STATE ATOMIC ENERGY CORPORATION ROSATOM

Engineering Division
Annual Report 2016

THE NEW WAVE IN PROJECT MANAGEMENT

STATE ATOMIC ENERGY CORPORATION ROSATOM

Approved by JSC ASE EC Board of Directors

Approved by JSC ASE Board of Directors

Approved by the decision of the annual general meeting of shareholders of SC “Atomenergoproekt”

Approved by the resolution of JSC “ATOMPROEKT” sole shareholder

President of JSC ASE EC V. I. Limarenko

Chief Accountant of JSC ASE EC E. V. Samogorodskaya

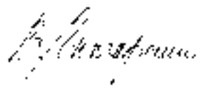
АСЭ·ASE

Engineering Division

THE NEW WAVE IN PROJECT MANAGEMENT

CONTENTS

TO OUR STAKEHOLDERS



Valery Limarenko

President of JSC ASE EC, Managing Company of ASE Group of Companies – ROSATOM Engineering Division

Letter from the President of Engineering Division

Dear stakeholders,

The Engineering Division of ROSATOM is the leader on the global nuclear facilities design and construction market, and year 2016 wrapped up the final integration of its assets. The Engineering Division is well known to our business partners, it has had the solid reputation of a global reliable provider of engineering services from the date of its establishment. Our strategy aims to achieve leadership in the business core, to be operationally and financially sustainable, which fully meets the objectives of ROSATOM.

The highlights for both the Russian and global NPP market was the first-of-a-kind VVER-1200 power unit connection to the grid at the Novovoronezh nuclear power plant in the recent 2016. This is the world's first unit of the III+ generation to prove our global leadership.

Other significant landmarks are such as: connection to the grid of units 1 and 2 and start of the Kudankulam NPP units 3 and 4 construction in India, start of the Bushehr-2 NPP construction in Iran. Besides, the contract preparatory works for El-Dabaa NPP construction in Egypt have been finalized. In 2016, the portfolio of overseas contracts passed the mark of 90 bln US dollars.

Upon the resolution of the State Corporation, the Engineering Division became the industry expertise center for facilities construction project management. The 2016 first project implemented successfully construction facilities schedule management solution i.e a unified schedule used as part of the pilot projects, such as: Leningrad-2 NPP, Mining and Chemical Plant, Mayak Production Facility, SKhK JSC.

The company started to actively develop Project Management Consulting (PMC) services: the first consulting contract outside the power industry was signed with "Skorostnii magistrali" company, a subsidiary of JSC "Russian Railways", our strategic customer.

We have been implementing for years a successful project management practice. We continue to develop the unique Multi-D technology, that serves as a foundation of our project lifecycle management framework. It allows to reduce the construction period and to enhance labor efficiency, quality of works and safety, at the same time reducing the project costs.

In 2016 we've got the global recognition of this technology when we won WNE AWARD competition (Le Bourget, France) with "Multi-D Project Management System" Project, and it confirms the fact that we have been widely acknowledged by global nuclear power community.

Moreover, we have become the first Russian company to be awarded the international 3 grade certificate in the area of project, programme and portfolio management based on the International Project Management Association (IPMA Delta) model. This is considered to be our next global achievement. Currently all company's top managers are going through certification in the area of project management in line with IPMA international standards.

Our "Lifecycle management, based on Multi-D® Technology at Rostov NPP" has won the international CETI AWARD 2016 competition in "Mega-Project Multi-Roadmap Element" category which was brought by FIATECH, one of the globally reputable industrial association.

The company continues implementation of its strategic objectives by involving all competitive growth resources in the tough situation when the competition increases on the markets of both NPP construction and complex engineering construction project management services.

Since we are a globally recognized engineering company, information transparency becomes the key issue. We strive to ensure that any stakeholder is able to trace back the historic evolution of our company, witness its major changes, taking into account implementation of its strategic goals and be aware of our plans and prospective commitments.

(GRI 102-14) The approach to the Division's sustainable development is taken based on the Agenda for the sustainable development until 2030 adopted by the United Nations Commission on Environment and Development. We focus our attention on all aspects of sustainable growth, including employees' health and well-being, extension of our geography, welfare work, environmental protection etc. In 2016, we supported 59 projects in the area of environmental protection, culture, sports, promotion of patriotism among the youth. The crucial issue is for us to understand that while leaving unique and state-of-the-art facilities to the future generations, we nevertheless preserve the natural resources.

ABOUT ENGINEERING DIVISION

(GRI 102-1, 102-5) **ROSATOM Engineering Division** (hereinafter the Company, the Division, the Engineering Division) includes 4 key companies, i.e.:

- **JSC ASE EC,** rebranded from JSC NIAEP **(Nizhny Novgorod);**
- **JSC ASE (Moscow);**
- **JSC Atomenergoproekt (Moscow);**
- **JSC ATOMPROEKT (St.-Petersburg).**

(GRI 102-3) JSC ASE EC, the Division Managing Company is located in Nizhny Novgorod.

Our Mission

(GRI 102-16) Our business involves the area of complex engineering construction project management based on the extensive record of nuclear project implementation, it creates a stakeholder value and ensures achievement of its objectives on the Russian and international markets.

Our Vision

We strive for establishing a competitive business that is successful in the construction and management of and complex engineering projects and we are focused on the stakeholder value maximization.

Our Competitive Advantages

- *References at the Russian and foreign markets.*
- *Optimum balance of cost, time, quality and payment terms.*
- *Advanced project management system for NPP and other complex engineering facilities.*
- *Highly-competent and skillful personnel.*
- *First-rate engineering & technological infrastructure and long-term experience in NPP and other complex engineering facilities design and construction.*
- *Own design capacities.*
- *Own safety typical projects equipped with VVER reactors of III/III+ generation, competitive by following parameters: LCOE, CAPEX, construction timeline.*
- *Unique Multi-D project lifecycle management platform.*

Our Markets

(GRI 102-2) Engineering Division render services on construction project management and modernization of complex engineering facilities, such are:

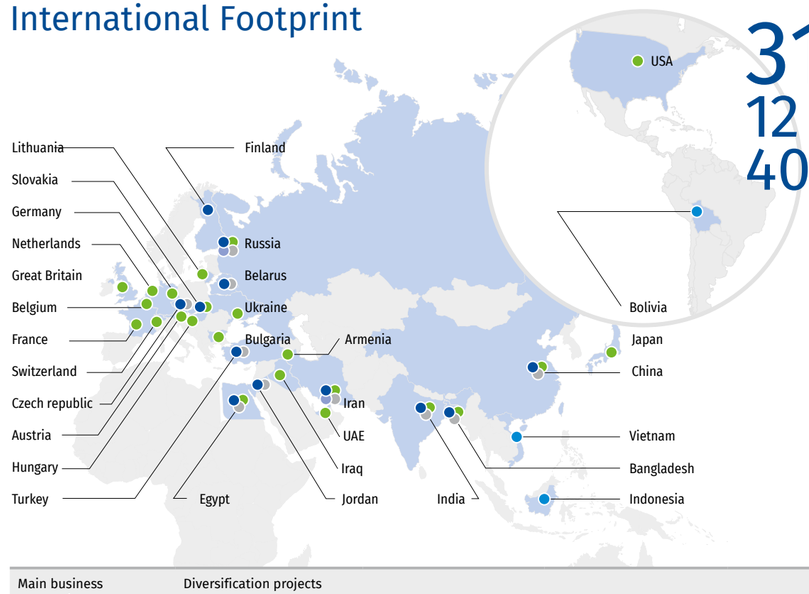
1. Design and construction of nuclear power plants.
2. Design and construction of research reactors.
3. RAW and SNF Facilities Construction and Modernization, NRHF Decommissioning.
4. Maintenance Services.
5. Project Management Consulting Services.

Our Values

Our values comply with these of the ROSATOM and aim to discharge the mission and maintain the sustainable growth.

(GRI 102-4)

International Footprint



31 countries

12 main business core projects

40 diversification projects

Main business core projects (NPP construction)	Diversification projects			
	Research reactors, small and medium-sized nuclear power plant	Decommissioning of nuclear and radiation hazardous facilities, radioactive waste and spent nuclear fuel management facilities	Service	Project Management Consulting services
●	●	●	●	●

The data about offices of the Division (with branches, representative offices and subsidiaries) is provided in Annex 18.

Registrar Information:

JSC ASE EC Registrar is JSC "R.O.S.T. Registrar of Companies" that keeps the register of JSC ASE EC registered security holders.

The address of the registrar: Bld. 18/13, Stromynka Str., Moscow, 107996.

(GRI 102-13)

Membership in Associations

- All-Russian Industrial Federation of Employers in Nuclear Power Engineering, Power Engineering and Science Sector of Russia.
- Association of Innovative Designing.
- European Utility Requirements Organization.
- Self-Governing Organization Non-Commercial Partnership SOYUZATOMGEO Association of Engineering-Prospecting Organizations Engaged in Architectural and Structural Designing, Construction, Reconstruction and Overhaul of Nuclear Power Industry Facilities.
- Self-Governing Organization Non-commercial Partnership SOYUZATOMSTROY Association of Organizations for Construction, Reconstruction and Overhaul of Nuclear Power Industry Facilities.
- Self-Governing Organization Non-Commercial Partnership SOYUZATOMPROEKT Association of Organizations for Architectural and Structural Designing of Nuclear Power Industry Facilities.
- Czech Nuclear Forum.

History

Engineering Division is the center of nuclear engineering and design competences of ROSATOM

JSC NIAEP
Build-up

Build-up of JSC NIAEP–ASE
Unified Engineering Company

JSC Atomenergoproekt
Integration into
the JSC NIAEP Management
Framework

JSC ATOMPROEKT Integration
into the JSC NIAEP
Management Framework

JSC NIAEP

1951–2007

- THE FIRST STAGE started in 1951 when the Gorenergoproekt Design Bureau gave rise to the Gorky Branch of the Teploenergoproekt Institute. After a while the Branch was restructured to become the independent Nizhny Novgorod Atomenergoproekt Institute reformed again by the end of 2007 to become the JSC Nizhny Novgorod Engineering Company "Atomenergoproekt" (JSC NIAEP).

JSC NIAEP–ASE

2012

- THE SECOND STAGE of the Engineering Division generation was marked by building-up of the Unified Engineering Company JSC NIAEP–JSC ASE in 2012. This undertaking allowed for JSC ASE's financial recovery and the use of the Rostov-2 project best practices to be extended to other Russian and foreign site projects in JSC ASE – JSC NIAEP's business portfolio.

JSC NIAEP–ASE-AEP

2014

- THE THIRD STAGE saw JSC Atomenergoproekt, major design unit and basic VVER-TOI design owner, become integrated into the JSC NIAEP management framework which was followed by JSC Atomenergoproekt equity shares transfer to JSC ASE in 2014–2015.

ENGINEERING DIVISION

2016

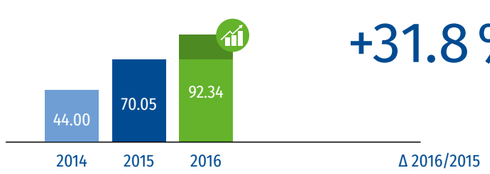
- THE FOURTH STAGE witnessed JSC ATOMPROEKT become integrated into the JSC NIAEP management framework in 2015–2016. This company has a more 85-year experience in complex designing of nuclear power plants and facilities and owns the basic AES-2006 design and FN reactor technologies.

Construction of Unit 2
of the Novovoronezh NPP-2

GRI 102-7

FINANCIAL AND OPERATIONAL HIGHLIGHTS

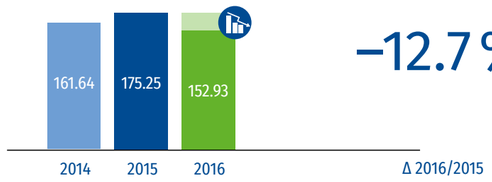
The 10-year Portfolio of Overseas Orders, bln USD



+31.8 %

For more detail see Chapter 1.2. Strategy and its implementation.

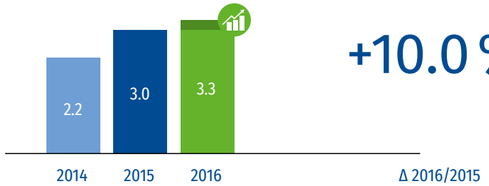
Revenue, bln RUB



–12.7 %

The decline in actual revenues in 2016 against those in 2015 was accounted for by the change of NPP unit construction stages and decrease in the amount of under-construction units.) In 2017 we account for the revenue growth stipulated by active stage on new construction projects.

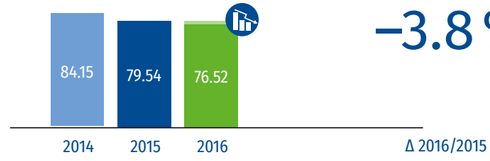
Labour Productivity Calculated by Own Profit, mln RUB / person



+10.0 %

For more detail see Chapter 1.2. Strategy and its implementation.

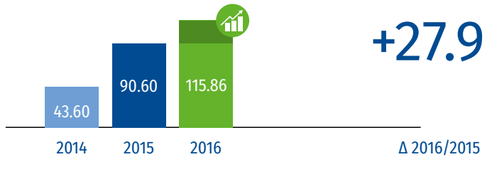
Release of Pollutant Substances, tons



–3.8 %

For more detail see Chapter 2.4.3. Results in the field of environmental protection.

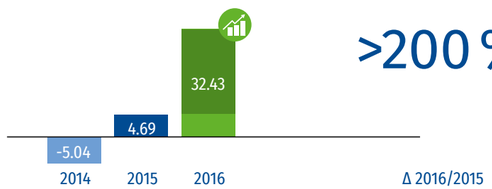
The 10-year Portfolio of New Businesses, bln RUB



+27.9 %

Construction of RAW and SNF management facilities, construction of low- and medium- capacity research reactors, PMC-services, NPP service.

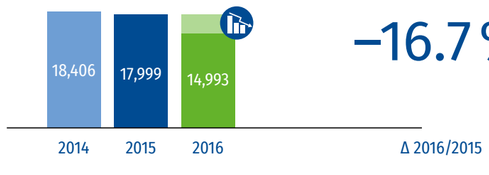
EBITDA, bln RUB



>200 %

The significantly growing index is connected with the compensations paid by Bulgaria due to its refusal of the Belene NPP construction.

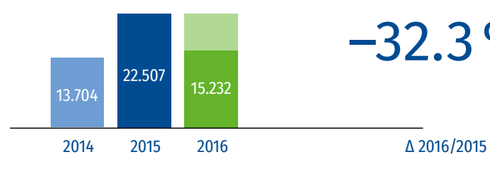
The Average Headcount of Staff, persons



–16.7 %

The manpower change is caused by completion of works at the construction project sites and organizational changes in the Division by measures undertaken to enhance the labour productivity and business efficiency.

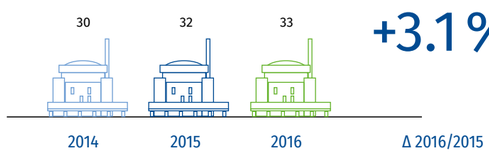
Expenditures for Environmental Protection Measures, mln RUB



–32.3 %

The reduction of expenditures for environmental protection measures at operational facilities in 2016 was caused by introduction and active use of electronic document circulation system, increase of the scope of paper materials handed over to archives which resulted in reduced volume of produced paper waste.

Number of Power Units in the Company's Portfolio



+3.1 %

The company's portfolio includes power units for which contracts and other documents are signed with the stated obligations as to the NPP construction deadlines and cost.

