltic NPP;
- new world-class production of special steels was launched at PAO Energomashspetstal (Ukraine);
- the Company purchased Chladici veze Praha (Czech Republic), a major engineering company producing industrial cooling systems for nuclear facilities and other power industry sectors;
- a business plan was developed for localization of engineering production in India.

VALUE OF OJSC ATOMENERGOMASH PRODUCTION BY SEGMENTS



Production and engineering companies in the Machine-Building Division produced equipment and services worth about 44 bln RUB in 2011, which is 2.5 times more than in 2010, and over 4 times more than in 2009.

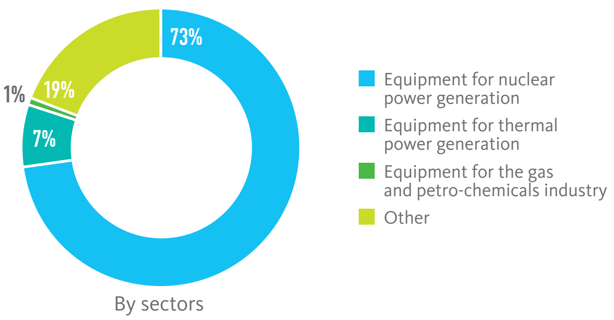
Production growth in 2011 was enabled by large contracts for nuclear power facilities under construction in Russia and for Russian-designed nuclear plants abroad, as well as work by PAO Energomashspetstal on contracts to supply large forged and cast products (partly for non-nuclear industry sectors). The growth also reflected the reassignment of OJSC Gidropress Design Bureau and Afrikantov Design Bureau to the Machine-Building Division.

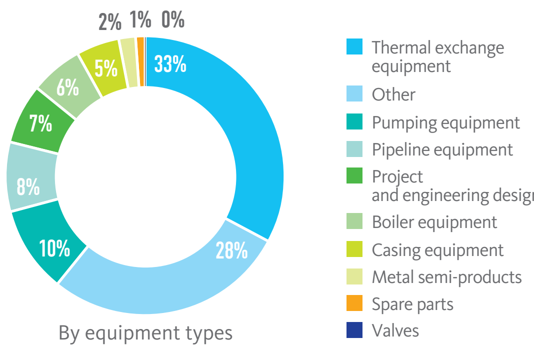
The share of products for the nuclear industry rose by 1 percentage point compared with the previous year (from 75% to 76%).

During the reporting year, the Machine-Building Division sold equipment for the Rostov, Kolsky, Bilibino, Kalinin, Balakovo, Smolensk, Beloyarsk and Leningrad-2 nuclear power plants in Russia and for nuclear plants operating and under construction outside Russia including Busher, Kozloduy, Kudankulam, Mohovce, Paksh, Rovenskaya, Temelin and Tianwan. Equipment was also shipped for the reactor island of Power Unit No. 4 at Beloyarsk NPP (an elevator support installed on the reactor casing top and used to load/unload fuel) as well as KLT-40S reactor unit equipment for use in a floating nuclear power unit, and pumping equipment for OJSC PO Sevmash.

The consolidated contract portfolio[8] of the Division as of December 31, 2011 was worth more than 91.6 bln RUB, of which 73% represented contracts for the nuclear industry (this reflects the long production cycle for nuclear power equipment).

STRUCTURE OF CONTRACT PORTFOLIO BY SECTORS AND PRODUCTS, AS OF 31.12.2011





8 Consolidated contract portfolio: value is estimated based on sales in future periods under business contracts as of 31.12.2011.

3.10.5. NUCLEAR AND RADIATION SAFETY

Companies in the Division make various equipment for radioactive waste and UNF handling. Production does not involve any materials that represent a radiation hazard.

Environmental safety of products is ensured by monitoring their compliance with production standards and environmental regulations, both for materials and components received from suppliers and for finished products.

Several companies in the Division are working to ensure that their system of physical protection for nuclear materials, nuclear units and storage facilities complies with international standards. OJSC Afrikantov Design Bureau has worked with the US Department of Nuclear Power since 2006 and both parties have implemented contracts to improve physical protection, accounting and control of nuclear materials, and to improve nuclear safety culture. The system of physical protection at OJSC Afrikantov has been audited repeatedly by agencies for licensing, supervision and control. Physical protections have been found compliant with the relevant rules and the Bureau is fully authorized to pursue its regulated activities on the terms and within the effect of its applicable licenses.

3.10.6. R&D AND INNOVATION

Rosatom does all it can to protect intellectual property rights at its companies on both domestic and external markets. Plans have been developed to organize such rights and ensure their efficient use and comprehensive protection.

In 2011 OJSC Atomenergomash worked out a list of technologies that have key importance for strategy implementation, and began an analysis of existing intellectual property rights to ensure their protection and proper business use. The scope of technologies and R&D achievements which are protected ranges from metal-working technologies to design and manufacturing of complex power equipment for both the conventional and nuclear power industries.

3.10.7. HIGHER OPERATING EFFICIENCY

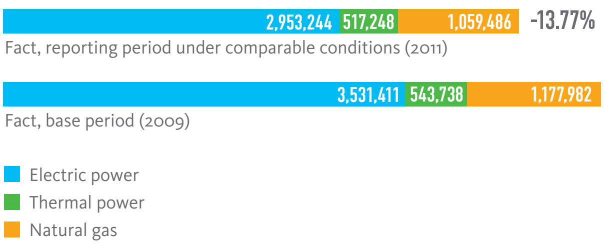
HIGHER ENERGY EFFICIENCY

Rosatom is implementing a program of energy saving and efficiency, and the approved target for 2011 was to reduce consumption of electric power by 10% compared with 2009. OJSC Atomenergomash achieved a reduction in consumption of 13.77%, made possible by the installation of meters, lowering of grid losses, preventing escape of heat from sealed structures and the disconnection of users not directly involved in current operations.

OJSC Atomenergomash companies use the following types of energy: natural gas, heat and electric power. Thanks to the energy saving and efficiency program, overall consumption of energy rose by only 1% in 2011, while production rose by 2.5 times.

As part of program implementation, OJSC Atomenergomash organizations (OJSC Venta, the Specialized Institute for Device Manufacturing, Afrikantov Design Bureau, Petrozavodskmash, Central Machine-Building Design Bureau, SverdNIIkhimmash, ZiO Podolsk, Gidropress, and the State Project Institute) carried out energy audits in 2011 to collect objective information about energy consumption and estimate the potential for energy saving (other organizations will carry out audits in 2012). Energy certificates have been prepared setting out a list of activities for energy saving and efficiency with cost estimates.

REDUCTION OF ENERGY CONSUMPTION BY OJSC ATOMENERGOMASH IN COMPARABLE TERMS



Further reduction of energy consumption will be achieved by means of an automated efficiency control system, which will help to build an energy profile for Division companies, recording, controlling and monitoring consumption.

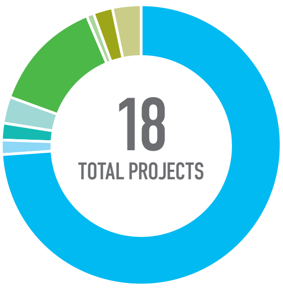
The objective for 2012 is to achieve energy savings of at least 14.5% against the level of 2009.

IMPLEMENTATION OF THE ROSATOM PRODUCTION SYSTEM (RPS)

The RPS Program was implemented at eight companies of OJSC Atomenergomash during 2011. More than 1,150 employees were trained in PS principles, 5C workplace organization and comprehensive equipment maintenance. Financial gains thanks to RPS projects in 2011 were 251,075,000 rubles (20 times more than in 2010).

Labor productivity in the Division was 2.33 mln RUB per employee in 2011, which is 15% more than in 2010.

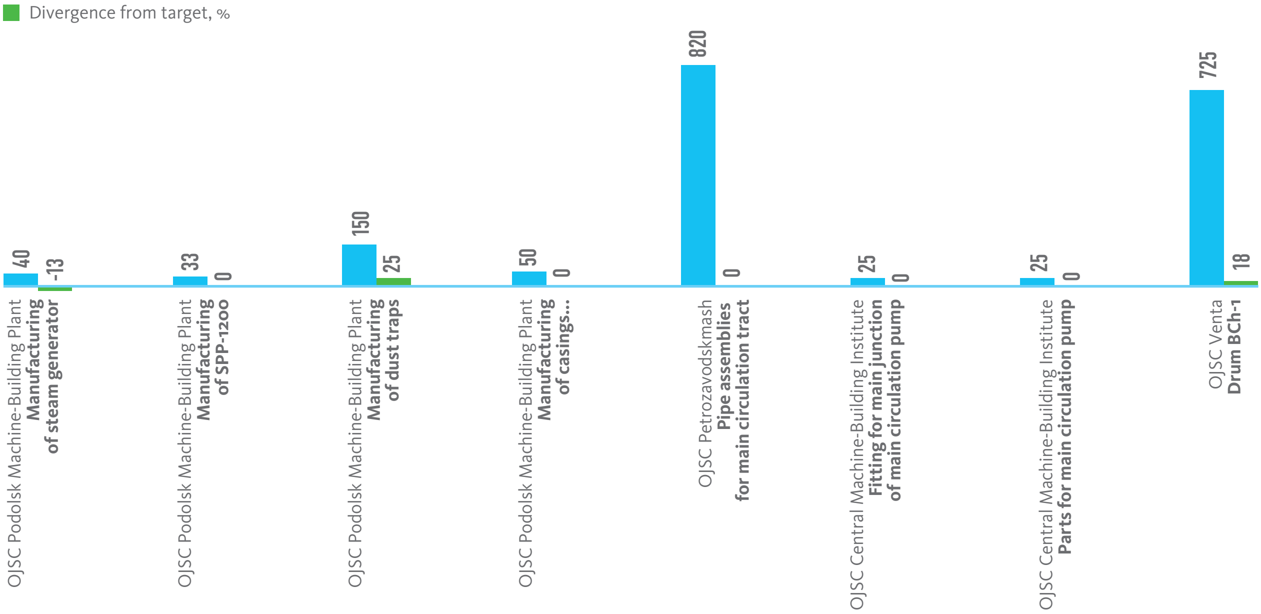
NUMBER OF RPS PROJECTS AT ORGANIZATIONS OF OJSC ATOMENERGOMASH AND RESULTING SAVINGS, THND. RUB



251,075,000
RUBLES
Total savings

	Total savings	Total projects
OJSC Podolsk Machine-building plant	184,430	6
OJSC Central Design Bureau for Machine-building	3,893	2
OJSC Venta	4,900	2
OJSC Instrument Manufacturing Institute	7,380	1
OJSC Petrozavodskmash	32,703	2
LLC STEP	1,932	1
OJSC Gidropress Design Bureau	5,357	1
OJSC Afrikantov Design Bureau	8,076	3

IMPROVEMENT OF LABOR PRODUCTIVITY AT OJSC ATOMENERGOMASH COMPANIES (PILOT SITES)



3.10.8. PLANS FOR 2012 AND THE MEDIUM-TERM

The corporate outline of the Division will be completed in 2012 with the objective of expanding its product range and globalizing its operations, particularly as regards implementation of the strategic project in the wind-power segment, reaching a final decision on a production site for the ALSTOM Atomenergomash project, etc.

The Machine-Building Division will continue implementation of the program to upgrade its production and technologies in order to raise business efficiency. Actions will include the start of construction work on a new workshop to manufacture reactor equipment for nuclear plants at OJSC Petrozavodskmash, scheduled for completion in the first half of 2013 (the workshop will make 1.5 equipment sets for reactor units each year).

3.11. ELECTRIC POWER DIVISION

3.11.1. STRATEGIC GOALS OF THE DIVISION AND ITS CONTRIBUTION TO IMPLEMENTATION OF ROSATOM'S STRATEGIC GOALS

THE PRINCIPAL COMPANY IN THE ELECTRIC POWER DIVISION IS OJSC ROSENERGOATOM, WHICH IS THE OPERATOR AT ALL ACTIVE NUCLEAR PLANTS IN RUSSIA, AND ACTS AS MAIN CONTRACTOR FOR ALL NUCLEAR PLANTS UNDER CONSTRUCTION IN RUSSIA.

CONTRIBUTION OF OJSC ROSENERGOATOM TO IMPLEMENTATION OF ROSATOM STRATEGIC INITIATIVES

ROSATOM STRATEGIC INITIATIVES	
RAISING THE SHARE OF NUCLEAR GENERATION IN RUSSIA	*Raising the share of nuclear generation to 20-22% of total electric power generation in Russia by 2020 through increase of nuclear capacity and generation (including construction of power units)*
	Nuclear, radiation, and fire safety of nuclear power facilities, protection of personnel, the general public and the environment
	Improving the efficiency of NPPs: raising the capacity use ratio and load readiness, greater efficiency in repair work, greater fuel efficiency
	Lower operating costs
	Improving the efficiency of capital construction projects
	Improving the efficiency of purchases through their consolidation, efficient control of stock, and optimization of logistics
	Serial construction as part of the VVER upgrade project
GLOBAL EXPANSION OF THE VVER TECHNOLOGY PLATFORM	*Supporting NPP construction abroad using the build-own-operate scheme*
	Involvement in exports of electric power to Europe, and construction of related facilities
	Services to VVER power units abroad
	Support for nuclear power infrastructure development in countries lacking previous experience of nuclear generation
CLOSING THE NUCLEAR FUEL CYCLE WITH FAST-NEUTRON REACTORS	*R&D and construction of fast-neutron reactors*

3.11.2. MAIN BUSINESS AND RESOURCES

THE MAIN BUSINESS OJSC ROSENERGOATOM IS THE PRODUCTION AND SALE OF ELECTRIC ENERGY AND CAPACITY ON THE WHOLESALE ELECTRIC POWER AND CAPACITY MARKET, AND PRODUCTION AND SALE OF THERMAL ENERGY.

OJSC Rosenergoatom controls active nuclear plants and construction projects (subsidiaries) with total installed capacity 24.2 GW, as well as ancillary business units.

As of December 31, 2011, power generation by nuclear plants represented 16.6% of all electricity generation in Russia (see Report section, "Economic Impact").

Reactor type:*

- RBMK-1000
- VVER-1000
- VVER-440
- BN-600
- EGP-6

BALAKOVO			BELOYARSK			BILIBINO			KALININ			KOLSKY		
1	VVER	1,000	1	BN	600	1	EGP-6	12	1	VVER	1,000	1	VVER	440
2	VVER	1,000	2	BN	600	2	EGP-6	12	2	VVER	1,000	2	VVER	440
3	VVER	1,000	3	BN	600	3	EGP-6	12	3	VVER	1,000	3	VVER	440
4	VVER	1,000				4	EGP-6	12	4	VVER	1,000	4	VVER	440
CAPACITY		4,000 MW	CAPACITY		600 MW	ELECTRIC		48 MW	ELECTRIC		4,000 MW	CAPACITY		1,760 MW

KURSK			LENINGRAD			NOVOVORONEZH			SMOLENSK			ROSTOV		
1	RBMK	1,000	1	RBMK	1,000	1	VVER	417	1	RBMK	1,000	1	VVER	1,000
2	RBMK	1,000	2	RBMK	1,000	2	VVER	417	2	RBMK	1,000	2	VVER	1,000
3	RBMK	1,000	3	RBMK	1,000	3	VVER	1,000	3	RBMK	1,000			
4	RBMK	1,000	4	RBMK	1,000									
CAPACITY		4,000 MW	CAPACITY		4,000 MW	CAPACITY		1,834 MW	CAPACITY		3,000 MW	CAPACITY		2,000 MW

* The boxed figure denotes the number of power units at the NPP.

CHARACTERISTICS OF ACTIVE POWER UNITS AT NUCLEAR PLANTS

NPP	Unit No.	Reactor type	Electric capacity, gross, MW	Generation of the power unit	Commissioned, year	Scheduled retirement, year	Scheduled retirement after service life extension, year
BELOYARSK	3	BN-600	600	II	1980	2010	2025
BILIBINO	1	EGP-6	12	I	1974	2004	2019
	2	EGP-6	12	I	1974	2004	2019
	3	EGP-6	12	I	1975	2005	2020
	4	EGP-6	12	I	1976	2006	2021
BALAKOVO	1*	VVER	1,000	II	1985	2015	2045
	2*	VVER	1,000	II	1987	2017	2047
	3*	VVER	1,000	II	1988	2018	2048
	4*	VVER	1,000	II	1993	2023	2053
KALININ	1*	VVER	1,000	II	1984	2014	2044
	2*	VVER	1,000	II	1986	2016	2046
	3	VVER	1,000	II	2004	2034	2064
	4	VVER	1,000	II	2011	2041	2071
KOLSKY	1**	VVER	440	I	1973	2003	2018 (2033**)
	2**	VVER	440	I	1974	2004	2019 (2034**)
	3*	VVER	440	II	1981	2011	2026
	4*	VVER	440	II	1984	2014	2029
KURSK	1*	RBMK	1,000	I	1976	2006	2021
	2*	RBMK	1,000	I	1979	2009	2024
	3*	RBMK	1,000	II	1983	2013	2028
	4*	RBMK	1,000	II	1985	2015	2030
LENINGRAD	1*	RBMK	1,000	I	1973	2003	2018
	2*	RBMK	1,000	I	1975	2005	2020
	3*	RBMK	1,000	II	1979	2009	2024
	4*	RBMK	1,000	II	1981	2011	2026
NOVOVORONEZH	3**	VVER	417	I	1971	2001	2016 (2031**)
	4**	VVER	417	I	1972	2002	2017 (2032**)
	5	VVER	1,000	II	1980	2010	2025
SMOLENSK	1*	RBMK	1,000	II	1982	2012	2027
	2*	RBMK	1,000	II	1985	2015	2030
	3*	RBMK	1,000	III	1990	2020	2035
ROSTOV	1	VVER	1,000	II	2001	2031	2046
	2	VVER	1,000	II	2010	2040	2070

* NPP power units undergoing work for service life extension at the end of 2011.
** Decisions to extend service life of the power units from 15 to 30 years were at the preparatory stage at the end of 2011.

24.2
GW
total installed capacity of all nuclear plants

172.68
BLN kWh
of electric power generated by nuclear plants in 2011

16.6%
OF POWER GENERATION
in Russia as of December 31, 2011

3.11.3. BUSINESS MODEL

MAIN PARTNERS

- OAO TVEL, FGUP GHK, GUP PO Mayak
- SPBAEP, NIAEP, AEP
- Enterprises of the machine-building complex
- OAO SO UES, OAO ETS, ZAO CFR

MAIN PROCESSES

- Operation of active nuclear plants
- Construction of new power units
- Sale of electric power and thermal power

MAIN RESOURCES

- 32 power units with total installed capacity 24.2 GW*
- Human resources
- Materials and stock
- Equipment and plant
- Nuclear fuel

COST STRUCTURE

- 4% cost of materials, work and services
- 7% cost of labor
- 12% cost of power resources and fuel
- 10% general production cost
- 10% industry-level cost
- 8% depreciation
- 36% industry-level provisions
- 5% business and administrative costs
- 2% miscellaneous costs
- 2% profit tax
- 4% net profit

PRODUCT POSITIONING

Generation of electric power, thermal power, and capacity of adequate quality, in accordance with target balance of supplies of electric power and capacity to the wholesale market

OPERATING RESULTS

Maximized revenues at technologicaly permissible loads on the power units of the nuclear plants

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

Implementation of the nuclear power idustry development program

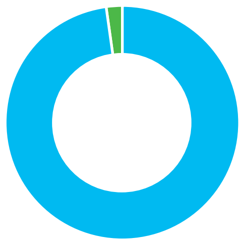
MARKETING AND RELATIONSHIP BUILDING

- Project "Purchasing of Power Sales Companies"
- Reaching out to foreign markets
- Launching new production facilities

SALES CHANNELS

- Power sales units of the Concern Atomenergosbit
- Importer: ZAO INTER RAO UES

REVENUES



- 98% Electric power and capacity
- 2% Other

CONSUMERS

- Major industrial manufacturing companies
- Warranty suppliers
- Electric power resellers
- Importer: ZAO INTER RAO UES

TARIFF POLICY

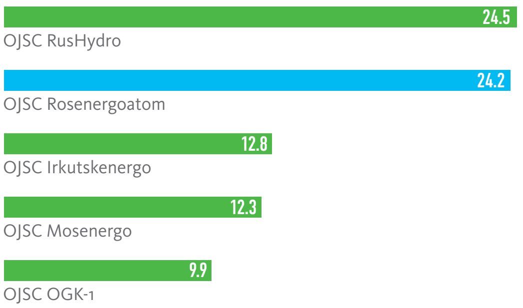
In accordance with the Federal Government's Decree No. 1172 of 27.12.2010 "Approval of rules for the wholesale market of electric energy and capacity, and changes to certain acts of the Government of the Russian Federation regarding organization of the wholesale market of electric energy and capacity", prices for electric power in the unregulated sector (one-day market) is calculated on a marginal pricing basis: power output by all producers, for which there is demand on the market, is paid at the highest price offered by such producers.

Regulated tariffs are set by the Russian Federal Tariffs Service pursuant to the Federal Government Decree No. 109 of 26.02.2004, "Prices for electric and heat energy in the Russian Federation".

3.11.4. MARKET SITUATION

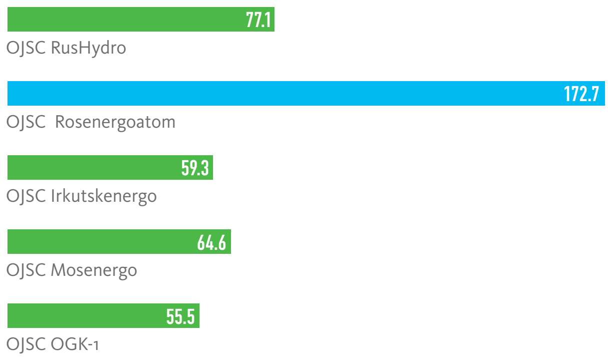
DUE TO THE SPECIFICS OF THE WHOLESALE MARKET, OJSC ROSENERGOATOM IS IN COMPETITION WITH ALL OTHER MAJOR GENERATING COMPANIES OPERATING IN RUSSIA.

POSITION OF OJSC ROSENERGOATOM BY CAPACITY*, GW



* Data from official websites of companies, excluding controlled subsidiaries and affiliates.

POSITION OF OJSC ROSENERGOATOM BY ELECTRIC POWER GENERATION*, BLN KWH



* Data from official websites of companies.

NUCLEAR PLANTS IN VARIOUS COUNTRIES WORLDWIDE: REACTOR NUMBERS AND GENERATION

Country	2011		2010		2009	
	Number of reactors*	Electric power production**, bln kWh	Number of reactors*	Electric power production**, bln kWh	Number of reactors*	Electric power production**, bln kWh
WORLDWIDE	**448**	**2,517.7**	**442**	**2,629.8**	**440**	**2,558.1**
of which:						
US	104	790.4	104	807.1	104	796.9
France	58	423.5	59	410.1	59	391.7
Japan	54	156.2	54	280.2	56	263.0
Russia	32***	161.6	32	159.4	31	152.8
South Korea	21	147.8	21	141.9	20	141.1
India	20	29.0	19	20.5	18	14.7
UK	19	62.7	19	56.9	19	62.9
Canada	18	88.3	18	85.5	18	85.1
Germany	17	102.3	17	133.0	17	127.7
China	16	82.6	13	71.0	11	65.7

* All reactors, which were in operation at any period of the reporting year.
** For electric power supplied to the grid (figures for all electric power generated by Russian plants, including generation for own needs, were 163.3, 170.1 and 172.7 bln kWh in 2009, 2010 and 2011, respectively).
*** Excluding Power Unit No. 4 at Kalinin NPP, which was still attaining capacity in 2011.

3.11.5. MAIN RESULTS IN 2011

In 2011:

For more information:
see the Annual Report of OJSC Rosenergoatom

Russian nuclear plants generated 172.68 bln kWh of electric power in 2011, which is 1.5% more than in 2010 and represents a record in the history of nuclear power generating in Russia. Another record was set in mid-December 2011, when simultaneous generation capacity was 25 GW (including Power Unit No. 4 at Kalinin NPP), which is the highest level in the history of Russian nuclear power.

The start of generation by Power Unit No. 4 at Kalinin NPP was an important event in 2011. Construction work continued on Power Units Nos. 3 and 4 at Rostov NPP, Novovoronezh NPP-2, Leningrad NPP-2, and a power unit with BN-800 fast-neutron reactor at Beloyarsk NPP. Construction of the Floating Nuclear Power Station (Academic Lomonosov) also continued.

In 2011, the Federal Service for Environmental, Technological, and Nuclear Supervision granted the Company a license to build Power Unit No. 1 at the Baltic NPP, and Power Units Nos. 1 and 2 for Nizhniy Novgorod NPP.

In 2011, Rosatom State Corporation continued its interaction with the Moscow Center of the World Association of Operators of Nuclear Power Plants (WAO NPP) (http://www.wanomc.ru/).
WAO NPP provides assistance to its members to ensure safe and reliable operation of nuclear plants through sharing of experience, peer audits, technical assistance missions and workshops and joint projects.
In the reporting year, the Moscow Center of the WAO NPP carried out the first-ever peer audit at OJSC Rosenergoatom (see the Report section, “Nuclear Industry after the Fukushima-1 Disaster: New Challenges to Growth”).

3.11.6. NUCLEAR AND RADIATION SAFETY

The safety system at Russian nuclear plants, which uses a concept of multi-tier protection, is the foundation of Rosenergoatom’s technical policy and is regulated by Russian federal standards for nuclear plant safety, which take account of recommendations issued by the IAEA.

After the Fukushima-1 accident, Rosenergoatom carried out additional audits at active Russian nuclear plants, and analyzed design documents for operating and construction projects, to evaluate their ability to withstand situations similar to those at Fukushima. Measures were designed on the basis of this work to ensure extra safety at nuclear plants in extraordinary situations. These measures included the purchase of equipment for all active nuclear plants, which ensures safe shutdown and aftercooling of power units in the absence of external sources of power and water. The conclusion was that designs of all power units currently under construction are compliant with the most stringent international safety standards.

Efficiency of the actions taken by OJSC Rosenergoatom was also confirmed during the peer audit by the World Association of Operators of Nuclear Plants and the IAEA OSART Mission at the Smolensk NPP.

All Russian nuclear plants operated without incident in 2011, observing required levels of safety. No failures of safety system components were registered and all safety systems were available. There has been no instance of non-compliance at Russian NPPs above level 1 on the INES Scale for the last 13 years.

In October 2011, V.G. Asmolov, the First Deputy CEO of OJSC Rosenergoatom, was elected as President of the World Association of Operators of Nuclear Power Plants (WAO NPP) to hold office during 2011–2013. E.V. Romanov, the CEO of Rosenergoatom, was elected to the Management Board of WAO NPP.

3.11.7. R&D AND INNOVATIONS

Main results in 2011

Corporate project to upgrade design technology

Work in the reporting year as part of this project was as follows:
- development and adaptation of discrete reinforcement in project solutions for NPP-2006;
- development of recommendations on use of chemical additives to heavy and extra-heavy concrete to speed up concreting work, and of a methodology to assess efficiency of the technique;
- development of a catalog of standard supports for NPP pipelines, based on Russian and foreign know-how;
- development of high-stability steel for use in the casings of next-generation reactors.

Development of new steel

Extending the service life of main equipment is a highly important part of the company’s innovation activities and crucial for assuring competitiveness. R&D and contracts to develop new steel for next-generation reactor casings are handled by the company’s engineering design branch.
Work was completed in the reporting year to enable industrial application of new steel. It is intended to use improved 15X2MFA-A steel to make casings for the next-generation upgraded VVER reactor. Preparations have begun to produce steel billet and test the welding technology on the casing of the upgraded VVER reactor.

DEVELOPING REACTOR UNITS OF THE NEXT GENERATION

Project title	Description	Expected deliverables and effect
AES-2006	Designing next-generation nuclear plants with better technical and business performance characteristics and safety parameters.	To achieve highest possible reliability and safety performance to produce optimized capital investments in nuclear plant constructions.
VVER-TOI	Creating a one-design project of optimum-performance IT-enabled power unit using the VVER technology on the basis of AES-2006.	— Reducing project costs by 20% compared to Novovoronesz NPP (AES-2006 project); — reducing construction period from 60 to 40 months; — reducing operation costs by 10% compared to power unit No. 4 at Balakovo NPP which is Russia's best unit in this aspect; — creating a modern-day I.T. environment to design power unit projects; — submitting for official approval a pack of updated acts of standard and legal regulation to consider global best practices of nuclear plant construction and operation.
Fast-neutrons reactors	Designing fast-neutron reactors to become the basis for implementation of a new technology platform in nuclear power generation based on the closed nuclear fuel cycle.	To raise use efficiency of natural uranium and recycling of used nuclear fuel: estimated increment in efficiency of natural uranium by 2030, at least 30 times higher compared to the 2009 level, also eliminating all stocks of used nuclear fuels currently accumulated in warehouses.
PATES	Designing and construction of floating nuclear thermal power plants for electric power generation.	Supplying electric power to off-grid areas that feature extreme environments for industrial operation.

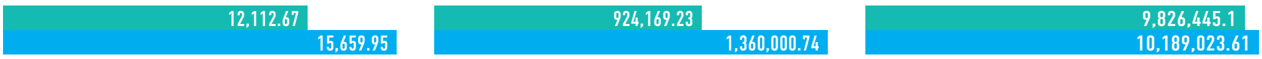
3.11.8. RAISING OPERATING EFFICIENCY

IMPROVEMENT OF ENERGY EFFICIENCY

In 2011, all active NPPs completed power audits and thermal imaging of their buildings. In the second half of 2011, programs were prepared for energy saving and improvement of energy efficiency at nuclear plants.

A uniform user certificate for fuel and energy resources is to be introduced in 2012 and a consolidated program will be finalized for energy saving and efficiency at active nuclear plants (a part of activities under the program will be implemented during 2012).

ENERGY SAVINGS THANKS TO ACTIONS TO REDUCE ENERGY USE AND RAISE EFFICIENCY



Consumption of thermal energy for own needs, '000 joules

Consumption of water for own needs, '000 m³

Consumption of electric power for own needs, '000 kWh

2010 2011 (in terms comparable with 2009)

PROGRAM FOR OUTPUT INCREASE

MAIN TARGETS IN THE PROGRAM TO RAISE OUTPUT OF ELECTRIC POWER AT ACTIVE POWER UNITS OF ROSENERGOATOM NPPS ARE AS FOLLOWS:

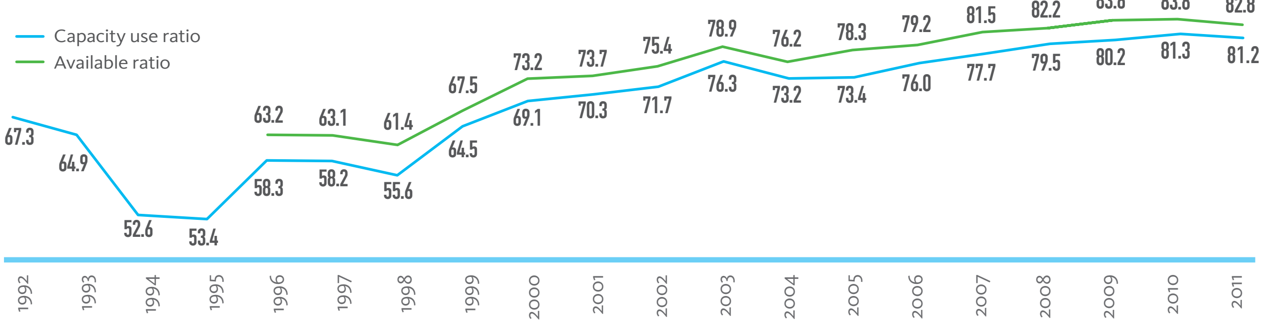
ACHIEVING 139.6 BLN KWH ADDITIONAL ELECTRIC POWER OUTPUT DURING 2007–2015	ACHIEVING CAPACITY USE RATIO OF 85.8% AND AVAILABLE CAPACITY RATIO OF 86.9%

Work was carried out in 2011 as part of the program to raise the efficiency of turbines at Smolensk, Leningrad and Kursk NPPs.

A sub-program is also being carried out to raise thermal capacity of power units with VVER reactors. As part of this sub-program Power Unit No. 2 at Balakovo NPP was switched to industrial operation at 104% of its original rated capacity, experimental operations continued at 104% of capacity at Power Units Nos. 1, 3, 4 of Balakovo NPP and Power Unit of No. 1 Rostov NPP. Power Unit No. 4 at Kolsky NPP maintained experimental operation at 107% of capacity.

> Implementation since 2007 of the program for output increase led to equivalent capacity growth of 2,100 MW, enabling the generation of an additional 59.7 bln kWh, and the capacity use ratio rose by 5.2% to 81.2% in 2011.

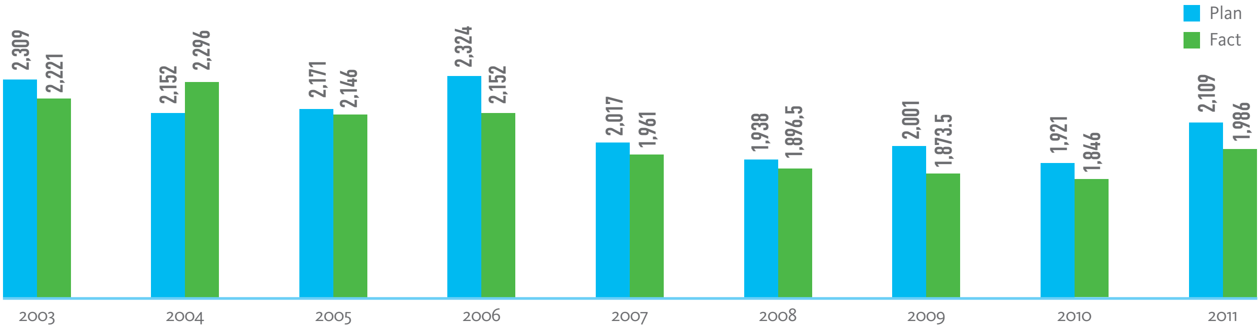
CAPACITY USE RATIO AND AVAILABLE CAPACITY RATIO AT RUSSIAN NUCLEAR PLANTS, %



In 2011, the Company completed 36 repairs on 32 active power units at nuclear plants, and the repair work lasted for 1,986 days.

Total scheduled duration as per the approved annual repair schedule for NPP units was 2,109 days, so time saved during the year amounted to 123 days.

SCHEDULED AND ACTUAL TIME FOR REPAIRS TO NPP UNITS IN 2011, DAYS



EXTENDING THE SERVICE LIFE OF NPP UNITS

Main results:

— licenses were obtained from the Federal Service for Environmental, Technological and Nuclear Supervision to extend the operating lives of Power Units No. 3 at Kolsky NPP and No. 5 at Novovoronezh NPP;
— main work for upgrade of Power Unit No. 1 at Smolensk NPP was completed.

As of December 31, 2011, work had been completed to extend the operating life of 17 NPP power units with combined capacity of 9,802 MW. The company obtained Rostekhnadzor licenses via standard procedures, allowing operation of these power units beyond their original designated service life.

IMPLEMENTATION OF THE ROSATOM PRODUCTION SYSTEM

All Russian nuclear plants are implementing the Rosatom Production System, thus enabling reduction of repair time by 70.5 days in 2011 compared with a target of 69 days.

'The financial effect of the reduction in repair time was 1,043.3 mln RUB, and its effect in terms of additional output was 1,190.9 mln kWh.

Specific sites have been designated at each NPP for RPS implementation and detailed daily repair schedules have been prepared, with per-shift tasking and daily assignments.

Labor productivity in the Division was 4.62 mln RUB per employee in 2011, which is 8% less than in 2010.

3.11.9. PLANS FOR 2012 AND THE MEDIUM-TERM

Objectives for 2012:

— power generation of 176.56 bln kWh thanks to RPS implementation, new technologies and fewer unscheduled repairs;
— reduction of total repair days at NPP power units by 39 days under the standards of 2012 through RPS implementation;
— commissioning of Power Unit No. 4 at Kalinin NPP;
— raising investment efficiency by extending the operating life of active power units to obtain additional output of 69 bln kWh;
— creating a standard power unit design based on VVER-upgrade technology;
— achieving conditional fixed costs of electric power output no higher than 273 rubles per megawatt-hour and EBITDA of 71.5 bln RUB.

Key medium-term objectives (up to 2016):

— nuclear plants to account for more than 18% of all electric power generation in Russia;
— conditional fixed costs per 1 megawatt-hour not exceeding 250 rubles;
— cost level of 156 bln RUB for construction of a serial-design, two-unit nuclear plant (in 2010 prices);
— labor productivity of 13.1 mln RUB per employee.

3.12. CAPITAL CONSTRUCTION

SERGEY BUDILIN
Director of the Capital Construction Directorate

THE COMPANY EMBARKED ON A LARGE-SCALE PROGRAM OF NUCLEAR PLANT CONSTRUCTION IN 2006. HOW HAS IT PROGRESSED?

The key point is that we have restored our construction base and can now control the key parameters of projects (deadlines and costs) more efficiently. OJSC Nizhny Novgorod Atomenergoproekt gave proof of this at unit 4 of the Kalinin nuclear plant, where construction was completed on time and within budget.

As regards overall program deadlines: the nuclear industry development program adopted in 2006 was based on specific scenarios of economic growth: estimates for increase of electric power consumption, rates of inflation, gas prices, and financing from the budget. Actual indicators have differed from the forecasts, so adjustments need to be made to the program. But that does not affect the objective of serial construction of power units to raise the share of nuclear generation in the national energy balance. It should be noted that the Government will only provide assistance in the initial stage, and future construction will be financed from our own funds and from loans.

TO WHAT EXTENT IS SELF-FINANCING POSSIBLE? IT IS WELL-KNOWN THAT PAYBACK ON CAPITAL INVESTMENTS IN NUCLEAR PLANTS TAKES AT LEAST 15-20 YEARS.

A modern nuclear plant is designed to operate for at least 60 years, so even if it takes 20 years to pay back investments, the plant will make profits for the owner in the other 40 years. Certainly, though, cutting construction costs is a highly important issue for us. Our nuclear plants are already fully competitive in comparison with foreign peers, but there is plenty more potential for cost optimization.

RUSSIA SPENDS HUGE AMOUNTS ON NPP CONSTRUCTION BOTH INSIDE THE COUNTRY AND ABROAD, USING GOVERNMENT LOANS TO CUSTOMER COUNTRIES. WHAT IMPACT DOES THAT HAVE ON THE NATIONAL ECONOMY?

A nuclear plant is a complex and sophisticated asset, and its construction requires inputs from a range of industrial sectors in addition to the nuclear industry. We contracted special research to help understand the impact on nuclear plant construction on our national economy, and it was found that every ruble invested in nuclear plant construction generates about five rubles for GDP.

ROSATOM'S WORK ON ENGINEERING AND CONSTRUCTION OF NPPS AIMS TO ACHIEVE ENERGY INDEPENDENCE AND GUARANTEE POWER SUPPLIES TO THE GENERAL PUBLIC AND TO BUSINESS, AS WELL AS ENSURING THAT SERIAL-DESIGN OF NUCLEAR POWER UNITS BY THE CORPORATION IS COMPETITIVE.

Competitive advantages of Russian engineering include dissemination of best practice to all of those concerned in nuclear design and construction, through creation of a standard contract for the full cycle of pre-project and project work, and a standard engineering, procurement and construction management (EPCM) contract to build a power unit.

The engineering management model is as follows: acting through its subsidiary OJSC Atomenergoprom, the Corporation functions as an investor, signing a tripartite investment agreement with OJSC Atomenergoprom and OJSC Rosenergoatom. Rosenergoatom, in turn, signs contracts to enable EPCM projects that cover the entire range of R&D, design, construction and installation (turn-key construction). These contracts are signed with general contractors – our three engineering companies (OJSC Saint Petersburg Atomenergoproekt, Nizhny Novgorod Atomenergoproekt and Atomenergoproekt).

ACCUMULATING COMPETENCES, TRANSIT TO EPCM CONTRACTS

2007–2011

ROSATOM

NPP CONSTRUCTIONS IN RUSSIA

Engeneering (nuclear design) companies

CUSTOMER | CUSTOMER

1. Creating an authorized agency: Rosatom State Corporation.
2. Creating OJSC Atomenergoprom and putting it in charge of all nuclear power business units.
3. Creating engeneering companies on the basis of projects design institutes.

2011–2015

ROSATOM

NPP CONSTRUCTIONS IN RUSSIA

EPCM-contracts

CUSTOMER | CUSTOMER

1. Creating an EPCM division within Rosatom.
2. Creating a management company (OJSC AESK) on the basis of project design and construction complex: transition from the traditional general contract model to the EPCM contract model
3. Transformation: OJSC Nizhny Novgorod Atomenergoproekt and LLC ASE-Engineering

3.12.1. MAIN EVENTS IN 2011

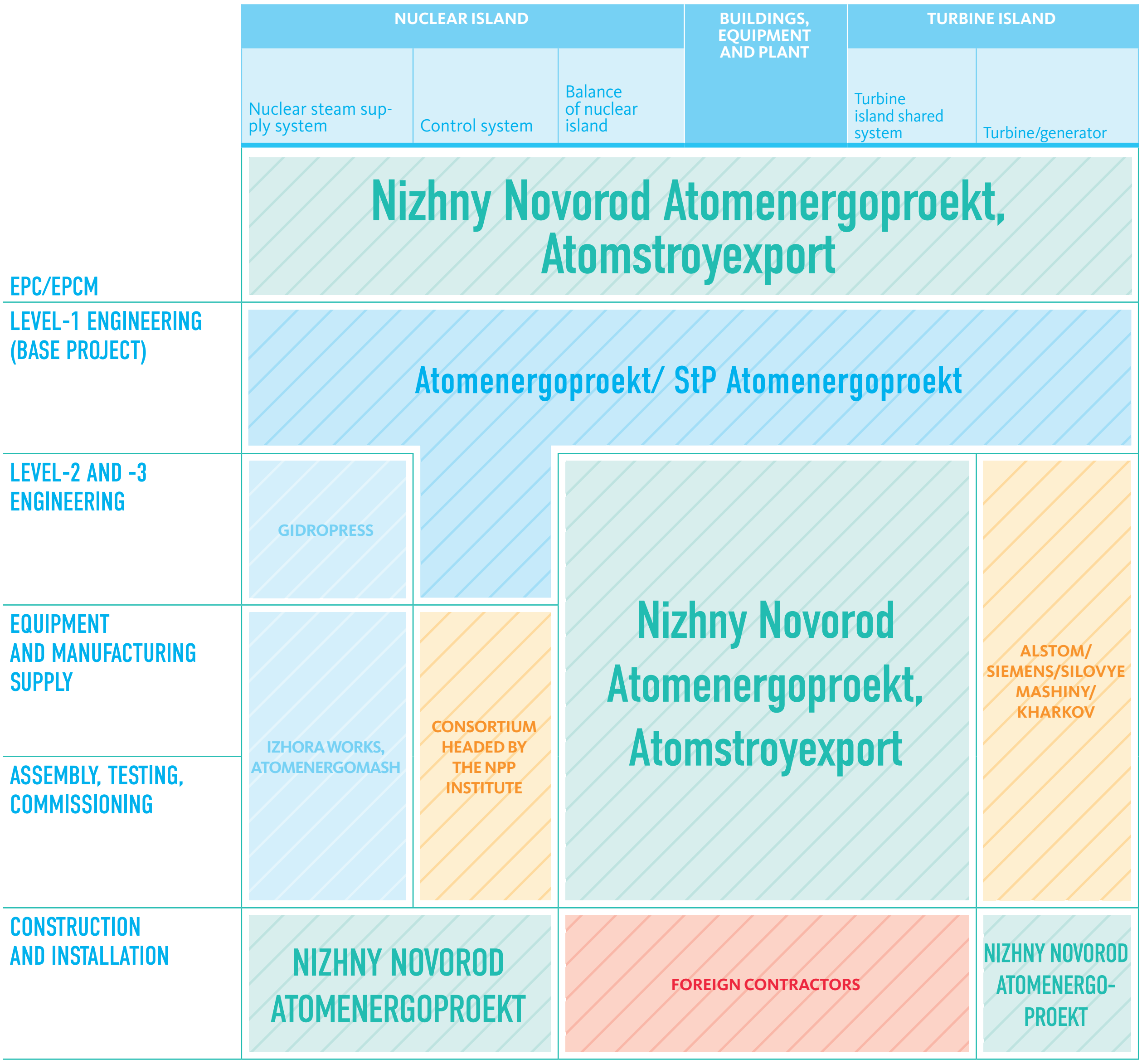
MERGER BETWEEN OJSC NIZHNY NOVGOROD ATOMENERGOPROEKT AND CJSC ATOMSTROYEXPORT

In November 2011, OJSC Nizhny Novgorod Atomenergoproekt (OJSC NN Atomenergoproekt), the leading engineering company in the Russian nuclear industry, began a merger of competences with CJSC Atomstroyexport, the Russian exporter of nuclear plant construction services. Merger of these two leaders will produce a synergy effect and make them more competitive: OJSC NN Atomenergoproekt will substantially expand its business geography and scale, while of CJSC Atomstroyexport will acquire the benefits of advanced Multi-D design competence. The companies will jointly implement a portfolio of up to 20 simultaneous contracts for both nuclear power units and thermal stations in Russia and abroad. The consolidated company and its subsidiaries/affiliates will employ more than 7,000 people and its annual revenues are expected to reach USD 10 bln by 2015.

CONSOLIDATION OF A SHARE STAKE IN OJSC ENERGOSPETSMONTAZH

In 2011, OJSC Atomenergoprom consolidated 100% of shares in OJSC Energospetsmontazh, the sole installation contractor in Rosatom's Capital Construction Division. OJSC Energospetsmontazh includes organizations (branches) operating in nine of Russia's administrative regions and also in Busher (Islamic Republic of Iran), which are specialized in installation work at nuclear and fossil fuel power stations, mining and ore processing facilities, and chemical plants.

SERVICE OFFERED BY THE CONSOLIDATED COMPANY NN ATOMENERGOPROEKT-ATOMSTROYEXPORT IN CONSTRUCTION OF NEW POWER UNITS



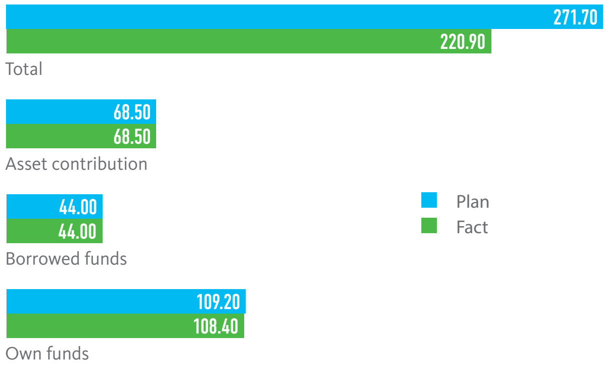
3.12.2. RESULTS IN 2011

FINANCING OF NUCLEAR PLANT CONSTRUCTION

Construction work is carried out for Rosatom by OJSC Rosenergoatom. Investments are funded from Rosenergoatom's own resources, from the federal budget (asset contributions by Rosatom), and also by use of loans when necessary.

The investment program in 2011 was coordinated with the Russian Energy Ministry and amounted to 221.7 bln RUB, including asset contributions by Rosatom worth 68.5 bln RUB. Actual funds made available for capital investments were 220.9 bln RUB, or 99.7% of the target, and asset contributions were 100% of their target level.

FINANCING OF NUCLEAR PLANT CONSTRUCTION IN 2011 (BY FINANCING SOURCES), BLN RUB



All government contracts were executed in 2011. Execution of the 2011 capital investment program of Rosenergoatom was 91%, which is 1% more than the target, and was 97% in value terms (3% saving). Assignments for specific projects as part of the Rosatom capital investment plan were fully implemented. Efficiency in use of asset contributions was 100%. Preliminary financing for 2012 was made available on time.

SOURCES AND AMOUNTS OF SPENDING ON NUCLEAR PLANT CONSTRUCTION IN RUSSIA (EXCLUDING LOAN REPAYMENT), MLN RUB.

Items	Total financing	Sources of financing			
		Contribution from Rosatom State Corporation	OJSC Rosenergoatom growth reserve	Profits of OJSC Rosenergoatom	Loans
Investment projects to build NPP power units	154,310.01	68,496.52	41,975.25	3,066.87	40,771.37
Kalinin NPP, Power Unit No. 4 (addition to phase 2 project)	13,637.24	0.00	9,387.59	191.75	4,057.90
Beloyarsk NPP, Power Unit No. 4 with BN-800 reactor, phase 3	16,515.79	9,493.20	1,090.99	197.57	5,734.03
Kursk NPP, Power Unit No. 5, phase 3	271.91	0.00	259.89	0.00	12.02
Novovoronezh NPP-2, Power Unit No. 1	24,078.33	11,683.75	5,279.73	68.62	7,046.23
Novovoronezh NPP-2, Power Unit No. 2	15,597.06	6,145.12	3,264.02	71.00	6,116.92
Leningrad NPP-2, Power Unit No. 1	15,031.60	7,351.33	1,016.33	420.00	6,243.94
Leningrad NPP-2, Power Unit No. 2	10,923.46	3,858.90	996.64	0.00	6,067.92
Rostov NPP, Power Units No. 3, 4, Phase 2	33,285.68	29,964.22	2,056.51	238.08	1,026.87
Baltic NPP, Power Units No. 1, 2	21,366.01	0.00	15,647.02	1,283.12	4,435.87
Floating NPP, low-output floating nuclear plant with KLT-40S type reactor, Vilyuchinsk Closed Administrative Zone (Kamchatka Territory)	2,975.86	0.00	2,726.53	219.66	29.67
Nizhny Novgorod NPP (new NPP-1), Power Unit No. 1	627.07	0.00	250.00	377.07	0.00

FEDERAL BUDGET FINANCING TO BUILD NPP POWER UNITS, MLN RUB

Items	2011 target*	Adjusted 2011 target, **	2011 fact	2010 fact
Beloyarsk NPP BN-800, Power Unit No. 4	12,493.20	9,493.20	9,493.20	11,839.79
Novovoronezh NPP-2, Power Unit No. 1	11,683.75	11,683.75	11,683.75	16,350.00
Novovoronezh NPP-2, Power Unit No. 2	5,145.12	6,145.12	6,145.12	1,850.00
Leningrad NPP-2, Power Unit No. 1	18,569.15	7,351.33	7,351.33	4,700.00
Leningrad NPP-2, Power Unit No. 2	1,858.90	3,858.90	3,858.90	4,500.00
Rostov NPP, Power Units No. 3, 4***	18,746.40	29,964.22	29,964.22	14,000.00
TOTAL	**68,496.52**	**68,496.52**	**68,496.52**	**53,239.79**

* Initial allocation of budget funds for 2011, approved in supplementary agreement No. 3, dated 03.03.2011, under investment contract No. 10.4.4.4.10/49, dated 04.03.2010.

** After OJSC Rosenergoatom had implemented its investment program for nine months in 2011, allocation of budget funds was readjusted over investment projects for the year (results of the investment changes were registered in supplementary agreement No. 4, dated 28.11.2011 under investment contract No. 10.4.4.4.10/49, dated 04.03.2010).

*** In 2010, only construction of Power Unit No. 3 of Rostov NPP was financed.

MAIN RESULTS IN 2011

In 2011, the Company pursued construction work at nine power units. Power Unit No. 4 at Kalinin NPP began generation (see Report section, "Electric Power Division"). Construction of the floating nuclear power station (FNPS) continued in Vilyuchinsk, Kamchatka Territory. A feasibility study for investment in construction of an FNPS at Pevek in the Chukotsky Autonomous District was also approved.