ENGINEERING DIVISION MILESTONES IN 2016

January

- Start of works for Kudankulam NPP Units 3&4 (India) was approved.

February

- To enhance the operating performance, ROSATOM executives adopted a decision to build a Unified Information Space (UIS). The development and implementation of this system was entrusted to JSC ASE EC (the Engineering Division managing company) appointed as an executive company. The construction site of Rostov NPP Unit 4 was chosen as a pilot site for UIS implementation.

May

- Approval and signing of Appendices to the General Contract for Rooppur NPP construction were finalized (Bangladesh).

June

- JSC ASE EC became the first Russian company to be awarded the international 3 grade certificate in the area of project, programme and portfolio management based on IPMA Delta model.
- The Memorandum of Understanding was signed with IBM – Eastern Europe/ Asia company aiming to develop the cooperation in the area of system engineering and design and construction management technologies.
- Turkey changed legislation relating to simplification of the licensing process, the cooperation was fully revived and promoted in the area of the Akkuyu NPP construction project.
- The Judgement in the case of the earlier cancelled Russian-Bulgarian Belene NPP Project was awarded by the International Court of Arbitration in Geneva in favour of Atomstroyexport, represented in ASE Group.
- The Multi-D Project Management System" Project won the international World Nuclear Exhibition (WNE) competition in the "Operational Excellence" category.

July

- Tenders for the Kozloduy NPP radioactive waste storage facility construction and the Kozloduy NPP Units 1–4 equipment dismantlement project were won by Nukem Technologies on July 07 and 08 respectively as part of the German-Bulgarian and German-Russian Consortia.

August

- Kudankulam NPP Power unit 2 was connected to the grid system in the Republic of India.

The Novovoronezh NPP-2 Gen III+ reactor-based Power Unit 1 delivered the first 240 MW output to the national grid system and achieved 100% of power.

September

- The foundation stone ceremony was held at the Bushehr-2 NPP (Iran).
- Welding of the reactor coolant pipe was completed at the Novovoronezh NPP-2 Power unit 2 within the record-short time (72 days against 96 days at the Rostov NPP).
- Arrangement of the containment dome was completed at the Belarus NPP Power Unit 1.

October

- The Units 3&4 the foundation stone ceremony was held at Kudankulam NPP.
- A PMC-contract is signed to provide the information resource for following-up implementation of BCM "Moscow–Kazan" project (PMC-services) with JSC "Skorostnye Magistrali" – a strategic customer which is the JSC RZD affiliated branch.

December

- "Lifecycle management, based on Multi-D Technology at Rostov NPP" has won the international CETI AWARD 2016 competition in "Mega-Project Multi-Roadmap Element" category which was brought by FIATECH, one of the globally reputable industrial association.
- Bulgaria's National Electricity Company (NEC) repaid its 601.6 mln euro debt on Belene nuclear power plant. The sum was transferred to the account of the JSC ASE in accordance with the International Court of Arbitration.

January 2017

- Valery Limarenko, President of JSC ASE EC was granted the award of Alexander Nevsky by Vladimir Putin, the President of the Russian Federation.
- Power Unit No. 2 of Kudankulam NPP (India) was brought to 100 % power.

March 2017

- Power Unit No. 1 of Novovoronezh NPP-2 was brought into commercial operation
- Start of the works performed directly at the Bushehr-2 NPP construction site (the Islamic Republic of Iran).

April 2017

- Signing of the Joint Statement between JSC Atomstroyexport and Nuclear Power Corporation of India representatives regarding final acceptance of Kudankulam NPP power unit No. 1.

The Novovoronezh NPP-2 GenIII+ Reactor-Based Power Unit 1

Team

- General Designer – **JSC Atomenergoproekt**
- General Contractor – **Engineering Division**
- Customer – **ROSENERGOATOM CONCERN JSC**
- General designer of the reactor – **JSC OKB Gidropress**
- Scientific advisor institute – **SRC Kurchatov Institute**

Project Passport

PROJECT VVER-1200

REACTOR TYPE ..... B 392M

QUANTITY OF SOLID RADIOACTIVE WASTE ..... 50 m^3/year

POWER CONSUMPTION FOR AUXILIARY NEEDS ..... 7 %

Innovations of NPP-2006 Project

- VVER-1200 reactor unit of enhanced safety with reactor vessel and SG service life amounting to 60 years.
- Complex of safety systems with active and passive systems/components as well as severe BDBA management tools.
- Modern RW treatment technologies.
- Cooling towers provide closed cooling cycle of process flows in order to minimize impact to the environment.

Safety (Passive and Active Protection)

- Blast pressure – **30 kPa**
- Rated wind velocity (tornado/hurricane) – **56 m/s**
- Seismic impact as per **3–8 bals** (MSK-64 scale)
- Crush of a airplane of **20 tons at the speed of 200 m/s**
- Flood ratio – **0.01 %** (once in 10 000 years)

OVERVIEW OF THE REPORT

The 2016 public annual report (hereinafter the Report) of the ROSATOM Engineering Division discloses financial and non-financial results of the activities. The report is issued in Russian and English.

(GRI 102-52) The integrated annual report is issued on the annual basis. This report counts as the Division's report No. 2 and JSC ASE EC' report No. 9.

(GRI 102-51) The previous report was issued in 2016. For users' convenience, this Report is issued both in hard copy, electronic and interactive format.

Normative Reference

The Report is developed according to the following regulatory documents.

International standards and guidelines:

- AA1000 standards (Institute of Social and Ethical Accountability).
- GRI Sustainability Reporting Standards (GRI SRS).
- Integrated Reporting International Standard (International <IR> Framework).

The RF regulatory legislation in the area of corporate and financial accountability:

- Federal Law No.-FZ dd. 26.12.1995 "On joint stock companies" (rev. as of 29.06.2015).
- Regulation of the Bank of Russia No. 454-P dd. 30.12.2014 "On information disclosure by emitters of issuable securities".
- Letter by the Bank of Russia No.06-52/2463 dd. 10.04.2014 "On the corporate management code".
- Federal law No. 5485-1 dd. 21.07.1993,"On state secret".
- Federal law No. 98 dd. 29.07.2004,"On commercial secret".
- Federal law No. 149-FZ dd. 27.07.2006 "On information, information technologies and information security".
- Federal law No. 129-FZ dd. 21.11.1996 "On accounting".

ROSATOM Regulatory documents:

- ROSATOM policy in the area of public accountability.
- Public annual accountability model standard for ROSATOM key organizations (in view of public accountability).
- Ethical code of ROSATOM.

JSC ASE EC regulatory documents in the area of public accountability:

- Regulation on JSC ASE EC Stakeholders Commission.
- Regulation on JSC ASE EC Public Accountability Committee.
- STO 8841271.012– 2016 in-house standard "Procedure for elaboration of the ROSATOM public annual report over the reported period".

GRI Standards Applicability

(GRI 102-54) This report has been prepared in accordance with the GRI Standards: Comprehensive option

GRI content index is given in Annex 5.

Report Scope

(GRI 102-50) This Report summarizes the Division activities from 01.01.2016 till 31.12.2016.

The accounting data are provided as per the Division's key companies: JSC ASE EC, JSC "Atomenergoproekt", JSC ATOMPROEKT, JSC ASE (see Annex 1).

(GRI 102-45, 102-49) As compared to the previous reporting period, the consolidation scope has been changed. Starting from 2015, consolidated financial management indicators are generated on the basis of ten FRCs (Financial Liability Centers): JSC ASE EC, JSC ASE, JSC Atomenergoproekt and seven organizations within the management framework (ASE-Engineering LLC, NUKEM Technologies GmbH, NIAEP-Service LLC, Trest Rosspetsenergomontazh LLC, Nukem Technologies Engineering Services GmbH, JSC NIKIMT Atomstroy, JSC Energospetsmontazh).

(GRI 102-10) The ASE EC JSC management scope was extended to include an expert design company ATOMPROEKT JSC (St.-Petersburg).

The Report comprises target and estimated parameters in view of short-, mid- and long-term forecasts. The timing of plans/forecast disclosure in terms of separate indicators depends on the degree of confidentiality of information.

All annexes hereto are given in the Book of Appendices see http://www.niaep.ru/information_disclosure/Annual_reports.

Responsibility for Report Elaboration

(GRI 102-32) The Report is approved by JSC ASE EC Board of Directors, Resolution of JSC ASE general shareholders meeting, JSC Atomenergoproekt Board of directors, resolution of JSC ATOMPROEKT sole shareholder.

Defining Report Content

(GRI 102-46) Materiality definition process

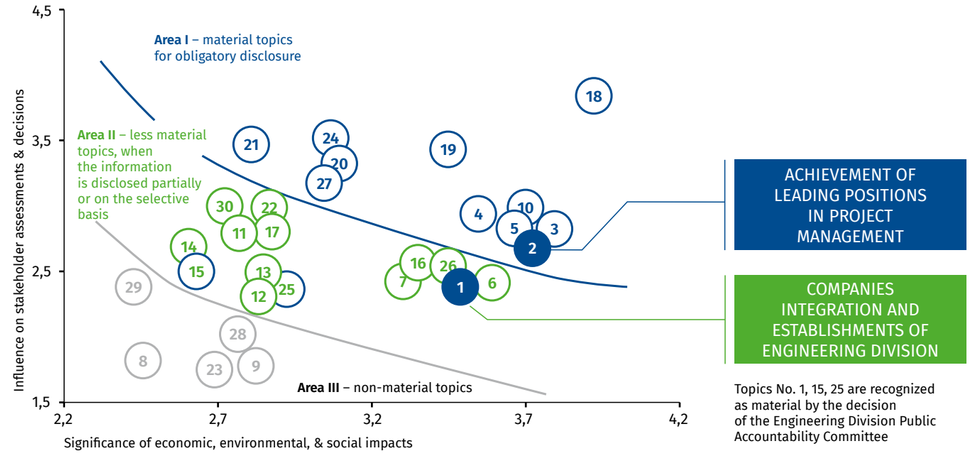
In accordance with GRI Standards and International Integrated Reporting Framework, material topics were identified during the development of the Report. The works were performed as part of the communication with stakeholders based on Rapid Foresight technology that was held on 31.10.2016. Materiality foresight has been arranged in accordance with the GRI procedures for defining report content.

Before the meeting, the Company's top management questioning was held with identification of the most significant topics. At the communication with stakeholders, the list of topics was updated and prioritized. Based on the meeting outcome, a materiality matrix was generated. Information about management approaches to material topics are provided in Annex 5.

The priority topics of the Report are defined by JSC ASE EC management and stakeholders' representatives in due course of material issues identification. The priority issues of the Report are such as: "Achievement of leading positions in project management, "Companies integration and establishment of Engineering Division".

GRI Content index include information about 15 GRI disclosures as per material topics.

(GRI 102-47, 102-49) Materiality Matrix



Topics No. 1, 15, 25 are recognized as material by the decision of the Engineering Division Public Accountability Committee

Area I – material topics for obligatory disclosure

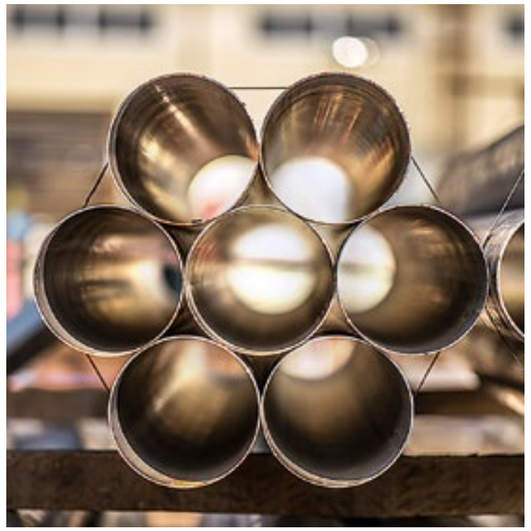
2. ACHIEVEMENT OF LEADING POSITIONS IN PROJECT MANAGEMENT (priority issue)
18. NPP safety (including environmental aspects)
19. Ensuring environmental and industrial safety at construction sites
24. Stakeholder engagement
21. Occupational health and safety
20. Industrial waste management in construction
27. Company's role in decommissioning of nuclear power units
4. Implementation of contractual obligations related to NPP construction abroad
10. Reducing NPP construction timelines and costs
3. Implementation of the state programme for new power units construction in RF
5. Providing the Company's portfolio for the long-term period
1. COMPANIES INTEGRATION AND ESTABLISHMENT OF ENGINEERING DIVISION (priority topic)
15. Sustainability aspect management system (recognized as material)
25. Intellectual property (recognized as material)

Area II – less material topics, when the information is disclosed partially or on the selective basis

13. Powerful team and increase in labour productivity
22. Company as an important employer
26. Achievement of technological supremacy on the global market
16. Ensuring Company's financial sustainability and creditworthiness
6. Enhancement of available and new products' competitive advantages
30. Safety Culture
17. Anti-corruption Policy
11. Company's requirements to suppliers and contractors' activities
14. Management culture as a basis for development
7. Impementation of innovation projects
12. Increase in the effectiveness of the procurement activity

Area III – non-material topics

29. Import substitution practices
28. Providing engineering services at new markets
8. Improvement of project management procedures, PSR and LEAN
9. Generation of unified information space and project management system
23. Company's brand promotion abroad (disclosed as part of topic 1)



Report Verification

(GRI 102-56) An independent auditor was involved for verification of the non-financial information in the Report.

Independent assurance of the Report was performed by NP Consult LLC to check compliance against the comprehensive option of the GRI Standards.

Auditor's opinion on verification of non-financial reports is provided in Annex 4.

When developing the Report, the auditor used managerial and audited financial statements of JSC ASE EC, JSC ASE and JSC "Atomenergoproekt" prepared in accordance with RAS. Audit of the accounting (financial) statements of JSC ASE EC, JSC ASE and JSC "Atomenergoproekt" was performed by Nexia Pacioli Consulting LLC.

The auditor statements are provided in Annex 2.

The report was verified by JSC ASE EC Internal Control and Audit Department.

The audit statement is provided in Annex 3.

The Report was subject to public/stakeholder verification procedures aimed at check materiality and completeness of the reporting data and the Company's response to stakeholders' requests.

Conclusion on public verification is provided in section 3.3. Stakeholder engagement during the report preparation.

The Report was subject to public/expert verification by Russian regional network for Integrated reporting. Conclusion on public certification is provided in Annex 16.

Disclaimer on Disclosure of Forecasted Data

The Report contains statements of forecast nature with regard to production, financial, economic, social and other indicators characterizing further development of the Company. Implementation of plans and intentions depends on the changing political, economic, social and legal situation in Russia and worldwide. In this connection, the actual performance results in subsequent reports may differ from the forecasted ones.

1. STRATEGIC OVERVIEW

Innovation is a process of discovery

1.1. STRATEGIC ANALYSIS OF EXTERNAL ENVIRONMENT

Ivan Borisov,
Vice-President for Development

What was the past year's contribution into the implementation of the strategy?

In 2016 the establishment of the Engineering Division was completed which enhanced our competitive positions both in NPP designing and construction and in the new business areas becoming new opportunities for our competitive advantages on the market.

The key event of the year was connection to the grid of the state-of-the-art new power unit of Novovoronezh NPP-2. This is the first generation III+ nuclear power plant in the world. The started reactor is the most powerful (1,200 MW) and the safest in the world. Before commissioning the unit into pilot operation, it will undergo a number of examinations. But the event itself is most significant for the whole nuclear industry. Another important event is related to our goals in business diversification. A PMC contract has been signed with a subsidiary company of JSC Russian Railways. This is the first PMC contract that has been concluded outside the nuclear industry.