Study work was carried out for Tver NPP, Central NPP (Kostroma Region), Kolsky NPP-2, Severskaya NPP and Nizhny Novgorod NPP. Licenses were obtained from the Federal Service for Environmental, Technological, and Nuclear Supervision for installation of Power Units No. 1 and 2 at Nizhny Novgorod NPP.

Targets for construction work on high-availability NPP power units in 2011 were achieved by 98%. There were no over-runs in scheduled construction work during the reporting period.

Savings achieved in construction of Power Unit No. 4 at Kalinin NPP were about 7 bln RUB.

ACHIEVEMENTS IN CONSTRUCTION OF NPP POWER UNITS DURING 2011

NPP	Results
Kalinin NPP, Power Unit No. 4	Generation start.
Rostov NPP, Power Unit No. 3	Ventilation center walls and ceiling installed to elevation 19.34 m in the reactor room; foundation walls of the turbine unit concreted in the machine room; circulation water pipes installed in the machine room.
Rostov NPP, Power Unit No. 4	Contour and inner walls raised to elevation 6.6 m in the reactor room. Foundations built for the frame of the electric rack in the machine room.
Novovoronezh NPP-2, Power Unit No. 1	Inner shell of the reactor building raised to elevation 44.1 m and concreted to elevation 43.4 m. Installation of circular rail certified and installation of polar crane started. Inner structures installed in the emergency localization zone, installation of ceiling started at elevation 26.3 m (central hall). Dome of the protection shell enlarged and prepared for installation. Work completed on main construction in the turbine building; heat supply provided; installation of equipment in progress.
Novovoronezh NPP-2, Power Unit No. 2	Inner shell of the reactor building raised to elevation 20.42 m and concreted to elevation 11.2 m. Concrete well for the reactor built to elevation 6.2 m, inner walls in the localization zone to elevation 8.4 m. Metal structures of the turbine building frame installed, inner pillars provided to the bottom of the ceiling partition at elevation 0.0 m, and foundation pillars installed for the turbine unit from elevation −6.05 m to elevation 0.00 m.
Leningrad NPP-2, Power Unit No. 1	Ceiling completed on the turbine building at elevation 15.90 m. Columns for the water-distributing device 90% installed on cooling tower No. 1.
Leningrad NPP-2, Power Unit No. 2	Construction of the ceiling of the turbine building at elevation 7.70 m completed to 45%. Walls of the auxiliary casing 25% complete from elevation −3.70 m.
Beloyarsk NPP, Power Unit No. 4	Safety casing of the reactor installed and tested; 30 PGK-272 steam generator modules installed at designated locations.
Baltic NPP, Power Unit No. 1	Commissioning of phases 1 and 2 of the concrete mixing unit and a 15 KV overhead line to supply power to the base. Permit obtained to build Power Units No. 1 and 2; license obtained to build Power Unit No. 1.
FNPS, Vilyuchinsk, Kamchatka Territory	Two steam-turbine units delivered from Kaluga turbine works to the Baltic Plant. Electric, mechanical installation, casing, and finishing works in progress on the power unit.

3.12.3. NPP ENGINEERING AND CONSTRUCTION MANAGEMENT

Decisions were taken in 2011 on substantial transformation of the existing construction management system, in order to meet demanding levels of sophistication, scale and rates of construction work on NPP power units.

A target model was approved for capital construction management based on a principle of centralization and regulations were enacted governing business processes in capital construction.

CREATION OF CONTROLS AND MECHANISMS TO REGULATE THE ACTIVITIES OF SUBSIDIARIES/AFFILIATES

During the reporting year management bodies were set up (budget committee and investment committee) and mechanisms put in place to enhance transparency of the financial and business activities of the Corporation and its subsidiaries/affiliates in capital construction. This has enabled:

- optimization of the branch network of subsidiaries/affiliates;
- a proposal to cut costs by 492 mln RUB under contracts for machine leasing at construction sites by reassignment of rights and obligations from OJSC Atomenergoproekt to OJSC NN Atomenergoproekt;
- reduction of investment program costs by more than 1 bln RUB;
- implementation of the projects, "Assessment of corporate efficiency and adequacy of personnel for conduct of project studies by organizations of the Capital Construction Directorate" and "Creation of a unified administration for mechanization and motor vehicles".

Tools for management of investment programs were also improved, including the format used to present progress data, the mechanism used to automatically generate procedures in the long-term investment program of OJSC Rosenergoatom, a database to store target and factual figures on investment activities, building reports, schedules, data charts, and automatic processing of progress reports on the investment program.

MANAGEMENT OF DESIGN AND CONSTRUCTION DEADLINES

A system for monitoring of progress in NPP construction was introduced in 2011, including monthly information and analysis reports on work completed, as part of efforts to reduce the time needed for design and construction. The Corporation's web portal now has special sections to post information about the progress of nuclear plant construction. A training workshop "Issues in adoption of advanced management tools for nuclear plant construction projects using Oracle Primavera software" was held by the St. Petersburg branch of the Central Institute for Raising of Qualifications.

A number of steps were taken to reduce the time needed for design and construction, a standard regulation was enacted on management of non-compliance during the construction of nuclear plant facilities; a draft regulation on field supervision of NPP construction was prepared; a program for 2012–2013 was coordinated to develop regulatory technical documents within the Corporation and at self-regulated organizations in the nuclear industry and measures were taken to enforce production regulations.

INTERACTION WITH SUPPLIERS AND CONTRACTORS DURING NPP CONSTRUCTION

Suppliers and contractors for construction of NPP units are selected through tenders in accordance with the unified industry-purchasing standard (see the Report section, "Purchase Management"). The main requirement for contractors is that they must hold necessary licenses issued by the Federal Service for Environmental, Technological, and Nuclear Supervision, as well as certificates issued by self-regulated organizations. The customer controls all parties involved in the process of construction to ensure that they hold valid authorization documents both at the stage of tenders and in the course of operations on site.

MANAGING POWER UNIT CONSTRUCTION COSTS

In 2011, the Company introduced control of maximum starting prices for construction and installation, pre-commissioning work and other works, and for equipment purchases.

Formation of current value in progress reports on work at NPPs was verified to ensure correct use of calculation indexes and compliance with regulatory documents for pricing and cost calculation of projects that use federal budget financing.

Checks were carried out on the use of cost estimation standards when calculating basic construction costs and estimate documentation was corrected to reflect any errors that were identified.

Analysis was carried out of draft standards for cost estimates in construction, special construction and pre-commissioning with the aim of reducing construction costs.

Expert examination was carried out by Corporation departments to assess cost formation for power transmission lines in the Baltic NPP project.

Checks were carried out to verify authorized and correct use of cost calculation indexes for construction and installation in 2011 and levels of some individual indexes were reduced. Design of individual indexes for recalculation of costs in NPP construction and installation was also checked.

Use of industry standards for cost estimation was analyzed with respect to estimates at Leningrad NPP-2, Novovoronezh NPP-2, and for Power Units Nos. 3, 4 at Rostov NPP.

Work was carried out to adjust indexes for recalculating basic NPP construction costs into forecast prices for 2011 (for purposes of work on the long-term investment program of OJSC Rosenergoatom).

The Corporation created a data bank of standards used to estimate the cost of projects implemented by OJSC Rosenergoatom.

Joint work was carried out with regional price control agencies on regional systems of cost estimation and for analysis and monitoring of local construction markets, in order to optimize investment project spending.

Rosatom cooperated with the Russian Ministry of Regional Development to set tariffs for construction and special construction work and to establish levels of indexes for recalculating basic construction costs at nuclear power facilities in accordance with price forecasts.

In 2011, actual reduction of equipment cost in 2010 prices was 10%, which was 4 percentage points above target. This economy was due to a reduction in sale mark up from 7% to 3.5-4%, and it exceeded 1,115 mln RUB.

SAVINGS ACHIEVED THROUGH MANAGEMENT OF CONSTRUCTION COSTS

Activity	Savings achieved
Supervision of tender procedures to select equipment suppliers and set starting (maximum) tender prices	— Starting (maximum) price was reduced by 11,767.5 mln RUB (not including VAT): — through supervision of equipment supply tenders (9,215 mln RUB reduction); — through supervision of starting (maximum) prices set at tenders for construction and installation services (2,552.5 mln RUB reduction).
Supervision of accounting of transport costs, reimbursable logistics and sales mark ups and costs of making up orders	Savings of 3,925 mln RUB (not including VAT).
Supervision of indexes for recalculation into current prices	Rosatom's Capital Construction Directorate lowered various indexes used for current price recalculation (with the consent of OJSC Rosenergoatom) by between 3% and 65%.
Including supervision of recalculation indexes for construction and installation costs in setting prices for works and services in supplementary agreements for 2011	*Overpricing of 2,178 mln RUB (not including VAT) was prevented, as follows:* *— Novovoronezh NPP-2, Power Units Nos. 1, 2: 1,024 mln RUB (7.1%);* *— Leningrad NPP-2, Power Units Nos. 1, 2: 390 mln RUB (2.7%);* *— Baltic NPP, Power Units Nos. 1, 2: 379 mln RUB (9%);* *— Rostov NPP, Power Units Nos. 3, 4: 213 mln RUB (3%);* *— Kalinin NPP, Power Unit No. 4: 172 mln RUB (2.4%).*
Regulatory and methodological support for price formation in construction of nuclear power facilities	Cost reduction of 13.7% was achieved in investment projects without a reduction in the scope of work through the optimization of indexes used to recalculate basic NPP construction costs in the light of price forecasts.
Industry-level analysis of standards rates used in price estimation for construction and special construction work to build NPP VVER-1200 and VVER-1000	Economy of 8.5 bln RUB (no VAT). Preventing overstatement of the estimated budget limit by 6.5% in working documents to build structures of pre-cast and in-situ structures of concrete and reinforced concrete, and metal frames.

IMPROVEMENT OF I.T.

Rosatom implemented projects for I.T. support to engineering and construction in 2011 as part of the Corporation's I.T. Transformation Program for 2010–2014, with the aim of reducing costs and time required for design and construction and to raise labor productivity. Tasks were as follows:

— unification and automation of processes for monitoring and supervision of construction projects;
— optimization of processes to design, build and commission nuclear plants;
— integration of the IT systems of companies involved in NPP construction (including subcontractors), based on unification and transferability of data, in order to establish a consolidated system of accounting and progress reports for ongoing NPP projects;
— use of a unified information bank at the level of the Corporation to ensure automation of groups of business processes: finance, purchasing, design and engineering;
— providing timely and accurate information on progress in NPP construction to all levels of management.

I.T. system for management of capital construction projects

Main results in the reporting year:

— automation facilities were inspected, meetings were held with business users at all companies involved in the project, a draft design of the system and a set of individual terms of reference for development and implementation were prepared;
— a plan of project implementation was developed based on the target model for Capital Construction Management approved by the Corporation, the creation of a management company, and relevant changes to the administrative units of the Capital Construction Directorate of Rosatom and OJSC Rosenergoatom;
— work began on August 1, 2011, to implement a system prototype (the prototype was set to match decisions on the project and presented to functional users, who will help to prepare it for integration testing);
— a scheme was approved for integration of the I.T. capital construction project and the VVER-upgrade project.

"Elements of industrial facilities" (unified industry system for management of regulatory and reference information

Main results in 2011:

— The classifier, "Elements of industrial units", was commissioned;
— A regulation on maintenance of the "Elements of industrial units" classifier for the unified industry-level system of regulatory reference was brought into use ;
— access to the classifier has been provided, its records are being audited, and work is being carried out to enforce the regulation and to appoint and train experts to operate the new system.

The project envisages implementation of a system to control regulatory and reference information for the nuclear industry based on the SAP MDM solution. It will act as a basis for shared information space and interaction of I.T. systems used by nuclear industry organizations. Creating industry-level classifiers is a prerequisite for centralized and transparent purchaser and supplier relations, and for joint work by the I.T. systems of industry companies.

The project "Developing and implementing a standard solution for nuclear plant construction using the I.T. system for capital construction management for engineering companies (based on SAP ERP) and creating an I.T. control system to implement the special-purpose federal investment program" has the main objective of reducing costs and time of NPP construction (nuclear plant construction cost can be reduced by 15-25%, and construction time from 64 to 40 months).

CREATION OF A STANDARD DESIGN FOR OPTIMIZED AND IT-ENABLED VVER TECHNOLOGY (VVER UPGRADE)

The VVER upgrade project is intended to improve management of NPP construction in Russia, and to ensure competitiveness of Russian VVER technology on foreign markets. A new standard design for VVER power units is being developed using an advanced digital environment (3D and Multi-D). Work is also underway to optimize the Russian regulatory base to assist in the implementation of technology solutions.

The project pays particular attention to improving safety of the power unit: a full range of engineering solutions guarantee NPP safety and prevent above-limit radioactive leaks into the environment in a scenario of combined external (natural and industrial) impact, aggravated by internal triggers and additional failures.

Once implemented, the project will reduce the costs of design, construction, operation, maintenance and decommissioning of power units with VVER reactors, making nuclear plants as safe as they can be.

The project is fully financed from the Company's own funds.

All activities planned for 2011 as part of the VVER upgrade project were fully completed (see the Report section, "Science and Engineering Complex"). The project is scheduled for completion in 2012.

Multi-D design

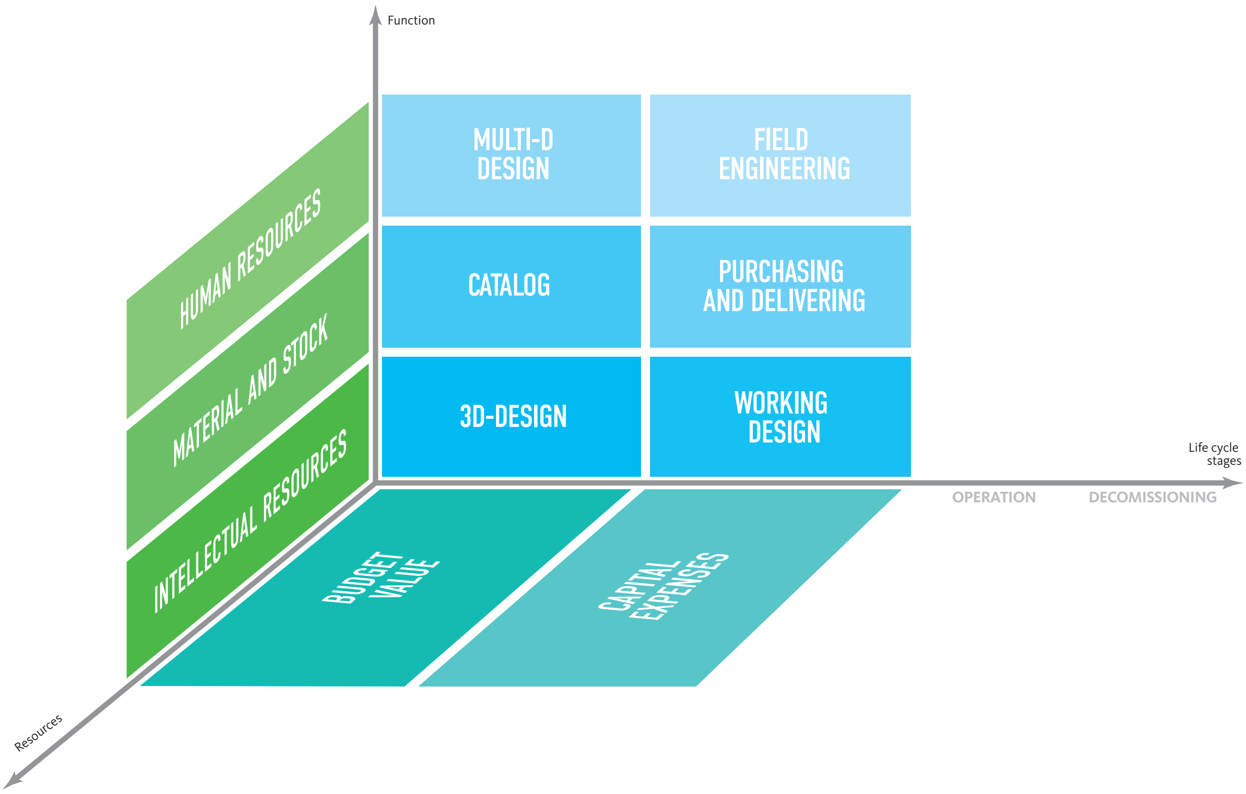
One of the objectives to be achieved by the VVER upgrade project is to create a control system for power unit construction, ensuring real-time interaction between design systems, purchase management and deadline management. Implementation of the project will revolutionize the system for managing the NPP life cycle.

Multi-D design is based on a digital model of a nuclear plant that includes 3D information on the project's working document package, lists and deliveries of materials and equipment, calendar time schedules, labor, logistics, other resources and cost management. The technology provides a picture of how the completed plant will look and makes it possible to solve many construction issues at the design stage. Movement of production equipment and machines and transfer of personnel can be simulated, working documents (reports, drawings, and diagrams) automatically generated, and, once construction has been completed, an accurate digital model of the power unit can be delivered, which will be of use during operation and later when the power unit is upgraded and decommissioned.

During the reporting year, development of modeling technology using Multi-D was completed for installation of the main casing of Power Unit No. 3 at Rostov NPP. Multi-D designs were created for 236 premises in the reactor section and 18 areas of the turbine shop in the main block of Power Unit No. 3 at Rostov NPP, and an optimized time schedule for works was also produced. Methodologies for creating and implementing the installation modeling technology were written and presented at training sessions to representatives of the engineering design branch of OJSC Rosenergoatom.

MULTI-D TECHNOLOGY

TECHNOLOGY TO MANAGE LIFE CYCLES OF COMPLEX ENGINEERING FACILITIES



MAIN PROBLEMS IN ENGINEERING AND CONSTRUCTION, AND MECHANISMS FOR THEIR SOLUTION

PROBLEM	SOLUTION
Need to raise efficiency of construction investments (quality, deadlines, cost, use of project management methods).	The problem will be addressed in 2012 as part of work to make proposals and take decisions on development of NPP construction management in Russia.
Handicaps to efficient monitoring of nuclear plant construction processes: lack of a shared information space and of uniform standard report templates; delays with progress reports on power unit construction.	Improve methodology and procedures for progress reports on construction of power units. Further adoption of IT systems.

3.12.4. NUCLEAR AND RADIATION SAFETY IN DESIGN AND CONSTRUCTION OF NUCLEAR PLANTS

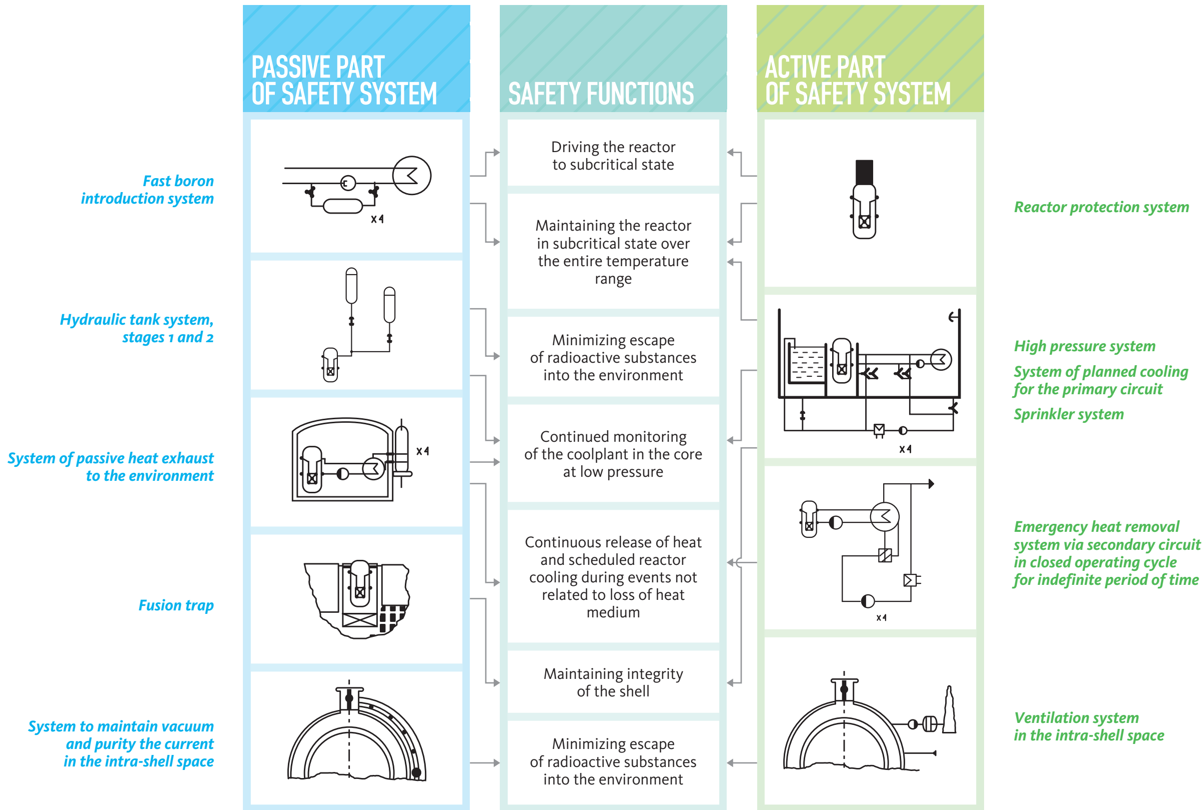
WHEN BUILDING POWER UNITS, ROSATOM ENGINEERING COMPANIES USE DESIGNS THAT MEET ALL OF THE SAFETY STANDARDS AND REQUIREMENTS THAT ARE EFFECTIVE BOTH IN RUSSIA AND INTERNATIONALLY. ASSESSMENT AND FURTHER IMPROVEMENT OF SAFETY IS PRACTICED AT EVERY STAGE OF THE NPP LIFE CYCLE.

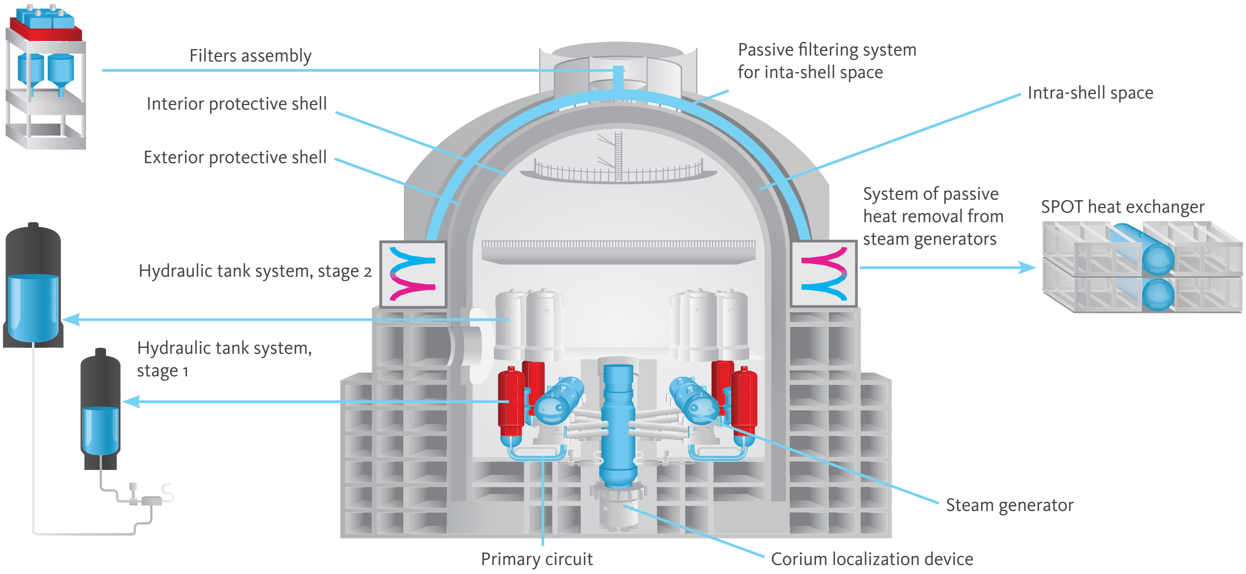
At the preparatory stage, the site and area allocated for construction are examined to identify potential dangers of natural and artificial origin and to assess their probable impact, including escalation forecasting for worst-scenario parameters. If necessary, engineering protections for the site are provided to prevent or mitigate possible impacts. In the process of obtaining a license for positioning of the nuclear plant, all safety-related materials must pass expert examination at the Federal Service for Environmental, Technological, and Nuclear Supervision.

As project documents are prepared, a preliminary report is created to support safety measures, complete with level-one probability analysis. Before it is approved, the draft must pass government expert examination for compliance with nuclear, radiation and other safety standards.

Project design and working documents for NPP construction must describe methods of work organization that ensure observance of project safety parameters during construction and installation. Before the nuclear plant is commissioned, its safety systems and controls are checked for availability, and inspectors check the condition of base metal and welded joints in safety-critical components. Compliance of construction activities with the technical regulations and project documents is ensured by the general contractor and the customer of the construction project. Project designers provide field supervision. Government supervision of nuclear plant construction is the function of the Federal Service for Environmental, Technological, and Nuclear Supervision.

DESIGN BASIS OF NUCLEAR PLANT SAFETY





HURRICANES, TORNADOS	SHOCK WAVE	IMPACT OF FALLING AIRCRAFT	SEISMIC IMPACT	FLOOD
Estimated wind speed of 56 m/sec	At front pressure of 30 KPa	Weight up to 400 tons, impact velocity 200 m/sec	Forces up to 8 points on MSK-64 scale	Resistance level >0.01%

3.12.5. PLANS FOR 2012 AND THE MEDIUM-TERM

- Preparing proposals and making decisions on development of the model for nuclear plant construction in Russia at the level of Rosatom State Corporation;
- IT and analyst support for decision-making during NPP construction, including: monitoring and analysis of the NPP construction process; further development of existing corporate IT systems at Rosatom; and creation of a database to accumulate the experience gained from construction of nuclear power units;
- regulatory and methodological support for NPP construction, including the design of standard documents;
- developing systematic measures to reduce construction costs.

Indicator	2011	2012	2013	2014	2015
Power generation by nuclear plants, 10^9 kWh	172.7	175.8	185.4	189.7	198.5
Total installed capacity of Russian nuclear plants (including decommissioning of power units), MW	24,242	25,242	25,242	25,242	28,372
Number of nuclear power units under construction in Russia	9	9	9	11	10
Number of nuclear power units commissioned for operation in Russia (physical launch), cumulative figure	1	1	1	4	6

3.13.

RADIATION TECHNOLOGIES

MIKHAIL BATKOV
Director of the Radiation Technologies program

WHAT ARE RUSSIA'S CHANCES OF WINNING A LARGE SHARE OF THE WORLD MARKET FOR MO99 ISOTOPE?

The chances are good, since all molybdenum production has been contracted with Nordion, which is the largest player on the molybdenum-99 market.

HOW IS THE MARKET DEVELOPING FOR RUSSIAN-MADE RADIATION PHARMACEUTICALS?

The pace of development could be faster. We are hopeful that demand for radiopharmaceuticals will increase after the program for development of nuclear medicine in the Russian Federation is adopted by the Russian Ministry of Healthcare and Social Development, since it will enable more efficient use of production capacities and encourage production growth, thus reducing the price of such medicines.

The determinants for increase of demand are in place: there have been intensive purchases of equipment for nuclear medicine over several years as part of Federal Government programs to upgrade healthcare and combat cancer, and many medical institutions can now carry out research using PET- and OFECT-tomographs. The number of hospital beds available for radioactive iodine therapy has also been growing.

WHAT CAUSED THE RECENT REDUCTION OF PRICES FOR RADIOPHARMACEUTICALS?

Managers of medical institutions and patients complained to us that prices for the medicines were too high. The Corporation launched a whole range of steps to bring the prices down, and since summer 2011 the prices of technetium generators and radiation medicines with iodine isotope-131 have been considerably reduced. We need to increase sales in order to make prices even lower.

WHAT OTHER PROJECTS ARE IN PROGRESS AS PART OF THE RADIATION TECHNOLOGIES PROGRAM?

We are working with Philips on a project that will establish Russian production of high-tech medical equipment with high export potential.

We are working on a deal to buy shares of CJSC Cyclotron, one of a few producers worldwide making Ga-68. The production facilities of CJSC Cyclotron need investment to strengthen its positions on the global market. Assistance from Rosatom will help it to modernize its production base and migrate to products with higher added value.

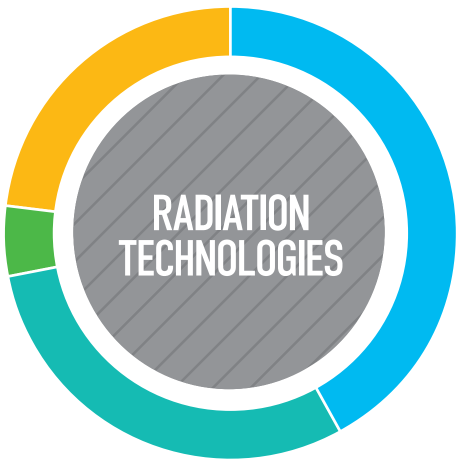
Work has also begun on a project to set up production of radiopharmaceuticals based on iodine-131 and samarium-153 at our Karpov Physics and Chemical Institute in Obninsk, which holds a GMP certificate (good manufacturing practice). Once advanced production facilities are created, sales of this important therapeutic drug in Russia will rise.

We also have a number of major environmental projects. One of them is a pilot works in Moscow Region to dispose of medical waste. The problem of utilization of hazardous medical waste is quite acute in Russia: national standards require that all such waste should be sent to dumps after initial treatment. As a rule, such waste carries a danger of infection and poses a threat to public health, and European countries ensure its complete destruction. After the pilot facilities have been commissioned, we will look at upscaling of this standard solution throughout Russia and the CIS.

ROSATOM ESTABLISHED THE RADIATION TECHNOLOGIES PROGRAM IN 2010 TO IMPLEMENT ITS STRATEGIC INITIATIVE FOR A THIRD BUSINESS CORE BASED ON RADIATION CONTROL. THE AIM OF THE PROGRAM IS TO DEVELOP AND IMPLEMENT RADIATION TECHNOLOGIES FOR COMMERCIAL AND CONSUMER APPLICATIONS.

THE GLOBAL MARKET FOR RADIATION TECHNOLOGIES

Between 2011 and 2030, the market for radiation technologies is expected to grow from USD 70 bln to 267 bln in real terms



By 2030, the share of Rosatom on the market is expected to reach 3% (10% not including the environment market)

ENVIRONMENTAL PROTECTION 50 BLN US$

- Processing of smoke gases
- Recycling of smoke gases
- Decontamination and purification
- RAW and UNF solutions
- Treatment of waste waters

NUCLEAR MEDICINE 12 BLN US$

- Isotopes and radiation pharmaceutical drugs
- Equipment (for visualization and therapy)
- Engineering
- Medical services

SAFETY SYSTEMS AND NON-DESTRUCTIVE CONTROL 5 BLN US$

Equipment based on methods:

- tomography
- introscopy
- gamma ray flaw detection
- x-ray

IRRADIATION 2 BLN US$

- Desinfectant processing of foodstuffs and improvement of seed germination
- Sterilization
- Industrial irradiation treatment

3.13.1. APPLICATIONS OF RADIATION TECHNOLOGIES

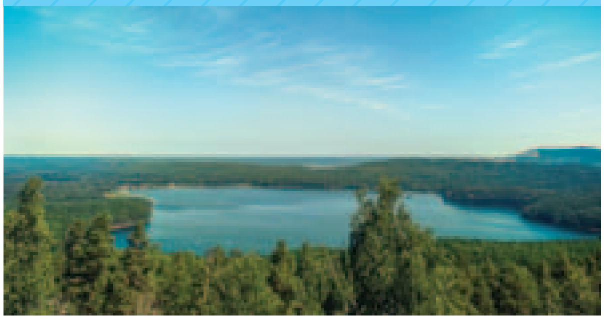
NUCLEAR MEDICINE

The most important application of radiation technologies in Russia is nuclear medicine, since cancer and cardiovascular disease are the main causes of mortality in the country. Russians have little access to diagnostic and therapeutic services based on nuclear medicine, despite the stature of the country's nuclear industry, which has substantial competences and unique experience in the field. Rosatom views promotion of nuclear medicine as an important objective for increasing life expectancy and raising the quality of medical services to the Russian public.

The nuclear medicine market includes production of isotopes and radiation medicines, equipment manufacturing, engineering and medical services. All of these segments have great market potential. The share of Rosatom in medical isotope production represents about 2.5% of global production (up from 1.8% in 2009 and 1.9% in 2010). By 2016, the Corporation's share of the nuclear medicine market is expected to be 2%, rising to 12% by 2030.

One out of five cancer patients worldwide is treated with therapies that use isotopes produced by Rosatom State Corporation.

ENVIRONMENTAL PROTECTION



Radiation technologies are used to purify natural water and gas emissions from hazardous impurities, to decontaminate medical and dangerous waste, and to clean contaminated soil. The Russian market features low competition, since there are major economic and administrative obstacles to market entry. Meanwhile, addressing environmental problems such as utilization of residential solid waste is a national priority. The Corporation's share of this market is expected to be 0.01% by 2016, reaching 2% by 2030.

Technology was selected in 2011 to build a pilot plant for disposal of medical waste using thermal neutralization.

SECURITY AND NON-DESTRUCTIVE CONTROL SYSTEMS

Radiation technologies are also used to create x-ray inspection complexes and non-destructive controls. Launching Russian production of x-ray inspection complexes will both make public places safer and assist the work of customs services, creating benefits for international trade.

This market is expected to continue growing at 2-5% annually for the next five years. Many market players are working to raise the efficiency of existing security systems and develop better systems for customs inspection and control. Specifics of the current market situation also include transition from equipment manufacturing to maintenance. So creation of an integrator company that offers a complex “turn-key” product has great promise in marketing and business terms. Rosatom has major competitive advantages, including integration with major Russian research institutes and exceptional competences in high technologies and facilities that require special security and safety. Based on this, the Corporation could achieve 2% market share by 2016, rising to 6% by 2030.

RADIATION TREATMENT

Growing demand on the market of radiation treatment services is the result of a number of factors: changes in regulations which allow wider use of radiation technologies; growth of the market for medical instrument sterilization and decreasing share of conventional technologies. Actions to combat infectious disease caused by food-borne microorganisms are also encouraging the use of radiation treatment. Sterility centers that are being set up by Rosatom are increasing the competitiveness of Russian-made disposable medical products and enabling control of consumer food quality. They also have great social value since disposable medical products considerably lower the risk of infection at treatment facilities.

Radiation technologies that modify the properties of materials are widely used in polymer production. The need to adopt the more environment-friendly production methods promoted by the Kyoto Protocol (such as radiation-thermal technology to produce cement clinker, with reduction of CO_2 emissions) is driving demand for radiation-based modification of the properties of materials. Emerging production of Russian radiation-modified materials will support Russian manufacturers and make Russian products more competitive on both domestic and foreign markets.

Growth of the markets described above entails growing demand for engineering radiation-technology solutions based on gamma-ray and electron accelerators made by Rosatom companies. So there is much business potential for the Corporation in the field of radiation treatment. The Corporation’s market share is expected to be 1% by 2016, reaching 12% by 2030.

In 2011, Rosatom State Corporation participated in the 7th international conference on isotopes, the 17th international exhibition of security devices and systems (Milipol-2011) and the 21st international exhibition devoted to healthcare, medical equipment and drugs.

In 2011, based on the outcome of studies of the Russian market for industrial sterilization services, the Corporation embarked on a project to create a new business that will supply high-quality radiation sterilization services to Russian manufacturers of medical products.

3.13.2. MAIN RESULTS IN 2011

NUCLEAR MEDICINE

In the reporting year, the Company signed a protocol of intent with Philips Corp. to establish production of high-tech medical equipment (OPECT, OPECT/CT, PET/CT) introducing licensed Dutch technologies in Russia and to implement a project for "turn-key" joint PET centers. Rosatom and Philips plan to secure a contract on the Russian equipment market and attain USD 5.4 bln revenue by 2030.

Phase one of molybdenum-99 radionuclide production (by the Atomic Reactor Institute) was commissioned as a project under the Russian President's Commission for Modernization and Technological Development of the Russian Economy. Equipment has now been installed for phase two.

R&D has been carried out to create targets for Cyclotrons CC-12 and CC-18/9 made by the Institute of Electrophysical Equipment.

The main outcome of work by the expert board on nuclear medicine was a ranking of projects proposed by R&D institutes (by priority and desirability of implementation).

The Company decided in the reporting year to prepare an investment program for isotope production.

ENVIRONMENTAL PROTECTION

In 2011, the technology was selected to build a pilot plant that will destroy medical waste using the thermal method. The Company conducted research on the medical waste market and identified key needs of the parties involved.

Technologies were selected to make filters for water purification and treatment: metal-ceramic nano-membranes, and polypropylene filters containing nano-particles of silver.

The market for utilization of mercury lamps and mercury products was also analyzed.

SECURITY SYSTEMS AND NON-DESTRUCTIVE CONTROL

The Company has researched the situation on the market for x-ray inspection systems and products. As a first step, the Company identified the most promising technologies and market segments (x-ray systems for scanning of vehicles, luggage and people), and technology partners for joint production of x-ray inspection systems. It has been decided to focus on technology and products in the field of flaw detectors, and technology partners have been chosen.

RADIATION TREATMENT

In 2011, the Company researched the Russian market for industrial sterilization services, providing the basis for a project to set up a new business providing radiation sterilization services to Russian manufacturers of medical products.

Analysis of the market for industrial gamma-ray applications found market potential for gamma-units with an ionizing radiation source based on cobalt-60 isotopes produced by the Institute of Technical Physics and Automation. Steps were defined for further improvement of the devices.

Working together with major transnational corporations, the Company analyzed potential and opportunities to use radiation-modified teflon F-4RM made by a branch of the Physical-Chemical Institute for production of high-tech equipment to extend the service life of heavy-duty mechanical parts that work under friction loads.

MAIN PROBLEMS AND SOLUTIONS FOR ROSATOM ON RADIATION TECHNOLOGY MARKETS

PROBLEMS	SOLUTIONS
Growing competition on profile markets	Building product lines Working with customers
Low competitive ability on foreign markets *Possible failure to win contracts*	Building the technology portfolio through joint ventures and corporate acquisitions
Risk of emergence of a fundamentally new technology	Analysis of the market situation
Adjusting long-term development plans and regulatory mechanisms on the radiation technologies market	Offering better product and technology solutions
Legal and/or regulatory changes	Anticipatory legislative monitoring and response

3.13.3. PLANS FOR 2012 AND THE MEDIUM TERM

NUCLEAR MEDICINE

— Start phase 2 of Mo-99 production facilities in 2012.
— Prepare to launch production of radiation medicines for therapy: production start scheduled for 2014.
— Seek a foreign partner to sign an agreement and produce radiation medicines: production start scheduled for 2014.
— Begin production of medical equipment (jointly with Philips): scheduled for 2013, therapeutic equipment manufacturing scheduled for 2014.
— R&D and pre-series prototype of Cyclotron CC-12.
— R&D to make target units for Cyclotrons CC-18/9 and CC-12.
— Research into synthesis of radiation medicines based on Ga-68, and to develop a new synthesis module (both to ensure target delivery of the drug to the target organ, and raise the quality of treatment).
— R&D to develop technology for production of actinium-225 for future therapy of leukemia.

ENVIRONMENTAL PROTECTION

— Define a base technology to destroy solid residential waste, and seek contracts for pilot projects. Build a portfolio of pilot contracts in 2014, build and launch production in 2015.
— Select a supplier for thermal waste decontamination technology and seek pilot projects. Build a portfolio of pilot contracts in 2014, build and launch production in 2016.
— Determine future actions and carry out R&D for waste utilization by 2014. Build a portfolio of pilot contracts in 2015, build and launch production in 2016.

SECURITY AND NON-DESTRUCTIVE CONTROL SYSTEMS

— Seek a technology partner to make x-ray inspection systems and provide services for creating security system solutions. Conduct market research (2012–2013). Create a product line of x-ray inspection systems. Launch production in 2014.

RADIATION TREATMENT

— Build a radiation treatment pilot center in Russia to provide medical radiation sterilization. Develop a network of radiation treatment centers in Russia.
— Find a foreign partner among operators of radiation treatment centers to develop a network of such centers outside Russia.
— Conduct R&D into radiation treatment of industrial materials to extend their service life.

3.14. NUCLEAR AND RADIATION SAFETY COMPLEX

OLEG KRYUKOV
Director of the Nuclear and Radiation Safety Directorate

THE LAW ON HANDLING OF RADIOACTIVE WASTE WAS SIGNED IN 2011. WHAT WILL BE THE MAIN ELEMENTS OF THE HANDLING SYSTEM?

The central national system of radioactive waste handling has been created to ensure safe and financially efficient handling of radioactive waste, including its disposal.

Who are the main agents in the future system? Rosatom State Corporation, of course, as the government agency that controls radioactive waste handling. In addition, there are government regulatory agencies for safe handling of radioactive waste, namely Rostekhnadzor, the Ministry of Natural Resources, Ministry of Health, and the Consumer Protection Agency. Then there is the National Operator for Handling of Radioactive Waste, which acts as the customer in construction of burial facilities, and also operates and decommissions the facilities, ensuring safety handling of waste, which is delivered for burial. The list also includes the companies, which generate radioactive waste. Their main obligation is to ensure safe handling of radioactive waste before it is handed over to the National Operator for disposal, and they ultimately absorb the costs of waste disposal. And finally, there are specialized providers of works and services for collection, processing and storage of radioactive waste.

HOW DO YOU VIEW THE ROLE OF THE NEW LAW IN TERMS OF NATIONAL ENVIRONMENTAL SECURITY?

Enactment of the law will substantially improve environmental security because the key principle of the law is that radioactive waste must be buried.

Specialists worldwide recognize interim storage of waste as a half measure, which is incompatible with sustainable development because it unjustly burdens future generations with the task of final disposal of radioactive waste.

WHEN WILL OUR COUNTRY COMPLETE BURIAL OF ALL THE WASTE ACCUMULATED IN THE SOVIET ERA?

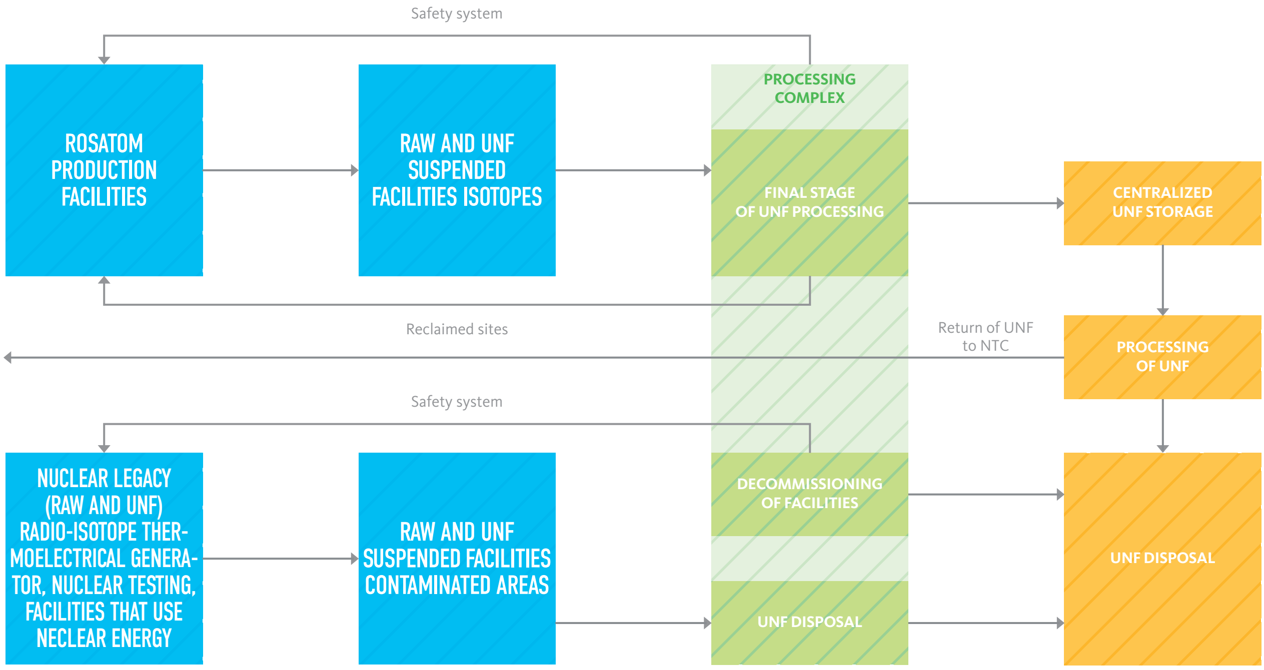
Inventorying of "nuclear legacy" facilities has given us an exact picture of the scale of the problem, and we have estimated the time and cost of the work that needs to be done. Resolving the problem of accumulated waste may take up to 40 years. This includes: extracting and burying over 200,000 tons of solid radioactive waste; sealing about 330 dumps containing over 70 mln tons of unprocessable waste; solidifying about 100,000 cubic meters of accumulated liquid waste, and safe storage of over 300 mln cubic meters of liquid waste.

HOW WILL USED NUCLEAR FUEL PROCESSING BE MANAGED?

In Russia, a part of the used nuclear fuel from VVER-440 reactors is recycled. Fuel from VVER-1000 reactors is stored centrally at a special storage site in Siberia. Fuel from RBMK reactors is currently stored at station sites, but in 2012 the process has begun of removing it to central storage facilities near Krasnoyarsk. Nevertheless, this cannot be viewed as the final solution to the used nuclear fuel problem. Processing must lead to final long-term burial, and this requires further technical solutions.

We believe that the key to solving the problem is the closed fuel cycle, and use of fast reactors. This will mean the inclusion of uranium-238 in the fuel cycle with afterburning of minor actinides. The idea is simple: we put back into the natural world the same amount that we took from it.

ACTIVITY OF THE COMPLEX NUCLEAR AND RADIATION SAFETY



* nuclear testing
** facilities that use nuclear energy

3.14.1. ENSURING NUCLEAR AND RADIATION SAFETY

ENSURING NUCLEAR AND RADIATION SAFETY (NRS) AND COMPREHENSIVE RESOLUTION OF OUTSTANDING "NUCLEAR LEGACY" PROBLEMS ARE STRATEGIC GOALS FOR ROSATOM•.

Actions to address medium and long-term objectives and to ensure NRS at nuclear power facilities, and with respect to the general public and the environment, are regulated by the Corporation's Long-term Action Program, covering the period from 2009 to 2015.

The main NRS activities of Rosatom State Corporation are ensuring safe functioning of nuclear power facilities, and finding comprehensive solutions to nuclear-legacy issues.

ENSURING SAFE FUNCTIONING OF NUCLEAR POWER FACILITIES

ENSURING SAFE FUNCTIONING OF NUCLEAR POWER FACILITIES

BASIS FOR SAFETY

- Availability of an up-to-date regulatory and legal basis (federal laws, other laws, safety regulations and standards, guidelines, instructions, etc.).
- Availability of technologies to ensure safety during the life cycle of facilities (quality of design, construction, operation and decommissioning; necessary systems of control, management, and protection), and a set of administrative and engineering activities for physical protection of facilities.
- Adequate skill levels and safety culture among personnel.

PRINCIPLES OF SAFE FUNCTIONING

- *Responsibility of the operator for observing regulations and standards for safe use of nuclear energy.*
- *An efficient legislative mechanism and independent enforcers.*
- *Multi-tier protection.*
- *Continuous universal monitoring of the radiation situation.*
- *Rapid diagnosis of radiation anomalies in order to identify emergency situations.*
- *Full-scale accident response system to localize and minimize consequences.*
- *Elimination of the consequences of emergencies.*
- *Comprehensive analysis of causes, lessons learned.*

DISTRIBUTION OF SAFETY MANAGEMENT FUNCTIONS

FUNCTIONS AT NATIONAL LEVEL

FEDERAL NRS REGULATION	FEDERAL STANDARDS FOR NRS	GOVERNMENT SUPERVISION OF NRS	CREATING FEDERAL GOVERNMENT INFRASTRUCTURE FOR NRS

FUNCTIONS AT CORPORATION LEVEL

Supervision of nuclear, radiation, technical and fire safety at nuclear units, radiation sources, and storage facilities	*Improving NRS technologies and systems*	*Closing base production cycles (handling of used nuclear fuel, decommissioning of nuclear facilities and facilities that represent a radiation hazard, handling of radioactive waste)*	*Dealing with NRS issues when addressing the "nuclear legacy"*

FUNCTIONS AT COMPANY/UNIT LEVEL WITHIN ROSATOM CORPORATION

Regulations and standards for safety of nuclear units, radiation sources, and nuclear storage facilities	Continuous improvement of quality management systems at nuclear power facilities	Ensuring adequate skill levels and safety culture among personnel

3.14.2. KEY RESULTS IN THE FIELD OF NUCLEAR AND RADIATION SAFETY

OBJECTIVE:
MAINTAIN NECESSARY LEVELS OF SAFETY

RESULT:

- Achieved level of safety maintained.

OBJECTIVE:
CREATING NRS SYSTEMS

RESULT:

CENTRAL NATIONAL SYSTEM FOR RAW HANDLING

- Federal Law No. 190, dated 11.07.2011, "Handling of radioactive waste and modifications to specific legal acts of the Russian Federation" was enacted.
- A base model was approved for calculation of service tariffs to be charged by the National Operator for RAW burial.
- Financial liabilities were estimated for handling of new and accumulated RAW.
- Pre-project research was carried out for creation of priority RAW burial sites.
- Investment studies (including environmental impact estimates) were approved for construction of priority facilities for final disposal of radioactive waste in Krasnoyarsk Territory.
- A work program was approved for handling of radioactive waste at NPPs by OJSC Rosenergoatom in 2011-2015, with RAW quotas for 2011–2012.

UNIFORM NATIONAL SYSTEM FOR UNF HANDLING

- The Governing Board of Rosatom approved a target model for UNF handling.
- The program, "Creating infrastructure for UNF handling in 2011–2020 and until 2030" was approved.
- The launch section of a dry storage facility for UNF from RBMK-1000 reactors was commissioned at the Mining and Chemical Association.
- A container storage complex for handling of used nuclear fuel was commissioned in experimental mode at Leningrad NPP.
- Work began in the dismantling of used nuclear fuel sets in a "hot chamber" and its loading into transport module-109s (special transport packs) for removal to storage at the Mining and Chemical Association.
- Technology was developed for handling of low-grade used RBMK nuclear fuel sets; a pilot shipment of 8 used nuclear fuel sets was carried out from the Leningrad NPP.
- A batch of irradiated nuclear fuel from experimental reactors was relocated from storage at the Physics and Energy Institute (this was the first such relocation from the Institute for more than 15 years).

CORPORATE SYSTEM FOR DECOMMISSIONING

- Experimental and demonstration centers were established as subsidiaries of OJSC Siberian Chemicals Association for decommissioning of uranium-graphite reactors, and similar centers were created for decommissioning of VVER reactors at Novovoronezh NPP.

OBJECTIVE
COMPLEX RECYCLING OF NUCLEAR SUBMARINES AND ATOMIC SHIPS, AND RECLAMATION OF ONSHORE SUPPORT BASES

RESULT:

- Two nuclear submarines were recycled.
- Work was carried out to prepare the unloading of the nuclear reactor from a disabled submarine, and subsequent unloading of the exhausted removable part (at the town of Gremikha).
- UNF was transported (4 trainloads).
- 3.2 tons of UNF were processed.

3.14.3. ADDRESSING NUCLEAR LEGACY ISSUES

One of the main aspects of NRS is finding solutions to the nuclear legacy from earlier civil and defense operations in the nuclear sector. Production of nuclear weapons and operation of nuclear plants in the Soviet Union led to the accumulation of large amounts of RAW and UNF, which were not buried or recycled in a satisfactory manner.

More than 90% of all liquid radioactive waste from the nuclear legacy (427.8 mln m^3 in total) is stored in special reservoirs and containers at Mayak Production Organization and OJSC Siberian Chemicals Association. This liquid is low-level RAW. Total accumulated UNF at the end of 2011 was about 22,700 tons (recalculated as heavy metal). In addition, some areas have remained contaminated by radioactive waste following serious accidents that occurred in the Soviet period (most notably at Mayak Production Organization in 1957). Testing of nuclear weapons during the "cold war" also contributed to local contamination. Also, Russia was confronted with a new "legacy" challenge after the disappearance of the Soviet Union, as it had to recycle nuclear arsenals in compliance with international agreements.

In the mid-2000s, Russia's political leaders and the nuclear industry decided that resolution of the nuclear legacy problem could not be postponed any longer. A federal target program (FTP), "Ensuring nuclear and radiation safety in 2008 and up to 2015" was approved in 2007, envisaging a range of measures to resolve the issue.

In 2011, the Federal Law, "On handling of radioactive waste and amendments to certain legal acts of the Russian Federation" provided a legislative basis to fully overcome the nuclear legacy problem in the long-term future.

On June 1–3, 2011, Rosatom held a first public session to discuss mechanisms for a comprehensive solution of the legacy problem with stakeholders (federal and regional governments, the general public and the scientific community). The session discussed the draft of the future FTP "Ensuring nuclear and radiation safety in 2016–2020", mechanisms for implementation of the program and the targets and expected results of implementation.

The session produced proposals for:

— project packages;
— project management standards in planning and performance of actions;
— a system of performance indicators for program management and a communications procedure;
— a system to control social risks during FTP preparation and implementation.

Results analysis of the current FTP is now being carried out, the implementation period for the next FTP is being decided, and a version of the program for the period up to 2025 is being designed.

More details on results in 2011 with respect to the legacy problem can be found in the Report sections "Results of the FTP 'Ensuring nuclear and radiation safety in 2008 and up to 2015", "Handling of Radioactive Waste" and "Handling of Used Nuclear Fuel".

3.14.4. INTERNATIONAL COOPERATION IN NRS

REPORT ON RUSSIA'S PERFORMANCE UNDER THE UNITED CONVENTION ON SAFE HANDLING OF UNF AND RAW

In 2011, Rosatom State Corporation together with the Federal Service for Environmental, Technological, and Nuclear Supervision, with assistance from the Institute for Safe Development of the Nuclear Power Industry (part of the Russian Academy of Sciences) and the Science and Engineering Center for Nuclear and Radiation Safety prepared a third national report on Russia's activities under the United Convention on the safe handling of used fuel and radioactive waste for the 4th meeting of signatories to the United Convention (held in May 2012).

IAEA TECHNICAL COOPERATION PROGRAM

For more information:
see the Report section, "International Cooperation"

NUCLEAR ENVIRONMENTAL PROJECTS

Rosatom worked during the reporting year with representatives of donor countries and international organizations in the framework of the Contact Expert Group on international projects for RAW handling in Russia, which operates under IAEA supervision. The parties held the 25th regular meeting of the Contact Group in 2011 (jointly with the IAEA Secretariat), as well as two themed workshops: "Research on nuclear submarines and nuclear fuel and RAW submerged in Arctic Seas and strategy for environmental rehabilitation in respect of radioactivity in the region" (Oslo, Norway) and "Handling of nuclear legacy RAW: processing, conditioning, and storage" (Usedom, Germany).

International cooperation also continued through the Northern Dimension Environmental Partnership. Rosatom used the Framework Agreement on a Multilateral Nuclear Environmental Program in the Russian Federation to implement a series of nuclear environmental projects financed by the Northern Dimension support fund. Since its establishment the fund has allocated about 158 mln euro to enable Russian NRS improvement projects.

COOPERATION IN SCIENCE AND ENGINEERING

Multilateral and bilateral international science and engineering cooperation on issues of readiness and response to nuclear and radiation emergencies is conducted through international workshops, demonstration of rapid response capabilities, and joint international emergency drills.

On January 25–26, 2011 Moscow hosted a meeting of regulatory agencies from Russia and Norway to discuss improvements in the coordination of nuclear legacy supervision.

Rosatom representatives also took part in a discussion of measures to prevent radiation accidents in the Arctic region at the 14th meeting of the Russia-Norway NRS Cooperation Panel on August 30–31, 2011 (Halden, Norway).

NRS INVESTMENT PROJECTS FINANCED FROM INTERNATIONAL TECHNICAL ASSISTANCE

A sum of 4,650.8 mln RUB was received as co-financing from non-government sources in 2011 via international technical assistance for the FTP, "Industrial recycling of nuclear weapons and military equipment in 2011–2015 and up to 2020".

The money was used to finance the following actions:

- the Rossita container ship was completed and brought to its base port (Murmansk). The vessel will be used to carry UNF and RAW;
- the reactor was removed from a disabled Alfa-class nuclear submarine prior to dismantling of the core;
- recycling work on nuclear submarines was continued;
- work was carried out for environmental rehabilitation of facilities which represent radiation hazards (capital investments amounted to 3,631.8 mln RUB);
- a long-term facility was built in the Russian North-West (Saida Bay) for storage of reactor compartments, enabling the start of operations to clean and paint the reactor compartment;
- A ceremony was held on May 18, 2011, at Fokino closed administrative zone in Primorsky Territory at which the Japanese government transferred equipment (Sakura floating dock with 3,500 capacity, two bridge cranes, and a Sumire towboat) for new long-term storage facilities to accommodate reactor compartments from decommissioned nuclear submarines. The transfer was under international treaties between the Russian and Japanese governments, and the unique equipment, worth about 2 bln RUB, will be used to complete the life cycle of decommissioned submarines. Long-term storage facilities were set up in Razboynik Bay to store reactor compartments from decommissioned nuclear submarines.

3.14.5. ENSURING NUCLEAR AND RADIATION SAFETY IN 2011

FEDERAL TARGET PROGRAM, "ENSURING NUCLEAR AND RADIATION SAFETY IN 2008 AND UP TO 2015"

Results in 2011:

- UNF dry storage facilities were commissioned to store 8,100 tons of UNF from RBMK-1000 reactors;
- reconstruction of wet storage facilities for UNF from VVER-1000 reactors was completed at the Mining and Chemicals Association (storage capacity was increased to 8,600 tons);
- rebuilding of the dispatch aggregate for fuel units of a DAV-90 motor at the Mining and Chemicals Association;
- completion of a facility for processing of organic liquid RAW at the chemicals and metallurgy plant of the Siberian Chemicals Association;
- completion of work to decommission and recycle the Lepse floating base;
- decommissioning of eight facilities that represent a nuclear and radiation hazard;
- decommissioning of 108 radioisotope thermoelectric generator units (a total of 888 have been decommissioned in the course of the FTP) financed by international technical assistance.

SUB-PROGRAM, "INDUSTRIAL RECYCLING OF NUCLEAR SUBMARINES, SHIPS WITH NUCLEAR PROPULSION, NUCLEAR SERVICE SHIPS, AND RECLAMATION OF ONSHORE SUPPORT BASES (2005–2010)"

Results in 2011:

- two nuclear submarines were recycled (financing for one of the recycling operations was from international technical assistance);
- work was carried out to prepare for unloading of the nuclear reactor from a disabled submarine with subsequent removal of the exhausted removable part (in the town of Gremikha). Financing was provided from international technical assistance.

STATUS OF NUCLEAR SUBMARINES DECOMMISSIONED FROM THE RUSSIAN NAVY

Status	Russian North-West	Russian Pacific	Total
Decommissioned	120	79	**199**
Recycled	119	75	**194**
Docked (pending recycling)	1	4	**5**

Work continued in 2011 to improve levels of safety at onshore support bases used for temporary storage of UNF and RAW from nuclear submarines and surface ships with nuclear propulsion. Actions were as follows:

- eight reactor compartments from recycled nuclear submarines were placed in long-term onshore storage, and four compartments were docked and inspected (in Saida Bay, Murmansk Region);
- three submarine reactor units were moved from Severodvinsk (Arkhangelsk Region) to Saida Bay for subsequent dismantling;
- four trainloads of UNF were transported (three of them were financed from international technical assistance) and 3.2 tons of UNF were processed;
- removal of a batch of solid RAW (144 packs) from the former onshore support base in Andreyev Bay (this was the first removal of waste after reclamation work started);
- 600 m of solid RAW at temporary facilities on the Russian Pacific coast and North-West coast was placed in safe storage;
- work continued to create long-term storage for nuclear submarine reactor compartments at Cape Ustrichny (Primorsky Territory). The cost of work carried out in 2011 was 878.9 mln RUB;
- construction of a regional conditioning center and long-term RAW storage started in the Russian North-West (financed from international technical assistance);
- activities resumed to build an onshore support base at Sisoyev Bay (Primorsky Territory) to ensure protection of the environment; spending in 2011 was 176.2 mln RUB;
- a container ship was built and commissioned to transport UNF and RAW (financed from international technical assistance).

DEVELOPING THE FTP, "ENSURING NUCLEAR AND RADIATION SAFETY IN 2016–2020"

A national program, "Development of the nuclear power complex", including the FTP "Nuclear and radiation safety" and the sub-program "Ensuring nuclear and radiation safety up to 2020", was developed by Rosatom pursuant to the Federal Government Decree No. 1950, dated 11.11.2010, "List of national programs of the Russian Federation" and submitted to the Federal Government.

The purpose of the sub-program is to ensure nuclear and radiation safety in handling of UNF and RAW and during decommissioning (as part of nuclear legacy work) of facilities that represent nuclear and radiation hazards. The sub-program includes activities launched under the nuclear and radiation safety FTP, construction of advanced systems for handling of UNF and RAW, decommissioning of facilities that represent nuclear and radiation hazards, creation of main infrastructure units for UNF and RAW handling and establishment of systems to monitor radiation, a specialized technological support center and medical and healthcare protection for personnel and the general public.

"The current program of the FTP "Ensuring nuclear and radiation safety (NRS) in 2008–2015" was effectively a preliminary stage in addressing NRS problems accumulated by and inherited from the Soviet nuclear industry including the nuclear arms complex. The current FTP has helped us address the problems and now we are on track for completion of this work. One of the objectives which we set at the preparatory stage, was to achieve an understanding by 2015 of how long it will take us to deal with the outstanding nuclear legacy problems and to estimate the cost of solutions.
The second FTP, "Ensuring NRS in 2016–2020" will not be the last. The important point is that we will start on a systematic solution to the legacy issue from 2016. In view of the complexity and difficulty of NRS issues, we want to integrate clear and efficient controls into the FTP draft and to involve all stakeholders in the discussion".

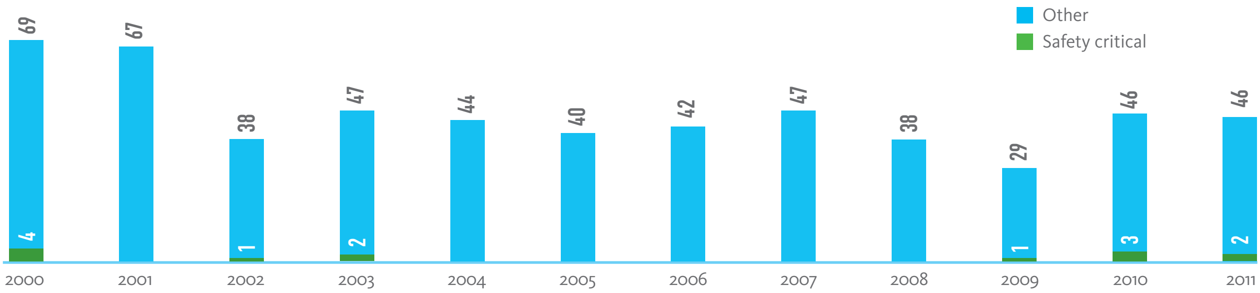
Sergey Kirienko, CEO of Rosatom State Corporation

ENSURING NUCLEAR AND RADIATION SAFETY AT NUCLEAR POWER FACILITIES

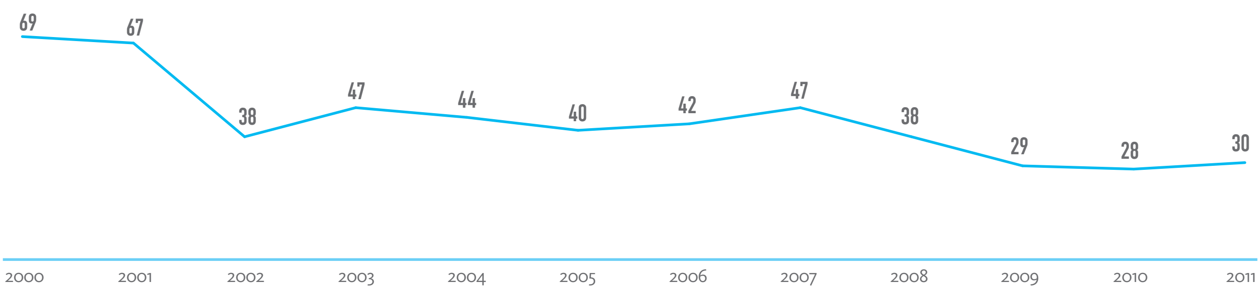
In 2011, 46 deviations were registered in the operation of nuclear plants.• Of these, seven occurred at Power Unit No. 5 of Novovoronezh NPP when regaining capacity after an upgrade with extended service life; four occurred at Power Unit No. 4 of Kalinin NPP during experimental industrial operation (compare this with 12 deviations during experimental industrial operation of Power Unit No. 3 at Kalinin NPP, and 9 divergences for Power Unit No. 2 at Rostov NPP). None of the registered occurrences qualified as incidents on the International Nuclear Events Scale.

Two departures that qualified as INES Level-1 incidents were registered at Balakovo NPP. They did not cause any changes in the radiation background or other consequences in terms of safety. No such events occurred between 2004 and 2008, while there was one occurrence in 2009 and three in 2010.

NUMBER OF DEVIATIONS DURING OPERATION OF RUSSIAN NUCLEAR PLANTS



NUMBER OF REGISTERED DEVIATIONS DURING OPERATION OF RUSSIAN NUCLEAR PLANTS THAT QUALIFY AS INES LEVEL-0



Corporation companies have not experienced any deviations in the last 13 years which would qualify higher than INES level-1.

The number of operational deviations due to errors by personnel declined in 2011 (there were three in 2011, six in 2010, and ten in 2009).

There was also a decline in the number of deviations that caused automatic shutdown from critical condition of the reactor unit. Their number in 2011 was 15 (compared with 19 in 2010), including one at Power Unit No. 4 of Kalinin NPP in low-power testing mode.

Russian nuclear plants are among the world's best by safety indicators including the number of operational deviations per power unit, the number of automatic reactor shutdowns from critical condition per unit, and the number of deviations caused by personnel errors.

Radiation background in the vicinity of nuclear plants in 2011 was equal to the natural level.

International audits by IAEA and WAO NPP experts confirmed that safety levels at Russian nuclear plants meet the most stringent international standards.

ENSURING NUCLEAR AND RADIATION SAFETY AT NUCLEAR-FUEL-CYCLE (NFC) COMPANIES

In 2011, none of Rosatom's NFC companies experienced any emergency or excess of safety standards and nuclear safety parameters. The situation with nuclear and radiation safety was satisfactory.

In the reporting year, work was done to improve nuclear and radiation safety, including:

- upgrade of production ventilation in main workshops of OJSC Machine-Building Plant;
- upgrade of emergency alarm design at units of OJSC Machine-Building Plant, the Nuclear Reactor Institute, Mining and Chemical Association, Novosibirsk Chemical Concentrates Plant, Physics and Energy Institute, Electro-Chemical Plant, and Mayak Production Association;
- nuclear safety support studies for:
  - plans for handling of nuclear fuel at the Baltic NPP;
  - production of MOX fuel at the Mining and Chemical Association;
  - systems for storage and transportation of fresh and used TBCA-PLUS at Power Unit No. 4 of Kalinin NPP;
  - graphite sets in ADE-4, ADE-5 industrial uranium-graphite reactors at OJSC Siberian Chemicals Association;
  - removal of defective submarine UNF from units of SevRAO,
  - transportation of fresh fuel sets for NPP-2006.

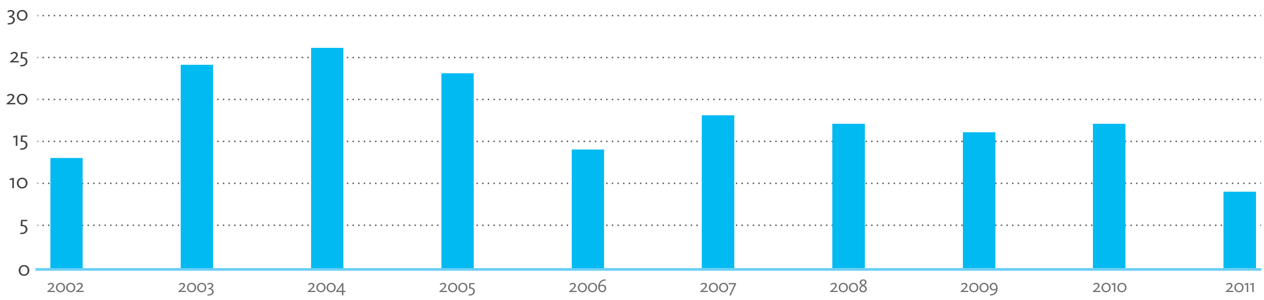
In 2011, there were nine registered deviations in NFC operations (compared with 17 in 2010). Three of the deviations were at the Mayak Production Organization and the Mining and Chemical Association. Two of the deviations qualify as off-scale events on the INES scale, and one as a level-0 event.

In 2011, the reactor units of Mayak Production Organization had six deviations, all of which were off-scale.

The NFC deviations had no radiation impact on personnel and environment.

Corporate panels carried out investigation of all cases in compliance with the "Regulation on investigation and accounting of deviations during operation of nuclear-fuel-cycle facilities" (NP-047-03) and corrective actions were taken as required•.

NUMBER OF DEVIATIONS IN OPERATIONS AT NUCLEAR FUEL CYCLE COMPANIES



ENSURING NUCLEAR AND RADIATION SAFETY AT NUCLEAR RESEARCH UNITS

As of December 31, 2011, Rosatom organizations and companies had 39 nuclear research installations (NRIs) at 11 operating entities for purposes of experimental research. Of these installations, 22 were operational, one was under reconstruction, five were in long-term shutdown, ten were at the decommissioning stage, and one was under construction.

During 2011, NRIs at the Corporation's organizations and companies registered ten deviations. Since 2008 all deviations at NRIs have been at level-0 on the INES Scale.

Deviations in category Po5 (40% of the total) were related to NRI shutdowns caused by failures of safety-critical production equipment and/or electric equipment.

Deviations in category Po9 (60% of the total) were caused by automatic NRI shutdowns due to voltage jumps and/or failures of external power supply equipment.

The deviations did not exceed limits or compromise safety of the NRIs and other nuclear power facilities at the operators' premises.

Of the ten departures during NRI operation, one was ascribed to a personnel error (although the error was not the immediate cause of the deviation). The number of personnel errors in NRI deviations in Russia has remained low for a number of years, which is evidence of efficient personnel training and work supervision.

There were no escapes or emissions of radioactive substances into the environment from the NRIs in 2011 above statutory limits. Radiation levels did not exceed the natural background.

Engineering and fire safety at the NRIs was compliant with regulatory documents.

As prescribed by the Federal Law No. 170, dated 21.11.1995, "On the use of nuclear energy", all operating entities of the Corporation are recognized as capable of operating nuclear energy facilities, and are officially licensed and authorized to engage in such activities in accordance with the specifics and stage in the life cycle of NRIs.

CONTROL AND MONITORING SYSTEMS

- UNIFORM GOVERNMENT AUTOMATED SYSTEM FOR RADIATION SUPERVISION IN THE RUSSIAN FEDERATION
- UNIFORM GOVERNMENT SYSTEM TO PREVENT AND ADDRESS EMERGENCIES WITH RADIATION CONSEQUENCES, *including logistical support to maintain a specialized force in continuous readiness to address radiation emergencies*
- SYSTEM OF NATIONAL ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS, RADIOACTIVE SUBSTANCES, AND RADIOACTIVE FACILITIES
- AUTOMATED SYSTEM FOR CONTINUOUS MONITORING OF FACILITIES THAT REPRESENT A NUCLEAR AND RADIATION HAZARD, *and of cargoes and materials on all types of transport*
- SYSTEM TO CONTROL AND MONITOR INDIVIDUAL DOSES OF RADIATION EXPOSURE AMONG PERSONNEL
- SYSTEM OF PHYSICAL PROTECTION FOR FACILITIES THAT REPRESENT A NUCLEAR AND RADIATION HAZARD
- SYSTEM FOR MONITORING OF MINERAL DEPOSITS

3.14.6. THE PHYSICAL PROTECTION OF FACILITIES

Rosatom gives high priority to improving the physical protection of sites that represent nuclear and radiation hazards. The Corporation carried out a number of scheduled actions in 2011 to enhance technical equipment and the state of readiness of security services.

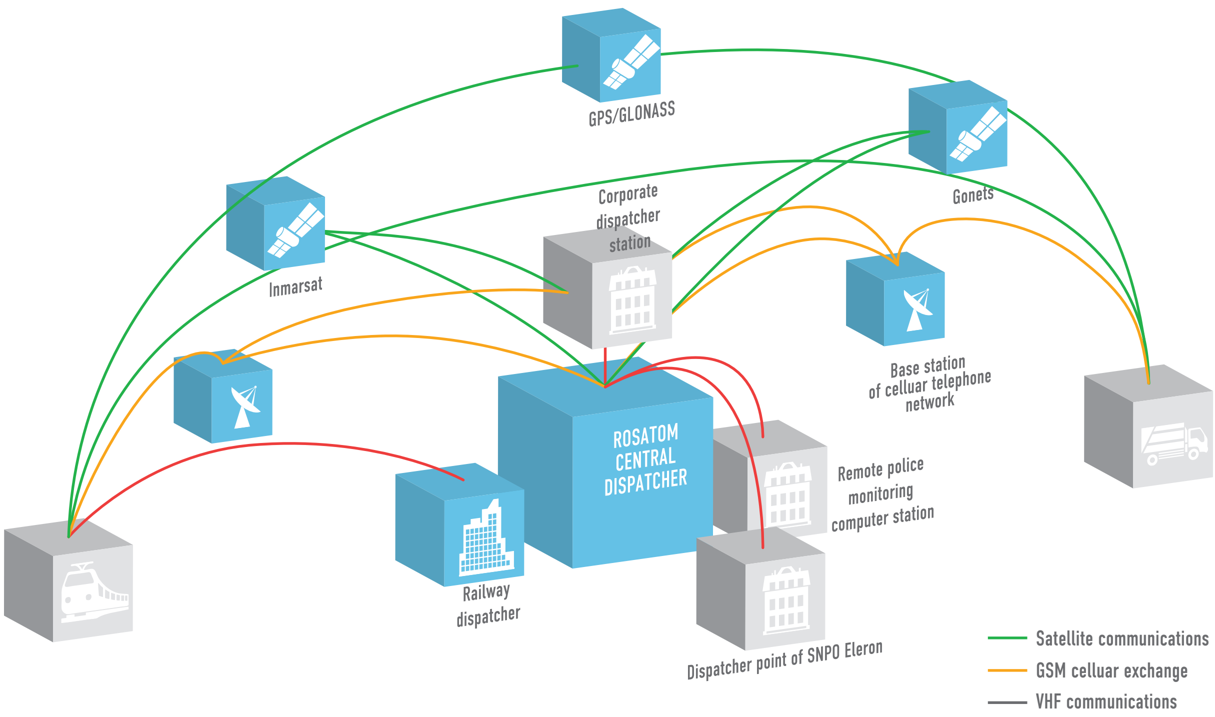
Work was also carried out to improve the administrative structure and professional training of the industry's own security detachments. A total of 613 staff underwent training at special centers in 19 aspects of physical security during the reporting year, and instruction was provided to six study groups from among Rosatom security staff on nuclear security in storage and transportation as part of Russia-US cooperation.

Industry facilities passed 11 audits of physical security during 2011. The fact that experience accumulated over many years by Rosatom has been incorporated in international recommendations issued by the IAEA is evidence of the high levels of security at Corporation companies and safe functioning of its nuclear power facilities.

9 Category of deviations during nuclear plant operation, approved by the Federal Service for Environmental, Technological, and Nuclear Supervision. Event category Po5: safety system channel activated by the need for performance of a safety function during operation of an NPP unit, accompanied by additional failures of safety.

10 Category of deviations during nuclear plant operation, approved by the Federal Service for Environmental, Technological, and Nuclear Supervision. Event category Po9: thermal capacity of an NPP unit losing 25% and more of its immediately preceding capacity level, caused by failure of systems/components and/or personnel errors.

SYSTEM OF PHYSICAL SECURITY AT FACILITIES



3.14.7. FIRE SAFETY

The service of the General Inspector of Rosatom audited fire safety at 26 entities across the industry in 2011.

The audits found 214 instances of non-compliance with fire safety regulations, which had not been included in the reports of the national fire-security supervision agency under the Federal Ministry for Emergencies.

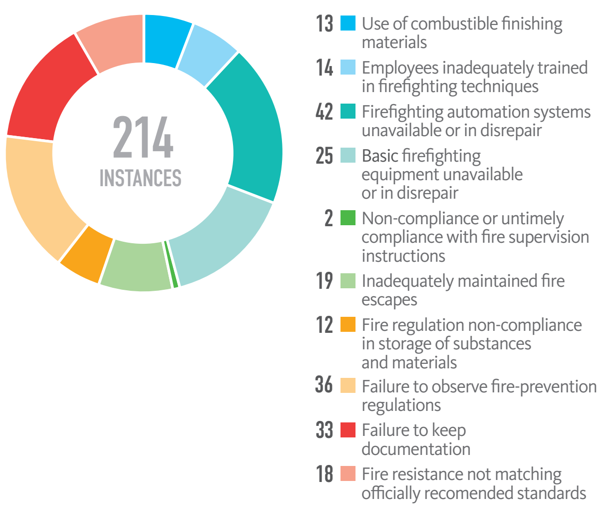
Overall compliance at audited companies of Rosatom with instructions issued by the federal fire supervision service was more than 95% during 2011.

There were 3 fire emergencies and 23 minor fire incidents at Rosatom companies in 2011. A fire on the Vaygach atomic icebreaker led to two deaths and one serious case of burns, and caused damage of about 70 mln RUB. The main causes of the emergencies were carelessness with fire, failure to observe fire safety rules when smoking (Novovoronezh NPP, Vaygach atomic ice breaker), and electric equipment failures (CJSC Dalur, Vaygach atomic ice breaker).

Industry companies submitted amendments to fire safety regulations (PUSDM 2003/2011, and PPB-AS-2011), which were approved by the Ministry for Emergencies.

Purchases of firefighting equipment were made by 40 Rosatom companies in response to instructions issued by federal agencies for fire supervision, as follows:
— firefighting automation systems and basic firefighting equipment;
— firefighting equipment to deal with forest fires;
— equipment required to restore compliance with fire safety as instructed by the Fire Safety Service of the Ministry for Emergencies.

FIRE SAFETY NON-COMPLIANCE, CASES



3.14.8. EMERGENCY RESPONSE READINESS

FUNCTIONAL SUBSYSTEM TO PREVENT AND ELIMINATE EMERGENCIES AT ORGANIZATIONS (FACILITIES) CONTROLLED AND ADMINISTERED BY ROSATOM STATE CORPORATION

Rosatom's organizations and facilities have a functional emergency prevention and elimination sub-system, which is designed to organize and carry out work for protection of personnel, the general public and sites in case of emergency, and to ensure readiness and response to any emergency at organizations that operate facilities and installations representing radiation and nuclear hazard (including during transportation of radioactive materials and products).

The emergency prevention sub-system includes units for coordination, standing executive bodies, day-to-day management units, and capacities and resources of Rosatom, its organizations and corporate entities (and their subsidiaries and affiliates), and of state unitary enterprises, as well as financial reserves and inventory, and telecommunication, alarm and information systems. The sub-system operates at both national and local levels.

Work in 2011 was focused on maintaining levels of readiness to prevent and address emergencies, build and optimize the structure of the emergency sub-system to match changes in federal law and the Corporation's regulations, implement corrective plans for shortcomings identified by supervision agencies during audits at the Corporation's companies, and to protect sites and the general public in case of radiation and fire emergency.

As of December 31, 2011, the Company had 12 permanent emergency rescue teams in readiness as well as 41 part-time teams, all certified and authorized to carry out emergency rescue and other rapid response activities.

Improving readiness of the capacities and equipment of the emergency sub-system

Corporation units did not have to deal with any industrial or externally-caused emergencies in 2011.

During 2011 the central certification panel of Rosatom carried out scheduled certification of executive personnel and of 13 emergency response teams (3 standing teams, and 10 part-time).

Sub-system managers and emergency response specialists improved their skills through drills and training, including work on coordination between federal executive government agencies and local governments in Russian regions for the event of an NPP accident.

INDUSTRY-LEVEL AUTOMATED SYSTEM FOR CONTROL OF RADIATION LEVELS

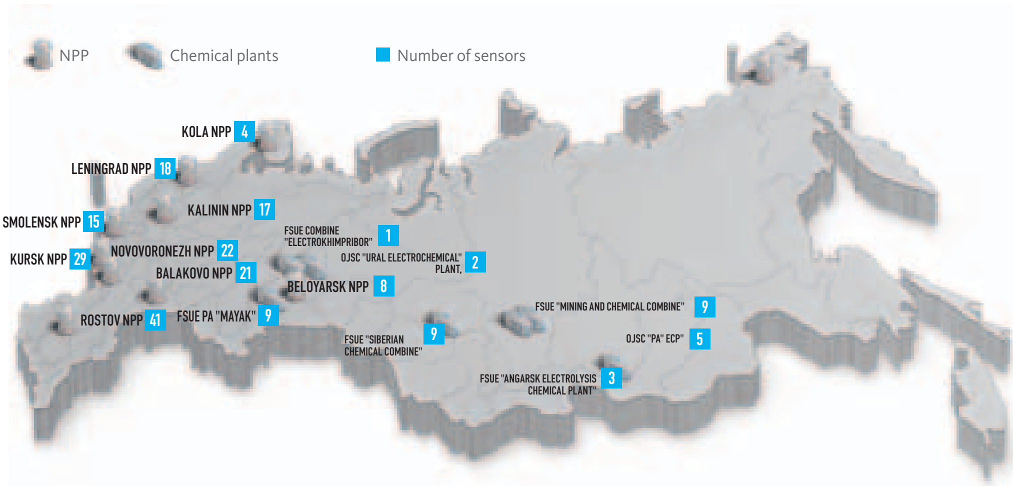
Government supervision of radiation levels around nuclear units, radiation sources, and storage facilities ensures timely detection of any changes in radiation levels, and also assesses, forecasts and prevents possible adverse impact of radiation on personnel, the general public and the environment.

The government supervision system for regions around facilities, which represent nuclear and radiation hazards, is based on automated systems for radiation control, coordinated by the United National Automated System of Radiation Control (UNASRC). The National System integrates the automated systems that are deployed at nuclear companies and organizations.

The total number of automated control stations is 343 (32 more than in 2010). Measurements carried out over many years have shown that normally operating NPPs have no discernible impact on people and the environment.

Real-time radiation monitoring data received nationwide from Rosatom control stations is published hourly on the website http://www.russianatom.ru for the benefit of stakeholders.

Monitoring of the seismic and geodynamic situation at nuclear plants is carried out using special equipment. Seismic devices are installed at the Kalinin, Novovoronezh, and Balakovo NPPs.



CONTINUOUS MONITORING SYSTEM FOR HAZARDOUS FACILITIES AND CARGOES

In 2011, an industry-level automated system of continuous monitoring was in place for facilities and cargoes that represent nuclear and radiation hazards (used during all types of transportation) to ensure timely detection and prevention of natural, industrial and human threats (including terrorism) to such facilities and cargoes.

INFORMATION EXCHANGE

Under an agreement on interaction in radiation monitoring in the Russian Federation, signed with Federal Service for Hydrometeorology and Environmental Monitoring (FIAC, a structural part of NPO Taifun), the Rosatom Situation-monitoring and Crisis Center keeps watch on readings from 150 gamma-ray sensors installed across the whole of Russia.

The Center also carries out information exchange with technical support centers at main industry institutes, design and engineering organizations, and with information and crisis centers of other functional units in the Unified National System for Prevention and Elimination of Emergencies.

In 2011 the Rosatom Crisis Center worked with the National Center for Crisis Management (NCCM) of the Russian Ministry of Emergencies. The NCCM has installed two user workstations for Rosatom with access to the Corporation's information resources and the ability to visually represent the current radiation environment in NPP observation areas.

In March and April 2011 (after the Fukushima-1 disaster), the Rosatom Crisis Center rapidly interacted with the Ministry for Emergencies, Federal Service for Environmental, Technological, and Nuclear Supervision, the Nuclear Energy Safety Institute (Russian Academy of Sciences), Federal Service for Hydrometeorology and Environmental Monitoring, Federal Center for Medicine and Biology, Kurchatov Institute, IAEA Center for Incidents and Emergencies, and the Crisis Coordination Center of the Comissariat de l'Energie Atomique in France.

3.14.9. THE NUCLEAR AND RADIATION SAFETY SYSTEM

RAW HANDLING

Enactment of the Federal law, "On handling of radioactive waste•

Federal Law No. 190, "On handling of radioactive waste and amendments to some legal acts of the Russian Federation" took effect on July 15, 2011.

The principles and approaches that are designed for radioactive waste handling provide a methodological basis for addressing similar issues of safety and business efficiency in handling of used nuclear fuel and decommissioning of facilities that represent nuclear and radiation hazards.

NEW PROVISIONS IN LAW NO. 190, WHICH ARE RELEVANT FOR NUCLEAR AND RADIATION SAFETY MANAGEMENT

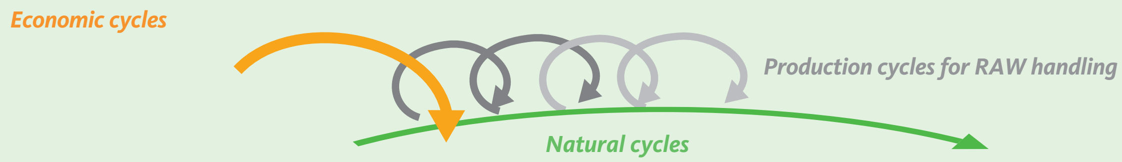
1 ACTIVITIES ARE BEING SUBSTANTIALLY UPSCALED USING THE LOGIC OF A FULL PRODUCTION CYCLE

To date, organizations that operate nuclear facilities have incurred costs only at the initial stages of fuel circulation

After the law takes effect, operators of nuclear facilities will assume financial responsibility for all stages, including disposal

2 A UNIFORM NATIONAL SYSTEM IS BEING CREATED TO HANDLE RAW IN ORDER TO ENSURE SAFE AND ECONOMICALLY EFFICIENT HANDLING AT EACH STAGE, INCLUDING DISPOSAL

3 OBJECTS OF THE RAW MANAGEMENT SYSTEM ARE MODELED IN THREE TYPES OF CYCLES



Handling of radioactive waste in 2011

No instances of non-compliance in RAW handling were registered during 2011.

Mayak Production Association, Mining and Chemicals Association and OJSC Siberian Chemicals Association store more than 90% of all accumulated RAW. In 2011 they worked on the issues of converting accumulated RAW to an environment-neutral condition and improving levels of safety in storage of liquid RAW.

Work program for RAW handling at Russian nuclear plants

All NPPs are working to reduce generation of primary RAW and convert it to a processed condition for safe temporary storage.

A working program of radioactive waste handling at nuclear plants of OJSC Rosenergoatom for 2011-2015, providing a comprehensive solution for safe handling of radioactive waste at NPPs, including relevant regulations, standards and technologies, and development of new techniques for processing and safe storage.

Rosenergoatom also approved RAW quotas for its nuclear plants in 2011–2012.

Generation and processing of RAW

About 40,000 closed radioactive sources with expired operation periods are moved to the RAW category each year in Russia.
The principal generator of such waste in categories 1 and 2 is Mayak Production Association, which also accepts expired sources, which were previously produced at Mayak from other Russian users. Other expired closed radioactive sources are delivered to the specialized nuclear waste handler, RosRAO, for long-term storage.

Supervision of timely delivery of expired closed radioactive sources for disposal is the management function of respective organizations and the Federal Service for Environmental, Technological, and Nuclear Supervision. Ionizing radiation sources are registered in government logs of radioactive materials and waste as soon as they enter the producer's finished product warehouse and until they are recycled (transferred to the RAW category) and placed in storage (buried). All movement of radiation sources between companies is also registered.

As of December 31, 2011, total solid RAW accumulated by all Rosatom companies amounted to 70.5 mln tons, and liquid RAW was 427.8 mln $м^3$*.

ACCUMULATED SOLID RAW AS OF 31.12.2011, MLN TONS

Low-level waste	69.3
Medium-level waste	1.1
High-level waste	0.087
TOTAL	**70.5**

ACCUMULATED LIQUID RAW AS OF 31.12.2011, MLN M³*

Low-level waste	425.7
Medium-level waste	2.0
High-level waste	0.079
TOTAL	**427.8**

* Excluding liquid RAW injected underground

RAW IN STORAGE AS OF 31.12.2011

	Solid RAW, mln tons	Liquid RAW, mln m³
Generated	1.29E+06	2.34E+06
Placed in storage	1.29E+06	2.04E+06

Formation of the Unified National System of Radioactive Waste Handling (UNS RAW)

Main achievements during 2011 in creation and enforcement of legal, financial and administrative principles of the UNS RAW and preparation for its deployment were as follows:

- Federal Law No. 190, dated 11.07.2011, "On handling of radioactive waste and amendments to certain legal acts of the Russian Federation" became effective from 15.07.2011;
- a time schedule was approved for priority activities to enforce Federal Law No. 190;
- a base model was prepared for tariff calculation by the National Operator for RAW disposal;
- financial liabilities for handling of generated and accumulated RAW were appraised;
- pre-project research was carried out to establish priority locations for RAW burial;
- a feasibility study was approved (including an environmental impact estimate) for construction of priority facilities for final isolation of radioactive waste in Krasnoyarsk Territory (the Nizhne-Kansky plateau).

Plans for 2012:

- appraise financial liabilities of Rosatom companies for disposal of all radioactive waste generated in the course of the year;
- make a preliminary estimate of financing required for burial of all accumulated RAW stored at the premises of Rosatom companies.

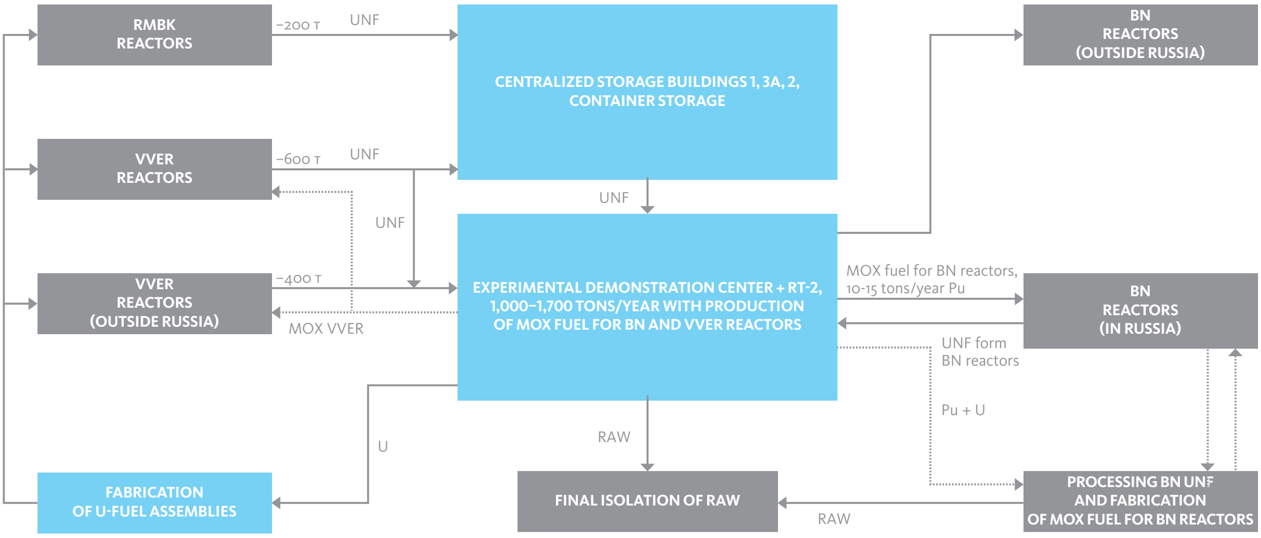
UNF HANDLING AND DECOMMISSIONING OF FACILITIES THAT REPRESENT A NUCLEAR AND RADIATION HAZARD

NO NON-COMPLIANCE RELATED TO UNF HANDLING WAS REGISTERED DURING 2011.

Creating the Unified National System for UNF handling

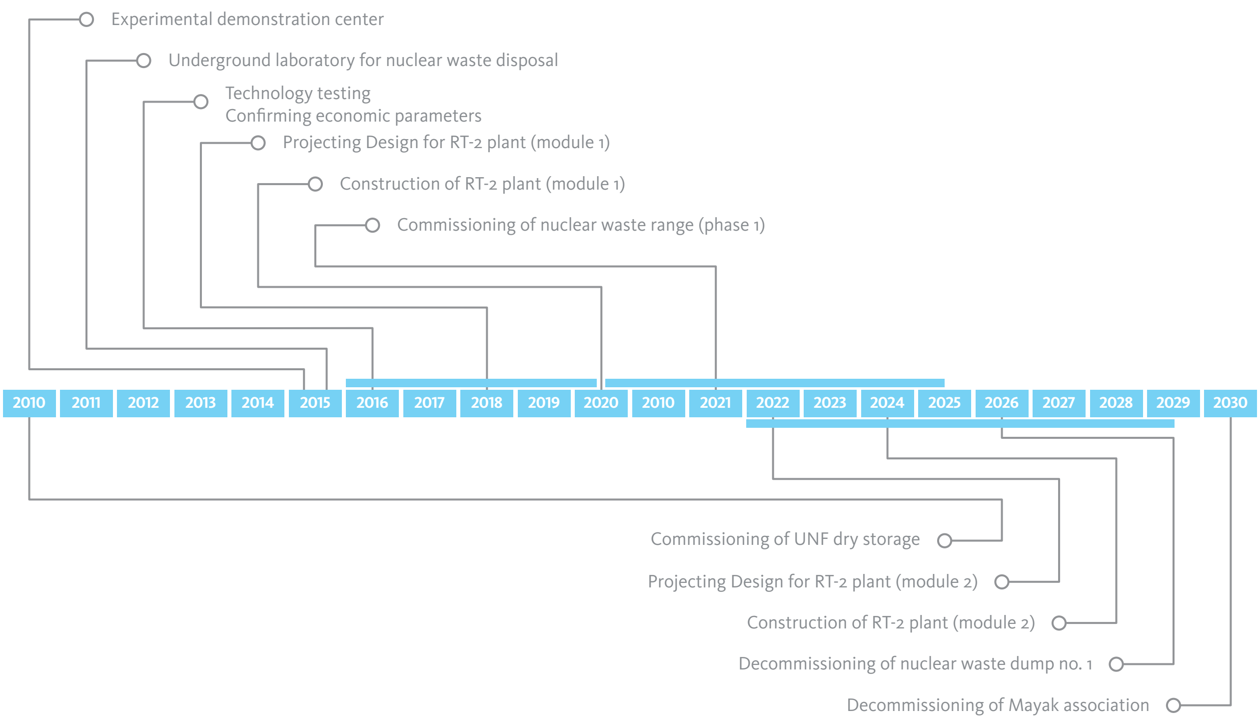
Main documents that regulate handling of UNF are: federal laws governing use of nuclear energy and environmental protection; the United Convention (IAEA); Rosatom's industry-level concept for UNF handling; the target model for the system of UNF handling; and the program, "Creating infrastructure for UNF handling in 2011–2020 and up to 2030", which outlines future growth of capacity for central storage and radiochemical processing of UNF at nuclear plants, and optimization of the rates of processing and use of regenerated nuclear materials.

MODELS FOR UNF HANDLING IN 2025-2030



Creating infrastructure for UNF handling

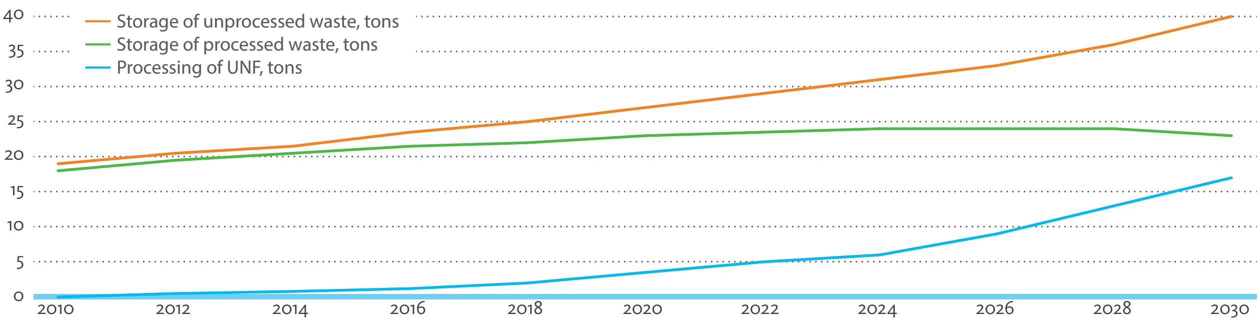
PLANS FOR CREATION OF UNF HANDLING INFRASTRUCTURE UP TO 2030



PROGRESS DURING 2011 IN CREATION OF INFRASTRUCTURE FOR UNF HANDLING

Company	Results
Mining and Chemicals Association	■ Startup complex of UNF dry storage commissioned for RBMK-1000 reactors. Construction in progress to build phases of UNF dry storage facilities for VVER-1000 and RBMK-1000 reactors. ■ Further work to create a demonstration and experimental center for UNF processing based on innovative technologies. ■ Transport operations were tested in experimental conditions, including containers simulating transport of processing products from VVER-1000 fuel sets. ■ A test prototype of a continuously operating centrifuge was designed, manufactured, and tested to enable design adjustments to stage-one production operation for clarification of solutions after dissolving of UNF. ■ Experimental prototypes of PRN-0.2/300 and DBM-0.2/50 pumps were tested. ■ Bench testing of a crystallization aggregate was carried out. ■ Three foaming deactivating compounds were designed and tested, based on modern industrial detergents. ■ The following technical projects were designed: — control systems for UNF solution units and the first extraction cycle; — evaporation and vitrification units for high-level waste, second-cycle extraction, regeneration of methylamine carbonate, use of an ozone unit to process trap water; — evaporation units to process medium-level nitric acid waste and non-technical solutions; — chains of "hot chambers" for study purposes; — transportation system equipment to handle disposable containers and an internal transportation system for the "hot chamber" research chain ; — transportation system for the main operations unit and equipment for the gas purification system for main operations; — transportation trolley of the vitrification unit with control system and canister setting module; — tube mail system for analytic support. ■ A prototype of the pneumatic transport unit for delivery of powders was tested. ■ Test prototypes of two separators were made for cold bench tests at the Mining and Chemicals Association. An EKC140M-6 six-step extraction unit was tested together with a DBM-02/300 membrane pump and VKR separator.
Mayak Production Association	■ A batch of contaminated nuclear fuel from experimental reactors was removed from storage at the Physics and Energy Institute (no contaminated materials had been moved from the Physics and Energy Institute for 15 years). ■ Actions were carried out for processing of UNF from channel-type thermal-neutron reactors (AMB). ■ Experimental processing of AM fuel (similar to AMB UNF) was carried out. ■ Prototypes of a hydrocyclone and an ultrafiltration unit were built to develop technology and equipment for water treatment in reservoirs where AMB UNF sets are separated from solid suspensions and radioactive substances. A document pack was designed for the water treatment system, sludge separation unit, and equipment for an experimental AMB UNF separation bench. ■ Prototypes of cartridges K-17 and K-35 were manufactured. ■ Design documents were prepared for experimental units for canister fragmenting and control of nuclear fission material content in solid RAW after separation of AMB UNF.
OJSC Siberian Chemicals Association	■ Equipment sets were made and delivered to sites of OJSC Siberian Chemicals Association and Mining and Chemicals Association for emergency unloading of DAV-90 fuel sets. ■ An instrument set was made for monitoring DAV-90 condition. ■ A special railway platform was built. ■ Lifting equipment was manufactured for the transhipment station, and work was carried out to prepare an installation for loading of irradiated DAV-type fuel sets.

DYNAMICS OF ACCUMULATION OF UNF FROM VVER-1000 +RBMK-1000 REACTOR UNITS



UNF STORED AT SITES NEAR NPPS, AT NPP DECAY POOLS AND AT STORAGE FACILITIES, THND. T OF HEAVY METAL*

UNF near NPPs, at NPP decay pools and at storage facilities	31.12.2011	31.12.2010	31.12.2009
TOTAL	**~ 16.6**	**~ 16.1**	**~ 15.8**
incl. UNF in federal ownership	~ 14.0	~ 14.2	~ 14.5
at central treatment facilities	**~ 6.5**	**~ 6.2**	**~ 5.9**
UNF of NPPs at Mining and Chemicals Association	~ 6.1	~ 5.8	~ 5.5
UNF at Mayak Production Association	~ 0.4	~ 0.4	~ 0.4
incl. UNF in federal ownership	~ 3.2	~ 3.0	~ 2.85

* Recalculated as heavy metal.

ELIMINATION OF ACCUMULATED UNF AT INDIVIDUAL NUCLEAR PLANTS IN RUSSIA, 2011

NPP	Results:
Leningrad NPP	■ Technology designed to handle low-grade RBMK UNF sets; pilot shipment (8 UNF sets) from Leningrad NPP. ■ Experimental operation of complex UNF container storage at Leningrad NPP. Separation of UNF sets in the hot chamber, loading to a transport module-109 for removal to storage at Mining and Chemicals Association (the first batch of UNF sets was moved and stored in 2012).
Beloyarsk NPP	■ 143 K-17y cartridges placed in thin-walled cases of stainless steel. K-17y cartridges with damaged UNF in a tight case were tested for 250 days, proving that no explosive mix is produced. Certificate received for design of transport module-84/1 packs (RUS/3123/B(U)F-96 to carry K-35 cartridges. A positive report was obtained from the nuclear security section at the Physics and Energy Institute (No. 09-052) guaranteeing nuclear safety during transportation of K-17y cartridges with AMB UNF in transport module-84/1.
Kolsky NPP	■ Work continued to arrange transportation of defective and non-tight VVER-440 UNF sets to the PT-1 plant of Mayak Production Association. Project and working design documents were prepared for additional equipment to handle defective and non-tight VVER-440 UNF sets at nuclear plants, and prepare them for rail transportation.
Novovoronezh NPP	■ Test measurements of UNF burnout were carried out with an MKS-01 VVER unit in preparation for installation of burnout depth measuring equipment at the NPP.
Kalinin NPP	■ As above, an MKS-01 VVER-1000 unit was manufactured for the plant.

In 2011 the Mining and Chemicals Association received UNF sets from VVER-1000 reactor units at nuclear plants in Ukraine under inter-governmental agreements (2 deliveries), and Mayak Production Association received UNF sets from VVER-440 reactor units at a nuclear plant in Bulgaria (2 deliveries).