Which challenges has the Company confronted this year? How did it respond to them?

Competition from the new players on the market – China and Korea – has become tougher. Competition from alternative power sources is also growing.

In this context, the key goal of the Engineering Division is ensuring a competitive LCOE. LCOE is the net present value of the unit-cost of electricity over the whole life cycle including all possible costs, primarily the cost of construction. That's why the reduction of construction period and construction cost is our key goal.

Besides, the financial problems faced by the traditional competitors in the last year due to the failed project implementation deadlines, can only prove the top priority of tasks related to improvement of the project management system, keeping with the budget and reduction of the main processes time periods. And the initiatives that are being implemented in the company mainly in the area of Multi-D technology and creation of the Unified Information space provide the way to meet the challenge.

What are the plans for 2017 and mid-term prospects for implementation of the strategy?

Our priority goals are determined by the strategic objectives and current external challenges. Regarding enhancement of project budget and time management quality, our goals are, above all, scaling of the tools for managing time, price and quality on the key branch enterprises and building of the industry NPP life cycle management platform based on Multi-D technology.

Regarding new business lines, our main task is building-up of the project portfolio in all segments and receiving of positive references, obviously, on foreign markets as priority.

Also, considering the trends of recent years related to widespread digitalization, we see additional opportunities for us in development of our project management information technology up to the level of the national platform for managing capital objects lifecycle. This is our ultimate goal for mid-term prospects.

During elaboration of the Division Strategy, the PEST-analysis is performed that allows to take into account the external environment impact on the Company's activities. The PEST-analysis results of 2016 are as follows.

Strategic Analysis of External Environment

Political Factors

- Political pressure by the USA and the EU including the unremoved sanctions.
- Development of cooperation with the ASEAN countries.
- Some countries' refusal to use nuclear power.
- Environment Protection Law in China (2015).
- Improvement of relationships with Turkey.

Economic Factors

- Ruble rate volatility.
- Limited access to external financial markets of Europe and the USA in the first instance.
- Decreased rates of the economic growth in the majority of target countries (except for India, Bangladesh, Vietnam).
- A relatively low level of hydrocarbon prices.

DIVISION'S STRATEGIC GOALS

Leadership in NPP Construction | **Operating Sustainability** | **Financial Sustainability**

Social Factors

- Lack of skilled labour force and engineers in the RF and emerging countries.
- Growing confidence in the nuclear power both in Russia and many countries of the target market (in Africa and Asia).
- Growing attractiveness of nuclear power enterprises as providers of work.

Technological Factors

- Enhancement of NPP safety requirements.
- Active promotion of Korea and China technologies.
- Improvement and reduced cost of technologies of renewable sources of energy.
- Strengthen impact and development of the information technologies, their implementation in power engineering.

1.2. STRATEGY IMPLEMENTATION

1.2.1. Strategic Goals

The Engineering Division's strategy was approved in 2014 and aims to achieve the ROSATOM strategic goals.

Leadership in the Core Business Area

The main strategic goal of the Company in sight till 2030 includes keeping the leading position in the global market in terms of number of constructed power units and the market share with consideration for market growth tendencies in the absolute terms and strengthening of competition between the well-established and new players (stepping-up of China and Korea). In addition to the competition strengthening, the NPP construction market is a subject of pressure from other generation sources – mainly by the solar and wind power that gained the global leadership in 2016 in terms of increment rates. This trend is caused by the reduced cost of the rated capacity kilowatt of the alternative power and consequently by the reduced LCOE rate. In 2016, the forecast growth rates were revised for the share of renewable power sources in terms of its increase, while a more dynamic decrease is forecacted for LCOE parameter.

So, ensuring a competitive LCOE level as compared with the conventional and renewable power sources is the main challenge to be taken up by the Division to achieve the Company's strategic aim in the business main core.

One of the main strategic elements aimed to reduce the cost and meet deadlines of NPP construction and consequently to achieve the competitive LCOE level is the uniform information platform generated on the basis of Multi-D technology.

See the detail in "Manufactured Capital Management" section.

Comparison of LCOE of Different Power Sources, USD/(MW*hr)

	Wind	Sun	High power NPP	Gas	Low and medium power reactors
2030 indicators forecast of 2015	83	86	50	85	70–80
2022 indicators forecast of 2016	65	85	50	60–85*	–
Current value in 2016	77	81	72	60–85	–

*Depends on technology.

Operational Sustainability

The Division aims to maintain execution of the projects portfolio so as to ensure that the potential fluctuations in the portfolio due to postponement or cancellation of particular projects should not influence the execution of other projects under the respective agreements.

To achieve this goal, the Division promotes the development of new business areas along with rapid accumulation of projects in the business main core. The priority is given to those market segments that may use competences in the business core, namely:

- **Construction of RAW and SNF management facilities, NRHF decommissioning.** The Company possesses its own specialized engineering&technological competences, full-fledged competences in production of back-end specialized equipment. Besides, NUKEM Technologies, Nukem Technologies Engineering Services and JSC "NIKIMT-Atomstroy" experience and references in the area of decommissioning projects implementation facilitate the efficient works in this market segment.
- **Construction of research reactors, low- and medium-power reactors.** High power NPP construction management competences can be directly used in implementation of research, low- and medium-power reactors projects. Moreover, construction of these facilities is often the national economy's first step to found the full-fledged nuclear power business. Thus, this is a prospective opportunity to build-up the projects portfolio in the business core rather than an independent business only.
- **Provision of PMC-services.** The available own information platform to ensure the complex engineering objects construction management and future objects management throughout the whole lifecycle facilitates provision of consulting services to both nuclear power companies and non-nuclear businesses. 2016 was a turning point for the Company, since it obtained the first contract for PMC-services outside the nuclear industry. Since the global market of complex engineering objects construction is much more widespread than that of NPP construction, the PMC-services market is one of the Company's key areas in terms of its business sustainability in the long-term perspective.

Financial Sustainability

The Engineering Division does not rely on ROSATOM financial support and is able to use own additional resources for development of other divisions. The strategic aim is to maintain this opportunity.

Construction of Unit 3 of the Tianwan NPP (China)

1.2.2. Strategy Implementation

ROSATOM Strategic Goals	Engineering Division Strategic Goals	2016 Headlines
To increase the Corporation's share in international markets	Leadership in the Core Business Area	• The first-of-a-kind power unit connected to the grid at the first GenIII+ Novovoronezh NPP-2. • Completed the first power of Units 1,2 at Kudankulam NPP. • Finalized the contract preparatory works for El-Dabaa NPP construction in Egypt.
To develop new products for the Russian and international markets	Operational Sustainability (diversification)	• The extra-industry PMC-contract was signed with JSC "Skorostnye Magistrali" – a strategic customer which is a subsidiary of JSC "Russian Railways". • The works for UIS implementation at the stage of facility operation were launched in collaboration with the ROSENERGOATOM CONCERN JSC. • The tenders for the Kozloduy NPP radioactive waste storage facility construction and the Kozloduy NPP power units 1–4 equipment dismantlement projects were won by Nukem Technologies as part of the German-Bulgarian and German-Russian Consortia. • The operation license was issued for the interim spent fuel storage facility at the Ignalina NPP. • The Company became the industry expertise center for capital construction project management. • The Multi-D "Project Management System" Project was winner of the WNE AWARD competition. • JSC ASE EC became the first Russian company to be awarded the international 3rd grade certificate in the area of project, programme and portfolio management based on IPMA Delta model.
To reduce production costs and lead time	Financial Sustainability	• Implementation of the Performance improvement programme for the industry design system based on the pilot project • Installation of the reactor coolant pipe at the Novovoronezh-2 NPP power unit 2 was completed within 72 days. The previous achievements at the Rostov NPP Unit 4 and the Kalinin NPP Unit 4 were 96 and 127 days, respectively. • The period of installation of the primary circuit pipelines and equipment quick-detachable thermal insulation was reduced at the Novovoronezh-2 NPP from 111 to 8 days. • The period of elimination of non-conformances detected during the commissioning works at the Rostov -2 NPP Unit 4 was reduced from 153 to 90 days. • The amount of the Rostov-2 NPP as-built documentation accepted by the Customer at the first attempt increased from 56 % to 90 %. • The process of commissioning works performed at the Belarus NPP Unit 2 polar crane was improved, their period was reduced from 50 to 33 days. • The process of structural elements acceptance was improved at the Belarus NPP, the period of the as-built documentation (each structural element) review and agreement was reduced from 13 to 1,5 days, the period of structural elements acceptance was reduced from 4 to 1 day. • The time of the construction base arrangement was reduced at the Kursk NPP from 240 to 120 days.

2016 Headline Numbers	2017 Objectives	2030 Objectives
31 % share of the global NPP construction market	• Sign up the contract for construction of Kudankulam NPP power units 5, 6. • Power start-up of unit 4 of Rostov NPP.	>1/3 share of the global NPP construction market
12 % share of new businesses in the Division revenue	• Upgrade and promotion of the Multi-D system. • Realize extra-functionality of Multi-D project management system. • Fulfil obligations under the contracts on RAW and SNF Facilities Construction and Upgrading, NRHF Decommissioning. • Sign new contracts on RAW and SNF Facilities Construction and Upgrading, NRHF Decommissioning on the global market. • Sign new contracts on research reactors. • Design a schedule of the preparatory works to obtain 4 grade certificate of project management competence based on IPMA Delta model.	30 % share of new businesses in the Division revenue
32.4 BLN RUB EBITDA	• Extend the project management information infrastructure on the Russian nuclear industry. • Implement deadline and cost management projects at the nuclear industry-specific capital construction facilities as part of the Industry expertise center activities.	Sustainable achievement of the goals, further action for strengthening the leadership and surpassing the annual goal's indicators

1.2.3. Sustainable Development Agenda

Our performance are aimed at meeting the following sustainable development goals:

- provision of access to affordable, reliable and state-of-the-art sources of energy for all;
- assistance to incremental and sustainable economic growth, full employment and good jobs for everybody;
- creation of reliable infrastructure, assistance to development of technologies and innovations useful for life and activities.

We are committed to 2030 sustainable development targets stated by the UN.

See http://www.un.org/sustainabledevelopment/ru/

Sustainable Development Agenda*

- *We focus on nuclear and radiation safety of nuclear facilities, and we bear responsibility for our activities outputs.*
- *All aspects of environmental safety are of material importance for us and thoroughly elaborated in designing of NPP construction. We perform systematic environmental control at construction sites.*
- *We develop and implement innovative technologies for project management and complex engineering facilities construction.*
- *We are responsible employers and make a significant contribution into social the and economic development of the regions of operation.*
- *We are transparent and accountable to shareholders, consumers, partners, suppliers, employees, population of regions of presence and other stakeholders.*
- *We assist to building-up a peaceful and open society to provide for sustainable development, strive for constructive interaction with stakeholders in all material aspects of operations and support achievement of sustainable development goal in all countries.*

(GRI 102-20)

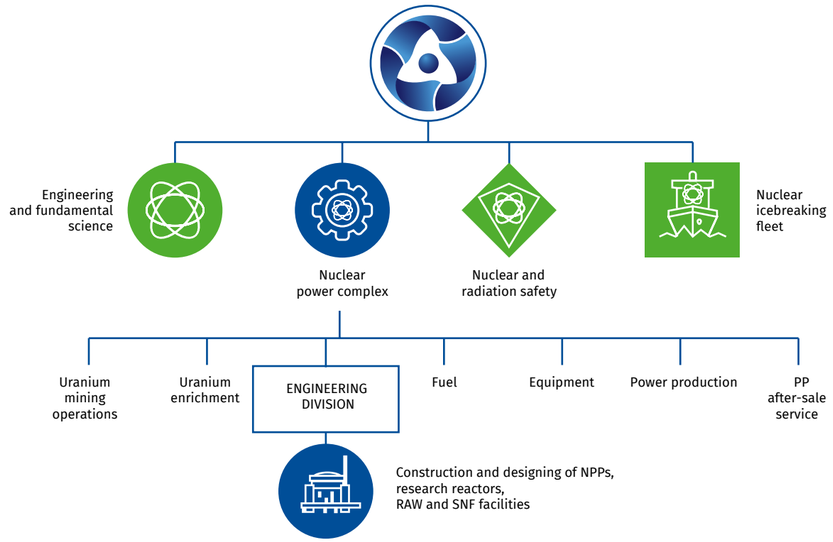
In the Engineering Division the social area is in the responsibility of the vice-president for personnel management and administrative work, economics and finance – in the responsibility of the senior vice-president for economics and finance, ecological area – in the responsibility of the director for quality management.

* Being the Engineering Division of ROSATOM, we are also committed to Rosatom Sustainable Development https://ar2015.rosatom.ru/?/ru/25-business-strategy-of-rosatom

1.3. VALUE CREATING CHAIN

1.3.1. The Engineering Division Position in the ROSATOM Value Creating Chain

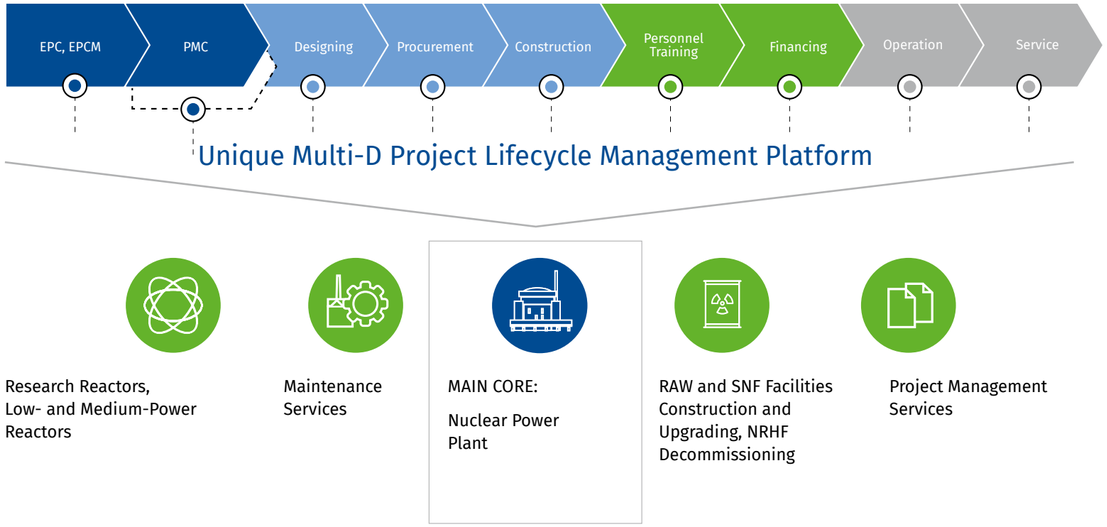
(GRI 102-9) Engineering Division's value chain (in the main business core) is part of the value chain of the whole nuclear industry. The role and place of the Company in the chain of NPP construction is determined by the significance of the EPC-contractor's role in ROSATOM structure – over 60 % of NPP production cost throughout the life cycle is determined by the EPC-contractor effective performance (averaged share of investments, decommissioning and spent fuel management services at the current cost of electrical power).



1.3.2. Business-model

The Engineering Division defines its business model as a system of building value in the short-, mid- and long-term perspective and aiming to achieve strategic goals. The Company's business-model is based on its long-term strategy and sustainable growth of business. The business-model includes: available capital (both own and shared with other stakeholders); management system aimed at maximum efficiency of utilization the available funds; initiatives on value creation. Within the complete value chain, an important role belongs to the funds that change (increase/decrease, transform); products and services; to the results of value creation initiatives and their contribution into the long-term growth of the Company revenue.

Creating Value for Stakeholders



Capital Resources

Human

For value creation the Company relies on the employees professional skills and motivation. The basis of growth in this area is ensuring a safe working environment, encouraging local employment, investments in the personnel training and improvement of their professional skills.

- Average staffing number: **14,993 people**
- Employee involvement as of the beginning of year is **70 %**
- Share of personnel with the age **up to 35 years is 40 %**

Highlights 2016

- LTIFR JSC ASE EC **– 0 %**
- Salary and other employee payments **17,448 mln RUB**
- Employee involvement **78 %**
- The number of personnel that has undergone training is **7,61**

Social and reputational

Strengthening of creditable relationships with customers is important due to increased competition on the nuclear power engineering market and the necessity to compete with other types of power industry. The opinion of the local community is also an important factor of NPP construction. Increase in nuclear power engineering public acceptance is crucial for a long-term value creation.

- Creditable relations with stakeholders
- **62 %** of the local population support the construction of Belarus NPP

- Paid tax dues **3,192 mln RUB**
- Charity payments **195.42 mln RUB**
- International certificate compliance with 3 class of competency in project management, programs and portfolios on base of IPMA Delta model.

Natural

NPP construction performance inevitably affects the environment. The Company seeks to minimize this impact. High level of environmental friendliness of the power energy generated at NPP in comparison with TPP is a positive aspect.

- Flow-rate of power energy **40.2 GW*h**
- Flow-rate of thermal energy **215.16 GJ**

- Expenses for Environment Protection and Environmental Charges **15.23 mln RUB**
- Total waste volume is **76.52 tons**
- Waste of I–V hazard classes **5,508 tons**

Intellectual

BM success depends on the quality of construction technologies and innovations. The Company seeks to create new technologies, as well as to implement the existing ones to all projects under development.

- Corporate and industry standards
- Patents and know-how
- Complex system of project management on the basis of Multi-D technology

- Growing efficiency due to implementation of Production System of ROSATOM (PSR)
- New patents

Financial

Long-term financial sustainability is a strategic goal of the Company.

- Added value / revenue **25.3 %**

- Revenue **152,9 bln RUB**
- Gross profit **20,95 bln RUB**

Production

The Company's production assets used to produce goods or render services (buildings, equipment, infrastructure facilities etc.)

- Design companies
- Contractors

- Infrastructure development in the regions of presence
- Number of power units in the Company's portfolio – **33**

1.4. OUR TARGET MARKETS

1.4.1. NPP Construction Market

The Russian Market

The Engineering Division is the EPC-contractor of the majority of NPP power units under construction and the leader on the Russian market. Following the results of 2016, the portfolio of orders in Russia comprises 8 power units at various stages of implementation.

International Market

The Division's 10-year portfolio of overseas orders based on the results of 2016 comprises 25 NPP power units in 10 countries worldwide.

The countries of Asia (India, Bangladesh, China, etc.), Central and South Africa (Republic of South Africa, Nigeria), North Africa (Iran, Jordan, Egypt etc.) and the CIS (Kazakhstan, Armenia) are considered by the Company to be the most perspective for further expansion of the worldwide presence.

1.4.2. Business Diversification Markets

The Company is being constantly developed and strengthened its presence on the markets beyond the core business.

Priority directions of diversification are:

- The market of research reactors and nuclear centers construction. The market volume is estimated to 1–3 projects per year in sight till 2030. Research reactor construction is oftenthe first stage in the development of a full-scale nuclear power industry in the country.
- The market of decommissioning of nuclear and radiation hazardous facilities (DC NRHF), construction and modernization of RW and SNF management facilities. The market volume is estimated to be worth approximately 130 bln dollars in sight till 2030.
- The service market in terms of life extension. The Russian market is the Company's priority for this direction.
- The market of project management consulting services (PMC-services). Consulting services account for from 1.5 to 5 % of the price of the capital construction facilities. In terms of volume, the PMC-services segment is one of the most promissing one.

(GRI 102-6) Diversification of Extra-core Business

Business direction	Group of products	Geography of the activity	Category of consumers
Construction of RW and SNF management facilities, DC NRHF	Engineering and process works	Austria	Research and development institutes
		Armenia	National regulators
		Belgium	Fuel companies
		Great Britain	National nuclear organizations
		Germany	National industrial companies
			Power generating companies
			National industrial companies
			Research and development institutes
			RW and SNF management companies
		Netherlands	National industrial companies
		UAE	National industrial companies
		The Republic of Bulgaria	National nuclear organizations
		The Republic of Iran	National regulators
		Russian Federation	Power generating companies
			Research and development institutes
		USA	National industrial companies
		Ukraine	Design consulting companies
			National regulators
		France	International consortiums
			International industrial companies
		Switzerland	Power generating companies
			RW and SNF management companies
		Japan	International industrial companies
	General contract for RW and SNF certain facilities and systems management	Bangladesh	National nuclear organizations
		Hungary	Power generating companies
		Lithuania	Power generating companies
		Egypt	National nuclear organizations
		PRC	Power generating companies
		The Republic of Belarus	Federal State Enterprises
		The Republic of India	Federal State Enterprises
		The Republic of Iran	Federal State Enterprises
		Russian Federation	Power generating companies
			Federal State Enterprises
Service	Maintenance and Repair	Iran	National nuclear organizations
		Russian Federation	Power generating companies
PMC	Project management	Turkey	Power generating companies
		PRC	National nuclear organizations
		The Republic of India	National nuclear organizations
		Jordan	National nuclear organizations
		Finland	Construction companies
		Czech Republic	Power generating companies
		Russian Federation	Federal State Enterprises
			Power generating companies
			Fuel companies
Research reactors	Center of nuclear research and technologies	Bolivia	National nuclear organizations
		Indonesia	National nuclear organizations
		Vietnam	National nuclear organizations

1.5. RISK MANAGEMENT

1.5.1. Risk Management System

The effective risk management is one of the conditions to achieve the strategic goals of the Engineering Division.

Risk management in the Division is applied on the basis of international standards and proven methodological approaches. The qualitative and quantitative risk assessments are performed.

Risk Management Results in 2016

In 2016 the work on risk management of 14 NPP construction projects was carried out by following directions:

- high-level risks (major risks affecting the project implementation for the whole period);
- risks of the calendar year milestones (milestones achievement in due time);
- risks of budget/business-plan execution for the current calendar year and over next three years;
- risks of project actual cost deviation from the contract value by cost items.

At each project the risks are detected (identified), risk owners are specified, corrective measures on risks mitigation are developed by design office specialists and business areas experts. Implementation of activities in the fiscal year allowed reducing the level of a number of risks.

The final annual report which includes reports on all projects has been issued. Data base on risks is supplemented taking into account the current year experience.

For automation of the risk management process, the Automated risk management system (ARMS) has been finalized and put into trial operation. ARMS key functions:

- generation of the data base of NPP construction projects key risks;
- projects risk map maintenance;
- tracking the compensating measures performance schedule.

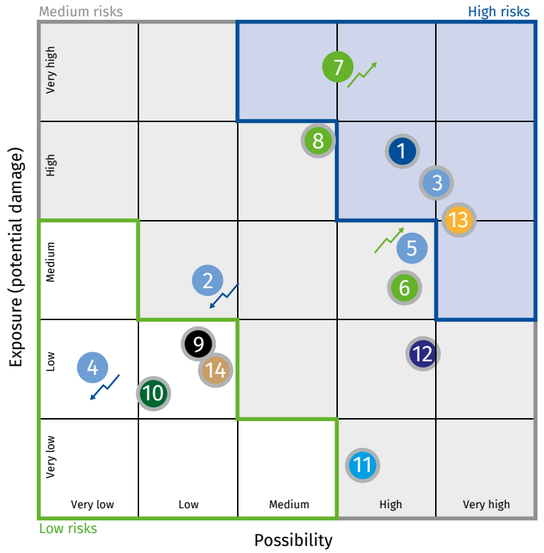
Six workshops have been conducted with design offices teams regarding ARMS training.

Risk Management Objectives for 2017 and in the Period

- Improvement of risk identification procedures (also by participation in project Obeya or in project office meetings, application of automated risk management system tools.
- Increase of risk management development process controllability by means of regulations and procedures adaptation.
- JSC ASE EC entry into ECRI international association (Engineering & Construction Risk Institute).
- Adaptation of the automated risk management system (ARMS) at all NPP construction projects.
- Increase of the risk analysis quality, including with the purpose of planning certain KPIs in KPI management.

1.5.2. Key Risks

(GRI 102-15) Following the results of 2016 the Division's key risks have been updated.



Legend of risk trends in comparison with 2015:

Impact increase | At the level of 2015 | Impact decrease

No. on the map	Risk (factor) an arrow indicates a trend	Trend justification	Key results on risk management and response to risks emerged in 2016	Risk management performance in 2016
		POLITICAL AND COUNTRY-BASED RISKS		
1	Political risk (Political and economic instability of target markets)	Continued existence of sanctions on the part of the USA and the EU and retaliatory sanctions on the part of the RF. Political nature of nuclear technologies supplier selection: high dependence of the general contractor selection on political impact of competing countries.	Project support at the government level. Organization of international customer's representatives visits. Search of new markets. Implementation of import technologies and equipment replacement program.	As of December 31, 2016, the portfolio of the Division's overseas orders amounted to $92.3 bln which is by 31.8 % more than in 2015.
		COMMERCIAL AND FINANCIAL RISKS		
2 ↘	Interest Rate Risk (unavailability of global financial resources)	Trend to decrease in the general ruble and dollar interest rates.	The decrease in the loan portfolio.	The risk did not affect the Division in the fiscal year.
3	Risk of state funding availability decrease (change of the Russian macroeconomic indicators)	Sequestering of long-term investment programs on the nuclear energy development.	An active search for orders for NPP construction abroad was undertaken as the volumes of available state financing in RF went down.	No significant losses related to reduction of available state funding.
4 ↘	Exposure to the credit risk of suppliers and customers	In 2016 there was a decrease in overdue receivables, as well as in the share thereof with regard to the general index of receivables, that may evidence on decrease of the level of NPP construction contracts default risks in the Division's organizations. Decrease in overdue receivables by some organizations amounted from 15 to 54 %, on the average there was a decrease by 30.8 % in the Division's organizations.	To minimize counterparty credit risks, the monitoring of the financial condition of counterparties is performed on quarterly basis. The bidding procedure comprises assessment of financial resources capacities. The Company uses financial guarantees provided by the partner banks of ROSATOM. Monitoring of the level of the overdue receivables. Proactive efforts to decrease the level of the overdue receivables.	No significant losses related to counterparty defaults.
5 ↗	Growing influence of exchange rate	Strengthening of the Ruble's exchange rate in 2016 had a negative impact on the Division's financial position by means of: • negative revaluation of cash balances on the foreign exchange-denominated settlement accounts; • exceeding of currency receipts over currency expenditures. Also, the Ruble weakening in 2015 had an adverse effect (extra profit was received) that led to the necessity of extra profit tax payment in 2016. Positive effect: decreasing cost of equipment and services procured at foreign contractors.	In the context of heightened volatility of currency exchange rates, since 2015 all financial services of the Division have transfered to generation of a multi-currency cash flow budget, that allowed considering on an operational basis the effects of changing of the ruble exchange rate on the Division liquidity.	Optimized ratio maintenance between the assets and liabilities expressed in one and the same currency has been ensured.
		PROJECT RELATED RISKS. SEGMENT OF HIGH POWER NPP		
6	Risks of default under EPC-contracts on NPP construction abroad, and of default under NPP construction contracts in the RF.	Absence of factors in 2016 influencing the fulfillment by JSC ASE EC of the obligations under EPC-contracts for NPP construction abroad.	Unconditional fulfillment of contracts conditions.	The risk did not affect the Division in the fiscal year.

No. on the map	Risk (factor) an arrow indicates a trend	Trend justification	Key results on risk management and response to risks emerged in 2016	Risk management performance in 2016
7	Loss of contract, postponement of EPC-contract related to NPP construction project abroad Including additional factors:	High dependence of the general contractor selection on political impact of competing countries.	Intensification of the work with the Customer. Holding negotiations between the management of ROSATOM and the government of a foreign customer. Development of action plans on cooperation with a foreign customer. Implementation of the time and cost reduction program in NPP construction. Proactive position of the Company in work with the existing foreign customers in relation to prospective projects.	–
	Postponement of Belarus NPP construction time limits	Replacement of the reactor pressure vessel at power unit No. 1.	Work within the frames of the road map on the reactor pressure vessel.	–
8	Cutting of foreign customer budgets (1. Lack of funding in a number of countries where the Company has promising NPP construction projects. 2. Limited project investment resources in the RF) (at the level of 2015)	Changes in the macroeconomic performance of countries participating in projects.	Work performance using alternative financing sources, including commercial loans, hiring of partners and investors on alternative markets, including through involvement of Private Institution Rusatom International Network to implementation of measures in relation to alternative financing sources.	Contractual obligations of foreign customers are performed in full.
	REPUTATION RISKS			
9	Reputation Risk (1. Large-scale global events in the nuclear power industry. 2. Mass Media publications (in the Russian Federation and abroad) aimed at discrediting Russian nuclear technologies on conventional and prospective markets)	Public acceptance of nuclear power development and new NPP construction in Russia has a positive effect on the Company's operations perception within the country. In some cases, the Company's overseas projects development are faced with opposition from local public organizations and political structures. In general, the magnitude of the counteraction is relatively low, however, such events are periodically covered by the media.	Measures aimed at strengthening the positive public attitude towards development of the nuclear energy industry by improvement of information transparency and open communication with all stakeholders. Regular interaction with the public and the mass media in the regions of construction projects. Informing the public on all important events related to the core business. Publication of the Company's Reports including in the English language. Regular analysis of the stakeholders structure to determine their expectations, expand the stakeholders scope, involve foreign stakeholders. Participation in Russian industrial events and international exhibitions and conferences. Strengthening the brand presence on foreign markets through marketing promotion of the brand.	