No used nuclear fuel sets from foreign experimental reactors were imported into Russia in 2011.

Decommissioning of facilities that represent a nuclear and radiation hazard

In accordance with the industry-level concept for decommissioning of nuclear units, radiation sources, and storage facilities, there are three main options for the decommissioning of hazardous facilities: destruction/dismantling, creation of final isolation facilities, or conversion.

Of the 1,000 facilities listed in the database of hazardous facilities, 60 are pending decommissioning or are in the process of being decommissioned. A total of 44 facilities are to be decommissioned by 2015, a further 54 by 2020, and another 57 by 2025.

Work continued in 2011 to create an industry-level system to decommission hazardous facilities including:
- creating an administrative and legislative basis for the decommissioning system by 2025;
- launching mechanisms for the decommissioning system, to reduce costs and speed up work, and offering a competitive range of decommissioning services on Russian and foreign markets;
- building a long-term action plan after 2015, including forecasted cost of the decommissioning of nuclear legacy facilities;
- creating a project management system.

Work continued in 2011 to create demonstration and experimental centers as prototypes for service (engineering) providers. Main activities of the centers are:
- adapting and modernizing industrially made equipment;
- information support, building databases of technology, techniques and means for decommissioning of hazardous facilities and RAW handling;
- R&D, customizing and launching technologies and equipment for decommissioning work;
- decommissioning services, consolidation of Russian and foreign experience of decommissioning;
- scientific, methodological and consulting support to companies in the application of innovative technologies and selection of equipment for reclamation and decommissioning of hazardous facilities;
- development of programs to train specialists for decommissioning of hazardous facilities.

Work by the demonstration and experimental centers should improve business efficiency in the decommissioning of facilities that represent nuclear and radiation hazards, as well as developing the Russian market for decommissioning services, and helping to source government and private investments to meet demand for decommissioning services.

Centers have already been set up to decommission uranium-graphite reactors (a subsidiary of OJSC Siberian Chemicals Association, and a center to decommission a VVER reactor at Novovoronezh NPP).

DECOMMISSIONING OF FACILITIES THAT REPRESENT NUCLEAR AND RADIATION HAZARDS IN 2011

Company	Results
OJSC Siberian Chemicals Association	■ Off-design mound-type storage facilities decommissioned, total 8 NRDF written off.
OJSC Chemical Technology Institute	■ Experimental nuclear unit PKS SO-2M decommissioned (delisted by Rostekhnadzor).
Scientific Instrument Institute	■ Two UNF storage facilities decommissioned (buildings 60 and 100).
Institute of High Energy Physics	■ UK Pozitroniy and RAW temporary storage decommissioned in building VK-4F.
Sever Production Association	■ Casings 70/1 and 70/3 decommissioned.
OJSC Machine-Building Plant	■ Activities started to prepare casing 242 for decommissioning.
OJSC Rosenergoatom	■ Activities in progress to prepare for decommissioning of Power Units No. 1 and 2 at Novovoronezh NPP and Power Units No. 1 and 2 at Beloyarsk NPP (already shut down).

3.15. ENVIRONMENTAL SAFETY

VLADIMIR GRACHEV
Advisor to the CEO of Rosatom State Corporation, Coordinator for Issues of Environmental Policy Implementation

ROSATOM STATE CORPORATION APPROVED AN ENVIRONMENT POLICY IN 2008. WHAT ARE THE MAIN RESULTS OF ITS IMPLEMENTATION?

The purpose of our environment policy is to ensure environmentally safe and sustainable development of nuclear industry organizations in generation and use of nuclear energy for civil purposes and the purposes of national defense. Our organizations efficiently achieve the strategic goal of Russia's national environment policy, which is to preserve natural systems, raise living standards and improve public healthcare. Our environment policy speaks for itself: Russian nuclear industry companies now have a track record of many years duration when they have kept environmental impacts within the limits of ecological, nuclear and radiation safety.

HOW DOES THE CORPORATION'S ENVIRONMENTAL FOOTPRINT COMPARE WITH THAT OF OTHER MAJOR RUSSIAN BUSINESSES?

The nuclear industry stands proud among other sectors by its level of environmental impact. For example, to generate 1,000 MW of electric power, you need to burn about 5 mln tons of coal, and the radiation impact of that is higher than when you generate the same amount of energy in a nuclear reactor.

We have been doing all we can to remind the world community, including the Parliamentary Assembly of the European Union, that nuclear energy that can be the answer to many challenges associated with global warming, because nuclear generation does not release any greenhouse gases.

WHAT OBSTACLES DOES THE CORPORATION FACE IN ITS EFFORTS TO RESOLVE ENVIRONMENTAL PROBLEMS?

Rosatom is active on global markets for nuclear technologies and services. This obliges us to act in full compliance with all international standards and regulations, including environmental standards.

"Radio-phobia" – the fear of radiation – remains a problem. It is a scientifically proven fact that, on the scale of risks, nuclear energy is safer than any other source of energy. Nevertheless, part of the public shares this phobia, so we have kept up a constant campaign of explanation and awareness.

What environmental organizations cooperate with the Corporation? What cooperation formats exist?

The Corporation cooperates with the Russian Green Cross, the Green Planet National Children's Environmentalist Movement, the Vernadsky Non-Governmental Environmental Foundation, the Green Light International Environmental Organization, etc. We have held many joint forums and competitions, and we are implementing science and education projects. We also work with young people's organizations such as the Environmental Youth Union. Our focus is mostly on public environmental education.

At the same time, we are engaged in dialog with radical environmentalists who reject all possible development of the nuclear power industry. If their criticism is well grounded, and if they propose practicable solutions to problems and consider public interests, we are always open for discussion and constructive interaction.

What are the obligations of companies in the Corporation that have official status as "environmentally significant"?

Environmentally significant organizations and companies (there are currently 56 on the list) have obligations: they must have a corporate environment policy and implementation plans, they file related progress reports, they prepare Public Annual Reports on environmental safety and have in-house audits to confirm the existence and validity of environmental licenses, etc. Many such entities implement their own environmental projects and initiatives based on the environment policy of the Corporation. For example, OJSC TVEL decommissions nuclear units to "green lawn" level, at which the land can be returned to farming, and OJSC Rosenergoatom has also been highly successful in its environmental policy. The efforts made by these companies are highly commendable.

3.15.1. Environmental policy implementation in 2011

In the reporting year, Rosatom updated its comprehensive environment policy for the period up to 2015 and its list of environmentally significant organizations and companies that use facilities with potential impact on human health and the environment (the list now includes 56 organizations and companies).

In 2011, the companies published 56 environmental reports• with information on their environmental protection and safety activities, implementation of Rosatom's environment policy, development and adoption of an environmental management system, results of environmental control in respect of production, and interaction with government, municipalities, environmentalists, scientific and social institutions, and the broad public.

The reports were presented at forum dialogs, posted on official websites, and on the webpage of the Corporation's public council. They were sent to government agencies, municipalities and social organizations, and to regional information centers for public communication.

INITIATIVES TO MITIGATE ENVIRONMENTAL IMPACT IN 2011

OJSC Machine-Building Plant:
projects implemented to organize instrumental metering of water distribution in industrial and general sewage systems No. 1-4. Completion planned in 2012.

OJSC Angarsk Electrolysis Chemical Association:
locations selected for installation of electricity meters; work in progress to design aggregates with possible subsequent integration into a unified, automated system.

OJSC Urals Electrochemical Association:
installation completed of a metering system for industrial and general sewage from the plant's production sites.

OJSC Angarsk Electrolysis Chemical Association:
a government expert panel approved the draft design of a refrigeration station.

OJSC Electrochemical Plant Association:
two refrigeration units replaced by units that use a safe heat medium; use of freon in production has been reduced (emission of freon-12 dropped by 0.5 tons to 3.5 tons annually); completion planned in 2014

OJSC Chepets Mechanical Plant:
contract signed to develop a technology for decontamination of coolant-lubricant.

OJSC ZIO-PODOLSK:
freon-12 replaced with ozone-neutral freon-113a, reducing emissions by 1.45 tons.

KARPOV PHYSICS AND CHEMICALS INSTITUTE (Obninsk branch):
chemical laboratory eliminated, reducing emissions by 0.38 tons.

OJSC SIGNAL INSTRUMENT PLANT & OJSC MOSCOW POLYMETALS PLANT:
new gas treatment equipment commissioned, old equipment repaired and modernized, reducing emissions by 2.56 tons and 0.07 tons respectively.

NOVOVORONEZH NPP:
work on main and auxiliary production and the automotive fleet reduced emissions by 90.14 tons.

Work continued in 2011 to adopt and certify management systems for compliance with international standards (series ISO 9001, ISO 14000, OHSAS 18001).

In 2011, OJSC Rosenergoatom implemented its program for environmental management certification to comply with international standard ISO 14001. The company's head office and all operating NPPs passed certification audits and received environmental certificates. In 2011, certification agency panels under the GOST R and Equipment-Goods-Technology systems conducted the first inspection control of the re-certified quality management system at Balakovo NPP for compliance with the new GOST R ISO 9001-2008 (ISO 9001:2008) and NP-011-99, taking account of IAEA recommendations. Bilibino, Kalinin and other nuclear plants were audited during the reporting year by Germany's DQS management systems certification union, which described the Rosenergoatom environmental management system as compliant with national GOST R ISO 14001-2007 and with international ISO 14001:2004.

OJSC TVEL passed another observation audit by the certification agent TÜV Thuringen E.V., which confirmed validity of the compliance certificate for its management system as compliant under the ISO 9001:2008, ISO 14001:2004, and OHSAS 18001:2007 standards.

Observation audits also confirmed compliance of management systems under ISO 14001:2004 at five companies (OJSC Urals Electrochemical Association, Siberian Chemicals Association, Electrochemical Plant Association, Angarsk Electrolysis Chemical Association, and Kovrov Mechanical Plant).

In 2011, OJSC TVEL companies adopted a standard methodology to identify and assess environmental aspects and related risks, "Environmental Aspects. Identification and Assessment Procedure" (STK-18-2011), which enables redirection of financing to critical environmental issues.

MONITORING OF MINERALOGICAL CONDITIONS

In 2011, the Center for Monitoring of Mineralogical Conditions at companies of Rosatom State Corporation, attached to Gidrospetsgeologiya provided methodological support to monitoring of mineral deposit conditions at the following companies: Mayak Production Association, OJSC Mining and Chemical Association, Priargunskoye Mining and Chemicals Association, OJSC Siberian Chemicals Association, OJSC Urals Electrochemical Association, OJSC Machine-Building Plant, Novosibirsk Chemical Concentrates Plant, OJSC Chepets Mechanical Plant, Beloyarsk NPP, Kalinin NPP, Kolsky NPP, Novovoronezh NPP, SevRAO, DalRAO, the Saratov and Samara subdivisions RosRAO, the Nuclear Reactor Institute, the Physics and Energy Institute, OJSC Chemical Technology Institute, and the Radium Institute.

Examination of mining shafts where observations are carried out and analysis of related documents enabled evaluation of the state of observation grids. The grids in best condition were those at Priargunskoye Mining and Chemicals Association, Mayak Production Association, Mining and Chemicals Association, and OJSC Siberian Chemicals Association. Grids required improvement at Novosibirsk Chemical Concentrates Plant, OJSC Urals Electrochemical Association, the Samara subdivision of RosRAO and the Nuclear Reactor Institute. In 2011 new shaft observation grids were set up at DVC Far East RAO, OJSC Chemical Technology Institute and the Radium Institute.

In the previous years, the Center for Mineralogical Monitoring activated demonstration-experimental systems for monitoring at Mayak Production Association and the Physics and Energy Institute. The Center provides technical assistance to ensure their proper functioning (correct techniques in sampling of underground waters for analysis, and assistance in sample processing).

Comparative analysis of data collected during three years of observations found the general radio-ecological condition of deposits which have evolved at Rosatom companies under the impact of various industrial factors, to be satisfactory. Pollution spots typically remain within the same limits and do not spread beyond the works site. However, the audits did find polluted radioactive and chemical areas at Priargunskoye Mining and Chemicals Association and the Physics and Energy Institute that may in future compromise the quality of underground waters for residential needs and potable water.

Hydro-geological models were designed during the year for the territories of Kalinin and Kolsky NPPs, the Mining and Chemicals Association, Novosibirsk Chemical Concentrates Plant, OJSC Chepets Mechanical Plant, and SevRAO, while geo-filtration and geo-migration models were built for the territories of the Nuclear Reactor Institute and the Physics and Energy Institute. Such models enabled recommendations for the companies to optimize and improve their mineralogical monitoring.

Work is now in progress on an I.T.-analysis system for environmental radiation monitoring. The system will be used primarily at Mayak Production Association, helping to address complex modeling and forecasting of the company's environmental footprint.

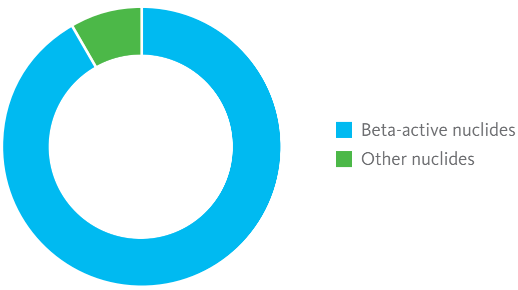
3.15.2. ENVIRONMENTAL IMPACT

RADIONUCLIDE EMISSION AND DISCHARGE

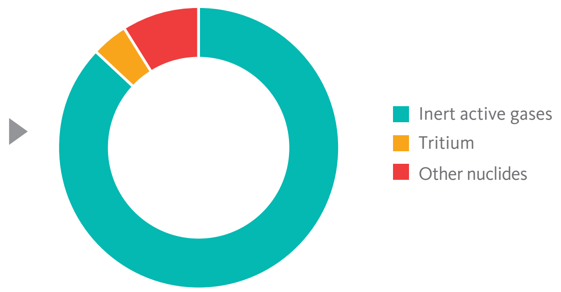
Total radionuclide activity emitted to the atmosphere by Rosatom companies was almost unchanged in 2011 compared with 2010 at $4.25 \cdot 10^{15}$ Bq. 90.5% of total activity is from released beta-active nuclides ($3.84 \cdot 10^{15}$ Bq), where 87.1% is the share of inert radioactive gases, and 5.9% is tritium. In alpha-active radionuclide emissions ($4.05 \cdot 10^{14}$ Bq), 95.7% is caused by radon-222 from uranium mining. Compared to the previous year, alpha-active nuclide emissions rose by 16.6% (as Priargunskoye Mining and Chemicals Association increased its emissions of radon-222). In the industry as a whole, alpha-active nuclide emissions were about 22% and beta-active nuclides were less than 3% of the permitted level.

Corporation companies showed no excessive radionuclide emissions in 2011. Quantities of released cobalt-60, strontium-90, zirconium-95+niobium-95, ruthenium-103, ruthenium-106, iodine-131, caesium-134, and caesium-137 were less than 2% of established limits.

STRUCTURE OF RADIONUCLIDE ACTIVITY



Radionuclide activity structure, %

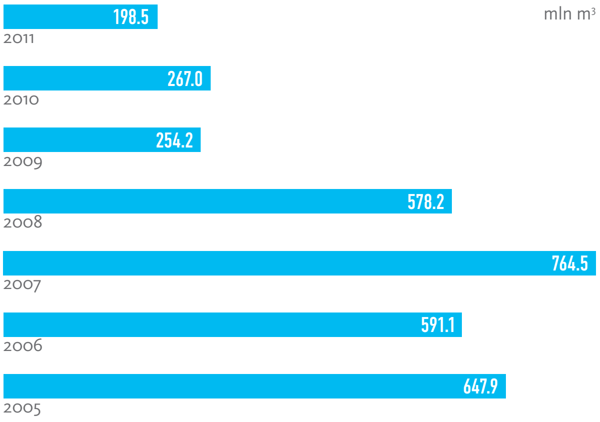


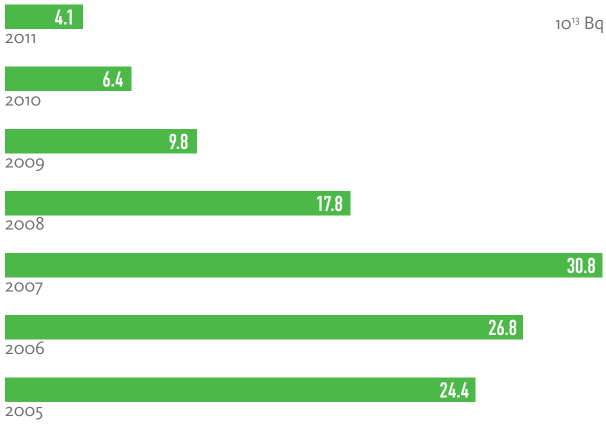
Beta-active radionuclides, %

Rosatom companies discharged 198.5 mln m³ of waste water to surface water bodies in 2011, with activity of $4.09 \cdot 10^{13}$ Bq. Discharge of radionuclide-contaminated waste waters has been steadily declining for a number of years, as has their overall activity level. Discharge to surface water bodies during the reporting year decreased by 68.5 mln m³ compared with 2010, and activity by $2.33 \cdot 10^{13}$ Bq, as the Kirovo-Chepetsk division of RosRAO reduced its discharge of waste water by 26.5 mln m³, the Alexandrov Technology Institute by 24.5 mln m³, Mayak Production Association by 10.1 mln m³, and Novovoronezh NPP by 7.4 mln m³.

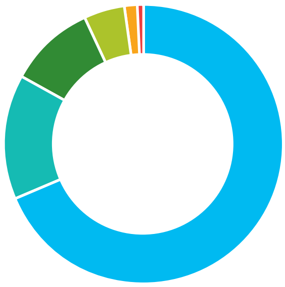
Activity of waste water discharged by companies to surface bodies consisted almost completely of beta-active nuclides ($4.09 \cdot 10^{13}$ Bq), where 98.5% of activity is tritium. The share of the most dangerous nuclides was not above 2% of beta-active discharge, including 1.42% of strontium-90, and 0.07% of caesium-137, while 68.6% of alpha-active radionuclides ($3.22 \cdot 10^{10}$ Bq) was due to natural uranium.

DISCHARGE OF WASTE WATER WITH RADIONUCLIDES, AND TOTAL LEVEL OF ACTIVITY



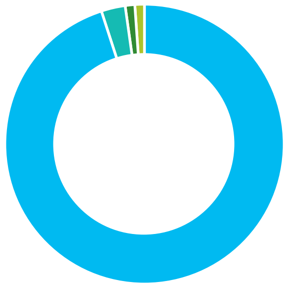


MAIN CONTRIBUTION TO DISCHARGE OF ALPHA-ACTIVE RADIONUCLIDES BY ROSATOM ENTITIES, 2011



Total uranium nuclides	2.21E+10 Bq
Total thorium nuclides	4.64E+09 Bq
Total alpha-active radionuclides	3.27E+09 Bq
Polonium-210	1.55E+09 Bq
Radium-226	6.24E+08 Bq
Total plutonium nuclides	3.57E+06 Bq

MAIN CONTRIBUTION TO DISCHARGE OF BETA-ACTIVE RADIONUCLIDES BY ROSATOM ENTITIES, 2011



Tritium	4.03E+13 Bq
Strontium-90	5.80E+11 Bq
Caesium-137	2.66E+10 Bq
Cobalt-60	1.25E+10 Bq

Companies did not exceed their respective quotas for radionuclide discharge in 2011. Total alpha-active nuclide discharge to natural waters was 22% of the permissible limit and the level for beta-active nuclides was less than 2%.

RATIO OF FACTUAL RADIONUCLIDE EMISSIONS TO THE PERMISSIBLE LIMIT

	Alpha	Beta
Permitted	1.86E+15	1.37E+17
Actual	4.05E+14	3.84E+15

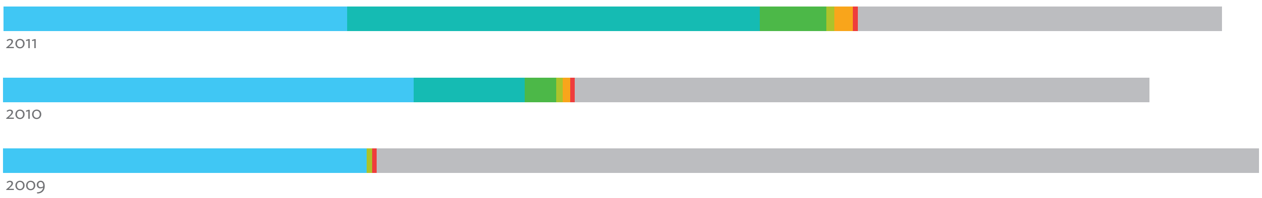
RATIO OF FACTUAL RADIONUCLIDE DISCHARGE TO THE PERMISSIBLE LIMIT

	Alpha	Beta
Permitted	1.47E+11	3.22E+10
Actual	2.74E+15	4.09E+13

DISCHARGE OF WASTE WATERS CONTAINING RADIONUCLIDES TO SEAS AND OCEANS, MLN M³

Baltic Sea (Atlantic Ocean basin)	Black Sea (Atlantic Ocean basin)	Azov Sea (Atlantic Ocean basin)	Caspian Sea	Pacific Ocean	Arctic Ocean
0.05	4.74	107.56	11.40	12.55	62.18

DISCHARGE BY RADIONUCLIDE TYPE



	2011	2010	2009
Tritium	4.03E+13	4.55E+13*	3.81E+13
Sodium-24	–	1.23E+13	4.58E+13
Phosphorus-32	–	3.52E+12	7.35E+12
Strontium-90	5.80E+11	7.00E+11	8.60E+11
Neptunium-239	–	8.25E+11	2.08E+12
Total alpha-activity	3.22E+10	3.17E+10	2.65E+10
Total beta activity	9.83E+13	6.42E+13**	4.09E+13

* Corrected data.
** Total beta activity of waste water to surface water objects, including filtration fields of Novovoronezh NPP.

USE OF WATER

The nuclear industry is a major user of water: in 2011, it accounted for 10.5% of annual total intake from natural water bodies in Russia (and about 10.0% in 2010).

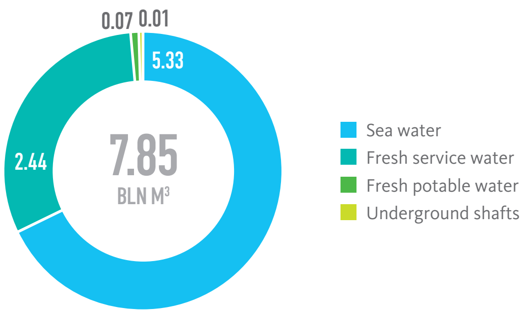
Intake of fresh water from natural water sources (surface and underground) was 8,066.0 mln m³*. Intake of sea water rose by 214.4 mln m³ compared to 2010, mainly because the Leningrad NPP increased intake by 206.9 mln m³.

During 2011, total water received and channeled off without use was 46.2 mln m³, including 21.2 mln m³* of rainwater.

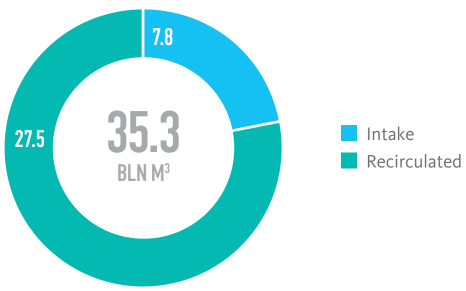
WATER INTAKE BY ROSATOM ENTITIES IN 2011

	Volume, mln m³
Sea water	5,365.2
Fresh surface water	2,600.7
Underground water	99.8
Mains water supply	0.3
TOTAL	**8,066.0**

WATER USE FOR PRODUCTION NEEDS, BY CATEGORIES, 2011, BLN M³



WATER INTAKE AND RECIRCULATION, 2011, BLN M³



Total water used for production was 35.3 bln m³. Water savings through recirculation and re-use were 77.8% (excluding 91.6% of seawater), which is considerably higher than the average for Russia's electric power industry.

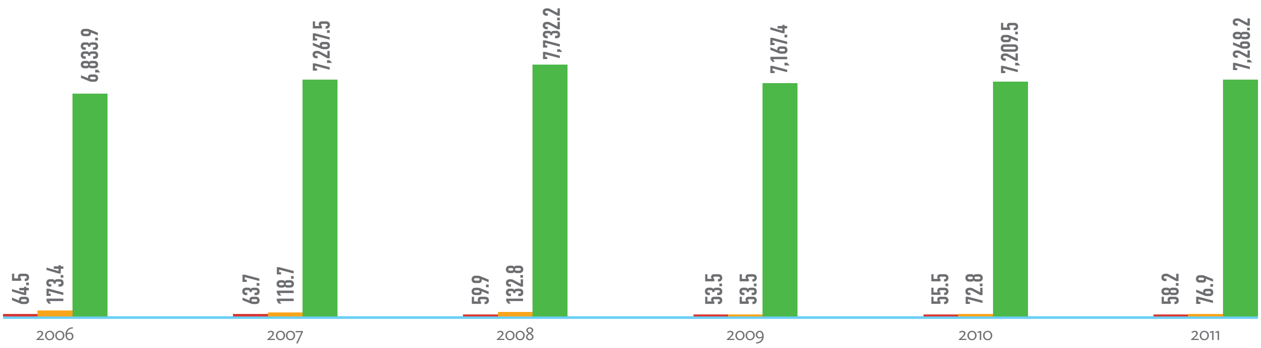
DISCHARGE OF WASTE WATER TO OPEN NATURAL WATER BODIES, 2011

Water category	Volume, mln m³	%
Standard clean	7,268.2	98.2
Standard purified	58.2	0.8
Contaminated	76.9	1.0
TOTAL	7,403.3	100.0

DISCHARGE OF CONTAMINATED WASTE WATER BY OCEAN BASINS, 2011

Sea/ocean basin	Volume, mln m³
Azov Sea (Atlantic basin)	1.0
Pacific Ocean	1.7
Arctic Ocean	17.5
Caspian Sea	19.1
Baltic Sea (Atlantic basin)	37.6
TOTAL	76.9

RELEASE INTO GROUND WATERS BY THE CORPORATION'S ORGANIZATIONS AND FACILITIES IN 2006-2011, MLN M³



The structure of pollutants discharged to natural water bodies in waste water is dominated by chlorides (9,300 tons), dry residue (39,500 tons), sulfates (8,600 tons), solids in suspension (2,000 tons), and nitrates (1,300 tons).

Compared to the previous year, discharge of contaminated water rose by 4.1 mln m³ (5.7%). Most of the contaminated water (70%) comes from the Alexandrov Technology Institute, OJSC Electrochemical Instrument Association, and Start Production Association. Main substances discharged in water above permissible concentrations are petroleum products, ammonia nitrate, waste from galvanizing processes (heavy metals), nitrites and manganese. Water discharge is not reused by other entities.

Volumes of discharged contaminated waste water have been in decline for the last decade: contaminated water discharge was 2.5 times lower in the reporting year than in 2001 (194.7 mln m³ in 2001, 76.9 mln m³ in 2011). This reflects efforts by industry companies to reduce discharges as a matter of environmental priority.

EMISSIONS OF TOXIC CHEMICALS

Emissions of toxic chemicals to the atmosphere during the reporting year were 64,400 tons, while 87.3% of emissions were captured by special equipment.

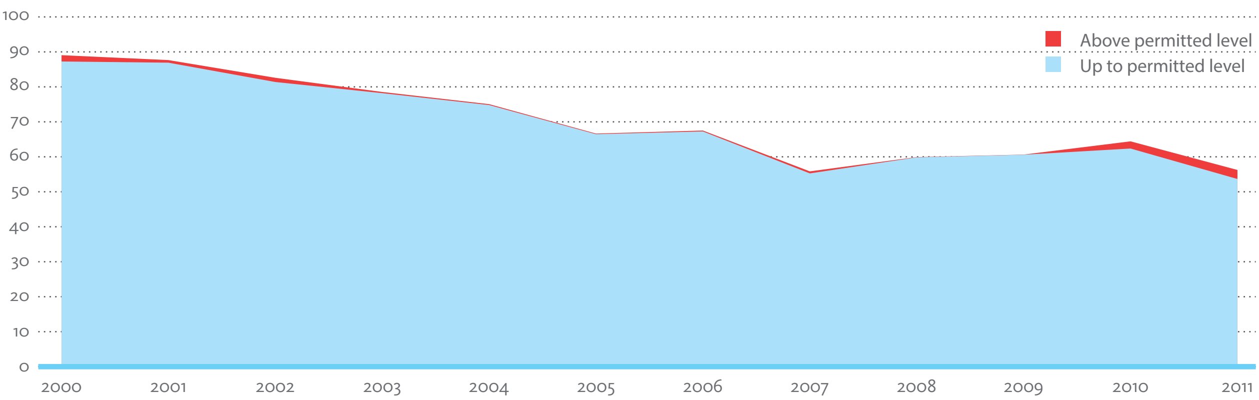
EMISSIONS OF TOXIC CHEMICALS TO THE ATMOSPHERE BY ROSATOM ENTITIES IN 2011

Toxic chemicals	thnd. t
Solid	22.3
Liquid and gaseous	42.1
of which:	
sulfur dioxide	19.8
nitrogen dioxide	14.5
carbon dioxide	4.9
hydrocarbons	0.2
volatile organic compounds	1.5
other	1.2
TOTAL	64.4

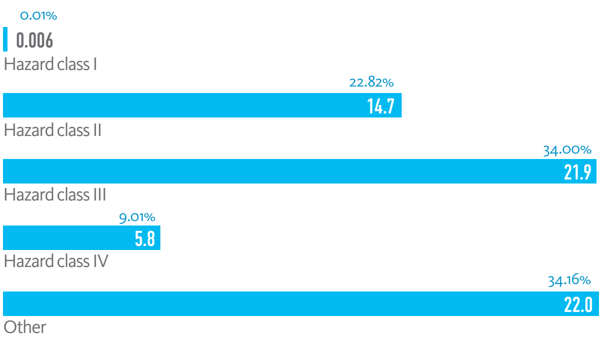
There were no emissions of stable organic compounds.

Emissions to the atmosphere are registered using Federal Statistics Observation Form No. 2-tp (air). Emissions to the atmosphere are registered from stationary sources of pollutants. Emissions are registered both from organized (single-point), and sporadic sources of pollutants. Data on mobile sources of pollution, including motor vehicles, are not registered.

TOXIC CHEMICAL EMISSIONS BY ROSATOM ENTITIES, THND. T



DISCHARGE OF POLLUTANTS BY HAZARD CLASSES DURING 2011, THND. T•



The largest contribution (90.2%) to nuclear industry emissions is from fossil fuel generating and boiler installations. Fossil fuel power plants of OJSC Siberian Chemicals Association, Priargunskoye Mining and Chemicals Association, and Mining and Chemicals Association remain major sources of emissions.

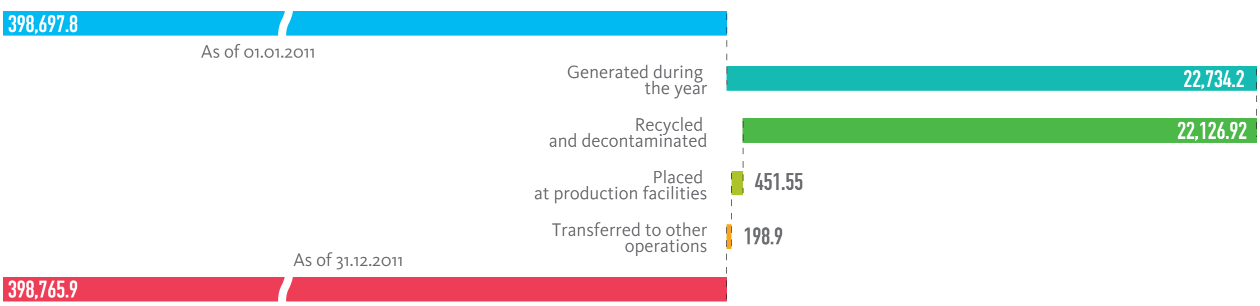
Total emissions above permissible limits were 2,600 tons, or 4.0% of total emissions by the nuclear industry. Quotas were mainly exceeded by: Priargunskoye Mining and Chemicals Association (nitrogen oxides; 1,855,000 tons); OJSC Machine-Building Plant and OJSC Chepets Mechanical Plant (sulfur dioxide; 57.6 and 80.4 tons, respectively); and Mining and Chemicals Association (inorganic dust; 460.8 tons). There were no emissions in excess of temporary quotas.

PRODUCTION AND CONSUMPTION WASTE

Rosatom companies generated 22.7 mln tons of production and consumption waste in 2011, of which 22.6 mln tons (99.6%) was non-hazardous (hazard class V). Most of the volume was generated by Priargunskoye Mining and Chemicals Association (22.2 mln tons) in the form of overburden rock and tails from ore-processing•.

Waste in hazard classes III, II and I was less than 0.1% of total waste accumulated as of December 31, 2011, while class IV was 1.2% and 98.8% of waste was in class V (no hazard). Rosatom entities received no waste from outside Russia in 2011. No information is available on export of waste.

NUCLEAR WASTE TREATMENT IN 2011, THND. T

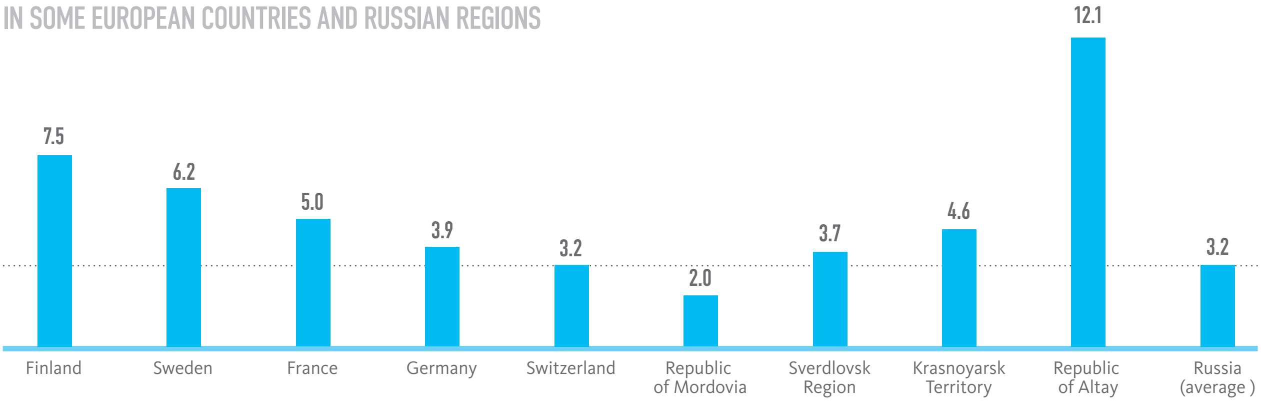


Types of waste	As of 01.01.2011, thnd. t	Generated during the year, thnd. t	Waste from 2011 used and neutralized, thnd. t	Waste from 2011 used and neutralized, %	Delivered to other entities, thnd. t	Stored at companies, '000	As of 31.12.2011, thnd. t
WASTE OF ALL CLASSES, TOTAL	**398,697.8**	**22,734.2**	**22,126.92**	**97.3**	**198.9**	**451.55**	**398,765.9**
incl.:							
Hazard class I	0.3	0.3	0.02	6.7	0.2	0.05	0.4
Hazard class II	0.2	22.3	12.8	57.4	9.4	0.2	0.3
Hazard class III	8.4	5.0	0.8	16.0	3.6	1.2	8.7
Hazard class IV	4,720.3	103.1	27.2	26.4	90.5	19.7	4,688.5
Hazard class V	393,968.6	22,603.5	22,086.1	97.7	95.2	430.4	394,068.0

Registered as required under Russian law (hazard classes as per the Federal Classification Catalog of Waste, approved by the Federal Ministry of Natural Resources, Order No. 786 dated 02.12.2002).
Rosatom does not maintain any other waste monitoring activities at corporate level at the present time.

RADIATION BURDEN ON THE GENERAL PUBLIC

ANNUAL EXPOSURE RATES FROM NATURAL SOURCES FOR PEOPLE IN SOME EUROPEAN COUNTRIES AND RUSSIAN REGIONS



Additional exposure due to nuclear industry operations in areas where nuclear companies are active does not exceed 10 mcSv/year. The risk of negative accidental effect (malignant neoplasm and inherited effects) at this level of radiation is under $5.7 \cdot 10^{-7}$, which is a clearly acceptable level.

Additional exposure of 10 mcSv/year is seen as a minimum level beneath which any measures to optimize radiation protection are unnecessary. Exposure above this minimum level is registered in certain limited areas which were contaminated by accidents in the past. According to the "Results of radiation-hygiene certification in administrative regions of the Russian Federation in 2010", the highest additional exposure was registered for people living in Ozersk (Mayak Production Association), where the level is 0.11 mSv, and Seversk (OJSC Siberian Chemicals Association), where the level is 0.069 mSv. Such exposure levels are still considerably below the official limit of 1 mSv/year and meet the standard (NRB-99/2009) that ensures public safety in normal operation of radiation facilities.

Extra exposure from the operations of facilities that represent a potential radiation hazard is hundreds of times below the natural background radiation doses to which people are exposed. Across Russia, natural background radiation varies from 2.0 mSv/year in Mordovia, Volgograd and Sakhalin, to 12.1 mSv/year in the Republic of Altay. Europe also has large differences in levels of natural radiation.

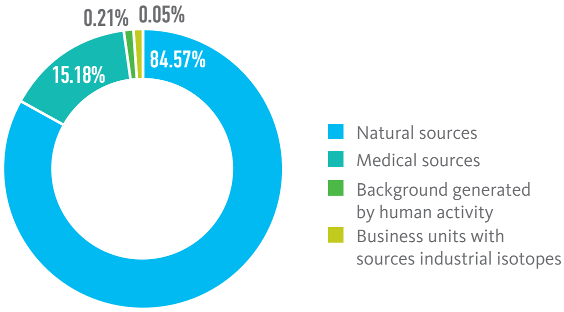
Companies that use nuclear technologies contribute fractions of one percent to the average annual effective radiation dose for Russian citizens, which was 3.83 mSv/year in 2010. The key contributors remain natural (84.6%) and medical (15.2%) sources of ionizing radiation.

This structure of public radiation exposure is consistent in all regions where facilities that represent potential radiation hazards are located.

IMPACT ON THE BIOTA

Modern approaches recommended by international agencies require radiation protection not only for humans, but also for other life forms that are subject to various radiation impacts, as stated in recent publications by the International Commission on Radiological Protection (ICRP) and reports of the UN Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). The Institute for Safe Development of the Nuclear Power Industry (Russian Academy of Sciences) jointly with NPO Taifun and the Russian National Science and Research Institute of Agricultural Radiology and Agro-ecology have worked to assess radiation doses for reference types of biota as recommended by the ICRP and UNSCEAR, in the framework of the federal target program "Ensuring nuclear and radiation safety in 2008 and up to until 2015".

CONTRIBUTIONS FROM VARIOUS SOURCES TO AVERAGE ANNUAL EXPOSURE RATE FOR RUSSIAN CITIZENS IN 2011



Research shows that companies using nuclear technologies have hardly any discernible effect on the levels of radiation exposure of life forms. Measured values of radiation doses in reference types of biota did not exceed 10^{-10} Gy/hour, which is exponentially below the limits for safe loads on various life form groups in above-ground and aquatic ecosystems. Manifestation of specific radiation effects on vital capacity, reproduction and life span of above-ground and aqueous flora and fauna life forms are not to be expected in the impact zone of nuclear companies.

DISTURBED AND RECLAIMED LAND

As of December 31, 2011, the area of land disturbed by nuclear companies was 5,204.6 ha•, of which 3,131.5 ha was disturbed by mining and 1,956.4 ha by industrial construction.

The area of land reclaimed during the reporting year was 8.3 ha•. Land was reclaimed for forests, water reservoirs, and other purposes.

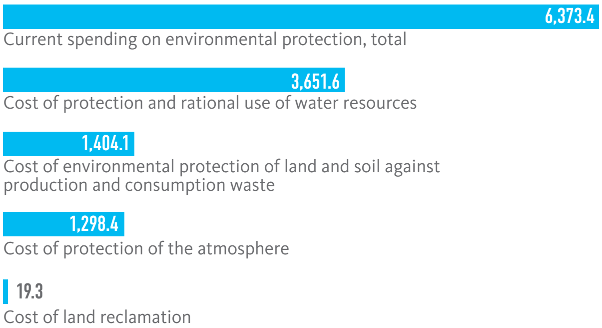
Organization	Reclaimed land area, ha
OJSC Priargunskoye Mining and Chemical Production Association	3.47
OJSC Siberian Chemical Plant (Siberian Chemicals Association)	1.57
Far-East Branch of RosRAO	1.5
Electrochemical Instruments Association	0.85
Electrochemical Plant Association	0.4
OJSC Novosibirsk Chemical Concentrates Plant	0.27
Saratov section of the Volga Branch of RosRAO	0.12
Nuclear Reactor Institute	0.1

3.15.3. COSTS OF ENVIRONMENTAL PROTECTION

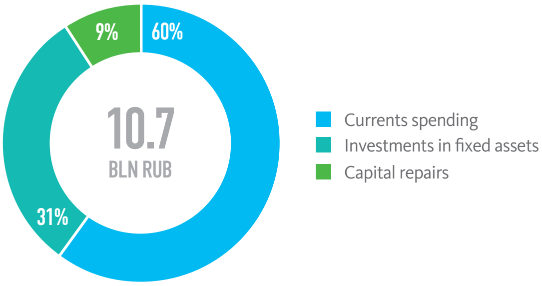
GENERAL COSTS OF ENVIRONMENTAL PROTECTION

The entities of Rosatom State Corporation carry out numerous environmental protection activities each year. In 2011, total spending on environmental protection was 10.7 bln RUB•, including current costs of 6.4 bln RUB, capital repair costs of 0.98 bln RUB, and capital investments of 3.31 bln RUB. Most of the spending is related to maintenance, operation and capital repair of structures and units for waste water treatment and rational use of water resources.

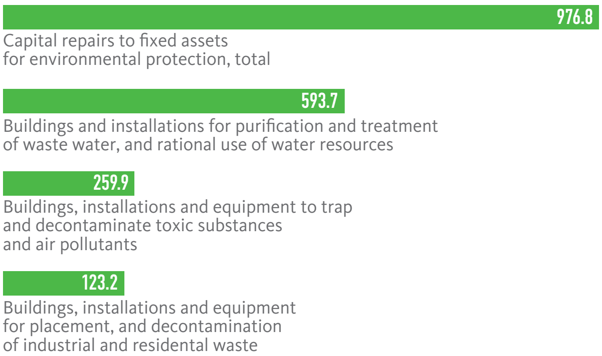
CURRENT SPENDING ON ENVIRONMENTAL PROTECTION, MLN RUB



DISTRIBUTION OF COSTS FOR ENVIRONMENTAL PROTECTION INCURRED BY ROSATOM IN 2011, %



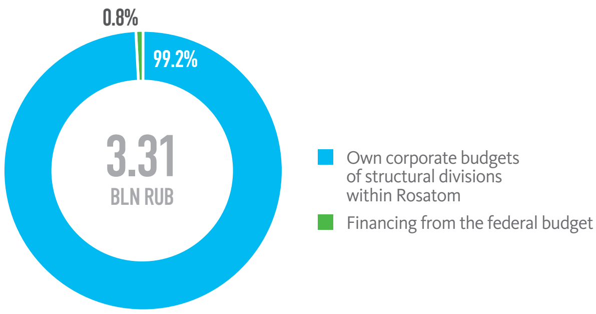
CAPITAL REPAIRS TO FIXED ASSETS FOR ENVIRONMENTAL PROTECTION, MLN RUB



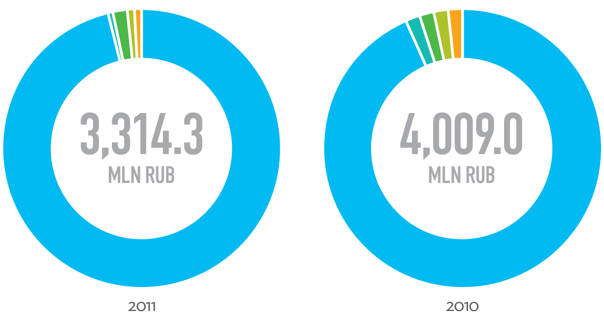
CAPITAL INVESTMENTS

Capital investments of the reporting year amounted to 3.31 bln RUB. Most of the investments (3.2 bln RUB or 96.6%) were for protection and rational use of water resources (mainly at Kalinin NPP, 2.88 bln RUB).

INVESTMENTS TO FIXED ASSETS TO ENABLE ENVIRONMENTAL PROTECTION, BY SOURCES OF FINANCING DURING 2011, %



CAPITAL INVESTMENTS TO PROTECT THE ENVIRONMENT AND ENSURE RATIONAL USE OF NATURAL RESOURCES



	2011	2010
For protection and rational use of water resources	3,201.20 (96.6%)	3,744.50 (93.4%)
Installations (facilities) to utilize industrial waste	24.50 (0.8%)	71.92 (1.8%)
Protection and radional use of land and soil	58.10 (1.7%)	66.13 (1.6%)
Facilities and dumps used to utilize, decontaminate and bury industrial toxic and other waste	7.60 (0.2%)	64.01 (1.6%)
Protection of atmospheric air	22.90 (0.7%)	62.42 (1.6%)

Federal Law No. 7-FZ, dated 10.01.2002, "On protection of the natural environment" established mandatory payments for negative environmental impact by Russian and foreign corporate entities and individuals whose activities impact the environment. The payments are intended to compensate for environmental damage caused by contamination, and are unconditionally payable by all companies, institutions, and organizations.
The procedure to calculate amounts and limit amounts payable for environmental contamination, disposal of waste, and other hazardous activities is regulated by Russian Federal Government Decree No. 632, dated 28.08.1992.

ENVIRONMENTAL PAYMENTS

Fees for emissions, discharge of chemical pollutants, and waste creation in the reporting year amounted to 104.9 mln RUB•, which is at the level of the previous year. Most fees are charged for dumping of waste (66.0 mln RUB, 62.7% of the total) and discharge into water bodies (27.5 mln RUB, 26.1%).

Reduction of discharge in excess of quotas, fees for which were 61.4 mln RUB or 58.5% of total environmental pollution penalties, is an important environmental task for Rosatom companies.

PAYMENTS FOR PERMISSIBLE AND EXCESS EMISSIONS (DISCHARGE) OF POLLUTANTS, 2009–2011, MLN RUB

Description	2011	2010	2009
Payments for permissible emissions (discharge) of pollutants (dumped waste), of which:	**43.5**	39.6	38.6
discharge to water bodies	**5.0**	4.3	4.6
atmospheric emissions	**4.1**	4.2	4.7
dumping of production and consumption waste	**34.4**	31.1	29.2
underground discharge	**0.0**	0.0	0.1
Payments for emissions (discharge) of pollutants (dumped waste) in excess of permissible levels, of which:	**61.4**	65.3	73.3
discharge to water bodies	**22.4**	40.5	21.9
atmospheric emissions	**9.1**	10.1	20.6
dumping of production and consumption waste	**29.9**	14.6	29.0
underground discharge	**0.0**	0.1	1.8
Total payments for emissions (discharge) of pollutants (dumped waste) within and beyond permissible levels	**104.9**	104.9	111.9

Legal costs and penalties for damage caused by non-compliance with environmental legislation in 2011 were 445,300 rubles• (0.8 mln RUB in 2010, 0.3 mln RUB in 2009), and there were a total of 10 lawsuits and penalties in the year.
No non-financial sanctions were imposed.

3.15.4. RISKS AND OPPORTUNITIES ASSOCIATED WITH CLIMATE CHANGE

For purposes of enforcement in Russia of the provisions of the Kyoto Protocol under the UN Framework Convention on Climate Change, Rosatom's executive management is monitoring climate change issues and their implications for the business of Corporation companies.

Risks and opportunities for the Corporation associated with climate change are assessed, including their impact on financial stability and investments. Adverse consequences arise in connection with climate and weather. However, the probability of extreme weather conditions (storms, hurricanes, etc.) is low and there are no practical risks from such phenomena as change in the level of the world ocean, abnormal temperature variation, or water shortages. Climate risks to personnel, their health and employment, are no higher than average.

On the whole, the impact of main climate change risks for Rosatom's strategy is low: there are only a few risks that can affect the performance of individual companies. The Corporation believes that current and expected government policies, legislation, and standards and rules of power use intended to raise energy efficiency and curb greenhouse gas emissions, will pose only minimal regulatory risk for the Corporation.

Information about risks and opportunities created by climate change and potentially of financial significance for Rosatom State Corporation helps to focus on regulatory risks (for example, costs of compliance under new law) and objectives to develop new technologies, products and services and address problems directly or indirectly related to climate change.

3.15.5. IMPROVEMENT OF ENERGY EFFICIENCY

IMPROVING ENERGY EFFICIENCY IS AN IMPORTANT OBJECTIVE FOR ROSATOM ENTITIES. ENERGY CAN BE SAVED BY PROACTIVE EFFORTS TO IMPROVE PRODUCTION PROCESSES AND OTHER INITIATIVES TO REDUCE ELECTRIC POWER CONSUMPTION.

Higher energy efficiency reduces costs and, therefore, reduces financial risks.

Also, the adoption of energy-efficient technologies immediately influences operating costs and can reduce dependence on non-renewable sources of energy in the future. Energy efficiency is a key component in activities to prevent climate change and reduce other environmental impacts. Offering energy-efficient products and services is an important part of the initiative to increase social responsibility of Rosatom companies.

In 2011, Rosatom State Corporation started implementation of a project to create a model energy-efficient building at: 24, ul. Bolshaya Ordynka, Moscow. The building concept was completed in the reporting year, based on energy-efficiency research.

ENERGY EFFICIENCY MANAGEMENT

Rosatom has created and implemented an automated system to control energy efficiency, with the following main objectives:

- building an energy profile for the Corporation (characteristics of facilities, energy consumption data);
- automated data search on energy consumption by facilities;
- monitoring the progress of programs for energy saving and efficiency;
- assessing the efficiency of actions.

The following steps were taken in 2011 to deploy an automatic energy efficiency management system:

- pre-project research (10 companies);
- concept and specification of requirements for the system;
- design of system architecture;
- start of work to deploy the system at pilot companies (debugging and pre-commissioning).

ENERGY SAVING

The 2011 target for energy saving was set at 10%, then 14.5% for 2012, 20% for 2013, and over 25% for 2015 (the savings are calculated at 2009 prices to avoid distortion due to tariff changes). Energy savings (as per the methodology for calculation of savings from lower energy consumption) for the whole of Rosatom Corporation were 12.3% • in 2011 (about 3 bln RUB). Total savings in 2010–2011 were 4.6 bln RUB. If the prices are re-calculated to the 2011 level, the real economy is much higher.

Savings were achieved by energy efficient actions, pilot projects, modernization of lighting systems, administrative efforts, and disposal of non-profile assets and premises.

ENERGY SAVED THROUGH EFFORTS TO REDUCE CONSUMPTION AND RAISE EFFICIENCY

Rosatom entities	Heat, '000 GCal	Electric power, '000 KWH	Water, '000 m³	Sewage, '000 m³	Other (natural gas, etc), '000 m³
International business units	24.7	15,034.8	1,550.9	1,941.9	2,814.6
Complex for nuclear and radiation safety	65.6	279,730.4	291,175.5	286,189.9	14.0
Nuclear arms complex	182.2	65,671.9	3,503.6	1,830.1	59,440.4
Nuclear energy complex	1,738.7	1,527,651.9	65,920.0	242,348.2	6,655.4
Directorate for capital construction	5.7	2,910.9	60.2	40.3	173.9
TOTAL	**2,016.9**	**1,890,999.9**	**362,210.2**	**532,350.4**	**69,098.3**

ENERGY AUDITS

The Company carried out energy audits in 2011 to estimate the potential for energy saving. Actions including thermal imaging of buildings and structures in the Corporation's 60 major entities. Following the energy audits, energy certificates were issued for users of fuel and energy resources, and a program was designed for energy saving and efficiency in the nuclear industry during 2012–2015.

PLANS FOR 2012

- further power audits at Corporation entities, developing and implementing the energy saving and efficiency program;
- reducing energy consumption by 14.5% in 2012;
- deployment of an automatic system to measure energy efficiency at Corporation companies;
- using the experiences of pilot activities at OJSC Chepets Mechanical Plant and other Rosatom entities.

3.16.

ROSATOM HOST REGIONS

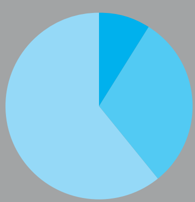
70
municipalities on 36 administrative regions in Russia

10
restricted-entry administrative communities

10
towns with NPP as main employer

Nuclear power plants
Key production business units
Key science research and development institutes

3,3



mln individuals – **citizens involved**

272 ,000 employees

1 mln: employees' family members

2 mln: residents in municipalities

ROSATOM IS ONE OF THE LARGEST HIGH-TECH COMPANIES IN RUSSIA. THE CORPORATION INTEGRATES MORE THAN 360 BUSINESS UNITS AND ORGANIZATIONS.

TOWNS WITH NUCLEAR PLANTS

Town	Population, '000	Administrative region	Branch of OJSC Rosenergoatom	Employees, thnd. individuals 2011	Employees, thnd. individuals 2010
Udomlya	31.0	Tver Region	Kalinin NPP	3.9	3.8
Polyarnye Zori	18.0	Murmansk Region	Kola NPP	2.6	2.6
Kurchatov	47.1	Kursk Region	Kursk NPP	4.5	5.2
Desnogorsk	31.1	Smolensk Region	Smolensk NPP	4.4	4.6
Novovoronezh	34.8	Voronezh Region	Novovoronezh NPP	3.1	3.1
Zarechny	27.2	Sverdlovsk Region	Beloyarsk NPP	2.4	2.2
Sosnovy Bor	67.2	Leningrad Region	Leningrad NPP	4.7	5.1
Volgodonsk	170.6	Rostov Region	Rostov NPP	2.2	1.9
Balakovo	197.3	Saratov Region	Balakovo NPP	3.8	3.9
Bilibino	6.3	Chukotka Autonomous District	Bilibino NPP	0.7	0.8
				32.3	33.2

CLOSED ADMINISTRATIVE TERRITORIES

Town	Population, '000	Administrative region	Company	Employees, thnd. individuals 2011	Employees, thnd. individuals 2010
Zheleznogorsk	102.2	Krasnoyarsk Territory	SUE Mining Chemical Plant	7.4	7.7
Zarechny	62.1	Penza Region	SUE START	7.5	7.8
Zelenogorsk	68.4	Krasnoyarsk Territory	OJSC Electrochemical Plant	3.7	5.7
Lesnoy	52.5	Sverdlovsk Region	SUE Elektrokhimpribor	9.5	9.8
Novouralsk	95.1	Sverdlovsk Region	OJSC Urals Electrochemical Plant	5.2	8.6
Ozersk	98.4	Chelyabinsk Region	SUE Mayak Manufacturing Association	12.7	12.3
Sarov	88.3	Nizhny Novgorod Region	SUE Institute of Experimental Physics	18.7	18.8
Seversk	113.7	Tomsk Region	OJSC Siberia Chemical Plant	7.5	10.8
Snezhinsk	50.6	Chelyabinsk Region	SUE Institute of Technical Physics	9.7	9.1
Trekhgorny	34.3	Chelyabinsk Region	SUE Instrumentation Plant	5.5	4.7
				87.4	95.3

3.17. ECONOMIC IMPACT

FACTORS OF ECONOMIC IMPACT FOR ROSATOM STATE CORPORATION INCLUDE:

- *contribution to development of the Russian economy*
- *contribution to creation and distribution of value*
- *contribution to development of associated sectors of the economy*
- *support for other development strategies of closed administrative territories, NPP cities, and Rosatom companies*
- *tax payments to government budgets at various levels*
- *investments in infrastructure and public services*
- *support to Russian suppliers and manufacturers*
- *creating new jobs*
- *contribution to power supplies in Russian regions*

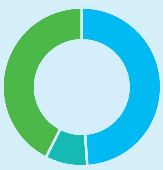
3.17.1. CONTRIBUTION TO RUSSIA'S ECONOMIC DEVELOPMENT

The long-term nuclear plant construction roadmap (LNCR) envisages active commissioning of generating capacities in Russia: 38 new power units are to be commissioned before 2030. Implementation of the LNCR will ensure that spending uses a multiplier factor to boost national GDP and budget revenues.

Implementation of the LNCR will also raise the competitive ability of the Russian economy as it will curb inflation and support the effective rate of the ruble.

OF DISCOUNTED INVESTMENT IN IMPLEMENTATION OF THE LTRM

5,33 RUBLES OF DISCOUNTED CONTRIBUTION TO GDP, INCLUDING:



- 2.61 Competitiveness contribution
- 0.46 Multiplier-enabled contribution to ultimate demand
- 2.25 Base contribution to ultimate demand

COMPETITIVENESS CONTRIBUTION
Construction of NPPs helps to curb price hikes for electric energy and supports competitive ability of Russian national industry, the national currency, and export growth.

MULTIPLIER-ENABLED CONTRIBUTION TO ULTIMATE DEMAND
Increase in paychecks thanks to growth of economic sectors associated with the nuclear power industry

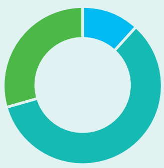
BASE CONTRIBUTION TO ULTIMATE DEMAND
Direct contribution by business units of the Russian nuclear power industry for the entire period of construction and operation of NPPs

1,09 RUBLES OF DISCOUNTED CONTRIBUTION TO FEDERAL BUDGET REVENUES, INCLUDING:

DISTRIBUTION BY TAXES:

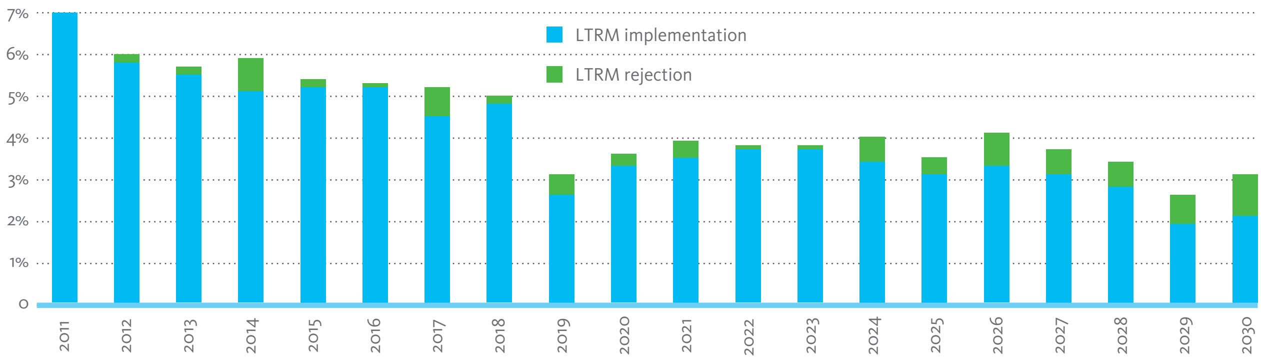
- 0.35 VAT internal
- 0.35 Profit tax
- 0.18 Individual income tax
- 0.22 Other

DISTRIBUTION BY BUDGET OWNERS:

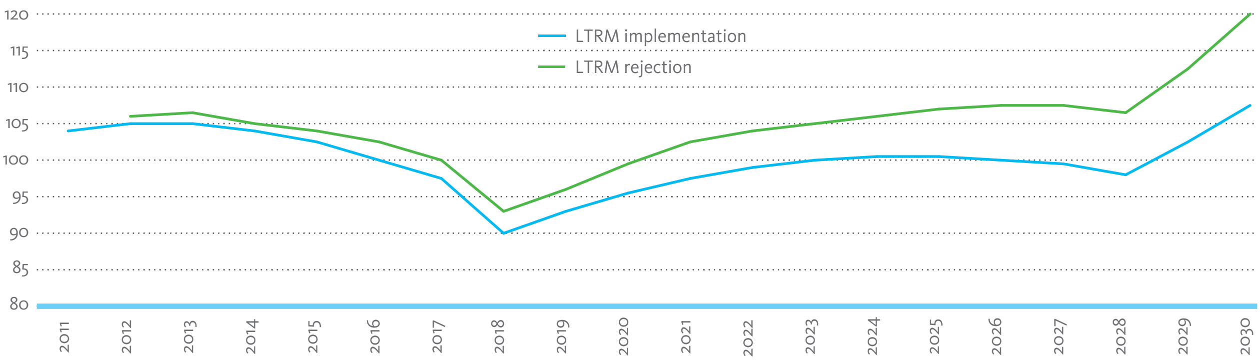


- 0.13 Federal government
- 0.64 Sub-federal government
- 0.32 Off-budget funds

Inflation dynamics (consumer price index), % to previous year



Dynamics of the real exchange rate of the ruble, 2010 as 100%



Calculation principle: adjustment of the forecast prepared by the RF Ministry for Economic Development, taking account of changes in real GDP growth, prices for electric energy, and ruble exchange rate. Lower prices for electric energy if the LTRM is implemented tend to slow down ruble appreciation, thanks to slower increase in prices of non tradeable commodities. If the LTRM is rejected, additional strengthening of the ruble by 2030 could be as much as 10.9%. Due to the substantially elastic consumer price index with respect to electricity prices, the nominal ruble/dollar exchange rate is somewhat weaker in case of LTRM rejection.

3.17.2. CONTRIBUTING TO THE CREATION AND DISTRIBUTION OF VALUE

The general picture of Rosatom's economic performance during the reporting year is represented in the table showing value creation and distribution among its stakeholders. Created value is distributed among suppliers and contractors (as operating costs), suppliers of capital (as loan interest), personnel of the Corporation and its companies (as salaries and social benefits), federal government (as taxes), and local communities, regional and municipal governments (as social investments, charity and taxes). The Corporation retains a part of created value (retained value, which includes funds used for business development).

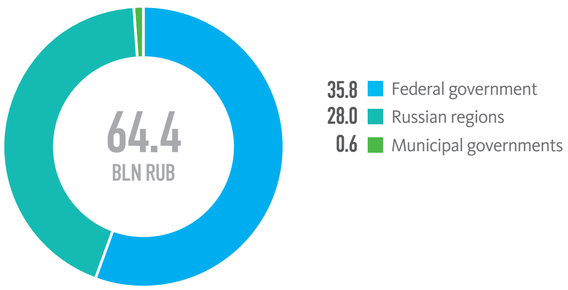
CREATED AND DISTRIBUTED VALUE, BLN RUB

Component	2011	2010	2009
Value created	499.2	552.3	458.2
incomes (revenues from sales, financial investments, and assets sold)	499.2	552.3	458.2
Value distributed	403.7	378.9	381.8
operating costs (payments to suppliers and contractors, purchased materials)	217.7	210.5	216.7
salaries and other payments and benefits to employees	122.1	102.6	99.4
payments for use of capital	6.6	10.0	13.8
gross tax payments (excluding individual income tax and VAT)	53.9	54.0	50.8
investments in communities, incl. donations	3.4	1.8	1.1
Retained value	95.5	173.4	76.4

3.17.3. TAXES PAID TO GOVERNMENT BUDGETS OF DIFFERENT LEVELS

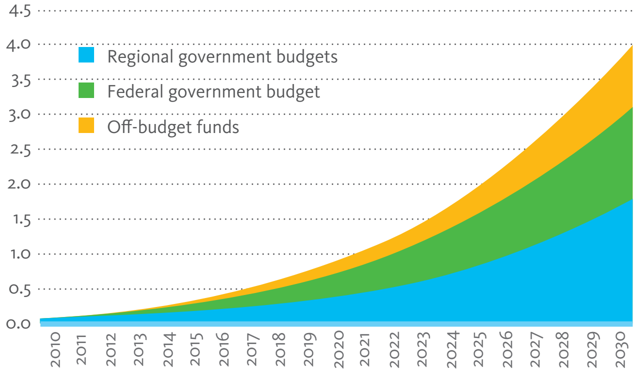
Organizations and companies of Rosatom State Corporation make significant contributions to government budgets in their areas of presence. In 2011, the Corporation paid 64.40 bln RUB to budgets of all levels (including payments to off-budget funds); this was 18.4% less than in 2010, but 26.8% more than in 2009. Total tax payments in 2010 amounted to 78.9 bln RUB.

TAXES PAID BY ROSATOM STATE CORPORATION AND ITS SUBDIVISIONS, BLN RUB.

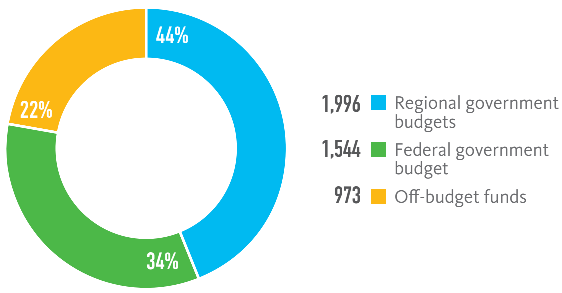


DIRECT CONTRIBUTION OF THE LONG-TERM ROAD MAP TO GOVERNMENT BUDGETS: 4.5 TRILLION RUBLES CUMULATIVELY BY 2030

Cumulative contribution to government budgets at different labels (in 2010 prices)



Aggregate contribution during 2010-2030, bln RUB (in 2010 prices) and percentage to total



ANNUAL DIRECT CONTRIBUTION BY THE NUCLEAR INDUSTRY TO BUDGET SYSTEM REVENUES DURING THE PERIOD IS ESTIMATED AT **0.06% OF GDP IN 2009, AND UP TO 0.42% IN 2030.**

ANNUAL CONTRIBUTION FROM NPPS TO THE FEDERAL GOVERNMENT BUDGET BY 2030 WILL BE **379 BLN RUB, OR 0.14% OF GDP.**

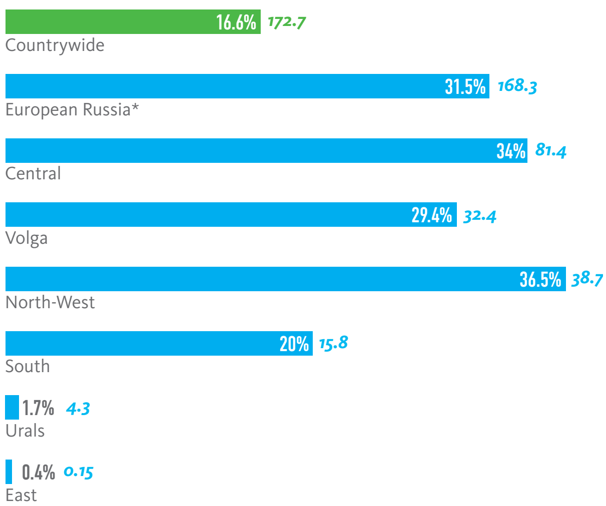
SUB-FEDERAL GOVERNMENT BUDGETS BENEFIT MOST FROM ANNUAL CONTRIBUTION BY NPPS: BY 2030 THEY ARE EXPECTED TO RECEIVE **514 BLN RUB, OR 0.19% OF GDP.**

3.17.4. CONTRIBUTION TO POWER SUPPLY IN RUSSIAN REGIONS

Electric generation by nuclear plants was 16.6% of total electric power output in Russia.

Nuclear generation makes a considerable contribution to the United National Grid (in the European Russia, it contributes 31.5% of Grid energy). Aware of its importance for Russia's power balance, Rosatom works to optimize indirect economic impact: efforts to keep down the prices of electric power generated by nuclear plants keep tariffs for other electric power stable, and therefore mitigate the risk of runaway inflation.

CONTRIBUTION OF THE NUCLEAR POWER INDUSTRY TO THE NATIONAL POWER GRID, % OF THE TOTAL BY REGIONS, BLN KWH



* Central Russia UPG, Mid-Stream Volga UPG, North-Western UPG, South Russia UPG

3.17.5. CREATING JOBS, AND CONTRACTING

Construction and commissioning of nuclear power facilities, including nuclear power units, create jobs: some employees are hired locally within 100 km from the project. In addition, each employee engaged in nuclear plant construction creates jobs for another 10-12 in associated sectors (metallurgy, machine-building, etc.) Therefore, the Corporation makes a notable contribution to employment, including local employment in areas of presence.

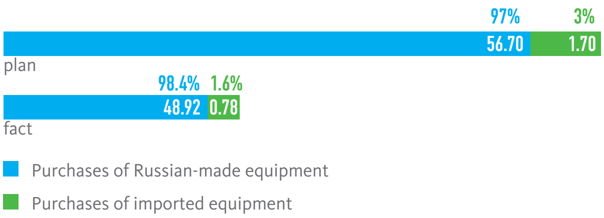
Rosatom is one of the largest users of the products and services of domestic manufacturers. At the federal level, the Corporation acts as a customer, buying equipment from Russian power engineering manufacturers. At the regional level, it purchases products from local suppliers, thus supporting businesses in its regions of presence.

In 2011, the Company purchased equipment worth 49.7 bln RUB for nuclear plants, of which 48.92 bln RUB was from Russian suppliers. Expenses in 2011 to purchase equipment with long manufacturing cycles totaled 37.1 bln RUB (see the Report section, “Purchase Management”).

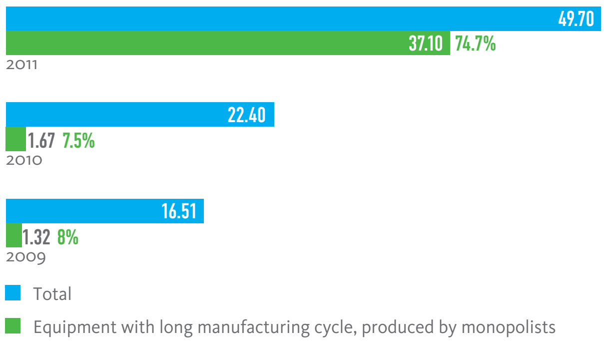
NUMBERS OF CONTRACTORS AND EMPLOYEES WORKING ON NPP CONSTRUCTION, 2011

NPP	Number of key contractors	Employees, total	Including: engineers, office	Including: workers
Kalinin NPP, Power Unit No. 4	32	4,708	921	3,787
Rostov NPP, Power Units No. 3, 4	46	4,079	432	3,647
Novovoronezh NPP-2, Power Units No. 1, 2	36	4,448	976	3,472
Beloyarsk NPP, Power Unit No. 4	31	2,997	440	2,557
Leningrad NPP-2, Power Units No. 1, 2	29	1,408	116	1,292
TOTAL	**174**	**17,640**	**2,885**	**14,755**

STRUCTURE OF EQUIPMENT PURCHASES FOR NUCLEAR PLANTS, 2011, BLN RUB.



EQUIPMENT PURCHASES, BLN RUB.



3.17.6. BUILDING LOCAL INNOVATIVE CLUSTERS AND USE OF REGIONAL RESOURCES

The initiative to build local innovative clusters in the communities where nuclear companies are based was assumed by the Rosatom project office, “Projects of the Commission for Upgrade and Technological Development of the Russian Economy”, which coordinated the activities of the Nuclear Technologies task force. At its meeting on April 28, 2011, the Nuclear Technologies task force presented the principles of cluster policy for Rosatom State Corporation, which were subsequently approved by the Presidium of the Commission for Upgrade and Technological Development of the Russian Economy.
The meeting also examined and supported projects to build pilot innovative nuclear clusters in the closed administrative territories of Sarov and Zheleznogorsk, in Dimitrovgrad, and in the urban agglomeration of Saint Petersburg, Gatchina and Sosnovy Bor.

In 2011, the Association of Nuclear Closed Administrative Territories:

- participated in activities to prepare the Federal Law “On closed administrative territories” and Article 1 of the Federal Law, “Changes and amendments to the Federal Law ‘On closed administrative territories’” (No. 333. dated 22.11.2011);
- participated in a meeting to work out future programs for development of closed administrative territories, ensuring their social and political stability;
- initiated meetings on problems with medical services to citizens in closed administrative territories;
- held a practical science conference on June 24, 2011 in Sarov, entitled: “Closed administrative territories – interesting territory for Government”;
- assisted in dialog with stakeholders as Rosatom State Corporation prepared its 2010 Public Annual Report.

In late 2011 and early 2012, the Company prepared programs for pilot innovative clusters in the nuclear industry, having identified key specialties for clusters, assigned targets, and designed activities to build the cluster (efforts to develop an industry-level core, a training core, small and medium businesses, innovative and urban infrastructure).

Completion of this work led the Federal Government to give its support to the development of innovative clusters. At a meeting of the Presidium of the Federal Council on November 11, 2011, the Russian President gave instructions to select pilot innovative clusters and devise mechanisms to support them.

In addition to these activities, an industrial park has been under construction since 2010 in the closed territory of Novouralsk, specializing in electro-chemistry. Rosatom is also involved in construction of an industrial park in the Zheleznogorsk closed territory (as part of the cluster development program). Concepts for the parks are available, with potential residents identified, and project documents are now being prepared. In future, the plan is to create a network of industrial parks in the communities where nuclear industry companies are based, with the support of the Federal Government.

In the future it is expected that the analysis of local conditions (social, financial, and business) will provide a basic map for local industry-level projects, improve the efficiency of work with development institutes, and aid coordination with regional programs by the Federal Government (programs to support SMEs, comprehensive investment plans to develop communities that currently depend on a single employer, programs to develop R&D communities, etc.).

Successful implementation of industry-level projects will be helped by providing additional training to corporate and municipal officers in charge of implementation of local industry-level projects in areas of presence.

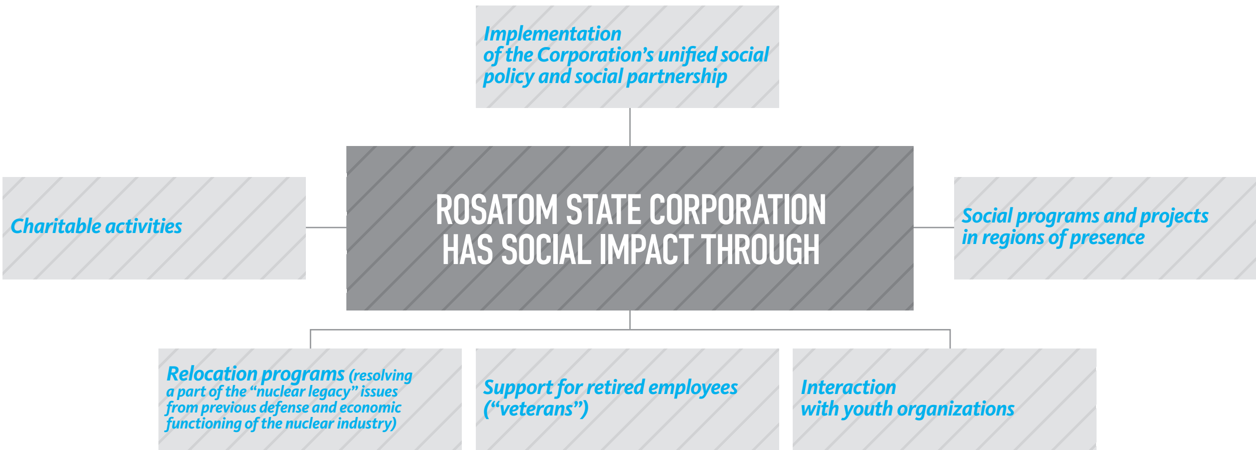
An innovation territorial cluster is the entirety of organizations (cluster members) located within a limited area, where a science and production chain, and a coordinating mechanism exist that unite cluster members, ensuring higher business efficiency of each entity thanks to their high levels of concentration and cooperation.

Key premises for developing an innovation cluster are that a high-tech core should exist with a strong competitive position: there must be a process to evolve innovative technologies, and a possibility to customize production and technology chains, with an available or contract-ready training center (a university).

In the nuclear industry, innovation clusters are mainly emerging in towns and cities where businesses and organizations are implementing innovative programs for the development of the industry. Some such profile businesses and science centers are located in closed (restricted-entry) territories.

Support and development of cluster initiatives is seen as a modern way of implementing corporate production programs, and boosting the industry’s competitive edge through commercialization of developed technologies.

3.18. SOCIAL IMPACT



3.18.1. SOCIAL PARTNERSHIP

Social partnership is based on a tripartite Industry Agreement between Rosatom State Corporation, the Russian trade union for nuclear power and nuclear industry employees (Profatom), and the Russian union of employers in the nuclear industry, nuclear power and nuclear science (Employers' Union). This Industry Agreement is binding for all organizations and employees in the industry, and is the basis for collective agreements in the nuclear sector. As of December 31, 2011, some 81% members of Profatom were covered by such collective agreements.•

The Russian union of employers in the nuclear industry, nuclear power and nuclear science (Employers' Union), was created in 2001.
As of December 31, 2011, the Union consolidated 76 major organizations throughout the industry.

The Russian trade union for nuclear power and nuclear industry employees (Profatom) was set up in 2002 (though it was active under another name since 1948).
As of December 31, 2011, Profatom consolidated 155 primary territorial and trade union organizations in 47 of Russia's administrative regions with a total 432,900 union members. The list of members of Profatom exceeds the average Corporation staff list, because Profatom also has employees of municipal administrations in closed territorial zones, healthcare institutions, construction organizations, the Russian Academy of Science, etc., as its members.

An industry-level commission for regulation of social and labor issues has been set up, consisting of representatives of the Employers' Union and Profatom. The commission also works to harmonize social and economic interests and to enforce the tripartite industry agreement.

Profatom plans to sign a new Industry Agreement for 2012–2014 with the Employers' Union during 2012.

In 2011, Profatom focused on the following issues:

— increase of salaries, using the unified remuneration system;
— monitoring of the industry-level health & safety system;
— holding skill competitions for employees;
— preparing and implementing a package of corporate social programs for employee health, welfare, mass culture, and fitness;
— providing legal support to trade unions and their members;
— implementing a youth policy.

3.18.2. SOCIAL PROGRAMS IN REGIONS OF PRESENCE

TERRITORY OF ROSATOM CULTURE

The program, "Territory of Rosatom Culture", has been implemented since 2007. In 2011 closed administrative zones and NPP towns held more than 200 events (art exhibitions, touring performances, festivals, charitable actions, etc.) as part of the program. The program also gave rise to a large number of local creative initiatives (a folk arts festival under the title, "Light of our Soul", an international singing contest in the "Russian Romance" genre, a festival of choreography, a contest for orchestral players, a series of master classes, etc.). Employees of cultural institutions took part in workshops on development of an educational and socio-cultural urban space, and also benefited from courses to raise their levels of qualification.

Events in 2011 included:

— exhibitions of works by Marc Chagall *Biblical Characters* and Pablo Picasso and his contemporaries *The Age of Picasso* (in Sarov, Trekhgorny, Ozersk, Lesnoy, Novouralsk, Zheleznogorsk, Zelenogorsk, Angarsk, Dimitrovgrad);
— exhibition projects "Amber in Antique Cultures" and "Images of Italy" as part of the Agreement between Rosatom State Corporation and the State Hermitage Museum (Kaliningrad);
— in St. Petersburg 44 volunteer college students from 16 Russian regions, selected via a competition, worked in the project "Volunteers at the State Hermitage Museum", and helped with archeological excavations in Staraya Ladoga;
— concerts given by well-known Russian artists: Alexander Filippenko, Boris Nevzorov, Vladimir Dolinsky, Tatyana Grindenko, Svetlana Svetikova, and Sergey Zhilin in the towns of Lesnoy, Novouralsk, Zelenogorsk, Zheleznogorsk, Seversk, Trekhgorny, Ozersk, Snezhinsk, Angarsk, Zarechny, Sarov, Kurchatov, Desnogorsk, Udomlia, and Novovoronezh;
— the Russian national premiere of Alexander Sokurov's film, *Faust*, which was a prizewinner at the Venice Film Festival (Ulyanovsk).

SOCIAL PROJECTS COMPETITION

In 2011, the Public Council of Rosatom supported the Corporation's sixth contest of social projects for public and non-profit organizations in the regions of Voronezh, Irkutsk, Kaliningrad, Kostroma, Kursk, Leningrad, Murmansk, Nizhny Novgorod, Penza, Rostov, Smolensk, Sverdlovsk, Saratov, Tver, Tomsk, and Chelyabinsk, and in Krasnoyarsk Territory and the city of St Petersburg.

Contest entries included projects for social and medical services, environmental protection, social innovation, physical culture and sports, entertainment and the arts, as well as educational, historical, and scientific projects related to nuclear energy.

The winners of the social project competition in 2011 were: the School Conference of Young Siberian Nuclear Scientists (part of the "Energy of the Future" Forum); Green Planet 2011 (the 9th International Children's Environmental Forum); and the 5th Russian National workshop conference, "Environmental culture and solution of social problems".

SOCIAL PROJECTS CONTEST

	2011	2010	2009	2008	2007	2006
Number of regions	18	16	17	16	7	1
Number of entrants	127	85	182	219	150	38
Number of winners	82	56	48	57	49	12
Financing, mln RUB	46	46	38.5	64.8	37	12

ROSATOM SCHOOL

In 2011 Rosatom launched the Rosatom School project in 22 towns and cities across Russia (10 closed administrative territories, 10 NPP towns/cities, and the towns of Dimitrovgrad and Angarsk).

Contests to support implementation of the national education initiative "Our new school" attracted participation by 178 schools.

There were 15 winners among teachers and headteachers, and 22 projects for identifying and supporting gifted children were selected (these projects will benefit from a prize fund of 9 mln RUB). The winners among teachers and headteachers were awarded trips to Amsterdam and London to learn about best practice in education. In July 2012, the winners will meet at the Orlenok Russian National Children's Center as part of a nuclear-industry scientific conference.

All teachers of physics from participant towns and cities received advanced training courses in the Moscow Engineering and Physics Institute (NRNU MEPhI). Five primary school teachers from each town and city took advanced training courses at the Academy for Advanced Training and Retraining in Education. All schools were provided with remote access to NRNU MEPhI lectures, intended to prepare children for the unified state school examination.

In 2012, a new contest as part of the "Rosatom School" project will identify and support the best practices to prepare children for school.

ROSATOMCLASS

Rosatom State Corporation Public Council supported in September 2011 a career-consulting tour for students of Rosatomclass in MOU Angarsk High-School 2 in Saint-Petersburg, including a visit to Leningrad NPP and the construction site of Leningrad NPP-2. The students also visited Alexandrov NITI, power generation museum, Saint-Petersburg State Polytechnic, where they discussed training for a nuclear power occupation.

SPORT AND FITNESS

The Corporation is keen to encourage sport and fitness among its employees, and 21% of the workforce are involved in various types of organized sport.

In 2011:

— the Company held the finals of the winter amateur sports contest for sector employees, Atomiada 2011, in the town of Lesnoy, with more than 200 participants;
— the Atom-Sport team took part in an international workers sports festival in Bulgaria, winning 14 gold, 3 silver, and 8 bronze medals;
— the Atom-Sport team was the winner of an international mini-football tournament in Hungary between national nuclear-industry teams from France, Kazakhstan, Hungary, Ukraine, Russia, Spain, Italy and the Czech Republic;
— Atom-Sport athletes won 7 gold, 7 silver, and 3 bronze medals at the international workers games in Beijing.

Several sports events were held during 2011 in honor of distinguished nuclear industry workers: the traditional Muzrukov skiing championship, the Brokhovich badminton, ping pong and darts tournaments, the Zolotokha cross country event, the Kallistov gorodki tournament (a traditional Russian sport), and the Dollezhal international chess tournament.

Rosatom also supported the development of top class athletes: more than 20 Atom-Sport students were on the reserve list for the Russian Olympic team that traveled to London in 2012.

3.18.3. WORK WITH YOUTH ORGANIZATIONS

INTERNATIONAL ASSOCIATION OF YOUNG NUCLEAR ENGINEERS

The non-profit organization, the International Association of Young Nuclear Engineers, was set up in 2004 to coordinate the activities of nuclear industry youth groups in Russia and elsewhere (Ukraine, and Lithuania). As of December 31, 2011, the Association had six member organizations, and about 600 individual members.

Main activities of the Association in 2011 were as follows:

— holding the Dysnai 2011 international symposium;
— an amateur sports championship for headquarter employees of OJSC Rosenergoatom;
— a debating tournament for young headquarter employees of OJSC Rosenergoatom;
— taking part in activities by "survey teams" at Russian NPPs, including organization of a traveling exhibition;
— an inter-regional Memory Vigil in Leningrad Region;
— hosting the Nuclear Future international youth science forum, as part of the Nuclear Community XXI international youth science and education project;
— hosting 5th international tournament of intellectual games ("What? Where? When?" and "Brain Ring") for young employees in the nuclear sector;
— holding an innovative youth forum under the title, "Energy efficiency and safety";
— hosting an international science and engineering conference for young nuclear plant specialists under the title, "Youth at nuclear plants: safety, science and production".

Plans of the International Association of Young Nuclear Engineers for 2012 are as follows:

— hosting the intellectual games tournament "What? Where? When?" for headquarter employees of OJSC Rosenergoatom;
— conducting WWII commemoration events at Russian nuclear plants;
— hosting the Dysnai-2012 international symposium;
— publishing a collection of papers given at the international conference, "Youth at NPPs: safety, science and production";
— publishing a booklet on activities of the union of survey teams at Russian NPPs.

RUSSIAN NATIONAL R&D CONTEST, "ENERGY OF FUTURE GENERATIONS"

In April 2011, Rosatom sponsored the final stage of the Russian National R&D contest, "Energy of Future Generations", which was held at the St. Petersburg Branch of the Central Institute for Continuing Education and Training.

More than 500 papers from various Russian regions were submitted for the competition and 42 contestants were invited to the final stage, at which they presented research and project works on energy saving, nuclear power development, environmental protection around nuclear industry facilities, and social and economic development of nuclear communities.

All of the winners were invited to take part in the finals of the National Junior Science Research Competition, hosted by NRNU MEPhI and Rosatom State Corporation.

YOUTH CHAPTER OF THE RUSSIAN NUCLEAR SOCIETY

The Youth Chapter of the Russian Nuclear Society (YCRNS) was created in 1995 and brings together graduate and post-graduate students, and young specialists employed in various companies of the nuclear and associated sectors. The YCRNS has 42 representations at Rosatom organizations, engaged in science, education, career consulting, transfer of knowledge and experience to the young generation, and promoting cooperation between nuclear specialists and engineers. The YCRNS has more than 1,000 members.

Main activities of the YCRNS in 2011 were as follows:

— organization of a visit to the Chernobyl nuclear plant during the Environmental Forum held at Slavutich (Ukraine);

— holding the 16th annual YCRNS Conference as part of a science and practical conference of young specialists and post-graduate students under the title, "Youth and the nuclear fuel cycle: science, production, environmental safety";

— helping to organize the internet school, "Eurasian Economic Community" (providing lectures to present the main activities of Rosatom State Corporation).

Plans of the YCRNS for 2012 are as follows:

— hosting a technical tour to the Chernobyl nuclear plant, and activities to commemorate the Chernobyl disaster;

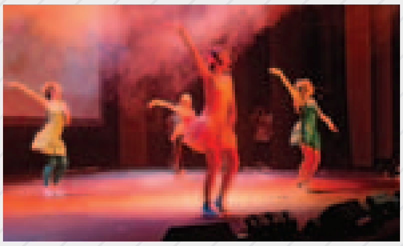
— holding the 17th annual YCRNS conference;

— a session of the YCRNS at the international conference in Obninsk commemorating the 50th anniversary of commissioning of fast critical stands;

— a series of workshops under the title "Transmitting the experience of senior generations" for school and college students and for young employees at nuclear industry companies;

— organization of technical tours to nuclear sector companies and workshops for high school and college students.

CHILDREN'S NETWORKING COMMUNITY



NucKids International children's creative art project took off in 2009, with the main purpose to unite children of nuclear plant employees in nations worldwide into a large, like-minded network of joint creative activities.

In 2011, the project finals involved 72 children in Russia, Ukraine, Bulgaria, India and Vietnam, having to pass serious creative tests: in Russia, casting sessions took place in 10 cities to select one out of each six contestants. Assisted by an expert educational team, the children wrote and staged their own musical: "Liberty Shelter".

The project participants were guided by professional stage directors, actors and choreographers who taught them to sing, recite, and act on stage. The first night was a great success in the Et Cetera Theater of Moscow, and then the children went to Hanoi where the musical was welcomed by a local Vietnamese audience.

The Liberty Shelter musical proved a truly important event in the cultural life of the nuclear industry and as they left, the children involved in the NucKids project parted as good friends, ready to carry their contacts and joint efforts beyond the project.

3.18.4. SUPPORT FOR VETERANS

SINCE 2000 THE NUCLEAR INDUSTRY HAS HAD AN INTER-REGIONAL PUBLIC MOVEMENT FOR RETIRED AND VETERAN EMPLOYEES OF THE NUCLEAR SECTOR (INTER-REGIONAL VETERANS MOVEMENT) THAT UNITES 119 ORGANIZATIONS AND HAS 250,000 MEMBERS.

SOCIAL SUPPORT TO VETERANS

The executive board of the Veterans Movement processes numerous requests from veterans, mainly asking for social assistance. The Movement provides assistance in response to each request or provides legal consulting to help the veterans deal with the specific issues.

The most common request from retired veterans is for medical services, which are mainly provided at institutions of the Federal Medicine and Biology Agency (FMBA). The Veterans Movement carried out considerable work to improve the situation in this sphere during 2011 and the FMBA, together with Rosatom, is now designing steps that will considerably raise the quality and access to medical services at FMBA institutions for nuclear industry veterans.

Proposals from the board of the Veteran's Movement concerning social support to veterans have been added to the draft Industry Agreement for the nuclear sector for 2012–2014. The board proposals were also considered in an updated draft of the social program, "Support to veterans and retirees", for 2012–2014.

EDUCATIONAL WORK BY VETERANS AND MARKING OF NATIONAL ANNIVERSARIES

The reporting year marked 25 years since the Chernobyl disaster. The date is of special significance to Rosatom veterans, many of whom worked in extreme conditions and under extreme time pressure to erect the protective dome, which prevented further spread of nuclear radiation from the stricken reactor. This date was marked at special meetings held by Rosatom companies, and in particular at a meeting in the main hall of Rosatom State Corporation, where awards were made to many of those involved in construction of the protective dome.

Another important event in 2011 was the 70th anniversary of the victory over the Nazi armies at the gates of Moscow. Activities to mark the anniversary included a meeting between war veterans and graduate and post-graduate students of the Moscow Institute of Physics and Engineering (NRNU MEPhI). Another notable event in 2011 was the visit by a group from the Veterans Movement to Hungary in September 2011: as well as attending a meeting in Paks nuclear plant, the visitors also took part in a memorial ceremony in Harkany for the Soviet soldiers who gave their lives for victory in WWII.

EXPANDING ACTIVITIES OF THE VETERANS MOVEMENT

In the reporting year, the organization for former nuclear industry employees in Estonia joined the Veterans Movement, as did veterans of the former nuclear company, SGAO Vismut, which was located in Germany.

In 2011, the Veterans Movement was the among co-founders of the international union of veterans of the nuclear sector set up on the initiative of the veterans' organization at OJSC Rosenergoatom.

PLANS FOR 2012

In 2012, the Veterans Movement plans to:

- create an Expert Consulting Assembly at Rosatom consisting of nuclear sector veterans;
- host a scientific and practical conference, entitled "Building infrastructure for knowledge management within the Veterans Movement to assist efficient solution of nuclear industry development challenges";
- install plaques in Harkany and Pecs (Hungary) on behalf of veterans of Rosatom and OJSC Rosenergoatom in memory of Soviet soldiers who gave their lives for the liberation of Hungary in WWII;
- take part in an international science and technology conference, entitled "Safety, efficiency and economy in nuclear power engineering".

3.18.5. CHARITY

CHARITY CONCEPT AND INTERACTION WITH LOCAL COMMUNITIES

Rosatom adopted a concept for charity activities and interaction with local communities in 2010. In accordance with the concept, Rosatom and its companies have the following charity priorities:

- implementing local initiatives to improve standards of living and protect the environment;
- implementing initiatives to protect life and health (including assistance to the disabled, senior citizens, orphans, and other people in urgent need);
- support educational initiatives, including contests, grant support to education projects and programs, and advanced training for teachers;
- support for high social and cultural standards in regions of presence of the Corporation's companies, including support for cultural and awareness initiatives, advanced training for cultural, social and medical workers, encouraging national awareness in education, promoting spiritual values, promoting sport and healthy lifestyles, and fostering social and business development in regions where nuclear facilities are located.

MAIN RESULTS IN 2011

In 2011, Corporation companies implemented more than 400 charitable projects in regions of presence and elsewhere. Total spending by Rosatom on charity in 2011 was 1,004 mln RUB.

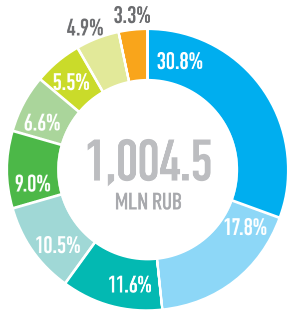
The Rosatom charity board was expanded in 2011 and industry organizations set up their own charity boards, which are authorized to plan and give initial assessment of charity initiatives.

In accordance with Rosatom's charity and community interaction concept, and its methodological recommendations on corporate charity, the Corporation assesses the needs of local communities when preparing its annual charity and social plans.

IN 2011 THE ROSATOM CHARITY COUNCIL:

- examined 377 and approved 320 applications from the Corporation's companies for scheduled charity initiatives;
- examined 400 and supported 146 unscheduled requests from the Corporation's companies, public organizations, local governments, international organizations, charity foundations, and individuals;
- sponsored 56 charitable initiatives by the whole of the nuclear industry.

STRUCTURE OF CHARITY SPENDING BY ROSATOM ORGANIZATIONS IN REGIONS OF PRESENCE, 2011, MLN RUB, %



309.0	Preserving Russia's historical and cultural legacy
179.0	National awareness in education, and financial support for historical commemorations
117.0	Environmental initiatives and solving social problems related to the nuclear legacy
105.3	Donations in response to requests, including urgent medical assistance and non-financial donations
90.2	Promoting amateur sports among children and adults
66.5	Culture and spiritual education for the young
55.3	Educational initiatives and support for educational institutions
49.0	Charity awards made on a competitive basis
33.2	Assistance for veterans, the disabled and individuals in urgent need

ROSATOM INVOLVEMENT IN THE RAS STANDING EXPEDITION FOR RESEARCH AND PRESERVATION OF RARE WILDLIFE SPECIES

In 2011 Rosatom and OJSC Techsnabexport maintained their participation in the wildlife protection initiatives of the Russian Geographical Society for observation, preservation, and increasing populations of rare species and species threatened by extinction, including the far-eastern tiger, ounce (snow leopard), polar bear, leopard, and white whale.

Far-eastern tiger study program

This program is being implemented in association with the Ussuri, Kedrovaya Pad and Lazovsky game reserves, as well as the Aniuysky and Udegeyskaya Legenda National Parks, the special inspection service for tiger populations, and a foundation for protection of the tiger in Primorsky and Khabarovsk Territories.

In 2011:

— observation work continued to monitor populations of far-eastern tigers, brown bears and Himalayan bears, using satellite beacons. In winter 2010–2011, the inspection service for tiger populations counted the population of far-eastern tigers in their habitat area in accordance with the strategy and related action plan for preservation of far-eastern tigers in Russia;

— a center was set up near the town of Alexeyevka (Primorsky Territory) for rehabilitation of the far-eastern tiger and other rare species: orphaned cubs are looked after before being returned to their natural habitat;

— techniques were developed for non-invasive individual identification of tigers using molecular genetic methods. In the reporting year the technique was used in experimental mode to examine materials during criminal investigation of tiger poaching;

— the database that registers the results of all observations and of molecular genetic and hormone analysis of wildlife was expanded;

— scientific and practical conferences were held, as well as meetings and consulting work as part of international initiatives to protect wildlife;

— articles and methodological materials were published, including several in international science journals.

3.18.6. SOCIAL PROJECTS TO ADDRESS “NUCLEAR LEGACY” ISSUES

RELOCATING THE INHABITANTS OF OKTYABRSKY VILLAGE

The program to relocate the population of Oktyabrsky (Zabaikalsky Territory, Eastern Siberia) has been implemented jointly by Rosatom and the government of Zabaikalsky Territory since 2007.

OJSC Priargunskoye Mining and Chemical Association allocated 21 mln RUB for the program in 2011. Six multi-story buildings (with a total floor space of 41,576 m^2) were built to provide housing in the town of Krasnokamensk, to which 741 families were relocated. In addition to the newly built housing, 32 apartments were purchased on the housing market.

RELOCATING INHABITANTS FROM THE TOWN OF MUSLYUMOVO

A program for relocation of people living in the town of Muslyumovo (Chelyabinsk Region) has been implemented jointly by Rosatom and the regional government since 2006. The Corporation financed reclamation of 330 hectares of land in the floodplains of the River Techa, and 603 families have moved (of whom 77.6% chose to move away from Muslyumovo, and the others used the funds made available to build individual private houses in Novomuslyumovo). Total spending by the Corporation to finance the relocation program during 2006–2011 was 580.1 mln RUB. In addition to works directly related to relocation of the township, Rosatom provided assistance to improve living conditions in the town of Novomuslyumovo, including financial assistance to build a new local government building and a monument to local people who died during World War II.

Rosatom did its best to assist investigations following media reports, which alleged misappropriation of funds during the program. Inquiries found that 3.8 mln RUB had been misappropriated, and those responsible were found. The Muslyumovo Relocation Fund filed a civil law suit claiming damages from the guilty parties.

The National Anti-corruption Committee under the Presidential Committee for Civil Society and Human Rights also carried out an independent audit, which established that the voluntary relocation mechanism implemented by Rosatom for the people of Muslyumovo citizens was not involved in any illegality: allegations that Corporation officers had misappropriated 500 mln RUB were found to be groundless, and the aims of financing were achieved (more than 1,000 citizens voluntarily exercised their lawful right to change their place of residence).

3.19.

ENGAGEMENT OF STAKEHOLDERS

SERGEY NOVIKOV
Director of the Communications Department

INFORMATION TECHNOLOGIES CHANGE VERY QUICKLY IN MODERN SOCIETY. DOES ROSATOM USE NEW MECHANISMS OF COMMUNICATION IN ITS WORK WITH STAKEHOLDERS?

We do our best to keep the public aware of our work and we use all up-to-date methods for that purpose. In 2011, the Corporation created official pages in the social networks provided by Facebook, VKontakte, and Twitter; we also created a Rosatom channel on YouTube.

We carried out "integrations" in the Megapolis and Super City online games, which are played by users of the VKontakte network – players have the option of installing a nuclear plant in the virtual city they build. We also added a quiz to the game, where players score points and receive bonuses for correct answers. More than five million players have answered nuclear-related questions since the project's inception, and the share of wrong answers has dropped by nearly half. This is education through entertainment – "edutainment", as it is called in the West.

Other materials that we have made available via the Internet include virtual tours of a nuclear plant, a uranium mine, and other nuclear industry businesses.

We work constructively with bloggers. If people raise and discuss nuclear issues, it means that they care. Our objective is to make bloggers more aware and competent, and help them express informed opinions based on their knowledge and experiences rather than rumors and suppositions. We have arranged visits for bloggers to our facilities: last year, more than a hundred bloggers, each with more than a thousand subscribers, visited our nuclear plants. What they learnt there has been transmitted to a broad public audience via hundreds of thousands of views, which their blogs have attracted since then.

HAS PUBLIC SUPPORT FOR NUCLEAR POWER IN RUSSIA DWINDLED SINCE THE FUKUSHIMA DISASTER?

Naturally, it has. We have always said that nuclear businesses worldwide are all in the same boat: trouble in one country affects attitudes to nuclear power everywhere. There are always people who are ready to play on fears, in Russia as in other countries. But I would point out that the level of support for the nuclear industry in our country was back at the pre-Fukushima level by the end of 2011, as shown by independent studies carried out by the Levada-Center and VCIOM. It is important to remember that an absolute majority of countries, which previously announced plans to develop nuclear power, have not revised their plans after Fukushima and some of them – the UK for example – have declared new construction plans after the Japanese events. Only four countries in the world have renounced nuclear energy. The fact that most countries have reaffirmed their commitment to atomic energy also has an impact on public opinion.

WHAT WAS ROSATOM'S COMMUNICATIONS RESPONSE TO THE EVENTS IN JAPAN?

A headquarters was set up at the Corporation, which published status reports and forecasts every day, and sometimes more than once daily, primarily about the Russian Far East, including calculation of exposure rates, as well as information about safety audits at Russian nuclear plants, etc. We published both factual information and results of mathematical modeling. We also organized a pool of independent experts, scientists and engineers who provided media commentary on the situation at the Japanese station and more generally about various aspects of radiation technology.

We cooperated extensively with the mass media through press conferences, press tours to Russian and foreign nuclear plants, and other international events. During April alone, our power plants welcomed more than 80 foreign reporters. Leading international experts explained at sector and business gatherings (ATOMEXPO 2011, Saint-Petersburg Business Forum) and at related media forums that, despite the Fukushima-1 accident, the world has no alternatives to nuclear power and the global community should redouble its efforts to ensure safe development of the sector.

ROSATOM HAS A STRONG ANTI-CORRUPTION STANCE: IT PUBLISHES INFORMATION ON MATERIALS, WHICH IT HAS SUBMITTED TO PROSECUTORS, AND ABOUT COURT RULINGS. THIS HAS LED TO AN INCREASE OF REPUTATIONAL RISKS. IS IT WORTH IT?

Certainly, open discussion of abuses entails certain image risks. But our CEO has decided that we must foster a corporate environment that is hostile to abuse and theft, and this is only possible in a transparent system. The Corporation's Supervisory Council supports this approach wholeheartedly, and the results are there to be seen: the number of "standard" instances of non-compliance has declined by six times in the last three years. Following internal audits, materials on violations are forwarded to law enforcers who decide whether to institute criminal proceedings. Our corporate mechanism for combating corruption works efficiently on this basis.

We are committed to using legal remedies with respect to untruthful publications in the media. One widely circulated newspaper claimed that cleaning staff at OJSC Novosibirsk Chemical Concentrates Plant were involved in making drugs. Utter nonsense. Our lawyers applied to court alleging libel and damage to business reputation. We won the case and the reporters had to apologize. This is the proper reaction.

We do not hesitate to discuss both our problems and our achievements, and we have plenty to discuss on both counts. It is important to make the public aware that Rosatom is a modern, technologically advanced company that competes successfully on global markets.

3.19.1. APPROACH TO ENGAGEMENT OF STAKEHOLDERS

Due to the scale and specifics of its activities (pursuing government and business objectives at the same time), Rosatom State Corporation interacts with a wide range of stakeholders both inside and outside Russia. Work with stakeholders is guided by strategic objectives and the goal of ensuring public acceptance of nuclear power.

The principles underlying this interaction include: respect and consideration of all parties' interests, open fruitful cooperation, timely and full reports to stakeholders on the Corporation's activities, efforts to ensure specific benefits for all parties, and performance of assumed obligations•.

Rosatom's business has many strands (uranium production, nuclear plant construction, generation of electric power, fuel making, decommissioning of nuclear facilities, handling of RAW and UNF, power machine building, etc.) and many enabling activities (international legal cooperation, legislation, etc.), and each of these business stands and activities has stakeholders of its own, with whom it builds systematic and plan-based relationships (as described in the relevant sections of the Report). Part of Rosatom's work is to enable engagement of all stakeholders and with the broader public.