No. on the map	Risk (factor) an arrow indicates a trend	Trend justification	Key results on risk management and response to risks emerged in 2016	Risk management performance in 2016
	TECHNOLOGICAL RISKS			
10	Risk of developed technologies non-competitiveness (competition strengthening)	Development of new technologies of conventional fuels production. Improvement and cost-cutting of renewable technologies.	Assessment of innovations at pre-investment phase in accordance with the requirements of ROSATOM. Design consideration using FRC-2 scientific and technical council. Benchmark of foreign technologies and NPP projects. Promotion of Multi-D technology on the market for PMC services in new sectors.	
	ADDITIONAL MARKET SEGMENTS			
	RESEARCH REACTORS			
11	Loss of contract, postponement of research reactors contracts implementation (1. Political nature of general contractor selection. 2. Absence of expertise in the newcomer-countries)	Rise of interest for development of own nuclear power engineering in developing countries.	Continuation of current projects implementation. Active participation in tender procedures to get new orders. Negotiations on the research reactor construction in Bolivia.	
	DC NRHF, construction and modernization of RW and SNF management facilities			
12	Loss of contract, postponement of contracts implementation in a RAW and SNF segment. (High segment dependence on political decisions)	Refusal of some European countries to use nuclear power opens for the Company the opportunity (with consideration for European asset – Nukem) to strengthen its presence on the market of RW, SNF management facilities construction and DC NRHF.	During the year the work on the following RW and SNF projects have been carried out: Ignalina NPP, as well as within the modernization and construction projects of on-site RAW management facilities at existing NPP (Kursk NPP-1, Smolensk NPP), as at NPP under construction (Belarus NPP, Kursk NPP-2, Paks NPP etc.)	The tender for Kozloduy NPP radioactive waste storage facility construction (Bulgaria) and for the development of Kozloduy NPP power units 1–4 equipment dismantlement projects is won by Nukem Technologies, the member of the German-Bulgarian and German-Russian Consortia.
	NPP service and modernization			
13	Loss of contract, postponement of contracts implementation in the segment of NPP service and modernization (Tight competition on the part of local contractors)	Company's reputation and expertise allow retaining its market position.		In life extension service segment the Division in the fiscal period carried out the work on the Russian market on the existing plants – Balakovo, Kursk, Novovoronezh and Smolensk NPP. On the international market the Division was performing the works on the current service contract for Bushehr NPP 1 (Iran).
	Project Management Consulting services (PMC-services)			
14	Loss of contract, postponement of contracts in the segment of project management consulting (PMC Services) (Tight competition on the part of the existing players)	The unique project management technology Multi-D provides the Division with the capacity to provide the market with consulting services on management of complex engineering facilities.	Application of best practices obtained by the Company in the main core business to NPP construction provides for build-up of competence in the PMC-services segment.	Declarations of Intentions are signed on PMC-contracts conclusion on Kudankulam NPP power units 5 and 6 construction project. A contract was signed with a strategic customer – JSC "Skorostnye Magistrali", a subsidiary of JSC "Russian Railways", on establishment of an information resource for controlling the implementation of BCM "Moscow–Kazan" project. The 2016 first project implemented successfully a capital construction deadline management tool i.e a unified schedule used as part of the pilot projects, such as: Leningrad-2 NPP, FSUE Mining and Chemical Plant, FSUE Mayak Production Association, Skhk JSC.

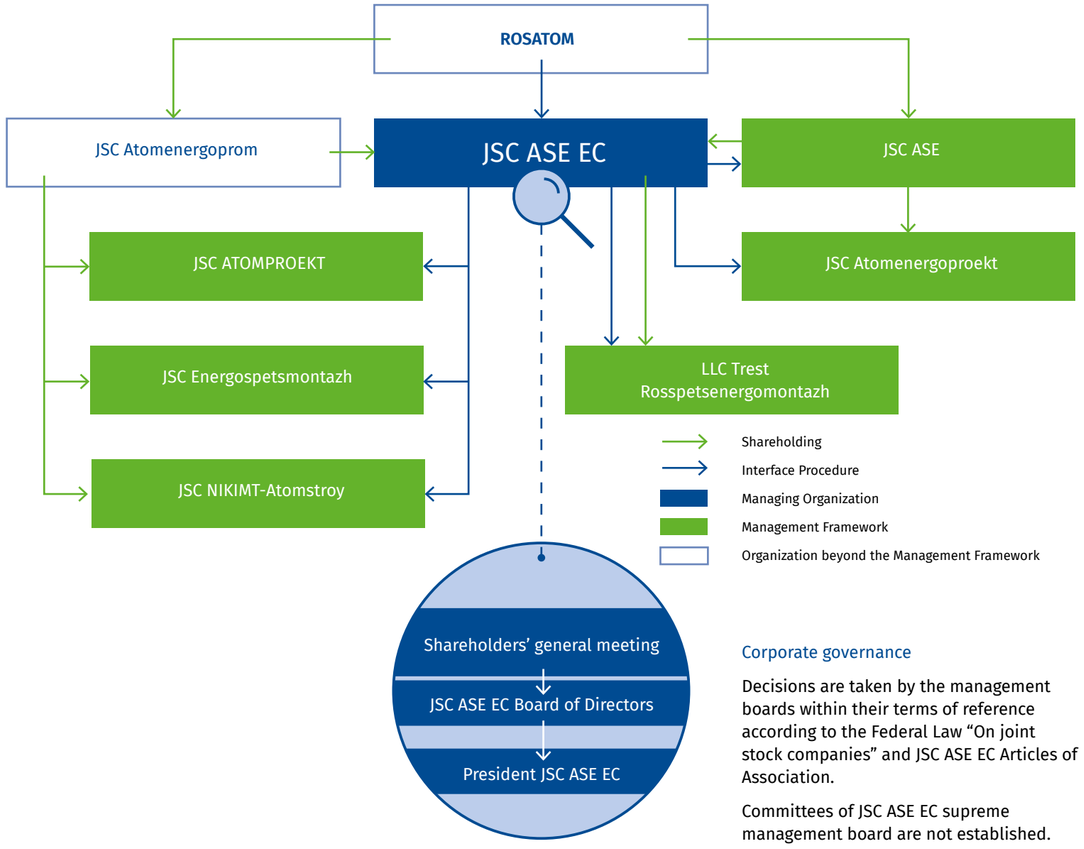
1.6. CORPORATE GOVERNANCE*

1.6.1. Corporate Governance of the Engineering Division

GRI 102-7

JSC ASE Engineering Company (JSC ASE EC), former JSC NIZHNY NOVGOROD ENGINEERING COMPANY “ATOMENERGOPROEKT” (JSC “NIAEP”) is the Engineering Division Managing Company

GRI 102-18



Corporate governance

Decisions are taken by the management boards within their terms of reference according to the Federal Law “On joint stock companies” and JSC ASE EC Articles of Association.

Committees of JSC ASE EC supreme management board are not established.

*Within the chapter 1.6 “Corporate governance” the entities mean the main companies of the Division, such are: JSC ASE EC, JSC ASE, JSC “Atomenergoproekt”, JSC “ATOMPROEKT”.

Perspectives for the Corporate Governance of the Engineering Division development

Perspectives for the corporate governance of the Engineering Division development are closely linked with those of JSC ASE EC, the managing company. The great influence on it has the Division integration process, i.e. JSC ASE EC, JSC "Atomenergoproekt" and JSC "ATOMPROEKT" equities transfer to JSC ASE.

In accordance with the target corporate governance system, JSC ASE EC will serve as:

- the Engineering Division managing company (to perform functions related to management under Article 69 of the Federal law no. 208-fz of December 26, 1995 “ON JOINT-STOCK COMPANIES”);
- the EPC Contractor (engineering, procurement and construction).

1.6.2. JSC ASE EC Corporate Governance System

Key regulations in the field of JSC ASE EC corporate governances:

- Rules on collective governing bodies of JSC ASE EC decisions follow-up.
- Rules on interaction of subdivision of JSC ASE EC during preparation of materials for JSC ASE EC Board of Directors meetings and General Meeting of JSC ASE EC Shareholders.
- Order of JSC ASE EC on adoption of the Corporate documents preparation procedure for guidance.

(GRI 102-12) Some regulations of the corporate management Code recommended by the Bank of Russia dd.10.04.2014 No. 06-52/2463 are applied by the Company in practice taking into account the specifics captured in laws and regulations of the Russian Federation of ROSATOM legal provision, which ensures the management integrity of the atomic industry organizations, and reflected in a number of local regulations.

1.6.3. Shareholders’ General Meeting

In accordance with Federal Law No. 208-FZ On Joint-Stock Companies dated December 26, 1995 and the Charter of JSC ASE EC, the supreme governing body of the Company is the general meeting of shareholders, whose decisions, including of economic, environmental and social nature (GRI 102-26, 102-29) are binding for the President of the Company. The President ensures execution of the decisions of supreme governing body by issuing appropriate orders, resolutions and instructions, as well as by delegating authority to top managers and other officers of the Company subject to procedure stipulated by Articles 185-189 of the Civil Code of the Russian Federation by means of power of attorneys.

(GRI 102-29) The activity of JSC ASE EC general shareholders meeting and the Board of Directors by way of making respective decisions is aimed at effective management of the company, focused on high profitability of business, minimization of risks and possible negative consequences as a result of the company’s economic activity, within the framework of observance of the Russian Federation legislation, international legal norms, legislation of states in the territories of the presence.

No assessment of the supreme governing body activity is performed in JSC ASE EC (GRI 102-28).

1.6.4. President of JSC ASE EC

The sole executive body of JSC ASE EC is the President of JSC ASE EC. The President is elected at the general meeting of shareholders, ensures implementation of decisions of the general meeting of shareholders and is accountable thereto. The President is Valery Igorevich Limarenko.

Short background information see in the Annex 8.

1.6.5. JSC ASE EC Board of Directors

The Board of Directors (hereinafter referred to as – BoD) carries out general management of JSC ASE EC activity.

The Board of Directors takes decisions on the issues within its competence in accordance with cl.65 of the Federal law dd. 26.12.1995 No. 208-FZ "On joint stock companies", chapter 4 part 1 of the Civil Code of the RF, cl.13 of JSC ASE EC Article of Association.

(GRI 102-19, 102-30) The Board of Directors of JSC ASE EC does not participate in the analysis of effectiveness of the organization's risk management practices related to economic, environmental and social issues and does not analyze the economic, environmental and social risks and opportunities. The responsibility for these matters is assigned to the relevant departments.

KPI was not established for the Board of Directors.

(GRI 102-22) As per the Articles of Association a quantitative structure of JSC ASE ES Board of Directors comprises 5 people.

(GRI 102-24) During 2016 the structure of the BoD was changing based on decisions of the General meeting of shareholders.

(GRI 102-23) **As of 01.01.2016 the Board of Directors elected by the decision of the annual General meeting of shareholders dd. 01.07.2015 included:**

- **Komarov K. B.** – the First Deputy Director General – Director of the Development and International Business unit of ROSATOM, Chairman of the Board of Directors.
- **Lyakhova E. B.** – Director for Investment and Operational Efficiency Management of ROSATOM.
- **Drozdov N. S.** – Director of International Business Department of ROSATOM.
- **Limarenko V. I.** – the President of JSC ASE EC.
- **Borisov I. A.** – Vice-President for Development of JSC ASE EC.

By the decision of the annual General meeting of shareholders dd. 21.06.2016 the Board of Directors comprises:

- **Komarov K. B.** – the First Deputy Director General – Director of the Development and International Business unit of ROSATOM, Chairman of the Board of Directors.
- **Barabanov O. S.** – Director for development and restructuring of the Division for development and international business of ROSATOM.
- **Drozdov N. S.** – Director of International Business Department of ROSATOM.
- **Limarenko V. I.** – the President of JSC ASE EC.
- **Borisov I. A.** – Vice-President for Development of JSC ASE EC.

As of 31.12.2016 the Board of Directors acts on the basis of the decision of the extraordinary general meeting of shareholders dd.19.10.2016. Members of JSC ASE EC Board of Directors are:

- **Barabanov O. S.** – Director for development and restructuring of the Division for development and international business of ROSATOM, Chairman of the Board of Directors.
- **Drozdov N. S.** – ROSATOM International Business Department Director – First Deputy Director General for JSC Tekhsnabexport Commercialization.
- **Vlasov A. V.** – head of Regional Development and Strategic Partnership Department of ROSATOM International Business Department.
- **Limarenko V. I.** – the President of JSC ASE EC.
- **Borisov I. A.** – Vice-President for Development of JSC ASE EC.

As of 16.04.2017 members of JSC ASE EC Board of Directors are:

- **Barabanov O. S.** – Director for development and restructuring of the Division for development and international business of ROSATOM, Chairman of the Board of Directors.
- **Arseev B. N.** – Deputy Director General of Development and International Business Unit of ROSATOM.
- **Vlasov A. V.** – head of Regional Development and Strategic Partnership Department of ROSATOM International Business Department.
- **Limarenko V. I.** – the President of JSC ASE EC.
- **Borisov I. A.** – Vice-President for Development of JSC ASE EC.

The members of JSC ASE EC Board of Directors neither have shares in the authorized capital of JSC ASE EC nor hold shares of JSC ASE EC. During the reporting period there were no transactions on JSC ASE EC shares acquisition or carve-out by the BoD members.

No assessment of Board of Directors performance on economic, ecological and social results did not held.

JSC ASE EC Boards of Directors does not have committees in its structure.

Construction of Unit 4 of the Rostov NPP (Russia)

Board of Directors JSC ASE Engineering Company





Barabanov Oleg Stanislavovich	**Vlasov Alexander Vyacheslavovich**	**Arseev Boris Nikolaevich**	**Limarenko Valery Igorevich**	**Borisov Ivan Alexeevich**
DATE AND PLACE OF BIRTH				
17.12.1971, Moscow	15.02.1985, Moscow	22.09.1971, Sverdlovsk (now – Ekaterinburg)	19.10.1960, Kharkov	21.04.1981, Leningrad (now Saint-Petersburg)
EDUCATION				
Moscow state geological survey academy named after S. Ordzhonikidze, mining engineer, ecomonist-manager. Institute of professional accountants and auditors, professional accountant-chief accountant-expert. Military university, candidate of economics.	Moscow engineering and physical institute, specialist in the field of international scientific and technical cooperation. Moscow state institute of international relations under MIA of Russia.	The Urals Polytechnic University named after S.M.Kirov. Executive MBA “Strategic Management”. The Russian Presidential Academy of National Economy and Public Administration.	Kharkov aviation institute, Doctor of Economics.	Saint-Petersburg state university.
JOB EXPERIENCE				
2002–2010 – Director of ROSENERGOATOM CONCERN JSC Treasury. 2010–2014 – Director of ROSATOM Treasury. Since 2014 – Director for development and restructuring of the Division for development and international business of ROSATOM. 21.06.2016 – Member of the Board of Directors of NIAEP JSC. 28.10.2016 – Chairman of the Board of Directors of NIAEP JSC. Since 06.12.2016 – Chairman of the Board of Directors of JSC ASE EC.	2010 till the present time – Senior Manager, head of Regional Development and Strategic Partnership Department for international business of ROSATOM. 19.10.2016–05.12.2016 – Member of the Board of Directors of NIAEP JSC. Since 06.12.2016 – Member of the Board of Directors of JSC ASE EC.	1993–2001 – Private business, small-scale power generation, housing and communal services, metallurgy. May–October 2004 – State Customs Committee of the Russian Federation FGUP “RosTEK”, Head of Division; 2004–2007 – "NPK UralTermoKomplex", Director for Economy and Development; 2007–2008 – JSC "EMAlliance -Atom", Project Manager; 2008–2010 – JSC KPI RusAtomStroy-Invest, Deputy Director General, Director General; From February 2010 – Commercial Director of JSC Atomenergomash. From January 12, 2012 to April 2012 – Acting Director General of JSC Atomenergomash. From 2013 – Executive Vice-President of JSC RUSATOM OVERSEAS. 2014–2015 – Director of the Department of International Business and Development of ROSENERGOATOM CONCERN JSC. Mr. Boris N. Arseev was awarded the certificates of honour of ROSATOM. From July 6, 2015 – Deputy Director General – Business Development Director of ROSENERGOATOM CONCERN JSC. From November 9, 2016 – Deputy Director for Development and International Business Unit of ROSATOM.	1983–2001 – Work in Sarov Closed Administrative Territorial Entity, scientific activity in RF Nuclear Centre VNIIEF. 1996–2001 – Member of state Duma of Sarov, first deputy of Duma chairman for economy and finance. 2001–2003 – Ministry for construction and housing and communal infrastructure of the Government of Nizhny Novgorod region. 2003–2005 – Chief federal inspector for Nizhny Novgorod region. 2005–2007 – Deputy governor, deputy chairman of the Government of Nizhny Novgorod region for construction, power industry, housing and communal infrastructure and information technologies. 2007–2012 – NIAEP JSC director. 2012–2014 – NIAEP JSC president. Since 07.10.2014 – NIAEP JSC President. Since 06.12.2016 – JSC ASE EC President. Since 2007 has been a Member of the Board of Directors of NIAEP JSC. Since 07.10.2014 is a Member of the Board of Directors of NIAEP JSC. Since 06.12.2016 – Member of the Board of Directors of JSC ASE EC.	2002–2004 – Director general of EM-Design (Saint-Peterburg). 2004–2005 – Director for foundry of Penztyazhpromarmatura JSC, director general of Foundry and valve plant LLC, Penztyazhpromarmatura JSC (Penza). 2005–2008 – Deputy director general of Piping valves LLC, executive director of Intelenergomash LLC, (Saint-Peterburg). 2008–2009 – Deputy director of the Centre for organizational development and project management of ROSATOM. 2009–2010 – Deputy director of the Department for prospective development and system engineering of ROSATOM. 2010–2011 – Deputy Director of the Department for strategic management – head of the Department for strategy development and long-term planning of ROSATOM. 2011–2013 – Director for development and price restructuring (Unit for development and international business) of ROSATOM. 2013–2014 – Vice president for development of NIAEP JSC. 2012–2016 – Member of the Board of Directors of NIAEP JSC Since 06.12.2016 – Member of the Board of Directors of JSC ASE EC.