COMMUNICATIONS WITH STAKEHOLDERS AFTER FUKUSHIMA-1 DISASTER

The March 2011 events in Japan led to a wave of negative sentiment in respect of nuclear power (the public confidence index dropped by 20%), and bred myths and phobias based on misunderstandings about the impact of radiation on the human body and the environment. Safety at Russian nuclear plants, the nature of radiation impact, and overcoming negative stereotypes were the key themes in the Corporation's efforts to transmit true and unbiased information about nuclear power to target audiences both inside and outside Russia.

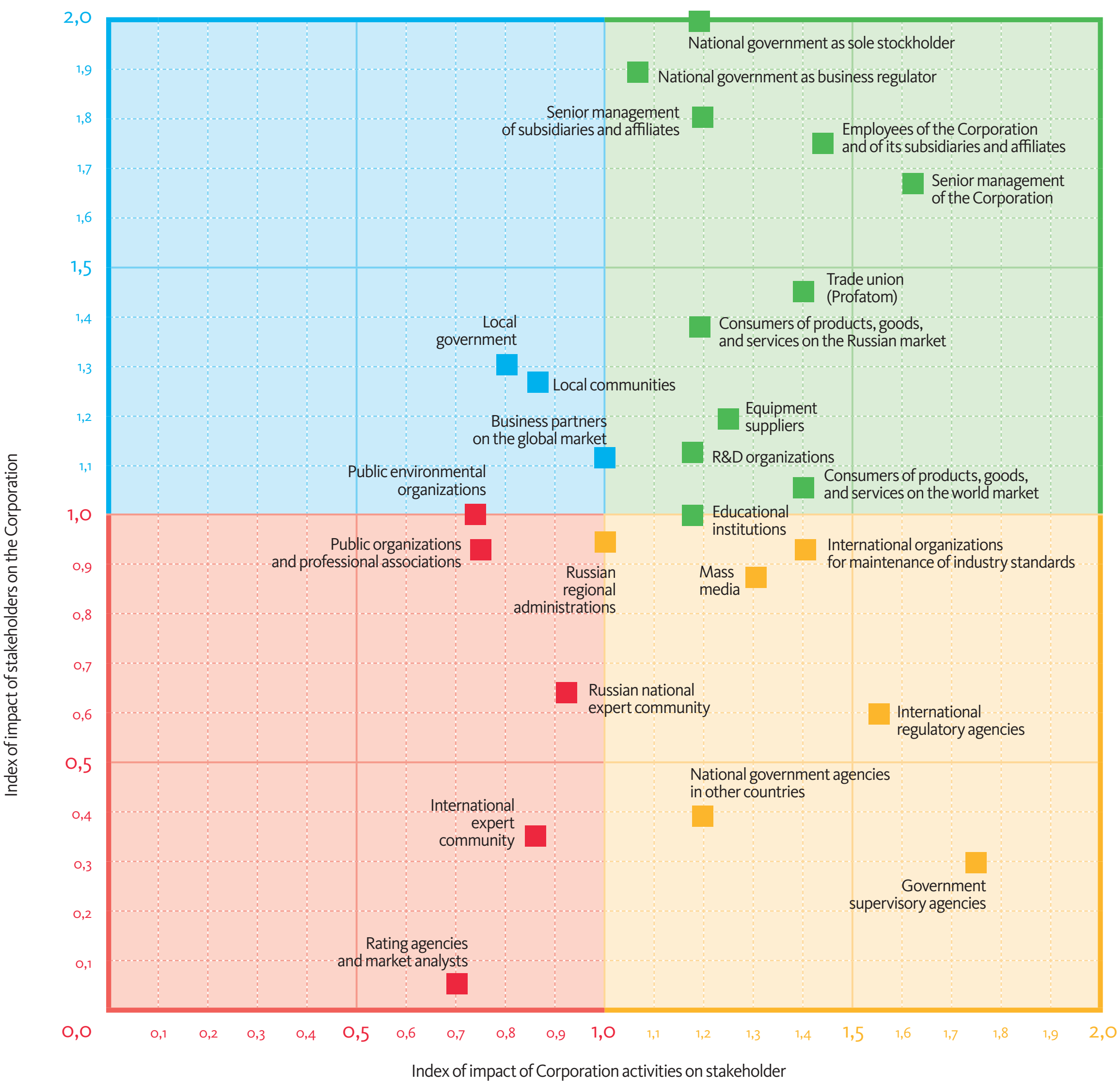
A pool of independent experts (scientists and specialists) was assembled to provide competent explanations through the mass media of the current situation at Fukushima-1 and aspects of radiation impact.

Press releases were published daily, with factual data and expert opinions on the current situation and future outlooks for Fukushima-1, the radiation background in the Russian Far East, estimates of potential exposure to radiation, stress testing of safety systems at Russian nuclear plants and the plans of various countries to develop next-generation nuclear power, etc.

In April and May, Rosatom experts gave press conferences for Russian and foreign mass media.

In April 2011, the Company organized 19 press tours for reporters to Russian nuclear plants. Guest journalists included more than 80 foreign reporters from Japan, Turkey, the Czech Republic, Poland, Bulgaria, Belarus, Italy, France, Germany, and Finland. Press tours were also arranged for camera crews of the Russian channel NTV to visit nuclear plants outside Russia (in France, South Korea, and the UK).

STAKEHOLDER MAP



The stakeholder ranking matrix was constructed from a poll of the Corporation's top executives and public reporting committee members. Each respondent estimated the Corporation's impact on various stakeholder groups, and the impact of various stakeholder groups on the Corporation using a scale of three. Averaged point scores were used to arrive at the impact indexes, which are shown in the matrix.

ENGAGEMENT OF THE STAKEHOLDERS

STAKEHOLDERS	STAKEHOLDERS' INTERESTS	TYPES OF ENGAGEMENT OF STAKEHOLDERS	
Government agencies of the Russian Federation	1 – 16	B	L M
Government control agencies (supervision)	1 2 4 6 7 10	C	
Regional government agencies	2 6 10 15	B C E F G	
Local self-governments in areas of presence	2 15	C E F G	
International organization, including nuclear sector	1 2 6 7 10	A	
Organizations of Rosatom State Corporation	3 5 8 13 16	D	
Manufacturers and providers of equipment and services	5 7 10	K	
Consumers of technologies, products and services	3 5 6 8 9 12	K	
Business partners	5 6 7 8 10 13	K	
Professional associations	6 14 16	D F	
Public organizations, including environmentalists	10 11	C E G	
Employees of the Corporation and its structural units, and organizations that represent their interests	6 10 14 16	D F I	
Local communities in areas of presence	11 15	C E F G H	
Schools	3 14 16	D J	
Financial institutions	3 5 10	K	
Rating agencies, market analysts, experts	5 10 13	K	
Citizens of the Russian Federation	1 2 4 6 10 11 15	H	

Stakeholder interests

1 Ensuring non-proliferation of nuclear materials and technologies
2 Assurance of nuclear, radiation, and environmental safety
3 Technological upgrade in the nuclear sector
4 Efficient spending of government budget
5 Business efficiency of structural units of Rosatom State Corporation
6 Compliance under Russian and international law
7 Fair play and responsible behavior on markets
8 Competitive ability on global markets
9 Higher quality of products and services
10 Transparent operations of Rosatom State Corporation, including transparency of purchasing procedures
11 Addressing legacy problems from business and defense activities in the past
12 Reliable supplies of electric power
13 Adoption of international standards and regulations in management
14 Adequate remuneration of personnel, ensured career, growth for employees, safe employment conditions
15 Higher life standard in the areas of presence
16 Development of human resource potential for Rosatom State Corporation, and its structural units

Type of engagement of stakeholders

A Cooperation with profile international organizations, participation in international programs and projects
B Paricipation in legislative activities
C Public hearings and public environmental expert audits as regards construction projects for NNP units
D Publication of Public Annual Reports of the Corporation and its structural unit
E Curricular for personnel tranning and advanced training
F Social aid and welfare programs and projects
G Assistance to development of the areas of presence
H Charity
I Dialogs: forums, conferences, workshops, exhibitions, fairs
J Awareness industry-level mass media, websites, information centers, automated system for control of radiation background
K Public polls
L Hotline services
M Cooperation programs with profile colleges

3.19.2. COMMUNICATION AND AWARENESS

NUCLEAR ENERGY INFORMATION CENTERS

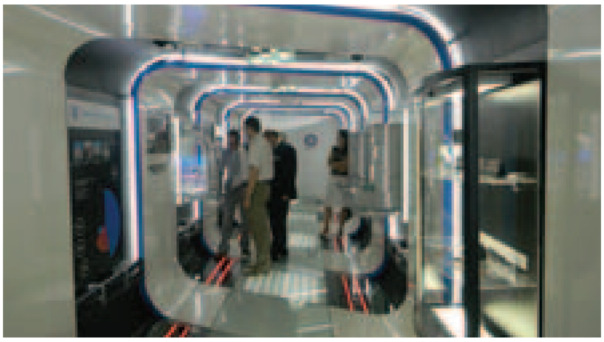
Rosatom State Corporation started to asset up its network of Nuclear Energy Information Centers in 2008. In 2011, new Centers were opened in Ulyanovsk, Vladimir, Smolensk, and Petropavlovsk-Kamchatsky. As of December 31, 2011, the Company had 15 Information Centers.

Each Center welcomes 2,200 visitors monthly, more than 80% of whom are school children and teachers. In 2011, the Centers were visited by more than 260,000 individuals (three times more than in 2010).

The main function of the Centers is to educate (provide information about nuclear energy, the nuclear industry, its objectives and outlooks in a form that is easy to assimilate). Visitors can watch video programs on 3D screens devoted to themes such as "The world of nuclear energy". The Centers also offer interactive tools, with inbuilt gaming consoles and PC monitors.

The Information Centers held more than 1,200 special events in 2011: essay contests, brain games, meetings with scientists, etc. The best public reaction was to the Russian national science festival, a new cinema-lecture theater, a new club for intellectual contests, and virtual lectures (by the nuclear specialists F.M. Mitenkov, T. Bliss, B. Combie, etc.), broadcast from the Moscow Institute of Engineering and Physics.

INNOVATION TRAIN



Innovation Train is a joint project between Rosatom, OJSC Russian Railways, and OJSC RUSNANO, consisting of a train with a mobile innovation exhibition to bring the message of innovation to various regions of Russia. The display by Rosatom Corporation occupies one of the train cars.

The car has an all-purpose radiation gauge installed, which visitors can use to measure radioactivity of any part of their body within seconds. The car's walls have inbuilt special monitors that transmit real-time readings from various locations on planet Earth where natural radiation background is at its highest levels. A separate stand demonstrates possible uses of radiation technologies in various sectors of industry and agriculture. The central part of the display is devoted to safety systems at Russian VVER reactors of generation III+. A cross section of the nuclear reactor is shown, and a model shows how all the safety systems operate, including the core fusion trap. A 3D model of a modern Russian nuclear plant can be viewed using special glasses.

In 2011, the 'Innovation Train' made its way across Russia from Kaliningrad to Sovetskaya Gavan (Khabarovsk Territory), welcoming more than 100,000 visitors in total. In 2012, the train will visit the North Caucasus (Novorossiysk, Makhachkala, Vladikavkaz, and Grozny), and will also travel to Belarus, Ukraine, Mongolia, Kazakhstan, Finland, and the Baltic countries.

Public polls show that more than 81% of visitors to the NEIC changed their view of nuclear power after their tour to the centers. 63% of visitors have confidence in reliable safety systems of modern nuclear plants.

EXHIBITIONS AND FORUMS

Rosatom hosted more than 20 exhibitions, forums and conferences in 2011.

For the first time, the Corporation presented exhibitions at the annual winter conference of the American Nuclear Society (Washington, DC) and the 17th International Power and Environment Exhibition in Istanbul, Turkey.

The 3rd International ATOMEXPO 2011 forum in Moscow welcomed more than 1,200 delegates from 50 nations worldwide. The forum was attended by 328 reporters, including 84 foreign reporters. A talk show was broadcast on the Russia-24 TV channel, entitled "Nuclear power development: pause or resume", hosted by Vladimir Solovyev, an anchor with the national TV channel, Rossiya.

A talk show entitled "Nuclear power after Fukushima" was hosted at St. Petersburg international business forum, and was moderated by Bill Richardson, the former US Energy Secretary (1998–2001) and US Ambassador to the UN (1997–1998).

The key points made by international experts during the talk show were that:

— despite the Fukushima-1 disaster, there is no alternative to nuclear power;
— after the Japan events, the international community is redoubling its efforts to ensure safe development of nuclear power.

Forum Dialogs

The 4th international public forum-dialog "Nuclear energy, society, safety-2011", was held in St. Petersburg on April 19–20, 2011, hosted by the Public Council of Rosatom State Corporation and the Green Cross Inter-regional Environmental Organization. Participants from nine countries took part, including France, the USA and Finland.

The forum discussed development of the global nuclear power industry. The main discussion topics were: safety concepts in modern Russian nuclear plant designs; creating unified national systems for RAW and UNF handling; future upgrade of the RAW handling system in Russia, and techniques for RAW handling in France and the US; and comparative risk analysis for nuclear power and other types of power generation.

The 4th inter-regional forum dialog "Nuclear Production. Society. Safety-2011", also hosted by the Public Council of Rosatom State Corporation and Green Cross Inter-regional Environmental Public Organization, was in Kaliningrad on November 1–2, 2011. The forum's participants represented Ukraine, Belarus, and EU) nations.

One of the main topics for discussion was preparations to build the Baltic NPP, which is expected to make Kaliningrad Region self-sufficient in electric power and capable of exporting electricity to European countries.

The Rosatom Public Council was set up in 2005 to involve civil society institutions in nuclear power policy work, environmental protection, and nuclear and radiation safety. At its meetings in 2011, the Public Council mainly discussed issues of safe development in the nuclear industry. The Council assisted the publication of a series of reports during the reporting year on environmental safety at main nuclear companies, which were published with a total circulation of more than 20,000.

TV PROGRAMS AND POPULAR SCIENCE FILMS

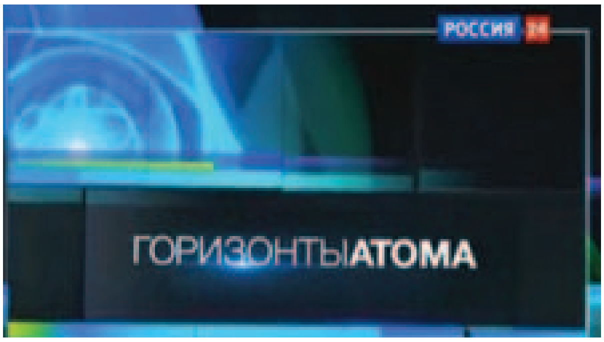
Encyclopedia of the Atom

Broadcast of a series of documentary films entitled "Encyclopedia of the Atom" continued in 2011. The following films were released in 2011:

- "Technologies for Development" (the film explains non-standard applications of nuclear technologies, for mineral exploration, nuclear medicine etc.);
- "Nuclear Heritage" (status of the USSR as a nuclear superpower and the associated arms race led to the accumulation of huge amounts of radioactive waste. The film discusses modern technologies for dealing with the "nuclear legacy" left by the Soviet Union);
- "Thermonuclear Synthesis. Sun on Earth". Russia is where the Tokomak – the prototype of the international thermonuclear reactor (ITER) – was developed. Today, the specialists who created the ITER tell us that, in the foreseeable future, thermonuclear power will rescue humanity from energy scarcity and the environmental disasters which have accompanied today's power generation technologies);
- "The Atom: Energy that can be Trusted" (the film presents modern Russian designs for nuclear plants, which are rightly acknowledged as some of the safest and most reliable in the world, incorporating protection against external impacts – aircraft collision or powerful tornado – as well as safety systems that operate in case of blackout).

The films were broadcast on the TV channels Russia-24, My Planet, and Science 2.0, reaching an audience of more than 800,000 people.

Atomic Horizons



The TV channel Russia-24 broadcast the "Atomic Horizons" program twice monthly, presenting non-standard use of nuclear technologies for nuclear medicine, composite materials, sterilization of medical equipment, etc.

"Atomic Horizons" was rebroadcast by local Russian TV channels in the regions around nuclear industry facilities and by national TV in the Republic of Belarus. The programs were also made available upon request for websites of the Federal Agency for Medicine and Biology, the Commission for Modernization of the Russian Economy, and the Ministry of Energy of Belarus. This audience was about 400,000.

INTERNET COMMUNICATION

Virtual Tours

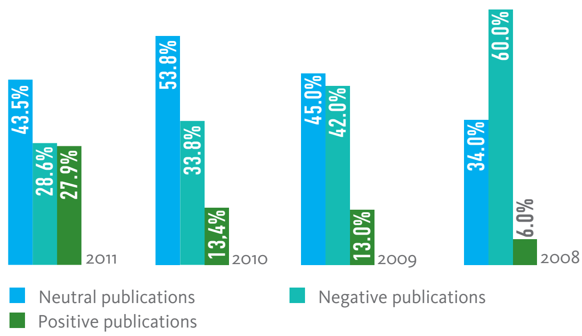
Virtual tours were created in the reporting year (http://energy-travel.ru), making it possible to visit a nuclear plant, a uranium mine, and various other Rosatom companies via a PC monitor, (including videos, panoramic photos with commentary, etc.)

Blogosphere

Rosatom State Corporation works consistently with bloggers to make them more knowledgeable about nuclear power issues. During the reporting year, six tours to nuclear plants were organized for blog writers, whose subsequent publications addressed an audience of 670,300 (the share of negative articles was only 5%).

Work was carried out to promote "peaceful nuclear topics" in the blogosphere, including 147 publications through Vkontakte.ru, Livejournal.com, Facebook.com, and YouTube.com, with a total internet audience of about 2.1 mln.

MONITORING THE BLOGOSPHERE



Rosatom companies launched six new blogs and a website about the Fukushima-1 disaster (http://aesfukushima.ru). Total views of the blog publications were in excess of 420,000.

Social networks

Rosatom created a page on Facebook and Twitter in 2011. By the end of 2011, it had about 1,000 contacts on Facebook and some 900 on Twitter. Total publication count: 211,000 messages in user tickers on Facebook, and 527,000 on Twitter.

The Megapolis game, rated second in terms of popularity among online games in the VKontakte social network, has added an option to build a nuclear plant in the virtual city that players build. With 200,000 individual players daily, 1.5 mln chose nuclear power. As in real life, the game pays much attention to safe operation of the plant: the owner must renew his or her license weekly. The game also has a quiz where users score a bonus for correct answers. During the lifetime of the project, users answered nuclear-related questions 5.2 mln times, and the percentage of wrong answers dropped from 40% to 25%.

Ring of Sites

In 2010, to reinforce provision of information about Corporation activities via the Internet and to develop internal communications, Rosatom launched the “Ring of sites and portals” project, which creates a virtual cluster of websites and intranet portals of nuclear industry leaders, based on a shared industry-level IT platform (IBM Websphere). Using a shared corporate graphic style, the project makes maintenance simpler and enables content to be added to websites in the Ring more efficiently.

By the end of 2011, the portals were updated for Rosatom State Corporation, OJSC Atomenergomash, and ARMZ.

PLANS FOR 2012 INCLUDE COMPLETE RENOVATION OF THE PORTALS OF ALL PROJECT MEMBERS.

CORPORATE MEDIA POOL

Industry press

Rosatom Nation, the industry newspaper, continued to be published in 2011 (circulation 63,500). It is printed in Moscow, Yekaterinburg, Krasnoyarsk, Chita, Nizhny Novgorod, and Novosibirsk. At the end of the year, it began publishing regional inserts to cover operations in specific companies.

The industry has also another 27 publications, the largest of which are the newspapers Novoye Vremya (Seversk, OJSC Seversk Chemicals Association, circulation 15,700) and Impuls (Zelenogorsk, OJSC Electrochemical Plant Association, circulation 10,000). Both of these have the status of town newspapers.

Industry TV

In 2011, 20 townships (closed administrative territories and nuclear plant towns) watched the “Rosatom Nation” TV program each week.

A 3-minutes video digest was also aired each week in Russian and English, available on all intra-corporate portals at Rosatom companies. Plasma TV screens have been installed at 31 companies to show video digests and other corporate information.

Industry radio

Work began in 2011 to set up a radio station for the nuclear industry in order to convey information quickly to the corporate audience. Programs of 30 minutes are aired three times a week.

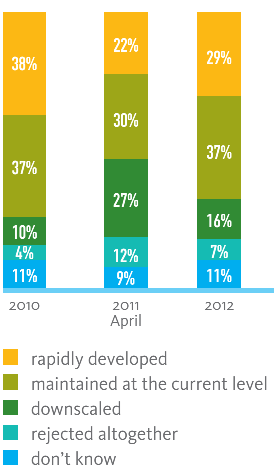
By the end of 2011, the radio station was available at more than 30 companies and coverage should be extended to all organizations and companies in the Corporation in 2012.

3.19.3. OPINION POLLS

Information exchange between Rosatom State Corporation and its stakeholders in 2011 returned support for the nuclear industry among the Russian general public to the “pre-Fukushima” level, as evidenced by independent public polls.

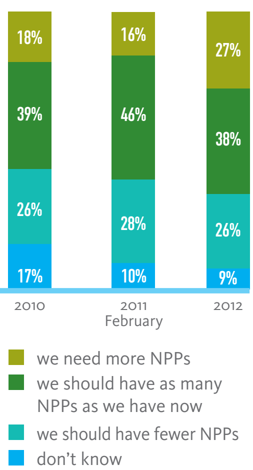
PUBLIC OPINION REGARDING DEVELOPMENT OF THE NUCLEAR POWER INDUSTRY IN RUSSIA

Do you agree that nuclear power industry should be...



Source: Levada-Center

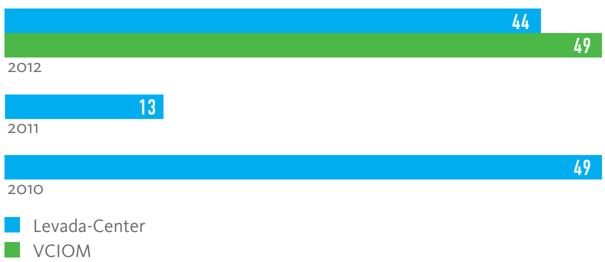
Do you think that Russia should develop nuclear power or not?



Source: VCIOM

RETURNING SUPPORT FOR THE NUCLEAR POWER INDUSTRY IN RUSSIA TO THE PRE-FUKUSHIMA LEVEL

Index of confidence in the nuclear power industry




ROSATOM
PROPOSALS
REQUESTS
RECOMMENDATIONS
DIALOGS
FOR PREPARATION
OF ANNUAL REPORTS
REPORT CONCEPT
REPORTING MATERIALS
DRAFT REPORT
STAKEHOLDERS
BUSINESS PARTNERS
EQUIPMENT SUPPLIERS
CORPORATION EMPLOYEES
USERS OF PRODUCTS, WORKS, AND SERVICES
PUBLIC AND NON-GOVERNMENT ORGANIZATIONS
FEDERAL AND REGIONAL GOVERNMENT AGENCIES
LOCAL GOVERNMENT
INTERNATIONAL EXPERT COMMUNITY
LOCAL COMMUNITIES IN AREAS OF PRESENCE
TEACHING AND RESEARCH INSTITUTES

STATE ATOMIC ENERGY CORPORATION ROSATOM, PUBLIC ANNUAL REPORT
2011

4. ENGAGEMENT OF STAKEHOLDERS IN DRAFTING THE REPORT

Levels of transparency and accountability at Rosatom are enhanced by involving key stakeholder representatives in preparation of the Report through dialogs that discuss socially relevant aspects of the Corporation's activities, and by describing such activities in the Report, followed by stakeholder assurance of the Report. The above procedures are regulated by the international standards: AA1000SES of the Institute of Social and Ethical Accountability; and the Global Reporting Initiative (GRI, version G3.1).

4.1.

PUBLIC REPORTING OF ROSATOM STATE CORPORATION AND ITS ORGANIZATIONS

4.1.1. APPROACH TO PUBLIC REPORTING

RAISING THE LEVEL OF RESPONSIBILITY OF MAJOR COMPANIES TO A WIDE RANGE OF STAKEHOLDERS IS INTERNATIONALLY RECOGNIZED AS AN IMPORTANT FACTOR FOR GLOBAL MARKET GROWTH. TRANSPARENCY AND ACCOUNTABILITY OF BUSINESS ARE INSEPARABLE FROM THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT.

In 2011, Rosatom State Corporation's Public Reporting Committee:
— conducted expert examination of concepts and draft reports of the Corporation and its key subdivisions,
— approved the Regulation on Public Annual Report contest among the Corporation's companies, and the results of the contest,
— initiated activities to create an international industry-level reporting protocol for nuclear sector companies,
— decided that the Corporation will join pilot programmes of the International Integrated Reporting Council,
— updated local regulations on public reporting,
— approved the key organizations list for 2012.

Rosatom State Corporation seeks the status of a main player on the global market of nuclear technologies, so it needs an industry-level system of Public Annual Reports based on international corporate accounting. The Corporation began to create such a system in 2009.

Since then, the Company has developed and tested a methodology to prepare integrated reports that combine financial and non-financial reporting, compliant with Russian and international standards. Use of such a format reflects the desire to meet best international standards in corporate reporting and to secure stakeholder confidence in the operations of the Corporation and of its companies, by disclosing exhaustive information about those operations. Integrated reports create better understanding of the links between financial and non-financial aspects of any corporate activities, and enable management to set priorities more efficiently, combining the business objectives and public needs, and thus to take more informed managerial decisions, which in turn lowers risks and makes the business more attractive for investment.

Rosatom State Corporation publishes three reports each year. Pursuant to amendments to Federal Law No. 317, dated 01.12.2007 "On State Atomic Energy Corporation ROSATOM", the open part of the report submitted to the Russian Federal Government is also published. (http://rosatom.ru/wps/wcm/connect/rosatom/rosatomsite/resources/49e10c004b8a11188e65be9f1a503a2c/anrep_2011+.pdf). The Corporation's Integrated Report, addressed to a wide range of stakeholders and prepared to Russian and international standards of corporate accounting, has been voluntarily compiled since 2010. And since 2002, Rosatom has published safety reports together with the RAS Institute for Safe Development of Nuclear Power (http://www.rosatom.ru/aboutcorporation/activity/safety/safety_reports/).

All corporate units (OJSCs) publish their own annual reports. Joint-stock companies within the Corporation, which are of key importance (for the purposes of Public Annual Reports), prepare their integrated reports based on corporate regulations. The Corporation's organizations and companies listed as environmentally significant entities publish environmental reports (56 published in 2011). All reports are posted on corporate websites.

4.1.2. THE PUBLIC REPORTING SYSTEM AT ROSATOM STATE CORPORATION AND ITS COMPANIES

By the end of 2011, the industry-level system of Public Annual Reports was mainly available, and consisted of the following components:

- group of key entities (for the purposes of public reporting), whose operations are of significant public and political importance and/or whose position is important for the Corporation's activities on Russian or global markets. There were eight such organizations in 2009–2010, but in late 2011 their number rose by 2.5 times (for the list of key organizations, see Appendix 7);
- regulatory base: Rosatom State Corporation's public reporting policy, the standard for Public Annual Reports of Rosatom State Corporation, the standard for Public Annual Reports for key organizations;
- a system of indicators for Public Annual Reports;
- stakeholder panels (stakeholder assurance institutions) for the Corporation and its key entities;
- Public Reporting Committee of Rosatom State Corporation, similar bodies in key organizations;
- industry-level contest of Public Annual Reports published by Rosatom entities;
- program of training and methodological support.

4.1.3. RESULTS IN 2011

Participation in the pilot programme of the International Integrated Reporting Council

In 2011, Rosatom State Corporation joined the pilot programme of the International Integrated Reporting Council (IIRC), whose recommendations were used to prepare this Report: information was added about the business model, with more details provided on use of resources, and special focus placed on the principles of coherence, orientation to the future, response to and involvement of stakeholders, etc.

Expanded list of key entities (for the purposes of public reporting)

During the reporting year, the list of key organizations expanded significantly. The number of key companies in the Corporation rose from 8 to 12; also key units were identified within holdings: OJSC TVEL (6 units) and OJSC Atomenergomash (2 units). These additions to the list of key organizations reflect the objective of further upscaling the project for creation of a public reporting system in the industry and raising the quality of reports published by industry organizations. The new key organizations will publish integrated reports in 2012.

The International Integrated Reporting Council (is an international organization established in 2010 (with HQ in London, UK) to work out an integrated reporting standard that would give users access to essential financial and non-financial corporate information through a single document. According to the IIRC, such a corporate reporting format meets the demand of the current growing global economy as it looks toward sustainable development.

In 2011, the IIRC embarked on a two-year pilot programme that will practically test approaches for the creation of integrated reports and development of an integrated reporting standard, planned to be published in 2013. By the end of 2011, the pilot programme's participant list contained more than 70 companies from different nations worldwide, including Coca Cola, Microsoft, Volvo, KPMG, Novo Nordisk, Danone, HSBC, Marks and Spencer. Russia was represented by: Rosatom State Corporation and OJSC NK Rosneft.

Improving the regulatory and methodological base

Work was carried out in 2011 to update the Rosatom policy in public reporting, the public reporting standard of Rosatom, and the standard for key organizations. The system of public reporting indicators, which lists more than 400 indicators, was also improved.

Report-related training and methodological support to employees in key organizations continued in 2011: workshops had total duration of more than 100 study hours and a methodological manual was published.

Public Annual Reports published by the Corporation and its key organizations

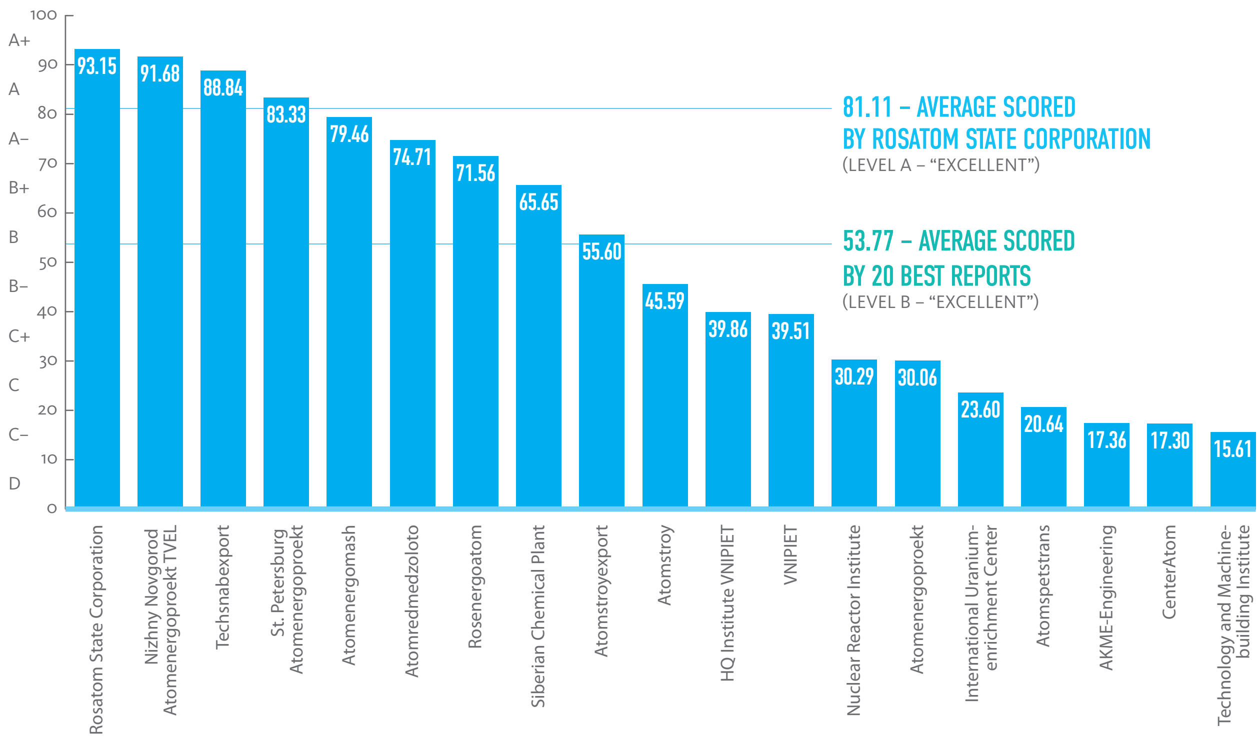
In 2011, Rosatom and its key organizations considerably improved the quality of disclosed reporting information in terms of compliance with the GRI Guidelines for Sustainability Reporting, and levels of engagement of stakeholders.

	2011	2010	2009
Number of integrated reports	9 of which 8 at level "B+" (all reports published in the Russian and English languages)	9 of which 2 at level "C", 2 at level "C+" (4 reports published in the English language)	8 of which 2 at level "C" (1 report published in the English language)
Number of publicly affirmed reports	8	3	–
Number of stakeholder dialogs during report preparation	33	8	–
Number of digital reports	4 interactive reports, 2 smart-pdf, 1 jpg-show	–	–

Industry-level contest of Public Annual Reports published by entities of Rosatom State Corporation

The third contest of public reporting in the Russian nuclear industry was held in the fall of 2011. The contest winners were: OJSC Nizhny Novgorod Atomenergoproekt and TVEL (91.68 points), with JSC Techsnabexport in second place (88.84 points), followed by OJSC St. Petersburg Atomenergoproekt in third place (with 83.33 points). The report by Rosatom State Corporation itself did not enter the contest, but was assessed by an independent panel, and scored 93.15 points.

FINAL RANKING OF ANNUAL REPORTS FILED FOR 2010



BETTER QUALITY OF THE CORPORATION'S REPORTING AND THAT OF ITS COMPANIES WAS NOTED IN NATIONAL COMPETITIONS FOR CORPORATE ANNUAL REPORTS.

RESULTS OF NATIONAL ANNUAL REPORT CONTESTS IN 2011.

EXPERT-RA RATING AGENCY 13TH ANNUAL FEDERAL CONTEST FOR ANNUAL REPORTS	
Special award, "Initiative in the promotion of integrated reporting in Russia"	Rosatom State Corporation
Grand Prix, "Contribution to development of integrated reports"	OJSC TVEL
Grand Prix, "Contribution to development of integrated reports"	OJSC Atomredmetzoloto
***SECURITIES MARKET* MAGAZINE, INVESTOR.RU SOCIAL NETWORK, FEDERAL SERVICE FOR FINANCIAL MARKETS 14TH ANNUAL FEDERAL CONTEST OF ANNUAL REPORTS AND WEBSITES**	
Nomination "Best report by a state corporation and government-owned business", 3rd place	OJSC Rosenergoatom
Nomination "Best report by a state corporation and government-owned business", 2nd place	OJSC Atomenergomash
Nomination "Best report by a state corporation and government-owned business", 1st place	Rosatom State Corporation
MICEX-RTS MOSCOW EXCHANGE 14TH ANNUAL FEDERAL CONTEST OF ANNUAL REPORTS AND WEBSITES	
Nomination "Best report by a state corporation and government-owned business"	OJSC TVEL
Nomination "Best corporate website"	OJSC Atomredmetzoloto
Nomination "Best report on corporate social responsibility and sustainable development", 2nd place	Rosatom State Corporation
RUSSIAN UNION OF INDUSTRIALISTS AND ENTREPRENEURS RUSSIAN NATIONAL CONTEST, "BEST RUSSIAN COMPANIES. DYNAMICS, EFFICIENCY, RESPONSIBILITY. 2011"	
Nomination "Development of non-financial reports"	Rosatom State Corporation
Nomination "Development of non-financial reports in the nuclear industry"	OJSC TVEL, OJSC Nizhny Novgorod Atomenergoproekt

International conference: "Reporting by nuclear industry companies: transparency and responsibility"

On November 6, 2011, Moscow welcomed the International conference "Reporting by nuclear industry companies: transparency and responsibility", hosted by Rosatom State Corporation. Participants represented major international companies in the nuclear sector (AREVA, Larsen & Toubro, Westinghouse, Mitsui&Co, AO NAK Kazatomprom), international organizations (World Association of Nuclear Operators, World Nuclear Association, Global Reporting Initiative), stakeholders and the expert community. The Russian nuclear industry was represented by OJSC Rosenergoatom, OJSC TVEL, OJSC Techsnabexport, OJSC Nizhny Novgorod Atomenergoproekt, and OJSC Atomenergomash.

Rosatom proposed that companies of the nuclear sector should work out an international protocol for public reporting and establish an international contest of reports. Such a protocol will improve public acceptance of nuclear technologies through higher transparency of nuclear companies. In addition, an international protocol and reporting contest will make their operations comparable. It was noted, that the future protocol should take account of best experiences of international accounting standards, including integrated reports.

Conference participants supported the Corporation's initiative and were eager to continue efforts in this direction. In 2012, a task force will be set up, key participants of the pilot programme will be named, and a protocol concept will be worked out.

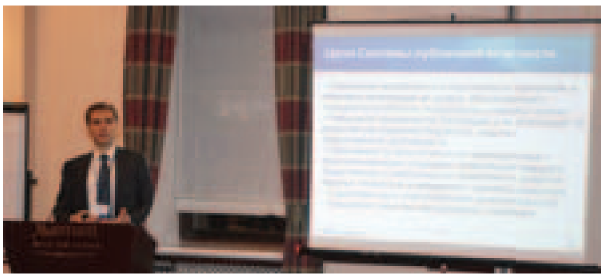
4.1.4. OBJECTIVES FOR 2012

International:

- participate in the pilot programme of the International Council on Public Reporting (prepare reports using IIRC forms, participate in preparation of an integrated reporting standard;
- participate in writing of version G4 of the GRI Guidelines (stakeholder participation);
- begin implementation of the initiative to work out an international industry-level protocol for reporting by nuclear sector companies;

Industry-level:

- improve the regulatory and methodological base, including a system of public reporting indicators;
- improve the public reporting systems at key organizations;
- support creation of reports in "new" key organizations (pilot mode);
- organize the activities of industry-level institutes for stakeholder assurance (stakeholder panels);
- improve models and methodology for the industry-level public reporting contest among organizations of Rosatom State Corporation.



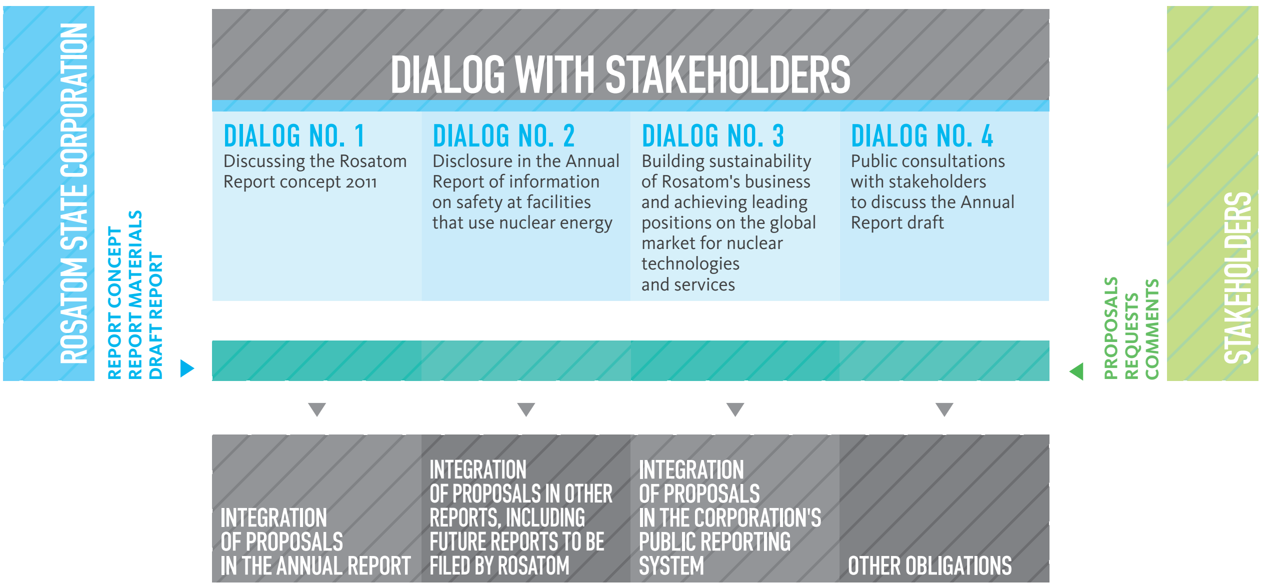
4.2.

ENGAGEMENT OF STAKEHOLDERS IN DRAFTING THE REPORT

FOR THE PURPOSES OF GREATER TRANSPARENCY AND ACCOUNTABILITY AT ROSATOM STATE CORPORATION, REPRESENTATIVES OF MAIN STAKEHOLDERS ARE INVITED TO PARTICIPATE IN REPORT WRITING THROUGH INVOLVEMENT IN DIALOG TO DISCUSS ASPECTS OF CORPORATION BUSINESS THAT ARE OF PUBLIC IMPORTANCE, AND THEIR REFLECTION IN THE REPORT UNDER PREPARATION, AND ALSO TO PARTICIPATE IN STAKEHOLDER ASSURANCE OF THE REPORT. THESE PROCEDURES ARE REGULATED BY INTERNATIONAL STANDARDS: AA1000SES INSTITUTE OF SOCIAL AND ETHICAL ACCOUNTABILITY AND THE GLOBAL REPORTING INITIATIVE (GRI, VERSION G3.1).

Rosatom assumed obligations during preparation of the previous report, most of which were performed in the 2010 Report, and part of them were assumed for 2011.

As this Report was prepared, Rosatom State Corporation held four dialog sessions with stakeholder representatives• on the following topics: “Discussion of the draft concept of the 2011 Annual Report of Rosatom State Corporation” (Moscow, 37 participants), “Disclosure of information on safety of nuclear power facilities in the Annual Report” (St. Petersburg, 34 participants), “Building stable business for Rosatom State Corporation and securing leadership on the global market of nuclear technologies and services” (Moscow, 31 participants). Public consultations with stakeholders to discuss the draft Report took place on July 3, 2012 in Moscow (64 participants).



PROGRESS WITH OBLIGATIONS ASSUMED BY ROSATOM DURING PREPARATION OF THE 2010 REPORT

Stakeholder suggestion	Rosatom's obligations	Progress
Show the industry-level trade union on the stakeholder matrix as an independent agent.	To be reflected in concept for 2011 Report.	Reflected in 2011 Report in the stakeholder matrix in section "Engagement of stakeholders".
In preparation of the 2011 Report, add a section, "Legal foundations of operations".	To be reflected in concept for 2011 Report.	Reflected in part, data on legal foundations of operations are available in the sections: "Corporation's strategy and its implementation", "Performance of government functions", "Complex to ensure nuclear and radiation safety" etc.
Add a section "Corporate culture of Rosatom State Corporation".	To be reflected in concept for 2011 Report.	Reflected in section "Human resource management".
Add a section on human resource aspect of development strategy to report, entitled "HR to ensure technology leadership of Rosatom".	To be reflected in concept for 2011 Report.	Reflected in part in section "Human resource management".
Report to describe HR management as special type of intellectual investment in the industry.	To be reflected in concept for 2011 Report.	Considered in part in section "Human resource management".
To expand section "Human resource management", conduct dialog on approach of senior executives to development of employee competencies (on the level of strategic goals for business development) and its relation to KPI.	To be reflected in concept for 2011 Report.	Not considered. Dialogs conducted on priority topics, which in the 2011 Report were: "Safety of nuclear power facilities" and "Operating efficiency of Rosatom State Corporation: achieving business stability and securing leadership for Russian companies on the global market of nuclear technologies and services".
Hold a dialog with representatives of the Corporation's "internal" stakeholders (trade union, youth associations, etc.) to expand section "Corporate culture of Rosatom State Corporation".	To be reflected in concept for 2011 Report.	Not considered. Dialogs conducted on priority topics of the Report.
Report to include information on levels of satisfaction of the general public in areas of presence (amend context information on phases of restructuring participation).	To be reflected in concept for 2011 Report.	To be examined when an international industry-level appendix is written for companies of the nuclear industry, including a system of indicators.
Prepare indicators on development strategy for closed administrative territories and include them in the Report.	To be examined when an international industry-level appendix is written for companies of the nuclear industry, including a system of indicators.	To be examined when an international industry-level appendix is written for companies of the nuclear industry, including a system of indicators.
Report to include information on changes in living standards of local communities in regions of presence (including closed administrative territories), using special indicators.	To be examined when an international industry-level appendix is written for companies of the nuclear industry, including a system of indicators.	To be examined when an international industry-level appendix is written for companies of the nuclear industry, including a system of indicators.
Report to include information on how many high-tech jobs are created thanks to the nuclear industry.	To be examined when an international industry-level appendix is written for companies of the nuclear industry, including a system of indicators.	To be examined when an international industry-level appendix is written for companies of the nuclear industry, including a system of indicators.

Rosatom State Corporation was represented at the dialogs by deputy CEOs, directors of departments, project managers, and profile specialists. Stakeholders were represented by international organizations in the nuclear sector, large companies from other sectors of the economy, the Federal Service for Environmental, Technological, and Nuclear Supervision, federal, local and municipal governments, key organizations of Rosatom State Corporation, public and non-profit organizations, schools, environmentalists, science and research organizations, business associations, the corporate governance expert community, and members of the Corporation's Public Council.

During the discussions, stakeholder representatives raised requests and gave specific recommendations on how the Annual Report should disclose certain information, and made proposals on the public reporting system (minutes of the dialogs are available from the Communications Department).

ACCOUNTING OF STAKEHOLDER PROPOSALS

In the course of the dialogs, as the Report was prepared, the parties made more than 90 proposals and recommendations. Most of the proposals contained requests to publish certain information in the Report. In the course of the dialogs, references to existing sources of information were given in response to a number of remarks.

Rosatom organized special work to respond to recommendations concerning the draft report (as regards structure, content, and information format) and improvement of the public reporting system. As a result, 50 proposals (89.3%) were considered fully or in part, 1 (1.8%) was rejected, and 5 (8.9%) were accepted with the promise to reflect them in the 2012 Annual Report.

ACCOUNTING OF MOST SIGNIFICANT PROPOSALS

Stakeholder proposal	Taken into account
The Report to provide explanation of individual radiology risks, this information is important for the Corporation's personnel and people living in closed administrative territories.	In section "Human Resource Management".
The Report to represent information on legal aspects of Rosatom operations, key acts that regulate operations of industry companies, imposing specific rules on the industry.	In part in sections: "Corporation's strategy and its implementation", "Performance of government functions", "Complex to ensure nuclear and radiation safety" etc.
Report to include information on stress tests conducted at Russian nuclear plants.	In section "Nuclear industry after Fukushima-1 disaster: new challenges to growth".
The Report to cover Rosatom's interaction with university R&D and the science community, as this activity was strongly supported and promoted in 2011.	In sections "Human resource management", "Science and engineering complex".
The Report to cover information on significance of nuclear electric power for citizens in the regions.	Considered in Section "Economic impact".
Provide comparative analysis of the nuclear industry in Russia and other countries.	In sections "International business", "Mining division", "Fuel division" etc.
The Report to provide estimates and plans.	In sections "Corporation strategy and implementation", "Risk management", "International business", "Mining division", "Fuel division" etc.
Amend the environmental safety section with 3 subsections: RAW handling, UNF handling, and emergency readiness.	In section "Complex to ensure nuclear and radiation safety".
Prepare a subsection to discuss physical protections of nuclear power facilities.	In section "Complex to ensure nuclear and radiation safety".
Section "The Corporation's strategy and its implementation" to provide details on strategic implementation.	Considered.
More attention to the subject of non-proliferation of nuclear arms.	In section "International cooperation".
The report to use a new indicator: radiation doses received by the general public due to operations of Rosatom companies (compared to background radiation).	In section "Environmental safety".
The Report to contain comments of peer companies.	In section "International business".
Add a new section "Outstanding problems, Approaches to their solution".	Not reflected, as outstanding problems are discussed for each activity in respective sections.

ROSATOM OBLIGATIONS TO CONSIDER PROPOSALS

Stakeholder proposal	Obligation
The Report to contain information on approaches used to design and build small-capacity plants (including safety).	To be reflected in the concept of the 2012 Report.
Make issues of safety culture and HR the priority topic of the 2012 Report.	Proposal to be reflected in the concept of the 2012 Report.
During Report preparation, use the experience of Skoda J.S. a. s.	Experience of public reports of Skoda J.S. a. s. will be examined.
Part of subject dialogs in future to discuss general (non-specialist) topics in the Report.	Proposal to be reflected in the concept of reports for 2012 and subsequent years.
Representatives of Rosatom to participate in forum dialog (September 2012) and report on results of stage one of adopted public reporting in the nuclear industry.	Representatives of Rosatom will participate in the forum dialog.

E.N. FEOKTISTOVA
Deputy Chairman of the Council for Non-financial Reporting, Head of the Center for Corporate Social Responsibility and Non-financial Reporting of the Russian Union of Industrialists and Entrepreneurs

"Rosatom State Corporation's engagement of stakeholders in preparation of reports deserves to be regarded as among the best practices in Russia, and it can be truly recommended to other companies. This is particularly important since Rosatom is not a private corporation, and has no obligation to publish such reports; nevertheless it does so of its own accord. Through continuous active dialog with stakeholders, the Corporation is acquiring a good reputation as a business that actually makes efforts to improve its transparency, openness and dependability".

V.F. MENSHIKOV
Co-manager of the Program for Radiation and Nuclear Safety at the Center for Russia's Environmental Policy & International Social and Environmental Union (National Public Organization, "Center for Environmental Policy and Culture")

"It is imperative that the Report should publish the results of stress tests on Russian nuclear plants. It is hard to understand why, following the Fukushima events and after such a difficult year, the results of such stress tests are so hard to find. We only hear statements of a general nature, that everything in Russia is fine. I believe that civil society is asking: "Well, you are specialists, and you have done the tests. So what were the results?" The reporting year was a special year – the world had its biggest shock since the Chernobyl disaster. So the results of stress tests must be in the Report".

E.M. GLAGOVSKY
Director, Institute of Industrial Nuclear Technologies, NRNU MEPhI

"In summer of 2011, the Consortium of universities with a special relationship to Rosatom was formed, under the leadership of National Research Nuclear University MEPhI. The Consortium comprises 13 of the largest universities in Russia and will address issues of human resources, training and retraining, and cooperation between science and businesses in the nuclear industry. As decided by the Russian President and the Federal Government, R&D at the universities will be financed. This is stated in Rosatom's innovative program for development and technological upgrade, which envisages assignment of 3.5% of national R&D spending to university research. I see this as an important event that needs to be mentioned in your Annual Report".

A. GREIM
Areva chief-representative in Russia and CIS

"Our Company is following the process of Public Annual Report preparation by Rosatom State Corporation with pleasure and interest. Our impression is that issues of transparency are receiving more attention, and we believe that this is highly important. We have noticed that the quality of information disclosed in Annual Reports is improving every year; this can be said of both Rosatom State Corporation and its subsidiaries. We are happy that we were able to work and participate in engagement by the Corporation and its subsidiaries with stakeholders".

4.3.

STATEMENT ON PUBLIC ASSURANCE OF THE REPORT

INTRODUCTION

State Corporation for Atomic Energy Rosatom requested that we should carry out assurance of its Public Annual Report for 2011, including assessment of the completeness and relevance of the information it contains, and the Corporation's response to the requests of stakeholders. For this purpose, we and our representatives were invited to participate in public consultations to discuss the draft report, held on July 3, 2012, and in dialogs with stakeholders (January 25, 2012, "Discussing the draft concept of the 2011 Annual Report of Rosatom State Corporation"; April 24, 2012, "Disclosure in the Annual Report of information on safety at nuclear power facilities"; April 27, 2012, "Building Rosatom State Corporation as a sustainable business to achieve leadership on the global market for nuclear technologies and services").

This public assurance analyzed and assessed the format, structure, textual and visual contents of the Report, relevance and completeness of the information disclosed in it, and the Corporation's response to comments and proposals from stakeholders.

This Statement is based on comparative analysis of two versions of the Report (the draft for public consultations and the final version of the Report), materials from the dialogs that were provided to us (minutes of meetings and a table showing how stakeholder proposals were taken into account), as well as comments obtained from executives and employees of Rosatom State Corporation in the course of work for assurance of this Report.

In carrying out this public assurance of the Report, we did not set ourselves the task of reviewing the Corporation's system of information gathering and analysis. Verification of actual data presented in the Report also does not come within the scope of this public assurance.

We have not received any remuneration from the Corporation for our participation in the public assurance procedure.

ASSESSMENTS, COMMENTS, AND RECOMMENDATIONS

We are unanimous in our positive assessment of the Report: its format, and the scope of information disclosed. It is exceptionally important that the Report was prepared on a voluntary basis and published for the third time, since this is clear evidence that Rosatom Corporation is working continuously to improve its levels of transparency and accountability.

During preparation of the Annual Report the Corporation showed commitment to securing public acceptance of nuclear technology development as well as readiness to hold an open public dialog with stakeholders on various aspects of the Corporation's activities. We note that the Corporation's management understands the constructive nature of stakeholder engagement, and is taking steps to ensure that such interaction continues.

In our view, the integrated nature of the Report enables comprehensive disclosure of information about the Corporation's main activities, and its efforts in the sphere of sustainable development. Readers of the Report are offered a complete picture of the operations of Rosatom. We believe that an integrated Report is precisely what is needed in order to present the official position of Rosatom management on the main socially significant activities of the Corporation.

We hold it to be of paramount importance that Rosatom joined the Pilot Program of the International Integrated Reporting Council (IIRC) in 2011, and that it followed IIRC recommendations and analytical materials in preparation of its Report. Beyond all doubt, cooperation between the Corporation and the IIRC will contribute to further improvement of integrated reporting by Rosatom, meeting the requests of stakeholders for disclosure of information. Involvement of Rosatom and other Russian entities in the IIRC Pilot Program helps to disseminate global best practices and to raise the quality of corporate reporting in Russia.

Another undeniable advantage of the Report is that it uses Russian and international corporate reporting standards (Guidelines for Sustainable Development Reporting of the Global Reporting Initiative (GRI, version G3.1), the AA1000 series of standards of the Institute of Social and Ethical Accountability, and key performance indicators recommended by the Russian Union of Industrialists and Entrepreneurs), and the Corporation's proprietary corporate standard for public reporting.

This Report matches Level B+ by the criteria of the GRI Guidelines, and the number of disclosed performance indicators has increased. We also note an increase in disclosed corporate indicators of public reporting standards. This means that the Corporation has continued its efforts to raise the quality of information disclosed. In our view, this Report is evidence that the nuclear industry is becoming more transparent, since it is publishing information about its activities in the public arena, including information on issues of social significance: safe operation of nuclear power facilities; addressing nuclear legacy issues; the problems which the industry faces; and its plans for the medium and long-term future.

We are unaware of any facts that cast doubt on any information contained in the Report.

However, it is our duty to call attention and make recommendations to the Corporation on a number of points, as follows:

— future reports should throw more light on the connections between strategic goals of Rosatom and sustainable development goals;
— more detailed description is required of the Corporation's business model and links in the model between financial and non-financial performance, and the resources which are engaged;
— it would be desirable to use more GRI performance ratios, in order to achieve level A+ by the criteria of the GRI Guidelines;
— more steps are needed to improve the corporate reporting system, and to develop specific performance indicators for the nuclear industry;
— more work could be carried out to prepare the digital (interactive) version of the report, making the publication more information-intensive and advanced;
— work on the report should be completed earlier.

RELEVANCE OF INFORMATION

We believe that the Report covers all essential issues of relevance to stakeholders of Rosatom. The Report presents the Corporation's stance on issues of strategic development, financial performance, and the outcome of its social, environmental and economic impacts.

The choice of priority topics for the Report ("Safety of nuclear power facilities" and "Operating efficiency of Rosatom State Corporation: Achieving business stability and securing leadership on the global market of nuclear technologies and services") seem to be appropriate, since these topics are of particular interest to stakeholders.

The Report states the positions of the Corporation on issues that concern the international nuclear community, environmentalists, local communities in the Corporation's areas of presence and other stakeholders. It is particularly significant that safety issues are comprehensively addressed, since the 2011 Fukushima-1 disaster created public anxiety worldwide and led to growth of stakeholder demands with respect to nuclear power operators.

COMPLETENESS OF INFORMATION

We do not believe that it would be worthwhile to increase the scope of the Report, even though it does not respond to all of the questions asked by stakeholders in the course of dialogs and public consultations. We support the decision that the Report should integrate links to other reports filed by Rosatom State Corporation and its structural units, where the requested information is available. It is our opinion that information about main activities and sustainable development efforts should be supported with more performance indicators and figures. The Corporation has already shown much progress in this direction, and we believe that it will be appropriate to consistently increase the range of indicators disclosed. We also approve Rosatom's new initiative to develop an international reporting protocol for nuclear industry companies. This will make a significant contribution to enabling international comparisons between nuclear companies.

RESPONSE BY THE CORPORATION TO THE REMARKS AND PROPOSALS OF STAKEHOLDERS

Rosatom State Corporation responded to stakeholder proposals by modifying and amending the final version of the Report (or stating a valid reason why requested information could not be disclosed), and also by assuming a number of obligations to disclose certain information in the next reporting period, and to improve its public reporting system. For example: the section "Strategy and Implementation" now contains more information about strategy implementation; the section "Key Performance Indicators" has added sustainable development indicators related to business and nuclear safety; the section "Nuclear Industry after the Fukushima-1 Disaster: New Challenges to Growth" includes information about stress tests carried out at Russian nuclear plants; the section "Human Resource Management" discusses recruitment of young specialists for the nuclear industry, and provides explanation of individual radiology risks; and the section "Nuclear and Radiation Safety" has added subsections on nuclear waste processing and processing of used nuclear fuel, emergency response readiness, and a subsection on physical protection at nuclear power facilities. It must be acknowledged that Rosatom State Corporation has done much to comply with the comments raised by the expert community concerning its 2010 Report. Specifically:

— the latest Report presents financial results using international accounting standards (in the perimeter of OJSC Atomenergoprom);
— the quality of information disclosed in the section “Strategy and Implementation” is considerably higher;
— the Report includes important new sections: “Business Model and Analysis of Markets of Presence”, “Radiation Technologies”, “The Nuclear Industry after the Fukushima-1 Disaster: New Challenges to Growth”, etc.;
— the volume of information related to employee training and retraining, and interaction between Rosatom and universities has been greatly expanded;
— the presentation of information in Report sections related to the Corporation’s core activities is noticeably better structured than in previous reports.

We believe that the Corporation has shown good progress in furthering its engagement of stakeholders and the practice of public reporting in the nuclear industry. The process of Report preparation included a wide range of events, at which stakeholders (both individuals and groups) had the opportunity to make proposals on information disclosure in the Report and speak about the reporting system in the industry as a whole.

We are optimistic that Rosatom will continue its work to make principles of responsible corporate behavior into a part of its business through development of the public report system and engagement of stakeholders.

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L. Haines
President, Nuclear Power Division, Rolls Royce Corp.

LIST OF ABBREVIATIONS

ALA
administrative and logistical activities

ARMIR
automated workplace for assessment of individual risk

ASERC
automated system of environment radiation control

ASTS
automated system of transportation safety

BA
business accounting

CC
Closed administrative territories, restricted-access township

CIS
Commonwealth of Independent States

CJSC
closed corporation

CMBF
chief manager of budget funds

CNFC
closed nuclear fuel cycle

CRMS
corporate risk management system

CURS
Central uniform remuneration system

DEC
demonstration experimental center

ENU
experimental nuclear unit

EUP
enriched uranium product

EURASEC
Eurasian Economic Community

FAIR
Facility for Anti-proton and Ion Research

FDU
functional division unit

FEU
financial and economic unit

FMBA
Federal Medicine and Biology Agency

FRC
financial responsibility center

FSLC
final stage of the life cycle

FST
Federal Service for Tariffs

FTP
Federal Target Program

GC
gas centrifuge

HAW
high-activity waste

HC
hazardous chemicals

HEU
highly enriched uranium

IAEA
International Atomic Energy Agency

ICUR
installed capacity use ratio

IGA
inter-governmental agreement

INES
International nuclear events scale (INES)

INPRO
International project for innovative nuclear reactors and fuel cycles (INPRO)

IRG
inert radioactive gases

ITER
international experimental thermonuclear reactor (ITER)

IUEC
International uranium enrichment center

JV
joint venture

KPI
key performance indicators

LAW
low-activity waste

LC
life cycle

LEU
low-enrichment uranium

LLC
limited liability company

LRW
liquid radioactive waste

LTAP
Rosatom long-term action program

MAW
medium-activity waste

MFSSC
multi-functional shared service center

MMLCE
monopolist manufactured long cycle equipment

NAC
nuclear arms complex

NEF
nuclear energy facilities

NFC
nuclear fuel cycle

NIBC
nuclear icebreaker production complex

NPA OECD
Nuclear Power Agency at the Organization of Economic Cooperation and Development

NPP
nuclear power plant

NRS
nuclear and radiation safety

NS
nuclear submarine

OJSC
public corporation

OSCHS
functional subsystem to prevent and eliminate emergencies in organizations subordinate to and controlled by Rosatom State Corporation

PI
private institution

PROFATOM
Russian Trade Union for Nuclear Power Generating and the Nuclear Industry

R&D
research & development

RAW
radioactive waste

RBMK
channel-type large-capacity reactor

RCLSF
reactor compartment long-storage facilities

RF
Russian Federation

RIA
results of intellectual activity

RITEG
radio isotope thermoelectric generator

RM
radioactive materials

ROSATOM STATE CORPORATION, CORPORATION
State Atomic Energy Corporation ROSATOM

ROSTEKHNADZOR
Federal Service for Environmental, Technological, and Nuclear Supervision

RSE
results of science and engineering

RUME
Russian Union of Industrialists and Entrepreneurs

S&A
subsidiaries and affiliate corporate entities

SEC
science and engineering complex

SRW
solid radioactive waste

SUE
State Unitary Enterprise

TA
tax accounting

TVEL
fuel element

TVS
fuel assembly/set

UIDFL
Uniform industry-level document flow system

UN
United Nations Organization

UNF
used nuclear fuel

UNS RAW
Uniform National System of RAW handling

UNS UNF
Uniform National System of UNF handling

VVER
water-water energy reactor

WAO NPP
world association of operators of nuclear power plants

XIC
x-ray inspection complex

GLOSSARY

CORPORATE SOCIAL RESPONSIBILITY
concept by which organizations consider the needs of their stakeholders. This is a set of obligations worked out voluntarily by corporate management, to consider the interests of employees, stockholders, local community in the areas of presence, governments, municipalities, and other stakeholders. Such obligations are mainly performed at the organization's expense and are meant to achieve significant internal and external social (in the broad sense) programs, the results of which assist corporate growth, reputation or image, and promote fruitful engagement of stakeholders.

BECQUEREL (BQ)
unit of nuclide activity in the radioactive source, equal to nuclide activity at which one nuclear decay event occurs each second.

BOO CONTRACT (BUILD-OWN-OPERATE)
contract that envisages obligations to build, own, and operate a facility.

CLOSED NUCLEAR FUEL CYCLE
nuclear fuel cycle in which used nuclear fuel is recycled to extract uranium and plutonium for reuse in nuclear fuel.

CORPORATE BUSINESS MODEL
model consisting of main business processes and resources/capital, by which a business creates and maintains its value in the long term.

DEPLETED URANIUM
uranium in which content of the uranium U-235 isotope is lower than in natural uranium (for example, uranium in used fuel of reactors that burn natural uranium).

DIALOG WITH STAKEHOLDERS (TO PREPARE THE ANNUAL REPORT)
event organized to meet international standards of series AA1000, so that the host can interact with representatives of its main stakeholders and thus prepare and promote its Public Annual Reports.

ENRICHMENT (BY ISOTOPE)
a) content of atoms of specific isotope in the mix of isotopes of the same element, if it exceeds the isotope's share in the mix that is found in nature (as percent rate);
b) process that increases content of specific isotope in a mix of isotopes.

ENRICHMENT OF URANIUM ORE
entirety of processes used to treat mineral uranium material in order to separate uranium from other minerals in the ore composition; this does not change the composition of minerals, but merely separates them mechanically to produce ore concentrate.

EPC CONTRACT (ENGINEERING, PROCUREMENT, CONSTRUCTION)
contract that envisages obligations to deliver a facility in 'turn-key' condition, with engineering, supplies, and construction thereof; ownership of the facility is not part of the contract, unlike a BOO arrangement.

EPCM CONTRACT (ENGINEERING, PROCUREMENT AND CONSTRUCTION MANAGEMENT)
contract that envisages obligations to deliver a facility in 'turn-key' condition, with engineering, supplies, and construction, and to manage the construction; ownership of the facility is not part of the contract, unlike BOO.

EXPERIMENTAL OPERATION
stage of nuclear plant commissioning, from beginning of power launch to acceptance for industrial operation.

EXPERIMENTAL REACTOR
nuclear reactor used as an object of experimental research to obtain information on reactor physics and technology as needed to design and develop reactors of the type or their components.

FAST NEUTRONS
neutrons with kinetic energy above a certain value that may vary within a broad range and depends on application (reactor physics, protection or dosimetry). In reactor physics, the value is usually assumed as 0.1 MeV.

FUEL ASSEMBLY
a set of fuel elements (rods, bars, plates, etc.), held together with spacer grids and other structural components, which exist as one piece during shipments and irradiation inside the reactor; assemblies are loaded into the core of a nuclear reactor.

FUEL PELLET
a pellet of compactly pressed uranium dioxide as basis of nuclear fuel placed inside TVEL elements.

GENERATION START
stage during nuclear plant commissioning when the nuclear plant begins generation of power and its operation is tested at various output rates up to the rate designated for industrial operation.

GLOBAL REPORTING INITIATIVE, GRI
internationally accepted system of reports on results in business, environmental, and social activities, as described in the Guidelines on sustainable development reports, technology protocols and industrial addenda.

HEU PURCHASE AGREEMENT
agreement signed between the Russian Federal Government and the US Government on use of high-enriched uranium extracted from nuclear arms, under which Russia assumed the obligation to sell to the US for 20 years (until the end of 2013) low-enrichment uranium (LEU) produced from 500 tons of high-enriched uranium (HEU) taken from nuclear arsenals and recognized by the Russian party as redundant in terms of national defense.

IAEA WARRANTIES
an inspection system established as part of the international nuclear non-proliferation system that applies to peaceful use of nuclear energy and enforced by the International Atomic Energy Agency.

INSTALLED CAPACITY USE RATE (ICUR)
ratio of actual power output by the reactor unit during operation to power output when used non-stop at rated capacity.

INTEGRATED REPORT
report that integrates all relevant information about the organization's strategy, corporate governance, performance indicators and outlooks in a way that comprehensively demonstrates its economic, social, and environmental situation; the report gives a clear and distinct idea of how the organization practices reasonable control and creates its value, both at present and in the future.

INTERNATIONAL INTEGRATED REPORTING COUNCIL, IIRC
international organization that develops the global integrated reporting standard, which enables presentation of managerial, financial, social or environmental information in an understandable, substantive , consistent and comparable report. The goal for the IIRC is to develop a universal approach to presentation of corporate information, promoting sustainable development of the global economy.

ISAE 3000 (INTERNATIONAL STANDARD ON ASSURANCE ENGAGEMENTS)
international standard used to audit non-financial reports.

KEY ORGANIZATIONS (FOR THE PURPOSES OF PUBLIC REPORTING)
organizations, whose activities are of significant public and political significance and/or value to position Rosatom State Corporation on Russian or foreign markets.

KEY PERFORMANCE INDICATORS (KPI)
key performance indicators that correspond to Rosatom State Corporation's goals and represent efficiency and results of corporate efficiency (within active structural units) and personal efficiency of employees.

NATURAL BACKGROUND
ionizing radiation composed of cosmic and ionizing fractions of naturally distributed natural radionuclides (on the planet's surface, in the air, in food, water, human body, etc.).

NON-FINANCIAL REPORTS
reporting about corporate performance beyond principal production and financial activities (and control of such results). Non-financial reporting includes sustainable development reports, corporate social responsibility reports, environmental reports, charity reports, etc.

NPP SAFETY
a nuclear plant's propensity to ensure radiation safety of personnel, the general public and the environment within required limits under normal operation and in an emergency.

NUCLEAR FUEL
material that contains fissionable nuclides which, when placed inside a nuclear reactor, enable a nuclear chain reaction.

NUCLEAR FUEL CYCLE
sequence of production processes to ensure functioning of nuclear reactors, from uranium production to burial of radioactive waste.

NUCLEAR NON-PROLIFERATION TREATY
international treaty to constrain the arms race and prevent emergence of new nations with nuclear arms. Nations that already have nuclear arms assume the obligation not to transfer such arms or technologies to any other party, while non-nuclear nations promise not to make or acquire nuclear arms or other nuclear explosive devices.

NUCLEAR POWER ENGINEERING
the generating segment that uses nuclear power to produce electric energy and heat

NUCLEAR SAFETY
general term that describes the propensity of a nuclear unit under normal operation and in emergency to keep radiation impact on personnel, the general public and the environment within acceptable limits.

OPERATOR
corporate entity authorized by the supervising agency to operate a nuclear plant or another nuclear unit.

PHYSICAL START
stage during nuclear plant commissioning when nuclear fuel is loaded into the reactor, critical mass is achieved, and all necessary physical experiments are conducted on the output level at which heat removal from the reactor occurs as a result of natural heat loss.

STAKEHOLDER ASSURANCE OF A REPORT
procedure whereby key stakeholder representatives confirm the report as relevant and informative, and evaluate the organization's response to stakeholder comments and proposals, practiced under international standard AA1000SES. The result of public affirmation is a statement of stakeholder assurance signed by key stakeholder representatives and made part of the report.

RADIATION CONTROL
gathering data on radiation patterns in an organization, environment, and exposure of humans (includes dosimetry and radiometry control).

RADIATION SAFETY
set of activities to limit radiation burden on personnel and the public to the lowest dose achievable using publicly acceptable means, and to prevent early consequences of irradiation, also limiting remote consequences of irradiation to acceptable levels.

RADIOACTIVE BURDEN
sum total of separate exposure doses received during activities of operation, maintenance, repair, replacement or disassembly of nuclear equipment, for example, a nuclear plant.

RADIOACTIVE EMISSION
radionuclide release into the atmosphere caused by operation of a nuclear unit (for example, nuclear power plant).

RADIOACTIVE EMISSIONS
controlled radionuclide release to water reservoirs in liquid waste from a nuclear plant (for example, nuclear power station).

RADIOACTIVE WASTE
nuclear materials and radioactive substances not intended for reuse.

RADIOACTIVE WASTE BURIAL
safe placement of radioactive waste in storage or other places that prevents withdrawal of waste and escape of radioactive matter to the environment.

RADIOACTIVE WASTE RECYCLING
technological operations that change aggregative stage and/or physical and chemical properties of radioactive waste, to convert them to forms acceptable for transportation, storage and/or burial.

RECOMMENDATIONS OF THE RUSSIAN UNION OF INDUSTRIALISTS AND ENTREPRENEURS (RSPP) FOR USE IN MANAGERIAL PRACTICES AND CORPORATE NON-FINANCIAL REPORTING (BASE RESULT INDICATORS)
system of indicators of economic, social and environmental results for non-financial reports developed by the RSPP to assist adoption of the principles of responsible business. It rests on a number of fundamental documents developed by UN components (including UN Global Agreement), the Global reporting initiative, and methodological recommendations of the Federal Statistics Board of the Russian Federation, and RSPP methodologies (Social Charter of Russian Business, Recommendations on preparation of non-financial reporting, "Five Steps towards Socially Stable Business", etc.).

SEPARATIVE WORK UNIT (SWU)
measure of force used to separate specific quantity of material of specific isotope composition into two fractions with different isotope structures; it does not depend on the separation process used; the unit of separation is the kilogram, and costs of enrichment and energy consumption are calculated per kilogram of accomplished separation.

STAKEHOLDER (S)
individuals and/or corporate entities, or groups of such, who by their actions influence and/or are influenced corporate activities. An organization can have various stakeholders (national and international bodies of control/supervision, stockholders, users of commodities and services, business partners, suppliers and contractors, civilian public organizations, local community, trade unions etc.), whose interests may be mutually remote or even conflicting.

SUSTAINABILITY REPORTING GUIDELINES (GLOBAL REPORTING INITIATIVE, GRI)
guidance on sustainable development reports that states the principles that determine report contents and ensure quality of report information; standard report components that consist of performance indicators for economic, environmental, and social impact of the entity, approaches to control the impact, and other characteristics and recommendations on specific technicalities of reporting.

SUSTAINABLE DEVELOPMENT
growth that meets the needs of the time but does not endanger the abilities of future generations to meet their needs. Therefore, information openness and corporate accountability as regards business, environmental, and social impact are prerequisites for each business entity.

URANIUM CONVERSION
chemical technological process that converts uranium-containing materials to hexafluoride uranium.

URANIUM HEXAFLUORIDE
chemical compound of uranium and fluoride (UF6). This is the only volatile uranium compound (if heated to 53°C, uranium hexafluoride passes from solid to gaseous state) and it is used as source material to separate isotopes of uranium-238 and uranium-235 with gas-diffusion or gas-centrifuge technology to produce enriched uranium.

USED NUCLEAR FUEL RECYCLING
set of chemical processes that remove products of fission from used nuclear fuel and regenerate fissionable material for reuse.

VVER
power reactor that uses water as a heat medium and moderator. The most common reactor type in Russian nuclear plants has two modifications: VVER-440 and VVER-1000.

AA1000SES (AA1000 STAKEHOLDER ENGAGEMENT STANDARD)
universally used and available regulatory basis used to plan, execute, assess, inform and audit non-financial reports, evaluating the quality of engagement of stakeholders through reporting and corporate accountability in efficient governance.

APPENDIX 1.
TABLES OF STANDARD DISCLOSURES AND PERFORMANCE INDICATORS GRI (G3.1), AND RSPP BASIC PERFORMANCE INDICATORS

No.	Standard disclosure	Report chapter/section/comment	Page
Strategy and Analysis			
1.1	Statement from the most senior decision-maker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	Address by the Chief Executive Officer. Information about the Report. Rosatom strategy and its implementation.	8, 1, 30
1.2	Description of key impacts, risks, and opportunities.	Address by the Chief Executive Officer. The nuclear industry after Fukushima: New challenges. Rosatom strategy and its implementation. Risk management. Managing sustainable development of the Corporation. Managing Organizational Development.	8, 14, 30, 36, 44, 48
Characteristics of the Organization			
2.1	Name of the organization.	General information about the Corporation.	22
2.2	Primary brands, products, and/or services.	General information about the Corporation.	22
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	General information about the Corporation. Appendix 7. List of key organizations of Rosatom State Corporation.	22, 320
2.4	Location of the organization's headquarters.	General information about the Corporation.	22
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.	General information about the Corporation.	22
2.6	Nature of ownership and legal form.	General information about the Corporation. Corporate governance.	22, 54
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	General information about the Corporation. Business model and markets of presence. Performance of government functions. International business.	22, 24, 110, 142
2.8	Corporate scale.	Key results. Address by the Chief Executive Officer. Business model and markets of presence. Human resource management. Economic effects.	2, 8, 24, 76, 250
2.9	Significant changes during the reporting period regarding size, structure, or ownership.	Corporate governance.	64
2.10	Awards received in the reporting period	Human resource management. Public reports of Rosatom and its organizations.	84, 277
3.1	Reporting period (e.g., fiscal/calendar year), to which the disclosed information relates	Information about the Report.	1
3.2	Publication date of most recent Report	Information about the Report.	1
3.3	Reporting cycle	Information about the Report.	1
3.4	Contacts for inquiries about the Report/its content	Feedback questionnaire. Contact information.	325, 327
3.5	Process for defining the Report's content, including determining materiality, prioritizing topics within the report and identifying stakeholders the organization expects to use the Report.	IInformation about the Report. Engagement of stakeholders in drafting the Report	1, 278
3.6.	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	Information about the Report. Appendix 7, List of key organizations in Rosatom State Corporation.	1, 320
3.7	Any specific limitations on the scope or boundary of the Report	Information about the Report.	1
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 about the Report. Appendix 7, List of key organizations in Rosatom State Corporation.	1, 320
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.	Information about the Report.	1

No.	Standard disclosure	Report chapter/section/comment	Page
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	Information about the Report. No restatements.	1
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	Information about the Report.	1
3.12	Index of GRI contents	Appendix 1. Tables of Standard Disclosures and Performance Indicators GRI (G3.1), and RSPP Basic Performance Indicators	291
3.13	Policy and current practice with regard to seeking external assurance for the report.	Information about the Report. Appendix 5, Integrated consolidated IAS financial statements of OJSC Atomenergoprom for 2011, and independent auditor's opinion by ZAO KPMG. Appendix 6, Independent Limited Assurance Report to the Management of Rosatom	1, 282, 305, 317
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.	Corporate governance.	55, 60
4.2	Indicate whether the Chair of the highest governance body is also an executive officer	Corporate governance.	55
4.3	For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and/or non-executive members.	Corporate governance.	64
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	Corporate governance. Social impact.	55, 256-257
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).	Human resource management.	79
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	Performance of government functions.	110
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.	Corporate governance.	55
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.	Managing sustainable development of the Corporation. Engagement of stakeholders.	44, 264
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.	Corporate governance. Internal control system.	60, 102
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	Corporate governance. Internal control system.	60, 102
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	Risk management. Capital construction.	36, 210
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	International cooperation. Scientific and technical complex. Public reports of Rosatom and its organizations.	134, 167, 274
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations.	Performance of government functions. International cooperation. Scientific and technical complex. Social partnership.	110, 139, 167, 256
4.14	List of stakeholder groups engaged by the organization.	Engagement of stakeholders. Engagement of stakeholders in drafting the Report.	264, 274
4.15	Basis for identification and selection of stakeholders with whom to engage.	Engagement of stakeholders. Engagement of stakeholders in drafting the Report.	264, 274
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	Engagement of stakeholders. Engagement of stakeholders in drafting the Report.	264, 274
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.	Engagement of stakeholders. Engagement of stakeholders in drafting the Report.	264, 274

TABLE OF GRI (G3.1) PERFORMANCE INDICATORS AND RSPP BASIC PERFORMANCE INDICATORS

Indicator	Corresponding number of RSPP basic performance indicator	Report section	Disclosure degree	Report page/ disclosure
Economic Performance Indicators				
EC 1 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.	1.2.-1.7.	Economic effects.	●	252
EC 2 Financial implications and other risks and opportunities for the organization's activities due to climate change.		Environmental safety.	◐	246 No quantitative calculations carried out to estimate consequences of climate change.
EC 3 Coverage of the organization's defined benefit plan obligations.		Human resource management.	●	80
EC 4 Significant financial assistance received from government.	1.8.	Performance of government functions.	●	113-114
EC 5 Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.		Human resource management. Regions of presence of Rosatom.	●	79, 248-249
EC 6 Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.		Economic effects Procurement management.	●	254, 94
EC 7 Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation.		Economic effects	◐	254
EC 8 Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.		Human resource management. Economic effects. Social impact.	●	79, 250-251, 262-263
EC 9 Understanding and describing significant indirect economic impacts, including the extent of impacts.		Economic effects. Scientific and technical complex.	●	250-251, 153
Environmental Performance Indicators				
EN 4 Indirect energy consumption by primary source.		Environmental safety.	◐	246
EN 5 Energy saved due to conservation and efficiency improvements.		Environmental safety.	●	247
EN 6 Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.		Scientific and technical complex.	◐	166
EN 8 Total water withdrawal by source.	2.3	Environmental safety.	●	239
EN 10 Percentage and total volume of water recycled and reused.	2.4	Environmental safety.	●	239
EN 12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.		Environmental safety.	●	243
EN 13 Habitats protected or restored.		Environmental safety Social impact.	●	243, 263
EN 14 Strategies, current actions, and future plans for managing impacts on biodiversity.		Environmental safety.	◐	243
EN 16 Total direct and indirect greenhouse gas emissions by weight.		Environmental safety.	◐	240
EN 20 NOx, SOx, and other significant air emissions by type and weight.	2.6	Environment safety.	●	240
EN 21 Total water discharge by quality and destination.	2.7	Environmental safety.	●	240
EN 22 Total weight of waste by type and disposal method	2.8	Environmental safety.	●	241
EN 24 Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.		Environmental safety.	●	241

Indicator	Corresponding number of RSPP basic performance indicator	Report section	Disclosure degree	Report page/ disclosure
EN 25 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.		Environmental safety.	◐	243
EN 26 Initiatives to mitigate environmental impact of products and services and extent of impact mitigation	2.11.	Environmental safety. Nuclear and radiation safety.	●	236, 218
EN 28 Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.		Environmental safety.	●	245
EN 30 Total expenditure and investments in environmental protection, with breakdown by types	2.32	Environmental safety.	●	244
Labor Practices & Decent Work Performance Indicators				
LA 1. Total workforce, by employment types, contract, and region (with breakdown by gender).	3.1.1.	Human resource management.	◐	78
LA 2. Total number and rate of new employee hires and employee turnover by age group, gender, and region.	3.1.2.	Social impact.	◐	78
LA 4. Percentage of employees covered by collective bargaining agreements.	3.1.4.	Social impact.	●	256
LA 7. Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender.	3.1.5.-3.1.8.	Human resource management.	◐	81
LA 8. Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.		Human resource management.	◐	82
LA 9. Health and safety topics covered in formal agreements with trade unions.		Human resource management.	●	81
LA 10. Average hours of training per year per employee by gender, and by employee category.		Human resource management.	◐	86
LA 11. Lifelong training and skills programs to keep individuals employable and assist with career closure		Human resource management.	◐	85
LA 12. Percentage of employees receiving regular performance and career development reviews, by gender.		Human resource management.	●	84
LA 13. Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.		Human resource management.	◐	78
Society Performance Indicators				
SO 1. Percentage of operations with implemented local community engagement, impact assessments, and development programs.		-	●	Programs and practical approaches exist that would assess impact of corporate activities on communities and control such impacts, including beginning, performance and conclusion of corporate activities.
SO 4. Actions taken in response to incidents of corruption.		Performance of government functions. Internal control system.	●	112, 107
SO 5. Public policy positions and participation in public policy development and lobbying.		Performance of government functions.	●	112

Indicator	Corresponding number of RSPP basic performance indicator	Report section	Disclosure degree	Report page/ disclosure
SO 8. Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.		-	●	In 2011, total fines and penalties for legal non-compliance under applicable laws and regulations (including fines and penalties charged after field tax audits) amounted to 19 mln RUB. No non-financial sanctions used in the reporting year.
SO 9. Operations with significant potential or actual negative impacts on local communities.		Regions of presence of Rosatom.	●	248
Product Responsibility Performance Indicators				
PR 1. Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.		Risk management. Capital construction. Nuclear and radiation safety. Environmental safety.	●	36, 210, 218, 237
PR 2. 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.		-	●	No cases of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services.
PR 3 Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.		Risk management. Nuclear and radiation safety. Environmental safety.	●	36, 218, 234
PR 4 Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes.		-	●	- No cases of non-compliance with regulations and voluntary codes concerning product and service information and labelling.
PR 5 Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.		International business. Engagement of stakeholders.	●	151, 271
PR 7 Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.		-	●	No registered cases of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship.
PR 8 Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.		-	●	No complaints regarding breaches of customer privacy and losses of customer data.

Indicator	Corresponding number of RSPP basic performance indicator	Report section	Disclosure degree	Report page/ disclosure
Human Rights Performance Indicators				
HR 1 Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.		-	●	In 2011 investment agreements signed by Rosatom did not contain provisions on human rights, and were not evaluated in terms of human rights.
HR 2 Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening, and actions taken.		-	●	In 2011 suppliers and contractors of Rosatom were not evaluated in terms of human rights.
HR 5 Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.		-	●	Rosatom is not engaged in activities that threaten the right to freedom of association and collective bargaining.
HR 6 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.		-	●	Rosatom is not engaged in activities with significant risk of child labor.
HR 7 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.		-	●	Rosatom is not engaged in activities with significant serious risk of forced or compulsory labor.
HR 9 Total number of incidents of violations involving rights of indigenous people and actions taken.		-	●	No cases involving violations of the rights of indigenous people have been identified.
HR 10 Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.		-	●	All activities of Rosatom State Corp. are compliant with civil rights law of its host countries; therefore, no additional inspections or evaluations were carried out.
Mining and Metals Performance Indicators (Sector Supplement)				
MM 9 Areas of resettlement, number of households moved; how resettlement influenced their living conditions		Social impact.	◐	263

APPENDIX 2.
INDICATOR CHART OF ROSATOM PUBLIC REPORTING

Indicator	Measure	Report section	Page
MAIN BUSINESS PERFORMANCE			
Electricity generation for the Russian economy			
1.1.1. Nuclear electricity generation	1.1.1.1. Share of electricity produced by nuclear power plants in the total power output in Russia	Electric power division	194
	1.1.1.2. Nuclear electricity generation in the reporting year	Electric power division	194
	1.1.1.3. Net supply of power	Electric power division	196
1.1.2. NPP capacity utilization	1.1.2.1. Capacity factor of NPPs	Electric power division	198
	1.2.1.2. Increase of thermal capacity of power units (reporting period and total)	Electric power division	198
	1.2.1.3. Number of upgraded VVER-1000 power units (for the reporting period and total)	Electric power division	198
1.2.2. Power units service lives	1.2.2.1. Number of power units which service life extended up to 15 years in the reporting year	Electric power division	194
	1.2.2.2. Number of power units NPP for which working document is ready to extend service life, upgrade and retrofit	Electric power division	199
1.2.3. Operation of power units	1.2.3.3. Duration of scheduled repairs	Electric power division	199
	1.2.3.5. Total reduction in duration of scheduled repairs, with rescheduling, including: – reduction of repair-days – rescheduling of the start of repair work (total repair-days unchanged)	Electric power division	199
	1.2.3.7. Availability factor	Electric power division	198
1.3.1. Construction and commissioning of new power units in Russia	1.3.1.1. Number of power units now under construction in Russia	Capital construction	204
	1.3.1.2. Number of commissioned units	Capital construction	203
	1.3.1.3. Spending on construction of new power units, thnd. rubles	Capital construction	203
1.4.1. Making complete sets	1.4.1.1. Number of complete sets made during the reporting period	Machine-Building division	188
Achieving leadership for Russian companies in world markets			
2.1.1. Financial performance	2.1.1.1. Revenues	Key results. Financial results.	2, 129-130[11]
	2.1.1.4. Business expenses	Financial results	129
	2.1.1.5. Gross profit	Financial results	129
	2.1.1.6. Earnings before interest, depreciation and amortization (EBITDA)	Key results	2
	2.1.1.8. Net operating profit after taxes (NOPAT)	Financial results	129
	2.1.1.9. Net profit	Financial results	129
2.1.2. Efficiency	2.1.2.1. Labor productivity (breakdown by activities)	Key results. Mining division. Fuel division. Machine-Building division. Electric power division.	2, 177, 184, 191, 199
2.1.3. Financial efficiency	2.1.3.1. Inventory turnover, days	Financial results	131
	2.1.3.2. Receivables turnover, days	Financial results	131
	2.1.3.3. Payables turnover, days	Financial results	131
	2.1.3.4. Fixed costs to revenues, %	Key results	2
	2.1.3.6. Return on sales (ROS)	Financial results	131
	2.1.3.7. Return on assets (ROA), %	Financial results	131
	2.1.3.8. Return on equity (ROE), %	Financial results	131
	2.1.3.11. Cost of sold goods and services	Financial results	130
2.2.2. Contract volumes	2.2.2.1. Total value of long-term contracts with buyers (buyer contract portfolio) (for specific nuclear markets)	International business	150
	2.2.2.2. Five-year foreign contract portfolio (less HEU Purchase Agreement)	Key results. International business.	2, 147
	2.2.2.3. Increment of contract portfolio in the reporting year	International business	147

11 The “Key results” section reports revenue as per the consolidation perimeter of Rosatom State Corporation as of 31.12.2011; the section “Financial results” reports revenue as per the perimeter of IAS-compliant consolidated financial reports filed by OJSC Atomenergoprom.

Indicator	Measure	Report section	Page
2.2.6. Financial stability	2.2.6.2. Debt-to-equity ratio	Financial results	131
	2.2.6.5. Current liquidity ratio	Financial results	131
	2.2.6.6. Quick liquidity ratio	Financial results	131
2.3.1. Position of Russian engineering on the global market for NPP construction	2.3.1.1. Number of power units under construction outside Russia (during reporting period)	International business	146
	2.3.1.2. Number of commissioned power units (during reporting period)	International business	146, 148
2.3.3. Raw materials	2.3.3.1. Market share on natural materials market in natural uranium equivalent	Mining division	175
	2.3.3.3. Uranium production	Mining division	175
2.3.4. Front end of the of the nuclear fuel cycle	2.3.4.1. Market share in fuel-cycle products and services (uranium products, enrichment, conversion), by regions	Fuel division	181
	2.3.4.4. Supply of nuclear fuel and fuel assembly components for foreign-designed NPPs, breakdown by regions	Fuel division	181
	2.3.4.5. Share of market for nuclear fuel and fuel assemblies	Fuel division	181
2.3.5.Exports	2.3.5.1. Export supplies (by products and regions)	International business	150
2.4.1. International legal infrastructure to promote Russian firms on global markets for nuclear technologies and services	2.4.1.1. Number of inter-governmental and inter-departmental agreements signed on cooperation in use of nuclear energy	International cooperation	137
	2.4.1.2. Number of countries with which Rosatom has a legislative basis for cooperation	International cooperation	137
2.4.2. Development of international cooperation	2.4.2.1. List and description of alliances and joint projects with foreign Partners	International cooperation International business	139-140, 151
	2.4.2.2. Agreements with the IAEA	International cooperation	139
2.4.3. Enforcement of nuclear non-proliferation	2.4.3.1. Major international projects and initiatives proposed by Russia	International cooperation	138
	2.4.3.2. Compliance by Rosatom firms and organizations with international obligations and national law in export control	International cooperation	141
Maintaining the nuclear arsenals at a level ensuring the nuclear deterrent policy			
3.1.1. Performance of government defense contracts	3.1.1.1. Progress with government defense contracts	Nuclear Weapons Complex.	119
Ensuring nuclear and radiation safety			
4.1.1. Creating national systems to handle radioactive waste and used nuclear fuel (UNF)	4.1.1.1. Enactment of federal laws to create national systems of waste and UNF handling in Russia	Nuclear and radiation safety	229
4.1.4. Emergency response and readiness	4.1.4.1. Description of the emergency response system, including improvements to systems for safety monitoring and control at nuclear energy facilities; creation of professional rescue units	Nuclear and radiation safety	228
	4.1.4.2. Description of alarm and communication systems	Nuclear and radiation safety	226-229
	4.1.4.3. Description of systems to protect employees, the general public and the environment in case of radiation emergency	Nuclear and radiation safety	228
4.1.5. Ensuring physical protection of nuclear power facilities	4.1.5.1. Mechanisms to ensure physical protection of nuclear power facilities and combat nuclear terrorism	Nuclear and radiation safety	226-227
	4.1.5.2. Inspection of physical protection at facilities	Nuclear and radiation safety	226
4.1.6. Building and modernizing nuclear and radiation safety infrastructure	4.1.6.1. Commissioning storage facilities for UNF (cumulative)	Nuclear and radiation safety	223
4.2.2. Non-compliance during handling of materials that represent a nuclear and radiation hazard	4.2.2.1. Number of registered cases on the international nuclear event scale (INES)	Nuclear and radiation safety	224-225
	4.2.2.2. Number of events that qualify above Level 2 on the INES	Nuclear and radiation safety	225
4.2.3. Exceeded permissible level of radioactive emissions from NPP	4.2.3.1. Exceeding permissible levels of radioactive emissions from NPPs	Nuclear and radiation safety	224
4.3.1. Decommissioning of facilities that represent nuclear and radiation hazards	4.3.1.1. Inventory of facilities (cumulative)	Nuclear and radiation safety	233
	4.3.1.2. Number of facilities shut down	Nuclear and radiation safety	233
	4.3.1.3. Number of facilities prepared for decommissioning	Nuclear and radiation safety	233
	4.3.1.4. Number of decommissioned facilities	Nuclear and radiation safety	223
4.3.2. Disposal and recycling of facilities that represent nuclear and radiation hazards	4.3.2.1. Number of recycled nuclear submarines and ships with nuclear propulsion units	Nuclear and radiation safety	223
	4.3.2.2. Number of recycled radio-isotope thermoelectric generators	Nuclear and radiation safety	223
4.4.1. Reclamation of contaminated areas	4.4.1.1. Area of reclamation	Environmental safety	243

Indicator	Measure	Report section	Page
4.4.2. Changes in volume of accrued UNF	4.4.2.1. Accrued UNF (total, legacy, one year)	Nuclear and radiation safety	232
4.4.3. Changes in volume of accrued radioactive waste	4.4.3.1. Accrued radioactive waste (total, legacy, one year; by levels of hazard)	Nuclear and radiation safety	230
4.4.5. Processing of accrued radioactive waste	4.4.5.1. Radioactive waste allocated for long-term storage, relative to total waste generated annually in Russia	Nuclear and radiation safety complex	230
Creating innovative nuclear technologies and expanding their application in various sectors of the economy			
5.1.1. Inventive activity	5.1.1.1. Number of patents, useful models and industrial prototypes	Scientific and technical complex	159
	5.1.1.2. Number of applications filed annually to protect the results of intellectual activity, per 100 R&D employees	Scientific and technical complex	159
5.1.4. Innovation productivity	5.1.4.2. Share of innovative products in revenues	Scientific and technical complex	162
5.2.1. Building R&D infrastructure	5.2.1.1. Investments in R&D facilities	Scientific and technical complex	158
	5.2.1.2. Upgrade and development of the R&D base for nuclear power technologies	Scientific and technical complex	158
	5.2.1.3. Upgrade and development of the R&D base for radiation technologies	Radiation technologies	216
5.2.2. Involvement in innovation projects	5.2.2.1. Involvement in international innovation projects (INPRO, ITER, Generation-IV, FAIR)	Scientific and technical complex	167-169
	5.2.2.2. Involvement in Russian innovation projects	Scientific and technical complex	159-160
5.3.1. VVER upgrade project	5.3.1.1. Description of work in the reporting year	Scientific and technical complex. Capital construction.	163, 208
	5.3.1.2. Progress report	Scientific and technical complex	163
5.3.2. TVS-Kvadrat project	5.3.2.1. Description of work in the reporting year	International business	150
5.3.3. Floating NPP	5.3.3.1. Description of work in the reporting year	Capital construction	204
5.3.5. Spending to improve current production platform	5.3.5.1. Total spending to improve the production technologies	Scientific and technical complex	160
5.4.2. Closed nuclear fuel cycle	5.4.2.1. Progress in closing the nuclear fuel cycle	Scientific and technical complex	163
5.4.3. Fast-neutron reactors	5.4.3.1. Description of work in the reporting year	Scientific and technical complex	156, 163
	5.4.3.2. Progress report	Scientific and technical complex	163
5.4.4. Spending to create new generating technologies	5.4.4.1. Spending to create new generating technologies	Scientific and technical complex	160
5.5.1. Expanding applications of nuclear technologies	5.5.1.1. Shares of non-core markets won by Rosatom units	Radiation technologies	214-215
5.5.2. Radiation technologies	5.5.2.2. Description of plans to develop radiation technologies (plans, objectives, efficiency)	Radiation technologies	214-215, 217
5.5.3. High-tech equipment for nuclear medicine	5.5.3.1. Share on global market for nuclear medicine services	Radiation technologies	214
	5.5.3.2. Number of R&D projects producing experimental prototypes for nuclear medicine	Radiation technologies	216
5.5.4. Superconductor products	5.5.4.1. Description of plans to develop superconductor products	Scientific and technical complex	166
	5.5.4.2. Progress with development of superconductor products	Scientific and technical complex	166
5.6.1. Research into new ways of using atomic energy	5.6.1.1. Financing research into new ways of using atomic energy (source structure)	Scientific and technical complex	159
	5.6.1.2. Description of research into new ways of using atomic energy	Scientific and technical complex	159
Development of effective mechanisms for management of the nuclear industry			
6.1.1. Projects for improvement of the management system	6.1.1.1. Projects launched in the reporting year to improve management and business systems	Managing Organizational Development	50-51
	6.1.1.2. Evaluation of projects to improve management mechanisms	Managing Organizational Development	50-51
	6.1.1.3. Financial effect of projects to improve management and business systems	Managing Organizational Development	50-51
6.1.2. Projects to raise efficiency of operations	6.1.2.1. Results of projects to raise efficiency of operations, including scheduled actions (reduction of semi-product work areas; shorter manufacturing cycle; fewer defects per component; lower costs to make specific equipment types; increased output of specific product positions).	Rosatom Production System, Mining division. Fuel division. Machine-Building division. Electric power division. Capital construction.	101, 177, 184-185, 191, 199, 205-207
	6.1.2.2. Financial effect of production and cost-cutting projects at companies (including changes in planned repair schedules)	Rosatom Production System. Mining division. Fuel division. Machine-Building division. Electric power division. Capital construction.	101, 177, 184-185, 191, 199, 205-207
6.1.4. Adopting international management standards	6.1.4.1. List of adopted international management standards	Environmental safety	236

Indicator	Measure	Report section	Page
6.1.5. Purchasing management	6.1.5.1. Tools to make purchasing more open and transparent.	Procurement management	93
	6.1.5.2. Total savings from public competitive purchasing procedures (as % and in rubles)	Procurement management	95
6.1.6. Developing corporate communications	6.1.6.1. Projects to develop channels of communication between management and employees	Human resource management	84-85
	6.1.6.2. Mechanisms for employees to influence corporate decision making	Social impact.	256-257
6.1.7. Applying principles and standards of corporate conduct	6.1.7.2. Adherence to the principles of the code of corporate conduct	Corporate governance	66
6.1.8. IT applications for management	6.1.8.1. List of IT projects	Financial and business management	72-73
Ensuring public acceptance of nuclear power development			
7.1.1. Public reporting	7.1.1.1. Observing international standards in non-financial reports and engagement of stakeholders	Information about the report	1
	7.1.1.2. Engagement of stakeholders during preparation of public reports	Engagement of stakeholders during preparation of the public report	278-280
	7.1.1.3. Observing corporate requirements for public reporting	Information about the report	1
7.1.2. Industry information resources	7.1.2.1. Number of information centers	Engagement of stakeholders	268
	7.1.2.2. Support for culture (museums, popular science, career consulting, etc.)	Engagement of stakeholders	270
	7.1.2.3. Industry-focused mass media	Engagement of stakeholders	271
Efficiency of the nuclear complex			
8.1.2. Support for scientific expeditions and research activities	8.1.2.1. Support for scientific expeditions and research activities to study marine meteorology and mineral deposits of the Arctic continental shelf (off the northern coast of Russia).	Atomic icebreaker fleet	124
8.1.4. Assuring nuclear and radiation safety	8.1.4.1. Implementing international projects to improve systems of physical protection for nuclear ships and onshore facilities, and to raise the level of nuclear and radiation safety in handling of radioactive waste and UNF.	Nuclear and radiation safety	222
Exercising authority and functions delegated by government			
9.1.1. Distribution of federal funds allocated for federal target programs	9.1.1.1. Total federal funds allocated for federal target programs	Performance of government functions	113-114
	9.1.1.2. Progress with federal target programs in the period	Performance of government functions	114
	9.1.1.3. Performance of government contracts and other agreements	Performance of government functions	114
9.1.2. State budget investments	9.1.2.1. Sum of state budget investments	Performance of government functions	113
9.2.1. Legislation and regulation	9.2.1.2. Number of draft laws and other regulations written with the assistance of Rosatom	Performance of government functions	113
	9.2.1.3. Number of new laws enacted	Performance of government functions	112
9.3.1. Maintenance and control of government assets	9.3.1.1. Number of deeds of title of the Russian government to real estate	Performance of government functions	115
	9.3.1.2. Share of assets pending preparation of government titles	Performance of government functions	115

Indicator	Measure	Report section	Page
9.3.2. Exercising government control over radiation levels, handling of nuclear and materials and radioactive waste	9.3.2.1. Standard control measures	Performance of government functions	115
	9.3.2.2. Number of major violations identified by control measures	Performance of government functions	115
	9.3.2.3. Decisions by management of Rosatom (and other industry organizations) based on the results of control measures	Performance of government functions	115
	9.3.3.2. Number of inspections to ensure proper accounting and control of nuclear materials	Performance of government functions	115
Development of human resource capital			
10.1.1. Qualified workforce	10.1.1.1. Number of students on work placements	Human resource management	91
	10.1.1.5. Number of employees holding doctorates and doctoral candidacies	Human resource management	78
	10.1.1.6. Number of publications in international scientific reviews in the sphere of nuclear energy (per 100 R&D personnel during the year)	Science and technology complex	155
	10.1.1.7. Number of university and college graduates hired, including those who have completed specialized training programs	Human resource management	91
10.1.3. Creating and deploying executive reserves	10.1.3.1. Number of executive reserve employees	Human resource management	84
	10.1.3.2. Number and share of employees from the executive reserve appointed to vacant positions	Human resource management	84
SUSTAINABLE DEVELOPMENT PERFORMANCE			
Environmental impact			
12.1.11. Implementation of environmental management systems	12.1.11.1. Number of companies holding ISO 14001 compliance certificates	Environmental safety	236
	12.1.11.3. Results of audits	Environmental safety	236
12.2.5. Consumption of water for own needs	12.2.5.1. Consumption of water for own needs	Environmental safety	239
12.3.15. Payments for emissions of air pollutants from fixed and mobile sources, discharge of pollutants to surface and ground water bodies, storage of production and consumption waste.	12.3.15.1. Payments for emissions of air pollutants from fixed and mobile sources, discharge of pollutants to surface and ground water bodies, storage of production and consumption waste.	Environmental safety	245
12.5.1. Radionuclide emissions to the atmosphere	12.5.1.1. Total atmospheric emissions of radionuclides	Environmental safety	237-238
	12.5.1.2. Additional radiation exposure of the general public due to the operation of nuclear facilities	Environmental safety	242-243
12.5.2. Radionuclide discharge in wastewater	12.5.2.1. Total discharge of wastewater containing radionuclides	Environmental safety	237-238
	12.5.2.2. Total background in radionuclide-bearing water	Environmental safety	237-238
12.5.3. Radionuclide polluted areas	12.5.3.1. Area of territories polluted by radionuclides	Environmental safety	243

Indicator	Measure	Report section	Page
Social and labor relations			
13.1.4. Share of employees under 35	13.1.4.1. Share of employees under 35	Human resource management	78
13.1.5. Average age of employees (by categories)	13.1.5.1. Average age of employees (by categories)	Human resource management	78
13.1.8. Ratio of average paycheck to labor market average	13.1.8.1. Ratio of average paycheck in the Corporation to the labor market average	Human resource management	79
13.3.4. Non-state pension plans	13.3.4.1. Number of employees with non-state pension plans	Human resource management	80
	13.3.4.2. Total spending on non-state pension plans	Human resource management	80
13.3.5. Total expenditures for personnel	13.3.5.1. Total spending on personnel	Human resource management	79
13.3.6. Total expenditures for social programs for employees	13.3.6.1. Total spending on social programs for employees	Human resource management	79
	13.3.6.2. Cost of corporate housing policy	Human resource management	80
	13.3.6.3. Cost of support to veterans	Human resource management	80
	13.3.6.4. Annual social payments per employee	Human resource management	79
	13.3.6.5. Cost of voluntary medical insurance	Human resource management	80
13.4.5. Controlling exposure of personnel to radiation	13.4.5.1. Annual average exposure of personnel to radiation	Human resource management	82
	13.4.5.2. Number of cases exceeding the officially regulated irradiation limit.	Human resource management	82
	13.4.5.3. Share of total employees subject to individual monitoring in the automated system of radiation exposure monitoring	Human resource management	83
	13.4.5.4 Share of employees with negligible risk from radiation	Human resource management	83
	13.4.5.5. Share of employees exposed to life-long high risk from radiation	Human resource management	83
Impact on the social and economic situation in areas of presence			
14.4.1. Charity projects and related spending	14.4.1.1. Charity projects and related spending	Social impact	262-263

APPENDIX 3.
STATEMENT BY THE AUDIT COMMITTEE ON FINANCIAL AND ECONOMIC ACTIVITY OF THE STATE ATOMIC ENERGY CORPORATION ROSATOM AND ITS ORGANIZATIONS IN 2011

The Audit Committee, consisting of:
Chairman of the Audit Committee, A.G. Siluanov, Minister of Finance of the Russian Federation;
and members of the Audit Committee:

- R.E. Artyukhin, Head of the Federal Treasury of the Russian Federation;
- V.N. Zobov, Head of the Defense Industry Department of the Russian Federal Government;
- A.A. Kaulbars, Director of the Budget Policy Department for National Defense, Law Enforcement and the Federal Government Defense Contract at the Ministry of Finance of the Russian Federation;
- and V.L. Somov, Head of Sixth Office of 12th Central Administration of the Russian Federation Ministry of Defense;

has exercised control over financial and operating activities to validate the information contained in the Annual Report filed by State Atomic Energy Corporation Rosatom (the "Corporation") for the period from January 1, 2011 to December 31, 2011.