JSC ASE EC Boards of Directors does not have committees in its structure.

In 2016, the Board of Directors held 34 meetings.

(GRI 102-28) Report of the Board of Directors on Performance Results see in the Annex 7.

No specific measures to develop and enhance the collective knowledge of members of the supreme governing body in relation to the economic, environmental and social issues are taken in JSC ASE EC (GRI 102-27).

(GRI 102-31, 102-34) The Board of Directors of JSC ASE EC does not participate in the analysis of effectiveness of the organization's risk management practices related to economic, environmental and social issues and does not analyze the economic, environmental and social risks and opportunities. The responsibility for these matters is assigned to the relevant departments.

Certain consultations between stakeholders and Board of directors did not held.

There are no independent directos in the Board of Directors.

1.6.6. President's Committees

The Investment Committee

The Investment Committee of the Engineering Division was established on 17.07.2014 in order to elaborate agreed decisions on investment solutions within the established scope of responsibility and to ensure implementation control of investment projects of organizations and structural subdivisions included in the Division.

The Investment Committee is a permanent collective body that implements principles of the unified industrial investment policy of ROSATOM. The Investment Committee functions within the authorities delegated by ROSATOM Investment Committee and is subordinate thereto.

The authorities of the Engineering Division Investment Committee:

- approval of the approach to a project Portfolio optimization;
- approval of the project Portfolio key parameters;
- approval of projects scope of funding, as well as limits and reserves that ensure projects preparation, implementation and close-out for a planning period for further review at the Investment Committee of ROSATOM;
- approval and acceptance of projects Portfolio amendments within the scope of responsibility within the authorities delegated by ROSATOM Investment Committee;
- approval of FRC-2 "Overseas engineering" projects Portfolio in terms of non-consolidated planning subjects (if needed) taking into account the approaches determined by the General Director of ROSATOM to the projects Portfolio thereof.
- elaboration of decisions at all points of decision-making on the projects.

For the committee structure see Annex 15.

In 2016 14 meetings by correspondence were held, 137 issues were considered.

Main issues:

- approval of project funding limits within the allocated general limit of ROSATOM for 2016;
- reallocation of limits between projects / transfer to subsequent periods in case of the production demand occurrence;
- initiating of new investment projects with further issue raising to ROSATOM Investment Committee in order to get approval of additional scope of funding.

Strategic Committee

Joint strategic committee of JSC ASE EC, JSC ASE and JSC Atomenergoproekt was established on 09.06.2015 in order to improve the process of the strategy management and implementation, as well as to develop the Engineering Division business.

The Strategic Committee is a permanent collective representative body authorized to make and approve decisions within its competence.

In its activity the Strategic Committee is subordinate to the President of JSC ASE EC.

For the committee structure see Annex 15.

The Strategic Committee competence:

- consideration and generation of recommendations on the issues of the Division corporate, product and functional strategies implementation;
- approval of strategic initiatives and strategic projects management and assessment of the process mentioned;
- consideration and approval of investment and non-investment projects related to the Division strategy implementation and business development, including raising of these projects to ROSATOM Investment Committee;
- consideration and approval of decisions on cooperation with organizations, including principle solutions regarding the establishment of strategic partnerships and tactic alliances, which do not provide for establishment of financial and industrial groups, associations, other commercial organizations, as well as simple partnerships;
- elaboration of proposals related to projects legal and corporate support in terms of strategy implementation and business development of JSC ASE EC, JSC ASE and JSC Atomenergoproekt, including the protection of the companies and subsidiaries intellectual property;
- other issues raised for consideration by the Strategic Committee by the decision of JSC ASE EC President as well as the Strategic Committee's members.

1.6.7. Shareholders

Registered ordinary shares with the nominal cost of 1 (one) ruble each totaling to 500,001,877 (five hundred million one thousand eight hundred and seventy seven) rubles are placed by JSC ASE EC.

All shares are placed uncertificated by means of closed subscription.

As of December 31, 2016, the authorized capital of the Company amounted to RUB 500,001,877.

According to the assessor's report dd. 09.08.2016 the market value of one registered ordinary share amounted to 14.1 rubles.

Dividends Accrued to All Categories of Shareholders of the Engineering Division, mln RUB

Organization	2014 fact	2015 fact	2016 plan	2016 fact	2017 plan
JSC ASE	–	–	–	–	–
JSC ASE EC	1,343.40	1,451.12	1,285.71	–	–
JSC Atomenergoproekt	275.82	–	–	6.61	–
JSC ATOMPROEKT	3,162.87	2,067.35	1,062.87	-	1,805.00

(GRI 102-5) Joint Stock Company "Nuclear power generation complex (JSC Atomenergoprom)" and Joint Stock Company "Atomstroyexport" (JSC ASE) are shareholders of JSC ASE EC.

As of 01.01.2016 the shares were distributed as follows: JSC Atomenergoprom owned 51 % of shares, JSC ASE – 49 % of shares in the authorized capital of JSC ASE EC. Since 28.12.2016 in the result of the transaction on purchase and sale of shares, shareholders' interest changed as follows: JSC Atomenergoprom owned 27.2 % of shares, JSC ASE – 72.8 % of shares.

No dividend payment policy in JSC ASE EC was approved.

The procedure of payment of dividends in JSC ASE EC is regulated by the Articles of Association. In accordance with the Articles of Association, pursuant to the results of the first quarter, half-year period, nine-month period of the financial year and/or financial year, the Company is entitled to make decisions on payment the dividends on the shares placed unless otherwise is specified by the Federal Law "On Joint Stock Companies". The decision on payment of dividends pursuant to the results of the first quarter, half-year period, nine-month period of the financial year can be made within three months upon completion of the corresponding period. Decisions (announcement) on payment of dividends, including the decisions on the amount, procedure, form and terms thereof, shall be made by the General Meeting of Shareholders. Besides, the amount of dividends shall not exceed the one recommended by the JSC ASE EC Board of Directors.

Based on the financial and economic activity results of 2015, at the annual General meeting of shareholders dd. 21.06.2016 the decision was made that no dividends shall be announced or paid following the results of 2015.

1.6.8. Compensation Policy

(GRI 102-35, 102-36, 102-37) The decision on remuneration payment to members of the Board of Directors is made at the General meeting of shareholders.

According to the resolution of the General meeting of shareholders, the members of the Board of Directors during their obligations performance may receive remuneration and/or reimbursement of expenditures related to performance of their functions as members of the BoD. Amounts of such remuneration and compensations are defined by the decision of the General meeting of shareholders. Following the JSC ASE EC Board of Directors working results in 2016, the General meeting of shareholders did not take such decisions, therefore, no remuneration was accrued and paid to the members of the Board of Directors.

For the remuneration of the President – see the results of HR policy implementation.

HR policy results see in the appropriate Annexes.

1.6.9. Financial and Business Activity

Internal control in the Engineering Division is represented by the internal control system built-into all business-processes, as well as by the Internal Control and Audit Division. There is no audit committee in JSC ASE EC.

Internal Control and Auditing System

The Internal Control and Auditing system is arranged and functioning in compliance with the Policy in the field of ROSATOM and its organizations internal control. The Internal Control and Audit is conducted by Internal Control and Audit Service (hereinafter referred to as – IC&A) acting on the basis of the Service Regulation.

The primary goal of IC&A is a constant improvement of efficiency and reliability of the internal control system in JSC ASE EC and ROSATOM organizations in relation to which IC&A carries out control according to requirements of the RF legislation, regulatory state authorities and international standards.

One of the key IC&A objectives is an independent assessment of risks to achieve operating goals in JSC ASE EC, its subsidiaries and organizations within its management area. The risks identified following the audit and other control actions results are reported by IC&A to JSC ASE EC President, the audit customer or the owner of the auditing business-process, attaching the developed list of corrective measures.

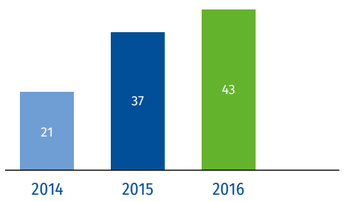
The following was made by IC&A in 2016:

- the process of separation of internal control and audit functions is completed,
- control procedures conducted in the reporting period are qualified in terms of timeliness and completeness of significant deviations and violations detection. The qualification results are taken into account in the IC&A activity,
- planning of IC&A work for the 1st half of 2017 is made using a risk-oriented approach (assessment of risks identified following the results of conducted control activities are taken into account);
- the expert role of the service in the internal control and auditing system is increased: development of expert and analytical activities (EAA) practice by IC&A employees led to increase of their quantity by 38 % in comparison with 2015,
- PSR-project “Optimization of internal control process of complex engineering facilities construction schedules implementation” is developed and implemented. Its implementation will allow increasing four times the inspections frequency of NPP construction schedules: from one time every two years to two times a year.
- the transfer from business-processes audit to projects audit is made, that enables to identify and give recommendations on elimination of detected non-conformities of the whole project, contributing to manageability increase, process time and cost reduction.

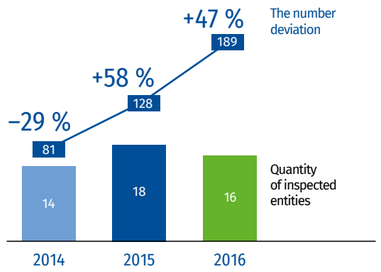
Results of Control Activities Conducted

Growth of people brought to disciplinary responsibility is caused by the increase of number and quality of control activities conducted, as well as by broadening of the list of issues included in the inspection programs.

The Number of Control Inspections Conducted



Results of Control Inspections Conducted



Number of Officials Brought to Disciplinary Responsibility in the Organizations Included in the Engineering Division

Organization	2014	2015	2016	Δ 2016–2015, %
JSC ASE	12	7	11	57
JSC ASE EC	–	37	56	51
JSC ATOMENERGOPROEKT	–	–	3	100
JSC ATOMPROEKT	–	–	–	–
Trest RosSEM LLC	2	–	13	100
SMU-1 LLC	–	2	–	–
JSC NIKIMT-Atomstroy	–	–	6	100
TOTAL within the Division	14	46	89	93

Number of Procurement Activities Inspections

Organization	2014	2015	2016 planned	2016 actual	Δ 2016–2015, %	2017 planned
JSC ASE	3	1	1	1	0	1
JSC ASE EC	2	6	2	2	-67	4
JSC ATOMENERGOPROEKT	–	–	3	3	100	2
JSC ATOMPROEKT	–	–	3	3	100	2
SMU-1 LLC	1	1	1	1	0	1
VDMU LLC	1	1	1	1	0	1
Trest RosSEM LLC	1	1	1	1	0	1
JSC NIAEP-Service	–	1	0	0	-100	1
TOTAL within the Division	8	11	12	12	9	13

Anti-corruption Policy

(GRI 102-17) The employees of the Division were informed of the possibility to inform publicly or anonymously regarding the facts of corruption offences under “Hot Line” channels of specialized communication or by electronic mail to the address of JSC ASE EC asset security subdivision, as well as in writing through the “Confidence Boxes” located in central offices, branch offices and representative offices of JSC ASE EC. Any employee of JSC ASE EC, as well as representative of the other organization is provided with the possibility to inform of any data regarding corruption cases.

In 2016, no corruption cases were revealed in the Engineering Division.

(GRI 102-25) In order to prevent the conflict of interests and to manage them, JSC ASE EC approved the Anti-corruption Policy of JSC ASE EC. In the reporting year, there were no conflicts of interests in JSC ASE EC.

More information you can find on the web site http://www.niaep.ru/information_disclosure/Annual_reports/

1.6.10. Corporate Governance of JSC ATOMPROEKT, JSC ASE and JSC Atomenergoproekt

JSC ATOMPROEKT

JSC ATOMPROEKT corporate structure comprises the supreme management body – the Sole Shareholder – JSC Atomenergoprom (100 % of shares) and the sole executive body, the functions of which are performed by JSC ASE EC managing company. The Board of Directors was not established, due to this the BoD functions are fulfilled by the General Meeting of Shareholders. No other collegiate executive bodies were established.

The authorized capital of JSC ATOMPROEKT, as per the Articles of Association, amounts to 1,233,576,578.00 rubles, which is divided into 1,233,576,578 registered ordinary non-documentary shares with the nominal cost of 1 ruble each.

JSC ATOMPROEKT has neither subsidiaries no shares in the authorized capital of other organizations. Dividends payment procedure is regulated by JSC ATOMPROEKT Article of Associations. No dividends were paid in the reporting period.

There were no conflicts of interests in JSC ATOMPROEKT in the reporting period.

In 2016 JSC ATOMPROEKT made transactions that were of the shareholder’s (JSC Atomenergoprom) interest, however according to the Federal Law “On Joint Stock Companies”, such transactions of interest are not subject to approval.

No major transactions were made by JSC ATOMPROEKT in the reporting period.

JSC ASE

According to the Articles of Association, the supreme management body of JSC ASE is the General Meeting of Shareholders. JSC ASE Board of Directors carries out general management of JSC ASE activity. A function of the sole executive body (the President) is fulfilled by JSC ASE EC which obligations include management of JSC ASE current activity. The President is subordinate to the Board of Directors and the General Meeting of Shareholders.

JSC ASE placed registered ordinary non-documentary shares with the nominal cost of 10.90/91 rubles each in the amount of 31,854,080 pieces for a total amount at a nominal value of 350,044,835.15/91 rubles. The sole shareholder of JSC ASE is ROSATOM (100 % shares). Dividends policy regulation in JSC ASE was not developed and approved. No dividends on shares were announced or paid in the reporting period.

During 2016 there were three groups of the Board of Directors' members.

From 01.01.2016 to 20.06.2016:

- **Komarov K. B.** – the First Deputy Director General – Director of the Development and International Business unit of ROSATOM (chairman).
- **Barabanov O. S.** – Director for Development and Restructuring of ROSATOM.
- **Drozdov N. S.** – First Deputy Director General for Back-end Commercialization of Tekhsnabexport JSC.
- **Savushkin V. N.** – Senior Vice-President – Director of JSC ASE EC Moscow Branch.
- **Kats V. L.** – First Deputy Director General – Executive Director of JSC ATOMPROEKT.

From 20.06.2016 to 08.09.2016:

- **Komarov K. B**. – the First Deputy Director General – Director of the Development and International Business unit of ROSATOM (chairman).
- **Barabanov O. S.** – Director for Development and Restructuring of ROSATOM.
- **Drozdov N. S.** – First Deputy Director General for Back-end Commercialization of Tekhsnabexport JSC.
- **Podorov N. G.** – Senior Vice President for Economy and Finance of JSC ASE EC.
- **Savushkin V. N.** – Senior Vice-President – Director of JSC ASE EC Moscow Branch.

From 08.09.2016:

- **Barabanov O. S.** – Director for Development and Restructuring of ROSATOM (chairman).
- **Vlasov A. V.** – Head of Regional Development and Strategic Partnership Department of ROSATOM International Business Division.
- **Drozdov N. S.** – First Deputy Director General for Back-end Commercialization of Tekhsnabexport JSC.
- **Podorov N. G.** – Senior Vice President for Economy and Finance of JSC ASE EC.
- **Savushkin V. N.** – Senior Vice-President – Director of JSC ASE EC Moscow Branch.

The Board of Directors held 17 meetings in the reporting period. No committees or commissions were established at the Board of Directors. No remuneration was paid to the Board of Director's members.

No conflict of interests in the reporting period occurred.

Provisions of the Federal law "On Joint Stock Companies" regarding interested-party transactions have not been applied to JSC ASE.

Five major transactions were made in the reporting period. Information on four major transactions are not disclosed since it contains restricted or confidential information.

For the information on the major transaction see Annex 9

JSC Atomenergoproekt

According to the Articles of Association the supreme management body of JSC Atomenergoproekt is the General meeting of shareholders. JSC Atomenergoproekt Board of Directors carries out general management of JSC ASE activity. A function of the sole executive body (the President) is fulfilled by JSC ASE EC whose obligations include JSC Atomenergoproekt current activity management. The President is subordinate to the Board of Directors and the General meeting of shareholders.

JSC Atomenergoproekt placed ordinary shares in the number of 1,547,504,159 pieces, with the nominal cost of 1,547,504,159 rubles. JSC ASE (100 % minus 1 share) and JSC ASE EC (1 share) are shareholders of JSC Atomenergoproekt. Dividends policy regulation in JSC Atomenergoproekt has not been developed and approved. No dividends on shares have been announced or paid in the reporting period.

During 2016 there were two groups of the Board of Directors' members.

From 30.06.2015 to 29.06.2016:

- **Ivanov Y. A.,**
- **Egorov L. V.,**
- **Katz V. L.**
- **Rzhannikova E. V.,**
- **Sheshokin N. P.**

From 30.06.2016:

- **Ivanov Y. A.,**
- **Egorov L. V.,**
- **Podorov N. G.,**
- **Rzhannikova E. V.,**
- **Sheshokin N. P.,**
- **Savushkin V. N.**

The Board of Directors held 22 meetings in the reporting period. No committees or commissions have been established. No remuneration has been paid to the Board of Director's members.

No conflict of interests in the reporting period was occurred.

In 2016 JSC Atomenergoproekt made transactions that were of the shareholder's (JSC ASE EC and JSC ASE) interest, however according to the Federal Law "On Joint Stock Companies" such transactions of interest are not subject to approval.

5 major transactions were made in the reporting year, see. Annex 9.

2. CAPITAL MANAGEMENT AND PERFORMANCE RESULTS

Changing the way power works

2.1. MANUFACTURED CAPITAL MANAGEMENT

Vyacheslav Alenkov,
Director, System Engineering
and Information Technologies

What ensures the efficiency of industrial processes?

The efficiency of industrial processes during capital facility construction is based on the following “three pillars”.

The first one is project management methodology. The company has an approved project management standard and procedures for all the key processes. A project office is established for each project, it functions on the basis of the matrix principle.

The second important element is project management information system on the basis of our Multi-D technology. The system already includes more than 20 tools to control various project parameters. The system is still being expanded. The goal is to establish and commission an information platform to control capital construction facilities during the whole life cycle.

The third element which is often not paid sufficient attention to, but which nevertheless is most important for ensuring efficient project implementation, is the involvement of all the participants into operational processes. The main tool for enhancing the involvement of design personnel is training, and the main tool for enhancing the efficiency of interface between the customer and the contractor is uniting all the participants in a unified information space.

The Division has developed and is actively introducing an innovative project management system for controlling complex engineering facilities construction projects on the basis of Multi-D technology. Which parameters can be controlled more efficiency with the help of Multi-D technology?

Multi-D technology was developed by our company to ensure efficient management of projects for construction of complex engineering facilities. This required a comprehensive approach to establish a number of parameters that can be controlled by the information system.

The basis of the system is an NPP detailed information 3D-model in which a number of other parameters are added which are required to provide a full description of the facility and the processes for its construction. These are such parameters as the construction period, schedules, the required and the available material and human resources, cost, contractual obligations, the regulatory authorities’ requirements and many others. As you see, there are a lot of parameters, hence the name of the system is Multi-D.

How does the company consider the key economic trends in its activities, including transition to digital and platform economy?

Transfer to digital economy is not longer a trend but a goal set by our government. The goal must be met. We are actively involved in the processes as a methodologist and share our best practices. It may sound quite ambitious but we believe that we are capable of establishing our own national industrial and process platform of capital construction facilities life cycles and developing on its basis of an ecosystem which would unite all the participants of the investment process. Such a platform will allow creating added value for goods and services within the framework of digital economy and will allow reducing the costs due to modeling and optimization of the design, construction and management solutions, using reference decisions, performance of routine work by computer software, reducing the time of industrial operation and minimization of the number of mistakes and alterations.

We believe that such digital platform should become an integral industrial and process part of the digital economy and an important component of the new technical era emerging in the course of the fourth technical revolution.

2.1.1. Manufactured Capital Management

The Engineering Division possesses the high-level expertise in the area of complex capital construction project management.

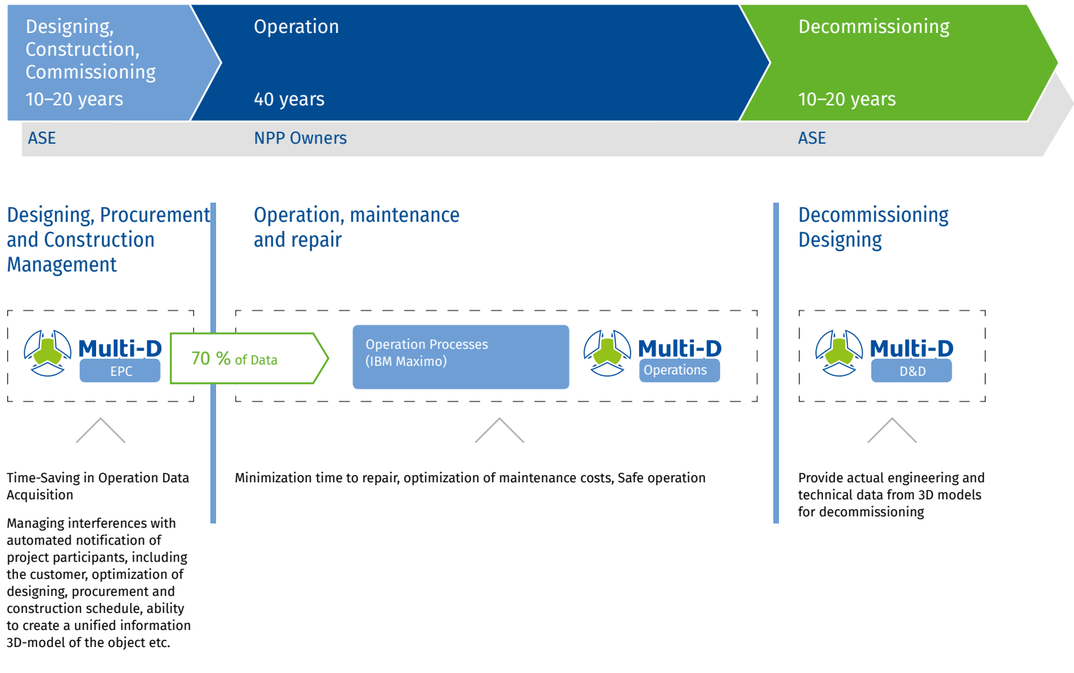
A key to the Company’s success in projects management is availability of Multi-D Technologies – the advanced system of nuclear power plant lifecycle management.

Multi-D technology is aimed at optimization of construction and assembly works and based on detailed planning of the working operations sequence. Main purpose of using Multi-D is reduction of NPP power units construction time period. Application of Multi-D technology allows to plan the construction schedule and eliminate problems at the design stage in order to avoid them at a later, construction stage.

An integrated project management system, with Multi-D technology as one of the key tools, enabled the Company to be the first company in Russia, which got accreditation for the 3-rd competence level in terms of IPMA Delta.

The Multi-D Infrastructure of the Engineering Division can be extended beyond the industry-specific area. It can be also applied as a standard for capital construction project management both in Russian and abroad.

Digital Platform for Complex Capital Projects Lifecycle Management



Complex Project Management System on the Basis of Multi-D Technology

METHODOLOGY ORGANIZATIONAL SUPPORT

- Project management standard
- Delegation of powers
- Project managers
- Project offices
- Responsibility matrix
- Process regulations

UNIFIED INFORMATION SPACE

- Deadline management – Unified schedule
- Cost management – ACMS
- Quality management – UIP

More than 25 tools:

- Equipment catalogue
- Electronic document workflow
- Supplier portal
- Modeling of construction
- Information model
- Requirement management
- Storage and bar coding
- Field engineering

INVOLVEMENT TRAINING

- Involvement of the Customer
- Involvement of Regulators
- Involvement of Contractors
- Training program
- International certification

Multi-D® Technology based solutions are replicated on all objects of the Engineering Division.

Kudankulam NPP (India)

The Principles of the Project Management System

- Uniform project management methodology.
- Lifecycle management technology applied to facilities construction projects, namely Multi-D.

Industry Design System Efficiency Enhancement Programme

The results of the joint work and implementation of the project the branch design technology center projects in 2016:

- BIM and PIM design boundaries are established as part of the industry solutions;
- NPP design information model concept is defined;
- target architecture of the replicable information model and limits of its applicability to nuclear facilities projects are defined;
- besides, the concept of unified information space (UIS) and limits of its applicability to nuclear facilities projects are established;
- solutions to expand the strategy of applicable information modelling technologies to nuclear facilities projects, are developed;
- the management motivation programme called the "Personnel motivation aimed at to reducing costs and timing" has been successfully implemented in the Engineering Division.

In the framework of unified information space forming based on the Multi-D infrastructure tools, JSC ASE EC connected and trained ROSENERGOATOM CONCERN JSC and ROSATOM ICCC users to the automated cost management system.

The International Awards of the Multi-D Project Management System

- *We have become the first Russian company to be awarded the international 3 grade certificate in the area of project, programme and portfolio management based on International Project Management Association (IPMA Delta) model.*
- *Our Multi-D project management system has been recognized worldwide by both the nuclear and non-nuclear community. In June 2016, the Group of ASE Companies won the international WNE AWARD competition in the "Operational Excellence" category that was held as part of the World Nuclear Exhibition in Le Bourget (France). The lead was gained by ASE's "Multi-D Project Management System" Project.*
- *By the end of 2016, FIATECH rated among the globally recognized industrial corporations announced ASE to be a winner of the world CETI AWARD2016 competition in the "Mega-Project Multi-Roadmap Element" category. ASE gained the lead with the "Life cycle management based on Multi-D Technology at Rostov NPP" project.*

Key Components of Digital Platform for Complex Capital Objects Lifecycle Management

Tools	Description	Implementation results / History of success
Multi-D Cost Management	The system provides the basement for complex engineering object construction cost management within budget rates.	Double reduction of time for searching of the necessary information on the cost.
Multi-D Analytics	The system contains capabilities to collect, classify and provide graphic representation of various analytical information about the execution of complex engineering facilities construction projects.	Project decision-making process quality improvement. 200 % acceleration in decision-making. Three times reduction of time necessary to hold daily meetings.
Multi-D Helpdesk	The system ensures automation of tracking and escalation of the questionable issues that may arise during construction project execution.	Twice or three-times reduction of time to solve the problem. More than 90 % of problems are settled at initial stages of the system operation without being escalated to higher levels.
Multi-D Work Packages	Automated system of work packages generation, construction process management and information support in terms of logistics, human resources, project time, planning, monitoring and visualization of packages execution at the construction site.	Reduction of the total duration of production processes at the Rostov NPP Block 3 & 4 by 100 days. Two-times reduction of injury rates at the Rostov NPP construction site. 5 % enhancement of productivity in field engineering at the Rostov NPP. The overall period of works completion at YuGRES is reduced by 73 days. Multi-D platform and reasonable distribution of weekly-daily work packages and their monitoring facilitated the unique operation, namely: Preparation to RCP welding was carried out at the Rostov NPP Unit 3 simultaneously with the reactor pressure vessel mounting to the proper location. The period of the reactor pressure vessel mounting is reduced to 57 days as compared to the scheduled 60 ones (to compare: installation of the reactor pressure vessel at the Kalinin NPP Unit 4 took 75 days), therefore, the RCP installation and welding processes are given a boost.
Multi-D Document Management	Multi-D IMS is the backbone of Multi-D lifecycle management platform and combines all information about capital facility project, such as: requirements, 3D models, work packages, design and operation documentation, costs, risks, project timelines, construction simulation, equipment and materials data, and many others. It also includes comprehensive document management system, which provides capabilities of electronic approval and signoff for all types of documents, as well as data collection, storage, semantic search and access control.	The periods of documentation approval process with the Customer are reduced by 3 times from 66 to 22 days (Belarus NPP). The period of documentation approval is reduced by 40 %.
Multi-D Unified Schedule	The unique system based on the patented ASE technology that provides coordination and integration of various kinds of network diagrams and schedules into the unified information environment.	The power start-up of the Rostov NPP Unit 3 was 2 months ahead of the initial schedule. Mitigated risks of construction and civil works delay. Shortened periods of cross-disciplinary issues settlement. The saving makes 1,478 man-hour/per annum, 996K Rubles per annum.
Multi-D Catalogue	System for development of the electronic database, equipment and materials classification codes for complex engineering facilities, including their technical description, supporting documentation and 3D models. The system also facilitates the interface between the suppliers and sub-contractors.	Reduces design time to search for equipment 3D models through a single electronic catalogue, which includes 99 % of the required models, uploaded by equipment suppliers and manufacturers.

The Main Spheres of the Engineering Division Project Management System Sustainable Development

- MULTI-D platform instruments replication.
- Elaboration of PMC offer for customers in Russia and around the world. Engineering Division has an extensive expertise as a PMC-services provider and is ready to work for infrastructure, conventional energy, metallurgy, shipbuilding and other markets, which produce complex capital projects.
- Partner relationship with Russian and foreign companies outside nuclear power industry.
- Suppliers, regulators, partners and customers using the Unified Nuclear Industry Identification Catalogue of Equipment and Materials (UNICEM) product, are invited to the outlet of engineering services and equipment, i.e Multi-D outlet (as a multi-purpose, efficient and transparent tool for quick retrieval of the required equipment and services specification and qualification of project-involved suppliers).
- Development of a new standard for capital construction objects lifecycle management.

Engineering Division succeed in design and implementation of project management system for infrastructure, thermal power generation, metallurgy and shipbuilding facilities

Procurement Procedures Management

Procurement procedures in the Engineering Division are performed within the Unified Industry Procurement Standard (Procurement regulations) of ROSATOM (hereinafter referred to as – UIPS). One of the primary purposes of procurement activities is to expand the opportunity to participate in procurement for a maximum number of bidders.

Procurement management objectives: arrangement and holding procurement procedures regarding the selection of suppliers for goods, works, services as per the approved annual procurement program (hereinafter – APP).