In the course of the control activities, the Audit Committee was guided by Article 31 of Federal Law No. 317-FZ, dated 01.12.2007, "On State Atomic Energy Corporation Rosatom: its Supervisory Council, Chief Executive Officer, and Administration", and by the Regulation on the Rosatom Audit Committee, as approved by the Supervisory Council of Rosatom (meeting minutes No. 1, dated December 26, 2007).

Through its activities to control financial and business activities, and to validate the 2011 Annual Report filed by the Corporation, based on a randomly selected sample of documents, the Audit Committee has established that:

- the Corporation's accounting statements reliably represent the Corporation's financial situation and its financial and operating activities during the reporting period in all major aspects;
- the consolidated financial statements of the Corporation and its organizations reliably represent all major aspects of the financial situation of the Corporation and its organizations, and the results of their financial and business operations during the reporting period.

The Audit Committee has concluded that:

- no facts have been identified to suggest that financial and business operations of the Corporation and its organizations violate the procedures for business accounting and financial reporting established by Russian federal legislation;
- based on internal control information, no facts have been identified to suggest that budget funds and assets or other resources of the Corporation and its organizations have been inefficiently used, or that the Corporation's special reserve funds have been used for purposes other than declared;
- no facts have been identified to suggest that any of the business and financial decisions made by the Corporation's Supervisory Council, CEO and Administration, are non-compliant under Federal Law No. 317 dated December 01, 2007, "On State Atomic Energy Corporation Rosatom" and other applicable Russian federal law;
- the Audit Committee's recommendations issued in its statement of April 29, 2011, have been taken into account.

The Audit Committee hereby confirms that the information disclosed in the 2011 Annual Report filed by Rosatom State Corp. is reliable and true. The following recommendations are issued to the Supervisory Council and the Administration of Rosatom State Corporation:

1. In conformity with the provisions of Federal Law No. 208, dated July 27, 2010, "On consolidated financial reporting" and Executive Order No. 160n of the Federal Ministry of Finance, dated November 25, 2011, "On the adoption of International Accounting Standards and interpretation of International Accounting Standards in the Russian Federation", the Corporation needs to implement a range of activities to enable transition to preparation and filing of IAS-compliant reports at Rosatom State Corporation for 2012 (with comparable data for 2011) and to ensure that such reports are audited within the time limit allowed under the applicable legislation.
2. Rosatom State Corporation should make a draft version of IAS-compliant consolidated financial reports for 2011 available to the Audit Committee before December 20, 2012, in accordance with Executive Order No. 160n of the Federal Ministry of Finance, dated November 25, 2011.
3. Accounting of the Corporation's expenditure-related authorizations should be in strict compliance with the regulations issued by the Federal Ministry of Finance and Russian federal law.
4. The quality of information related to placement of orders, tendering documents and associated standard documents shall be monitored; the formats of related notifications shall be updated to make them compliant with Federal Law No. 93,dated July 25, 2005; extra measures shall be taken to enforce the restrictions and requirements of Federal law No. 94, dated July 25, 2005, which are relevant for the implementation stage of government contracts.

A.G. Siluanov
Chairman of the Audit Committee

R.E. Artyukhin
Member of the Audit Committee

V.N. Zobov
Member of the Audit Committee

A.A. Kaulbars
Member of the Audit Committee

V.L. Somov
Member of the Audit Committee

APPENDIX 4.

OPINION OF THE AUDITING PROCEDURES OFFICE OF THE DEPARTMENT FOR INTERNAL CONTROL AND AUDITS OF ROSATOM STATE CORPORATION ON THE RESULTS OF INTERNAL AUDITS TO EXAMINE THE BUSINESS PROCESS GROUP "MANAGEMENT OF THE SYSTEM OF PUBLIC REPORTING BY ROSATOM STATE CORPORATION AND ITS ORGANIZATIONS", AS REGARDS COMPLIANCE OF THE PUBLIC REPORTING PROCESS WITH THE COPRORATION'S PUBLIC REPORTING POLICY

This internal audit of the business process "Management of the system of public reporting by Rosatom State Corporation and its organizations" was conducted in conformity with Article 32 of Federal Law No. 317, dated December 01, 2007, "On Rosatom State Corporation for Atomic Power", and in accordance with the Procedure for Planning and Conduct of Internal Audits of Business Processes at Rosatom State Corporation and its Organizations, as approved by the Chief Executive Officer (Executive Order No. 1/936 of November 02, 2011) and also taking account of the requirements stated in Rosatom's Public Reporting Policy, Public Annual Reporting Standard and Regulation on Public Annual Reporting, as approved by the Public Reporting Commission (Minutes No. 7, dated December 23, 2011), as well as key provisions of the GRI Guidelines on sustainable development reports (version G3.1), the AA1000 series of international standards, recommendations issued by the Russian Union of Industrialists and Entrepreneurs (RSPP) for managerial practice and corporate non-financial reporting, and materials proposed by the International Council for Integrated Reporting.

The head of the group responsible for preparation of the Public Annual Report is M.V. Galushkina (manager of the project for development of the system of public reporting by Rosatom State Corporation and its organizations).

During the audit we:

- evaluated the efficiency of the internal control system for the public reporting process (including analysis of regulation and formalization of key processes related to generation of public reports, and efficiency analysis of key control procedures used to ensure reliable generation of public reports);
- evaluated correspondence of the procedure used to generate public reports with applicable law and corporate regulations applicable to the public reporting process;
- issued recommendations on possible improvements to the internal control system as regards generation of public reports.

On the whole, the business process "Management of the system of public reporting by Rosatom State Corporation and its organizations" for 2011 was performed in compliance with applicable law and corporate regulatory documents applicable to public reporting. However, the auditors have discovered specific non-compliance as regards timely presentation of exhaustive information by sub-divisions of Rosatom State Corporation, which may impact the outcome of public reporting.

V.P. Konovalov
Head of the Audit Group

Z.A. Zhukova
Member of the Audit Group

I. Yu. Zhurakovskaya
Member of the Audit Group

APPENDIX 5.
SUMMARY IAS CONSOLIDATED FINANCIAL STATEMENTS OF OJSC ATOMENERGOPROM FOR 2011 AND OPINION OF THE INDEPENDENT AUDITOR, ZAO KPMG

KPMG

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INDEPENDENT AUDITOR'S OPINION SUBMITTED TO THE BOARD OF DIRECTORS OF ATOMENERGOPROM

The attached summary consolidated financial reports were prepared on the basis of consolidated financial reports filed by OJSC Atomenergoprom (the "Company") and its subsidiary entities (the "Group") for the year that expired on December 31, 2011. The reports consist of a summary consolidated statement of financial position as of December 31, 2011, as of December 31, 2010, and as of January 01, 2010, as well as a summary consolidated aggregate income statement, summary consolidated profit and loss statement, summary consolidated statement of changes in equity, and summary consolidated cash flow statement, filed for the years that ended on December 31, 2011 and on December 31, 2010, together with the respective notes. In our Auditor's Opinion of August 01, 2012, we expressed our unreserved positive view of the Group's consolidated financial reports, which were subsequently used to prepare these summary consolidated financial statements.

This set of summary consolidated financial reporting does not contain any disclosures required under the International Accounting Standards. Therefore, this set of reporting is not a substitute for the Group's consolidated financial reports that we previously reviewed.

Responsibility of Company management for the summary consolidated financial statements

The Company's management remains responsible for preparation of the summary consolidated financial statements in accordance with the criteria disclosed in Note 1.

Responsibility of the Auditor

Our responsibility is to express an opinion on the summary consolidated financial statements based on auditing procedures carried out as required under international standard on auditing 810 "Engagements to Report on Summary Financial Statements".

Opinion

It is our opinion that the summary consolidated financial statements prepared on the basis of audited consolidated financial statements filed by the Group for the year ended December 31, 2011, correspond in all substantial respects to the audited consolidated financial statements in accordance with the criteria described in Note 1.

ZAO KPMG
August 1, 2012
ZAO KPMG

ZAO KPMG is a company registered under Russian Federal Law and controlled by KPMG Europe LLP; it is a member of the KPMG International Cooperative ("KPMG International", an independent network of KPMG firms), which is incorporated under the law of Switzerland.

NOTE TO THE SUMMARY CONSOLIDATED FINANCIAL REPORTS FILED FOR THE YEAR ENDED DECEMBER 31, 2011

Criterion for Preparation of Summary Consolidated Financial Statements

These summary consolidated financial statements, comprised of summary consolidated financial statements as of December 31, 2011, December 31, 2010 and January 01, 2010, a summary consolidated aggregate income statement, summary consolidated profit and loss statement, summary consolidated statement of changes in equity, and summary consolidated cash flow statement for the years ended December 31, 2011 and December 31, 2010, and a respective Note, were prepared by extracting the corresponding information, without any changes whatsoever, from IAS-compliant consolidated financial statements filed by OJSC Atomenergoprom and its subsidiary entities for the year ended December 31, 2011.

Accordingly, these summary consolidated financial statements correspond to the consolidated financial statements.

SUMMARY CONSOLIDATED FINANCIAL STATEMENT OF OJSC ATOMENERGOPROM AS OF DECEMBER 31, 2011

(MLN RUB)

	December 31, 2011	December 31, 2010 (recalculated)	January 01, 2010
ASSETS			
Non-current assets			
Goodwill	42,291	13,682	–
Fixed assets	1,055,534	981,926	853,760
Intangible assets	33,337	15,151	7,935
Investments, calculated by equity share	70,315	69,473	15,845
Investments available for sale	59,355	18,597	28,429
Trade and other receivables	25,728	36,255	20,589
Deferred tax assets	43,881	38,813	35,218
Other non-current assets	18,850	13,226	17,797
Total non-current assets	**1,349,291**	**1,187,123**	**979,573**
Current assets			
Inventory	134,922	102,410	85,078
Profit tax receivables	1,416	1,417	1,730
Other tax receivables	167	515	376
Bank deposits	11,720	1,940	–
Trade receivables	171,260	151,346	125,363
Cash and equivalents	129,074	93,579	129,862
Assets held for sale	904	–	1,005
Other current assets	2,759	2,323	1,217
Total current assets	452,222	353,530	344,631
Total assets	**1,801,513**	**1,540,653**	**1,324,204**

SUMMARY CONSOLIDATED STATEMENT OF FINANCIAL POSITION OF OJSC ATOMENERGOPROM AS OF DECEMBER 31, 2011

(MLN RUB)

	December 31, 2011	December 31, 2010 (recalculated)	January 01, 2010
EQUITY & LIABILITIES			
Equity			
Share capital	734,743	665,665	525,115
Additional paid-in capital	361	361	361
Reserves as part of equity	13,038	10,277	28,382
Retained profits	381,917	353,824	341,045
Total equity of Company shareholders	**1,130,059**	**1,030,127**	**894,903**
Minorities	95,499	45,823	15,974
Total equity	**1,225,558**	**1,075,950**	**910,877**
Long-term liabilities			
Loans and credits	137,141	57,025	80,505
Trading and other payables	16,412	14,547	8,648
Target financing	6,125	5,145	3,510
Payroll liabilities	25,866	29,344	26,232
Reserves	88,549	133,014	101,046
Deferred tax liabilities	74,187	64,545	46,398
Other long-term liabilities	2,604	1,279	1,615
Total long-term liabilities	**350,884**	**304,889**	**267,954**
Short-term liabilities			
Loans and credits	72,672	39,673	48,476
Profit tax payables	4,836	7255	4,414
Other tax payables	26,263	27,939	24,334
Trade and other payables	116,310	84,288	67,530
Other short-term liabilities	4,990	649	619
Total short-term liabilities	**225,071**	**159,804**	**145,373**
Total liabilities	575,955	464,703	413,327
Total equity and liabilities	**1,801,513**	**1,540,653**	**1,324,204**

K.B. Komarov
CEO

V.A. Andriyenko
Chief Accountant

SUMMARY CONSOLIDATED PROFIT AND LOSS STATEMENT OF OJSC ATOMENERGOPROM FOR THE YEAR ENDED DECEMBER 31, 2011

(MLN RUB)

	2011	2010
Revenues	388,234	391,430
Cost of goods and services sold	(221,928)	(206,286)
Gross profit	**166,306**	**185,144**
Sales expenses	(11,936)	(6,623)
Administrative expenses	(57,749)	(53,673)
Other income	18,408	10,636
Other expenses	(28,960)	(20,588)
Operating profit	86,069	114,896
Financial income	8,450	22,622
Financial expenses	(16,655)	(13,984)
Share of net profit/loss of companies, based on equity share	2,696	974
Profit before tax	80,560	122,560
Profit tax	(19,724)	(29,603)
Profit for the year	60,836	92,957

Profit for the year attributable to:		
Company shareholders	59,605	92,376
Minority shareholders	1,231	581

K.B. Komarov
CEO

V.A. Andriyenko
Chief Accountant

SUMMARY CONSOLIDATED AGGREGATE PROFIT STATEMENT OF OJSC ATOMENERGOPROM FOR THE YEAR ENDED DECEMBER 31, 2011

(MLN RUB)

	2011	2010
Profit for the year	**60,836**	**92,957**
Other aggregate profit		
Exchange rate differences from conversion of indicators for foreign business units	6,667	(1,142)
Actuary profit/loss in pension plans with fixed payments	1,627	(1,762)
Net change in fair value of financial assets available for sale	(3,438)	–
Profit tax on other aggregate profit	363	355
Other aggregate profit for the year, less profit tax	**5,219**	**(2,549)**
Total aggregate profit for the year	66,055	90,408

Total aggregate profit for the year related to:		
Company shareholders	62,366	89,827
Minority shareholders	3,689	581

K.B. Komarov
CEO

V.A. Andriyenko
Chief Accountant

SUMMARY CONSOLIDATED STATEMENT OF OJSC ATOMENERGOPROM ON CHANGES OF EQUITY FOR THE YEAR ENDED DECEMBER 31, 2011

(MLN RUB)

	Attributable to Company shareholders									
	Shareholder capital	Additional paid-in capital	Provisions for prepayment in shares	Provisions for revaluation of investments available for sale	Provisions for exchange rate differences	Other provisions	Retained profit	Total	Minority share	Total equity
Balance on January 01, 2010	**525,115**	**361**	**15,965**	**12,417**	**–**	**–**	**341,045**	**894,903**	**15,974**	**910,877**
Total aggregate profit for the year	-	-	-	-	-	-	92,376	92,376	581	92,957
Profit for the year										
Other aggregate profit										
Exchange rate differences from conversion of indicators for foreign business units	-	-	-	-	(1,142)	-	-	(1,142)	-	(1,142)
Actuary loss in pension plans with fixed payments	-	-	-	-	-	(1,762)	-	(1,762)	-	(1,762)
Profit tax on other aggregate profit	-	-	-	-	-	355	-	355	-	355
Total other aggregate profit	–	–	–	–	(1,142),	(1,407),	–	(2,549)	–	(2,549)
Total aggregate profit for the year	-	-	-	-	**(1,142)**	**(1,407)**	**92,376**	**89,827**	**581**	**90,408**

SUMMARY CONSOLIDATED STATEMENT OF CHANGES OF EQUITY OF OJSC ATOMENERGOPROM IN THE YEAR ENDED DECEMBER 31, 2011

(MLN RUB)

	Attributable to Company shareholders									
	Shareholder capital	Additional paid-in capital	Provisions for prepayment in shares	Provisions for revaluation of investments available for sale	Provisions for exchange rate differences	Other provisions	Retained profit	Total	Minority share	Total equity
Contributions by and payments to owners										
Dividends	–	–	–	–	–	–	(3,300)	(3,300)	(35)	(3,355)
Share issuance	140,550	–	(15,965)	–	–	–	(71,301)	53,284	–	53,284
Total contributions by and payments to owners	140,550	–	(15,965)	–	–	–	(74,601)	49,984	(35)	49,949
Purchase of subsidiary companies									35,411	35,411
Changed in the share of minority shareholders in subsidiary companies							416	416	(3,801)	(3,385)
Total transactions with owners	**140,550**	**–**	**(15,965)**	**–**	**–**	**–**	**(74,185)**	**50,400**	**31,575**	**81,975**
Balance on December 31, 2010 (before recalculation)	665,665	361	–	12,417	(1,142)	(1,407)	359,236	1,035,130	48,130	1,083,260
Recalculation	–	–	–	–	409	–	(5,412)	(5,003)	(2,307)	(7,310)
Balance on December 31, 2010 (recalculated)	665,665	361	–	12,417	(733)	(1,407)	353,824	1,030,127	45,823	1,075,950

SUMMARY CONSOLIDATED STATEMENT OF CHANGES OF EQUITY OF OJSC ATOMENERGOPROM IN THE YEAR ENDED DECEMBER 31, 2011

(MLN RUSSIAN RUBLES)

	Shareholder capital	Additional paid-in capital	Provisions for prepayment in shares	Provisions for revaluation of investments available for sale	Provisions for exchange rate differences	Other provisions	Retained profit	Total	Minority share	Total equity
Balance on January 01, 2011 (recalculated)	**665,665**	**361**		**12,417**	**(733)**	**(1,407)**	**353,824**	**1,030,127**	**45,823**	**1,075,950**
Total aggregate profit for the year										
Profit for the year	–	–	–	–	–	–	59,605	59,605	1,231	60,836
Other aggregate profit										
Exchange rate differences from conversion of indicators for foreign business units	–	–	–	–	4,209	0	0	4,209	2,458	6,667
Revaluation of investments held for sale	–	–	–	(3,438)	–	–	–	(3,438)	–	(3,438)
Actuary loss in pension plans with fixed payments	–	–	–	–	–	1,627	–	1,627	–	1,627
Profit tax on other aggregate profit	–	–	–	688	–	(325)	–	363	–	363
Total other aggregate profit	–	–	–	**(2,750)**	**4,209**	**1,302**	**–**	**2,761**	**2,458**	**5,219**
Total aggregate profit for the year	–	–	–	(2,750)	4,209	1,302	59,605	62,366	3,689	66,055

SUMMARY CONSOLIDATED STATEMENT OF CHANGES OF EQUITY OF OJSC ATOMENERGOPROM IN THE YEAR ENDED DECEMBER 31, 2011

(MLN RUB)

	Shareholder capital	Additional paid-in capital	Provisions for prepayment in shares	Provisions for revaluation of investments available for sale	Provisions for exchange rate differences	Other provisions	Retained profit	Total	Minority share	Total equity
Contributions by and payments to owners										
Dividends	–	–	–	–	–	–	22,015	22,015	129	22,144
Share issuance	69,078	–	–	–	–	–	–	69,078	–	69078
Total contributions by and payments to owners	69,078	–	–	–	–	–	22,015	47,063	129	46,934
Purchase of subsidiary companies	–	–	–	–	–	–	–	–	183	183
Changed in the share of minority shareholders in subsidiary companies	–	–	–	–	–	–	9,497	9,497	39,838	30,341
Effect of spending under options program	–	–	–	–	–	–	–	–	3,937	3,937
Effect of recognized capital component on converted liabilities	–	–	–	–	–	–	–	–	2,158	2,158
Total transactions with owners	**69,078**	–	–	–	–	–	**31,512**	**37,566**	**45,987**	**83,553**
Balance on December 31, 2011	734,743	361	–	9,667	3,476	105	381,917	1,130,059	95,499	1,225,558

K.B. Komarov
CEO

V.A. Andriyenko
Chief Accountant

SUMMARY CONSOLIDATED CASH FLOW STATEMENT OF OJSC ATOMENERGOPROM FOR THE YEAR ENDED DECEMBER 31, 2011

(MLN RUB)

	2011	2010
OPERATIONS		
Profit before tax	80,560	122,560
Adjustments:		
Depreciation	66,774	60,721
Loss from depreciation of fixed assets	6,868	3,731
Loss from retirement of fixed and other assets	15,352	8,136
Share in (profit)/loss of companies, measured by equity (less profit tax)	(2,696)	974
Net profit expense/income	8,205	(8,638)
Other	801	(255)
Cash flow from operations before changes in working capital and reserves	**175,864**	187,229
Change in inventory	(33,189)	(15,600)
Change in trade and other receivables	(4,927)	(11,321)
Change in other tax receivables	348	(165)
Change in trade and other payables	27,519	4,381
Change in other tax payables	(1,676)	3,605
Change in reserves	(2,340)	(66)
Cash flow from operations before profit tax and interest	161,599	168,063
Profit tax paid	(22,141)	(22,198)
Interest paid	(5,417)	(8,205)
Net cash flow from operations	**134,041**	**137,660**
INVESTMENTS		
Interest received	6,271	3,809
Purchase of fixed assets	(205,237)	(143,865)
Purchase of intangible assets	(5,398)	(2,547)
Purchase of investments	(54,807)	(518)
Revenue from sale of investments	430	3,645
Purchase of subsidiary companies, less their available cash	(28,551)	(19,412)
Loans to other entities	(42,929)	(17,456)
Revenue from loans to other entities	38,040	977
Revenue from retired fixed assets and intangible assets	4,336	2,205
Revenue in target financing	980	1,635
Net cash flow used for investments	(286,865)	(171,527)

SUMMARY CONSOLIDATED CASH FLOW STATEMENT OF OJSC ATOMENERGOPROM FOR THE YEAR ENDED DECEMBER 31, 2011

(MLN RUB)

	2011	2010
FINANCING		
Revenue from issued stock	98,075	53,282
Loans taken	312,017	181017
Loans repaid	(198,902)	(229,510)
Dividends paid	(22,087)	(3,335)
Shares purchase from minority shareholders	–	(4,794)
Net cash flows from /used in financing	**189,103**	**(3,340)**
Net increase/decrease of cash and equivalents	36,279	(37,207)
Cash and equivalents at start of year	92,655	129,862
Cash and equivalents at end of year	128,934	92,655

K.B. Komarov
CEO

V.A. Andriyenko
Chief Accountant

APPENDIX 6.
KPMG'S INDEPENDENT LIMITED ASSURANCE REPORT ON ROSATOM NONFINANCIAL REPORTING 2011

Closed Joint-stock Company KPMG
Presnenskaya Nab., 10
Moscow, Russia 123317

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Fax +7 (495) 937 4400/99
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INDEPENDENT LIMITED ASSURANCE REPORT TO THE MANAGEMENT OF ROSATOM

FOREWORD

The management of Rosatom State Corporation invited us to conduct independent limited assurance of certain aspects of information related to sustainable development, integrated in the Annual Report (the "Report") filed by Rosatom and its subsidiary companies ("Rosatom State Corporation") for the year ended on December 31, 2011.

MANAGEMENT RESPONSIBILITY FOR THE REPORT AND FOR THE CRITERIA APPLIED

Management remains responsible for the information prepared and presented in the Report in accordance with the requirements of the sustainable growth reporting guidelines (version G3.1) of the Global Reporting Initiative, as stated in the chapter "Information about the Report", as well as for the information and statements contained therein. In addition, the Management of Rosatom State Corporation is responsible for identifying the goals of sustainable development and reporting, including the identification of key stakeholder groups and key issues of concern to them, and for organization and functioning of the system for management of business results and the internal control system, by means of which the information contained in the Report was obtained.

LEVEL OF ASSURANCE AND STANDARDS

We assume responsibility for our limited assurance and our opinion based on the procedures, which we carried out. We conducted our assurance in accordance with International Standard on Assurance Engagements ISAE 3000 "Assurance engagements other than audits or reviews of historical financial information", developed by the Committee for International Auditing Standards and Information Validation of the International Federation of Accountants. As required by the said Standard, we must adhere to applicable principles of ethics, including that of independent audit, and we must plan and conduct our procedures to create limited level of certainty that, (1) the non-financial information selected as relevant for issues of sustainable development and integrated in the Annual Report of Rosatom State Corporation for the year ended on December 31, 2011, and marked with the symbol [•]; (2) the B+ level of use of the Global Initiative declared by Rosatom State Corporation for the Annual Report; and (3) the process of interaction between Rosatom State Corporation and its stakeholders on the principles of AA1000APS (2008); do not contain any serious errors.

SCOPE OF PROCEDURES CARRIED OUT

The procedures of independent limited assurance of selected information on the results of sustainable development activities include querying of employees who prepare information contained in the Report, and necessary procedures of analysis and evidence collection. The procedures included:

- inquiries to management requesting description of processes used to determine issues and topics of relevance for key stakeholder groups of Rosatom State Corporation;
- interviewing executives and employees at the head office and at selected production facilities, to obtain an understanding of the processes used by Rosatom State Corporation to interact with its stakeholders;
- interviewing executives and employees at the head office and at selected production facilities, to obtain an understanding of the Corporation's sustainable development strategy and policies regulating key issues, and the extent to which such documents are applied;
- inquiries sent to executives and employees at the head office and at selected production facilities, to obtain an understanding of the system and methods used to collect and process reporting information, including integration of data into the information presented in the Report, and the extent to which such a system and methods are applied;
- interviewing executives and employees at the head office and at selected production facilities, who are responsible for the collection and presentation of respective information in the Report;
- examination of mass media and the Internet for references to Rosatom State Corporation during the reporting period;
- analysis of procedures to evaluate information on sustainable development by checking correspondence between data on sustainable development activities and financial information, as well as non-financial information and data from previous reporting periods;
- visiting production facilities in the town of Udomlya, Russian Federation (Kalinin NPP) selected on the basis of risk analysis taking account of quantity and quality criteria;
- attending four dialogs with stakeholders hosted by Rosatom State Corporation as part of the Report preparation process;
- comparing information in the Report with information from other sources in order to establish whether the information found in such sources was fully represented in the Report;
- verifying the quantity and quality of the information in the Report in terms of overall compliance under the requirements of the Global Reporting Initiative (Level B+);
- reading and analysis of the information presented in the Report to ensure that it corresponds to our general idea and knowledge of the activities of Rosatom State Corporation in the field of sustainable development;
- obtaining a confirmation letter signed by an authorized representative of Rosatom State Corporation, stating compliance of the Report under the criteria described in the chapter "Information about the Report", and declaring that the Report's information and data are reliable and exhaustive. The scope of procedures to collect evidence in the scope of this limited assurance is significantly less than in case of full assurance, and therefore implies a lower degree of assurance.

CONCLUSIONS

We have not discovered any facts as a result of the procedures described above that would lead us to doubt that the non-financial information selected as relevant for issues of sustainable development and integrated in the Annual Report of Rosatom State Corporation (and marked with the symbol [•]) and the Level B+ GRI application declared by Rosatom in the chapter "Information about the Report" are in conformity, in all major aspects, with the Sustainable Development Reporting Guidelines (version G3.1) of the Global Reporting Initiative.

Nor have we discovered any facts that would give us grounds to believe that the process of interaction between Rosatom State Corporation and its stakeholders is non-compliant with the principles of Standard AA1000APS(2008) in all major respects.

LIMITATED APPLICATION

In accordance with the terms of our agreement, this Statement of Limited Assurance was prepared for the exclusive use of Rosatom State Corporation. Our activities had the sole purpose of preparing this Statement of Limited Assurance, and were not intended for any other purpose. We do not and shall not assume any liability before any party other than Rosatom State Corporation for the results of our activities, for this Statement of Limited Assurance, and for our Conclusions.

ZAO KPMG

ZAO KPMG
Moscow, December 13, 2012

APPENDIX 7.
LIST OF KEY ORGANIZATIONS IN ROSATOM STATE CORPORATION[12]

LEGEND:

- 🔵 organizations within the perimeter of consolidated financial reports for IAS OJSC Atomenergoprom;
- 🟢 organizations on the list of environmentally significant organizations;
- 🟡 organizations that participate in the Rosatom Production System;
- 🔴 key organizations (for the purposes of public reporting).

NUCLEAR ARMS COMPLEX

1. State Research Institute of Graphite-Based Structural Materials, OJSC (NIIgrafit) 🟢
2. Krasnaya Zvezda, OJSC
3. N.A. Dollezhal Research and Development Institute of Power Engineering, OJSC 🔵
4. FGYAC-VNIIEF, OJSC
5. Sarov Gas Supply Company, OJSC
6. Sarov Heating Grid Company, OJSC
7. Sarov Electric Grid Company, OJSC
8. Sarov Generating Company, CJSC
9. Sarov Electric Supply Company, CJSC
10. Engineering Center for Diagnostics of NPP Components at NIKIET, LLC
11. Engineering center of strength and material science for nuclear components, LLC
12. Housing Management Company, LLC
13. I&C Subsidiary OKSAT NIKIET, LLC
14. EnergoAvtotrans LLC
15. Emergency Engineering Center of Federal Ministry of Nuclear Power (St. Petersburg), FSUE
16. Bazalt FSUE 🟢
17. Rosatom Security Service, FSUE
18. N.L. Dukhov All-Russian Research Institute of Automatics, FSUE 🟢
19. Institute of Strategic Stability, FSUE
20. Elektrokhimpribor Combine, FSUE 🟢
21. Design Bureau of Automotive Transport Equipment, FSUE
22. Atombezopasnost, Coordinating Center for Design of Safety and Control Systems, FSUE
23. Specialized Scientific Research Institute for Instrumentation Engineering, FSUE (SNIIP) 🟢
24. A.P. Aleksandrov Research and Technology Institute, FSUE 🟢
25. Science, engineering and certification center for comprehensive IT protection, FSUE
26. Instrumentation Factory, FSUE 🟢
27. Mayak Production Association, FSUE 🟢
28. Ye.I. Zababakhin All-Russian Research Institute of Industrial Physics, Russian Federal Nuclear Center, FSUE 🟢
29. All-Russian Research Institute for Experimental Physics, Russian Federal Nuclear Center, FSUE (RFNC VNIIEF) 🟢🟡
30. Crisis situation center of the Federal nuclear energy Agency, FSUE
31. Eleron Special science and manufacturing association, FSUE
32. Urals Electromechanical Plant, FSUE 🟢
33. FNCP Procenko Manufacturing Association Start, FSUE 🟢
34. Central Research Laboratory for Innovative Technologies in the Nuclear Sector, FSUE
35. Expedition No 2, FSUE
36. Sever Production Complex, FSUE 🟢
37. Yu.Ye. Sedakov Research Institute of Measuring Systems, Federal Research and Production Center, FSUE 🟢

NUCLEAR ICEBREAKER PRODUCTION COMPLEX

38. Atomflot, FSUE 🟢

MINING DIVISION

39. Leading design, survey, science and research Institute of industrial technologies, OJSC
40. Priargunsky Industrial Mining and Chemical Union, OJSC (PIMCU) 🔵🟢
41. Uranium Mining Company, OJSC (UGRK) 🔵
42. Atomredmetzoloto, OJSC (Uranium Holding ARMZ) 🔵🔴
43. Khiagda, OJSC 🔵🟢
44. EKMK-project, OJSC
45. Armenia-Russia Mining Company, CJSC
46. Dalur, CJSC 🔵🟢
47. Lunnoye, CJSC
48. Orel mining chemical company, CJSC 🔵
49. RUSBURMASH, CJSC 🔵
50. Television Center, CJSC
51. Gornoye Uranium Mining Company, CJSC 🔵
52. Elkonsky Mining and Metallurgical Combine, CJSC 🔵
53. Automotive Transportation, LLC
54. Avtokhoziaystvo Urtuyskoye, LLC
55. Itmanovo Agriculture Firm, LLC
56. Dalur Service, LLC
57. Dalur-Finance, LLC

12 List of Rosatom State Corporation organizations in the budget consolidation perimeter as of 31.12.2011.

58. United Service Company ARMZ, LLC (USC ARMZ LLC)
59. Karkhu Geology, LLC
60. Electric Communications Company, LLC
61. Mechanical Repairs Plant, LLC
62. Streltsovsky Construction and Repair Trust, LLC
63. Public Catering and Retail Directorate, LLC
64. Firm Geostar, LLC
65. Uranodobicha Central Office, LLC
66. Shchekotovo, LLC
67. Rusburmash-Kazakhstan Joint Venture, LLP
68. ARMZ NAMIBIA (PROPRIETARY) LIMITED
69. Effective Energy N.V.
70. Mantra Resources Ltd.
71. Runex Uranium RTY LTD
72. Uranium One Inc.
73. VOSTOK POWER RESOURCES LIMITED

FUEL DIVISION

74. Angarsk Electrolysis Chemical Complex, OJSC
75. Vladimir Production Association Tochmash, OJSC
76. A.A. Bochvar High Technology Research Institute of Inorganic Materials, OJSC
77. Engineering Center Russian Gas Centrifuge, OJSC
78. Kovrov Mechanical Plant, OJSC
79. Commercial Center 100, OJSC
80. Treatment and Recreation Complex – Resort Kolontayevo, OJSC
81. Machine-Building Plant, OJSC
82. Moscow Polymetal Plant, OJSC
83. Novosibirsk Chemical Concentrates Plant, OJSC (NCCP)
84. United Company Enrichment and Sublimation Complex, OJSC
85. Production Association Electrochemical Plant, OJSC (PA ECP)
86. Recreation Facility Siniy Utes, OJSC
87. Siberian Chemical Combine, OJSC
88. TVEL, OJSC
89. Urals Electrochemical Combine, OJSC
90. Chemical metallurgy plant, OJSC
91. Chepetsky Mechanical Plant, OJSC
92. NZHK Engineering, CJSC
93. OKB Nizhniy Novgorod, CJSC
94. Bilina Boarding House, CJSC
95. Project Design Service, CJSC
96. Project Design Society, CJSC
97. Ruskorp Sung Won UEIP Co., CJSC
98. Russian Gas Centrifuges, CJSC
99. TVEL-INVEST, CJSC
100. TVEL-INVEST-Technology, CJSC
101. TVEL-Leasing, CJSC
102. TVEL-Story, CJSC
103. NZHK Automotive Management, CJSC
104. Centrotekh SPb, CJSC
105. Pioner Instrumental Firm, LLC
106. Uralskaya Agrifirm, LLC
107. Hotel Complex Glazov, LLC
108. Information Technology Specialized Company, LLC
109. Iskra, LLC
110. KMZ-AVTO, LLC
111. Kombinat Pitaniya, LLC
112. Kompan, LLC
113. Machine-Building complex ChMZ, LLC
114. Medical Center Izumrud, LLC
115. Merkuriy, LLC
116. MSZ-MEKHANIKA, LLC
117. NZHK-Instrument, LLC
118. NZHK-Energy, LLC
119. Novouralsk Dairy Factory, LLC
120. Novouralsk Research and Design Center, LLC
121. Novouralsk Instrumentation Plant, LLC
122. Public foods, LLC
123. Demonstration-experimental center for decommissioning of uranium-graphite nuclear reactors, LLC
124. Organization of retailing and public catering, LLC
125. Instrumentation Service, LLC
126. PSH Friazevo, LLC
127. Health Resort and Rehabilitation Center Cheptsa, LLC
128. Seversk telephone company, LLC
129. Siberian mechanical plant, LLC
130. Stankomash, LLC
131. Teplovodokanal, LLC
132. Tochmash, LLC
133. Tochmash-auto, LLC
134. Automotive transport management, LLC
135. Urals Gas Centrifuge Plant, LLC
136. UEHK-TELECOM, LLC
137. Ecoalians, LLC
138. ELEMASH MAGNIT, LLC
139. ELEMASH OTIS, LLC
140. ELEMASH-SPECTRUBPROKAT, LLC
141. ELEMASH-AUTO, LLC
142. ELEMASHSPETSTRANS, LLC
143. ELEMASH-TEK, LLC
144. Energoremont, LLC
145. Atomspectrans, OJSC
146. International Uranium Enrichment Center, OJSC
147. Saint Petersburg ISOTOPE, OJSC
148. Techsnabexport, OJSC
149. TENEX-Logistics, CJSC
150. Uranium enrichment center, CJSC
151. Crown, LLC
152. TENEX-Complect, LLC
153. INTERNEXCO GmbH
154. KABUSHIKIKAISHA TENEX-JAPAN (TENEX-Japan Co.)
155. KWINDER HOLDINGS LIMITED
156. TENAM Corporation
157. TENEX-Korea Co., Ltd.
158. TRADEWILL LIMITED

ELECTRIC POWER DIVISION

159. Atomtekhexport", OJSC
160. Atomenergoremont, OJSC
161. Atomenergosbyt, OJSC
162. Baltic NPP, OJSC
163. Beloyarsk NPP II, OJSC

164. Impulse, OJSC
165. Science and testing center for nuclear electric plant equipment", OJSC
166. PenzaAtomEnergoSbit, OJSC
167. Permatomenergosbit", OJSC
168. PSR Production System, OJSC
169. Russian Concern for Production of Electrical and Thermal Energy at Nuclear Power Plants, OJSC (Rosenergoatom) [13]
170. Capital construction management, OJSC
171. Electrogorsk Research and Engineering Center on Nuclear Power Plant Safety, OJSC
172. Atomtekhenergo for setup, operation improvement and control of nuclear plants, OJSC
173. Russian national science and research Institute for operation of nuclear electric plants, OJSC
174. Consist-Operator-Sviazi, CJSC
175. RAOTEKH, CJSC
176. CJSC Rusatom Service, CJSC
177. Construction Logistics and Accounting Office, CJSC
178. Triada, CJSC
179. Nuclear Power Financial and Production Company, CJSC
180. AtomTeploElectroSet, LLC
181. Association of Minatom Companies, LLC
182. AtomTeploSbit, LLC
183. Balakovo NPP-Auto, LLC
184. Beloyarsk NPP-Auto, LCC
185. Beloyarsk NPP – Service, LLC
186. Bilibino NPP-Auto, LLC
187. Volgodonsk NPP – Service, LLC
188. Housing Utility DOM, LLC
189. Kalinin NPP – Service, LLC
190. Kola NPP-Auto, LLC
191. Kola NPP-Service, LLC
192. Kursk NPP – Service, LLC
193. Leningrad NPP-Auto, LLC
194. Novovoronezh NPP-Auto, LLC
195. Novovoronezh NPP – Service, LLC
196. Smolensk NPP – Service, LLC
197. Managing Company for Industrial Park of Construction Materials, LLC
198. Center Atom-Innovations, LLC
199. TsentrAtom-Komplekt, LLC
200. Energatominvest, LLC
201. EnergoAtomProject, LLC

MACHINE-BUILDING DIVISION

202. Atomenergomash, OJSC
203. VenTrans, OJSC
204. All-Russia Research and Design Institute of Nuclear Machine Engineering, OJSC (VNIIAM)
205. State Specialized Design Institute, OJSC (GSPI)
206. Group Energy Machine-Building, OJSC
207. Directorate of Central Client, OJSC
208. Engineering Company ZIOMAR, OJSC
209. Institute for Physical and Technical Problems, OJSC
210. Smart Energy Machine-Building, OJSC
211. Machine-Building Plant ZiO-Podolsk, OJSC
212. Mospormtekhmontazh, OJSC
213. Nizhnyaya Tura Machine Engineering Plant Venta, OJSC
214. Afrikantov Experimental Design Bureau for Mechanical Engineering, OJSC (OKBM Afrikantov)
215. Experimental Refractory Metals and Hard Alloys Plant, OJSC (OZTMiTS OJSC)
216. Experimental & Design Organization OKB Gidropress, OJSC (GIDROPRESS)
217. Sverdlovsk Research Institute of Chemical Engineering, OJSC (SverdNIIkhimmash)
218. Specialized science and research Institute of instrument-building (OJSC SNIIP), OJSC
219. Central Design Bureau of Machine Building, OJSC
220. Energomashspecstal, OJSC
221. TverAtomElektroMontazh, OJSC
222. Government-owned science center Science and Manufacturing Association Central science and research Institute of machine-building technologies, OJSC
223. Atomtruboprovodmontazh, CJSC
224. AEM-Invest, CJSC
225. AEM-Leasing, CJSC
226. AEM-logistics, CJSC
227. AEM-Technology, CJSC
228. Direct Investment Company RusAtomStroy-Invest, CJSC
229. Experimental company for nuclear energy and petrochemical machine-building, CJSC
230. Petrozavodsk plant of paper-making machine-building, CJSC
231. Russian Power machine-building company, CJSC
232. Power machine-building equipment Trading House, CJSC
233. Transportation technology machine-building, CJSC
234. PetrozavodskMash Holding Company, CJSC
235. Elegaz-Conversion, CJSC
236. RusAtomStroy-Management, CJSC
237. Construction and Installation Company Yug, CJSC
238. ALSTOM Atomenergomash, LLC
239. BINOM, LLC
240. Biriuza-M, LLC
241. Guns Engineering and Power Machine-Building, LLC
242. ENERGOFINANCECONSULT, LLC
243. Karelbummash[14], LLC
244. KarelMashInvest[15], LLC
245. Kupol-Atomenergomash", LLC
246. Nalim, LLC
247. Neftegazspecstroy, LLC
248. PTK ZiO, LLC
249. Stalenergoproekt, LLC
250. Energy machine-building technologies, LLC
251. Trust SpetsAtomEnergoMontazh, LLC
252. Turbine Machine Building, LLC
253. UMZ, LLC
254. Estate Real Property Management, LLC
255. Energomashcomplex, LLC
256. Atomic Energy Power Corporation, OJSC (Atomenergoprom)

13 All 10 active Russian nuclear plants that are branches of OJSC Rosenergoatom Russian Concern for generation of electric and thermal energy by nuclear plants, are on the list of environmentally significant organizations of Rosatom State Corporation.
14 Outside the perimeter of budget consolidation in 2011.
15 Outside the perimeter of budget consolidation in 2011.

257. Petrozavodskmash Foundry, OJSC
258. AEM-TECHNOLOGY-CYPRUS LTD
259. ARAKO spol. s r.o.
260. Atomenergomash Cyprus Limited
261. EMSS Holdings Limited
262. Floorboard Trading & Investments Limited
263. IES-EnergoStroyEngineering Sociadad anonima registracion limitada
264. SALIDA CAPITAL CORP
265. "Liges s.r.o."
266. UMP Trading (Switzerland)
267. UMZ TRADE HOUSE INC.

FUTURE MATERIALS AND TECHNOLOGIES

268. SPC Khimpromengineering, OJSC
269. Technology Center TENEX, CJSC
270. Argon LLC
271. Carbon and Composite Material Plant, LLC
272. SNV, LLC

OVERSEAS

273. Rusatom Overseas, CJSC
274. AO NPP Akkuyu

ATOMSTROYEXPORT

275. Atomstroyexport, CJSC
276. Ventilation Systems, CJSC
277. Urals industrial assembly company, CJSC
278. ASE-Engineering, LLC
279. Atomstroyinvest, LLC
280. Atomstroyfinance, LLC
281. Atomstroyexport-Finance, LLC
282. Kazakhstan-Russian Nuclear Stations, OJSC
283. NUKEM Technologies GmbH

CAPITAL CONSTRUCTION

284. Atomenergoproekt, OJSC
285. VNIPIET, OJSC
286. East-European HQ science research and design Institute of energy technologies" (OJSC VNIPIET HQ Institute), OJSC
287. Research and Design Institute of Installation Technology – NIKIMT Atomstroy, OJSC
288. Saint Petersburg Research, Design and Engineering Institute ATOMENERGOPROEKT, OJSC (SPb AEP)
289. St. Petersburg science and research Institute Energoiziskaniya, OJSC
290. Siberian design and survey Institute Orgstroyproyekt, OJSC
291. Specialized Construction and Installation Directorate Lenatomenergostroy, OJSC
292. Office for industrial production logistics, OJSC
293. Office for industrial companies, OJSC
294. Energospecmontazh, OJSC
295. Nuclear Energy Construction Corporation, OJSC
296. Research, Design, Engineering and Survey Institute Atomenergoproekt, OJSC (OJSC AEP)
297. Construction and Installation Directorate No. 1, CJSC
298. Construction and Installation Directorate No. 4, CJSC
299. Construction and Installation Directorate No 7, CJSC
300. Construction and Installation Directorate No 9, CJSC
301. Office for mechanization, CJSC
302. Office for construction finishing, CJSC
303. Volgodonsk Installation Directorate, LLC
304. Construction and Installation Directorate No. 1, LLC
305. Construction and Installation Directorate No. 2, LLC
306. Construction and environmental technologies, LLC
307. Mechanization Directorate, LLC

COMPLEX TO ENSURE NUCLEAR AND RADIATION SAFETY

308. Mining and Chemical Combine, FSUE
309. V.G. Khlopin Radium Institute, Research and Production Complex, FSUE
310. RosRAO, Radioactive Waste Management Company, FSUE [16]
311. Federal Nuclear and Radiation Safety Center, FSUE

RADIATION TECHNOLOGIES

312. Isotope, OJSC
313. Isotope (Yekaterinburg), OJSC
314. Nuclear Physics Research Science and Technology Center, OJSC
315. Isotope-NIIAR, CJSC
316. United Innovations Corporation, LLC
317. Rewiss Services Ltd., JV
318. RAIMS Limited

INNOVATION MANAGEMENT UNIT

319. Specialized industry-level investment construction company, OJSC
320. AKME-Engineering, OJSC
321. All-Russia Research Institute of Chemical Technology, OJSC (VNIIKhT)
322. Federal State Research and Design Institute of Rare Metal Industry – Giredmet, OJSC
323. Institute of Reactor Materials (IRM), OJSC
324. National Technical Physics and Automation Research Institute (NIITFA), OJSC
325. Russian Superconductor, OJSC
326. Technopark-Technology, OJSC
327. State Research Center – Research Institute of Atomic Reactors (SRC NIIAR), OJSC
328. SFT-Russia, CJSC
329. Institute of High-Energy Physics, State Scientific Center of the Russian Federation, FSUE
330. A.I. Alikhanov Institute of Theoretical and Experimental Physics, State Scientific Center of the Russian Federation, FSUE
331. A.I. Leipunsky Institute of Physics and Power Engineering, State Scientific Center of the Russian Federation, FSUE
332. Troitsk Institute of Innovative and Thermonuclear Research, State Scientific Center of the Russian Federation, FSUE
333. Luch, Research Institute – Research and Production Complex, FSUE

16 Eight territorial branches of FRUP RosRAO Company for radioactive waste handling are also on the list of environmentally significant organizations of Rosatom State Corporation.

334. D. Efremov Research Institute of Electrophysical Instrumentation, FSUE
335. L.Ya. Karpov Physical-Chemical Research Institute (Karpov NIFKhI), FSUE
336. CHU ITER Design Center
337. Russian-Belarus Joint Venture Isotope Technologies, CJSC
338. Joint Venture Beijing CAEI-RIAR Radioisotope Co. Ltd.

ADMINISTRATIVE AND LOGISTICS COMPLEX

339. Atomkomplekt, OJSC
340. Nuclear Energy Industrial Complex (OJSC Atomenergoprom), OJSC
341. Greenatom, CJSC
342. TENEX-Service, CJSC
343. Kombinat Pitaniya, FSUE
344. Administrative Building Management Company, FSUE
345. NOU Central Institute for advanced training courses
346. ROSATOM FINANCE LTD
347. ROSATOM Securities Limited

NON-PROFILE ASSETS

348. Alliancetransatom, OJSC
349. Atom-service, OJSC
350. Atomspetskonservice, OJSC
351. Atomtrans, OJSC
352. All-Russian Production Association Zarubezhatomenergostroy (VPA ZAES), OJSC
353. ZhilkomService, OJSC
354. Isotope (Khabarovsk), OJSC
355. Media Center of Nuclear Industry (Atom-Media), OJSC
356. Dedal Scientific and Production Complex, OJSC
357. Science and production center for conversion, OJSC
358. Industry-level engineering design bureau for advanced technologies and glass products, OJSC
359. Molniya Machine-Building Plant Production Association, OJSC
360. Recreation and Sports Center OLenKur, OJSC
361. Center for non-profile asset management in the nuclear industry, OJSC
362. CenterAtomConsult, OJSC
363. Energopromanalitika, OJSC
364. EFCON, OJSC
365. Atom-Trans Service, CJSC
366. Center for Federal Government's Asset Management, FSUE
367. Interdepartmental Specialized Training Center, FSI
368. Child Development Center – Kindergarten Doshkolenok, SUEE

FEEDBACK QUESTIONNAIRE

DEAR READER,

You have read Rosatom State Corporation's third public Annual Report addressed to a wide range of stakeholders. Opinions of our Readers are highly important for us, and we will appreciate your contribution to further efforts to raise the quality of the Corporation's reports by answering the questions below.

Please send the completed questionnaire to: Communications Department, 24, ul. Bolshaya Ordynka, Moscow, 119017, and/or email it to the Secretary in charge of the Committee for Public Reporting (EAMamy@rosatom.ru).

1. PLEASE EVALUATE THE REPORT USING THE FOLLOWING CRITERIA:

Reliable and objective information

☐ Great ☐ Good ☐ Adequate ☐ Poor

Was your opinion influenced by statements of independent auditors and stakeholder assurance included in the report?

☐ Yes ☐ No

Complete and relevant information

☐ Great ☐ Good ☐ Adequate ☐ Poor

Report structure, organization of content, and writing style

☐ Great ☐ Good ☐ Adequate ☐ Poor

2. PLEASE NAME REPORT SECTIONS THAT YOU REGARD AS SIGNIFICANT AND USEFUL.

3. WHAT TOPICS SHOULD BE INCLUDED IN THE NEXT REPORT?

4. YOUR RECOMMENDATIONS AND COMMENTS:

5. YOU REPRESENT THE FOLLOWING STAKEHOLDER GROUP:

- ☐ Employee of Rosatom State Corporation
- ☐ Employee of an organizations that is part of Rosatom State Corporation
- ☐ Representative of the Federal Government
- ☐ Representative of regional government
- ☐ Representative of a municipality
- ☐ Representative of a contractor/supplier
- ☐ Representative of a client/user of commodities and services
- ☐ Representative of business community
- ☐ Representative of a public organization
- ☐ Representative of mass media
- ☐ Representative of expert community
- ☐ Other (please specify)

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