Legal and methodological provision of procurement procedures in the Engineering Division's organizations, as well as concluding supply contracts for products (goods, works and services) for NPP under construction within the time period stipulated in the UIPS and procurement documentation.

Central Arbitration Committee (CAC) of ROSATOM and General Inspector carry out monitoring in the field of procurement.

Procurement management plans for 2016:

- Olding over 2,287 competitive procurement procedures by the Division organization for the amount of 141,897.326 mln rubles.
- Fulfillment of provisions of the Government Decree of the Russian Federation No. 1352 dd. 11.12.2014 "On Peculiarities of Participation of Small And Medium-Sized Business Entities in the Procurement of Goods, Works, Services by Certain Types of Legal Entities".

Results of plans implementation for 2016:

- During 2016 procurement was made according to APP and on the basis of NPP power units milestone construction schedule.
- Within implementation of the Government Decree of the RF dd. 11.12.2014 No. 1352 a list of products procured solely at small and medium-sized business entities (hereinafter – SME) was updated and placed on website www.zakupki.gov.ru.
- The Division's organizations, within the established time limits placed annual reports on procurement of goods, works, services by certain legal entities at SME in the Unified Information System.

Procurement management plans for 2017:

- Publication of the annual procurement program in the unified information system.
- Procurement of long lead equipment for Kudankulam NPP, Units No. 3, 4, Rooppur NPP, Units No. 1, 2, Kursk-2 NPP, Units No. 1, 2, El-Dabaa NPP, Units No. 1–4.
- Fulfillment of provisions of the Government Decree of the Russian Federation No. 1352 dd. 11.12.2014 "On Peculiarities of Participation of Small And Medium-Sized Business Entities in the Procurement of Goods, Works, Services by Certain Types of Legal Entities".

Procurement Optimization in the Engineering Division

In the reporting year a unified document was issued regulating the interaction procedure between structural subdivisions and the Division's organizations' officials- "Organization of procurement activities in JSC ASE EC and its managed organizations" corporate standard (hereinafter – CS).

This CS improves and unifies the process of procurement procedures, as well as ensures the Company's interests and safety when carrying out procurement procedures, selecting suppliers, contractors and performers.

According to the Engineering Division requirements on the necessity to reduce NPP construction time and cost, in 2016 for the first time in the industry a unique system of procurement unit employees motivation was created on the basis of using standards and developed taking into account best practice of labor efficiency.

Fulfillment of equipment contracting schedule was determined to be the unconditional task to be performed. Based on the annual schedule of equipment contracting, monthly loading rates of subdivisions are calculated, and on the basis thereof man-loading rates are determined, i.e. a number of items an employee should work out at his stage and hand-over to the next stage of contracting process. In this developed personnel motivation system the standards are calculated and established taking into account the actual number and qualification of employees.

There are following advantages of the new motivation system:

- high involvement of the personnel by means of setting a team labor productivity indicator;
- reduction of project implementation time period by means of material interest of employees in performance of large scope of works;
- growth of labor productivity in view of high work quality assurance and loss reduction.

Mid-term plans: reduction of procurement procedures time period and a share of sole supplier procurement, as well as the procurement affecting KPI.

(GRI 308-1) Requirements to suppliers and contractors are determined according to Annex 10 to UIPS and mean that a procurement bidder shall have a civil and special legal capacity, the rights to carry on business activity pursuant to the legislation, that he is not in the process of winding up (for legal entity), as per the requirements established on the basis of the RF Government instructions, a procurement bidder shall have the relevant financial capability level. Also, procurement bidders shall be checked for non-availability of their information in the registers of bad-faith suppliers, absence for the last 2 years of information regarding the established facts and incidents within procurement.

Procurement Procedures Results

The Engineering Division is the major and sustainable customer that meets legislation requirements strictly, including the tax and anti-corruption legislation. These circumstances provide conditions for steady operation of suppliers and contractors, for the growth of tax revenues to the budget at all levels.

Besides, the Engineering Division exerts an influence over suppliers and contractors providing preferences according to the RF legislation. In particular, preferences are provided to small- and medium-sized businesses and several other subjects in relation to which the law prescribes respective requirements.

(GRI 204-1) The Engineering Division does not provides any preferences to suppliers depending on the supplier's locality in respect of the region of operations. The choice of suppliers can be decided upon only by the supplier's meeting requirements and criteria stipulated in the procurement documentation. The winner of a specific procurement is decided upon according to the procurement documentation. In this report, the local supplier is understood as an organization whose address is localized in the region of NPP construction, for example, in respect of the Belarus NPP, the suppliers located in the Republic of Belarus are considered to be the local ones. Proceeding from this definition, the share of expenditures on "local suppliers" in the regions of construction makes ~ 5.68 % of the sum total of all contracts concluded in 2016.

The Share of Procurements from Local and Foreign Suppliers, %

Name of legal entity	2014	2015	2016
JSC ASE			
• from local producers	99.81	99.57	99.35
• from foreign producers	0.19	0.43	0.65
JSC ASE EC			
• from local producers	99.76	89.56	84.49
• from foreign producers	0.24	10.44	15.51
JSC Atomenergoproekt			
• from local producers	89.15	88.58	85.55
• from foreign producers	10.85	11.42	14.45
JSC ATOMPROEKT			
• from local producers	86.50	80.42	59.36
• from foreign producers	13.50	19.58	40.64
JSC Energospecmontazh			
• from local producers	99.90	100.00	100.00
• from foreign producers	0.10		
JSC SPB NIII EIZ			
• from local producers	95.93	100.00	100.00
• from foreign producers	4.07	0	0.00
JSC NIKIMT-Atomstroy			
• from local producers	99.999	98.82	99.66
• from foreign producers	0.001	1.18	0.34

2.1.2. Business Performance Results

NPP Construction in Russia

Rostov NPP

Key Milestones in 2016

- 02.06.2016 – Installation of the reactor coolant pipe at Unit No. 4 is completed.
- 03.10.2016 – Installation of the Pressurizer pipelines at Unit No. 4 is completed.

Leningrad NPP-2

Plan for 2017

- The Engineering Division continues works as part of the PMC-contract for LNPP-2, i.e. issuance of the agreed working documentation, implementation and support of the “Integrated schedule” system.

Novovoronezh NPP-2

POWER UNIT 1

Key Milestones in 2016

- 22.03.2016 – The Federal Environmental, Industrial and Nuclear Supervision Service issued to ROSENERGOATOM CONCERN JSC a license for the nuclear plant operation.
- 24.03.2016 – Beginning of fuel loading.
- NPP Unit belonging to the Generation III+ achieved 100 % power level and provided the first 240 MW of electricity to the national grid system.

Plan for 2017

- Handover to manufacturing operation mode.

POWER UNIT 2

Key Milestones in 2016

- 15.09.2016 – Welding of the reactor coolant pipe was completed within the record-short time (72 days against 96 days at the Rostov NPP).
- 03.10.2016 – Concreting of the outer containment dome was completed.

Kursk NPP-2

Key Milestones in 2016

- 03.06.2016 – Rostechnadzor issued a license for construction of the Power Unit.
- 09.06.2016 – Permit for construction was received.
- 08.07.2016 – Design documentation was approved based on the Decree of ROSENERGOATOM CONCERN JSC.
- Excavation of the pits for Power Unit 1 and 2, installation of the utility systems and construction of the power substation.

Plan for 2017

- Provision of the construction site availability for the main construction works (it is necessary to complete the works on construction of the sand and sand-and-gravel foundation under the main Unit 1 building and ensure operation of the prioritized construction base facilities).

NPP Construction Abroad

Tianwan NPP (China)

POWER UNITS 3&4

Key Milestones in 2016

- Preparation to power unit No. 3 startup(completion of the main thermal works at the reactor plant, water circulation in the open reactor for preparation to hydraulic tests and circulation washing of the primary circuit).

Plans for 2017

- Power unit No. 3 physical start-up.

Kudankulam NPP (India)

Key Milestones in 2016

- Official power unit No. 1 start-up procedure.
- 11.05.2016 saw the beginning of Power unit No. 2 physical start-up.
- Power Unit 2 was connected to the grid of the Republic of India.
- The Indian Regulatory Authority authorized the beginning of works for power units 3&4 construction.
- Excavation of the foundation pit prior to the concreting of the foundations for Power Unit 3 and 4.
- Preparation of the general framework agreement for power units 3&4 construction and a set of documents hereto.
- Preparation for signing of the general framework agreement for power units 5&6 construction and a set of documents hereto.

Plans for 2017

- Preparation of the pit for the foundation, handover to the customer of the necessary documentation for obtaining of the Indian Regulatory authority's permission to make the first concreting of power unit 3.
- Delivery of the design documentation, equipment and materials.
- Beginning of the first concreting in the units foundation plate.
- Signing of the general framework agreement for power units 5&6 construction and a set of documents hereto.

Bushehr-2 NPP (Iran)

Key Milestones in 2016

- On 10.09.2016 the groundbreaking ceremony took place.
- Saw beginning of the works for digging the foundation pit under power unit No. 2 main buildings.

Plans for 2017

- Development and handover to the Principal of the detailed design documentation Digging of the foundation pit of power unit 2 main buildings.
- Site handover by the Principal.

Hanhikivi-1 NPP (Finland)

Key Milestones in 2016

- Licensing stage of the NPP construction project – preparation of the design documentation for project licensing, agreement with Fennovoima and submission of documentation packages to STUK.

Plans for 2017

- Preparatory works at the site, assembly of primary civil engineering and service objects.

El-Dabaa NPP (Egypt)

Key Milestones in 2016

- The contract preparatory works for NPP construction are finalized.
- 13.01.2016 – the Intergovernmental Agreement on NPP construction was ratified and entry into force.
- The 1-st stage of preliminary engineering survey was held at the NPP site.
- The EPC-Contract for construction of 4 x 1,200 MW-power-unit NPP was agreed upon with conditions precedent.

Plans for 2017

- EPC-Contract entry into force.
- Elaboration of preliminary safety analysis report and basic design documentation (power units Nos. 1, 2).

Belene NPP (Bulgaria)

Key Milestones in 2016

- Bulgaria reimbursed the cancellation of the Belene NPP construction project.

Plans for 2017

- Start of shipment to Bulgaria of the main equipment manufactured based on the contract with ASE JSC.

Paks NPP (Hungary)

Plans for 2017

- PSAR elaboration and submission to the Owner upon obtaining the European Commission's permission.
- Obtaining the Hungarian Regulatory authority's permission for the Paks-2 NPP site upon obtaining the European Commission's decision.

Rooppur NPP (Bangladesh)

Key Milestones in 2016

- 31.05.2016 – The Bangladesh Regulatory Authority (BAERA) approved the Rooppur NPP project.
- 31.05.2016 – The Parties completed agreement and signing of all the remaining appendices to the General contract.
- 21.06.2016 – In the course of Joint Coordination Committee Meeting, Bangladesh Atomic Energy Regulatory Body (BAERA) officially submitted a site license for Ruppur NPP to the Customer.

Plans for 2017

- Beginning of concreting of the power unit 1 reactor building foundation plate.

Akkuyu NPP (Turkey)

Key Milestones in 2016

- The Turkish legislation was modified with respect to simplification of the licensing process.

Plans for 2017

- Approval of Akkuyu NPP design parameters by the Turkish party.
- Submission of the revised PSAR and PSA to JSC AKKUYU NÜKLEER.

Belarus NPP (Belarus Republic)

Key Milestones in 2016

- The polar crane was installed at the power unit No. 1 reactor building.
- The device of the shell was implemented the power unit No. 1.

Plans for 2017

POWER UNIT NO. 1

- Completion of the reactor vessel installation.
- Completion of RCP welding.

POWER UNIT NO. 2

- Erection of the reactor pit is finalized.
- Installation of the polar crane is finalized.

Construction of RAW and SNF Management Facilities, NRHF Decommissioning

The Engineering Division's main achievement in 2016 is the tender for Kozloduy NPP radioactive waste storage facility construction (Bulgaria) and development of the documentation for dismantling of the equipment at Kozloduy NPP power units 1–4. The tender was won in July by Nukem Technologies, member of the German-Bulgarian and German-Russian Consortium.

In 2016 the Spanish Intecsa Industrial Engineering company held the tender for supply of RAW management equipment. The tender was awarded to Nukem Technologies GmbH with the subsequent award of the Contract on 21.12.2016. The contract includes the works for supply of the RAW cementation equipment (RAW cementation plants and auxiliary equipment) to the waste disposal plant to process hazardous industrial wastes that build up as a result of oil companies' operation, in Ruwais industrial region (UAE).

During the year, the Engineering Division' current projects continued to be implemented as part of the active contracts at the Ignalina NPP (issuance of the operation license for the SNF interim storage facility), FSUE "Mayak", as well as within the modernization and construction projects of on-site RAW management facilities at existing NPP (Kursk NPP-1, Smolensk NPP), as at NPP under construction (Belarus NPP, Kursk NPP-2, Paks NPP etc.)

Project Management Consulting Services (PMC-services)

Creation and improvement of its own information platform mainly for the effective implementation of projects in the business core enabled The Engineering Division to obtain one of the most efficient tools for project management outside the nuclear industry and provided opportunities for effective competition in the consulting services market our of main business core.

The company has started to actively develop Project Management Consulting (PMC) services, such as first consulting contract outside of energy industry has been signed with "Skorostnii magistrali" company, the subsidiary of JSC "Russian Railways", our strategic customer.

In 2017, the Division plans to remain at least in this trend of signing new contracts in this market sector, while the priority is given to the increasing references outside the nuclear industry.

To achieve these goals, the Company will continue to develop the unified information platform and Multi-D system. Implementation of projects with Russian and global partners aims to extend the functional character of the platform and enhance its efficiency.

Construction of Research Reactors, Low- and Medium-power Reactors

In 2016, much work was carried out together with Rusatom Overseas Inc., to obtain new contracts in this market segment. The markets in Africa and South America are the prioritized ones. Implementation of such projects is essential for the development of these regions, in terms of foundation of the new industry that requires new educational programs and new jobs in the country.

Company goal in 2017 is signing of a new foreign contract. Taking into consideration the scope of the market, being awarded at least 1 contract per year is a prerequisite for achieving leadership positions in the segment. This task is performed with the support of "Rusatom Overseas Inc."

2.2. FINANCIAL CAPITAL

Nikolay Podorov,
Senior Vice-President
for Economy and Finance

What are the most significant outcomes of the reporting year?

The important outcome of the Company's activity based on the results of 2016 was the increase of the portfolio of foreign contracts by more than 30 % in comparison with the previous period. The increase of portfolio of orders, first of all at foreign markets, gives reasons for positive forecasts and for company's sustainability for the long-lasting planning perspective. At the same time, regarding the quantity of power units, the number of which in portfolio amounts to 33 power units upon the results of the year, the Company continues maintaining its leadership on the global market holding more than 30 % of the global NPP construction market.

Following the results of reporting period, the significant EBITDA growth in comparison with the previous year can be considered as one more our achievement. Upon the results of 2016, EBITDA has amounted to 32.4 bln rubles. Significantly, this achievement has been ensured due to obtaining of the reimbursement for the Belene Project, but due to implementation of the measures on increasing efficiency of main operational processes as well. Increase of the labour productivity as per the own income by 10 % in the reporting year confirms the abovesaid.

What are the main priorities for 2017 and mid-term prospects?

Besides its own main functions aimed at providing support to operational processes in the Company, the most important task for the Finance and Economy Divisions for a mid-term prospect is the following increase of efficiency of the economy management in each individual project. This assumes the following introduction of the cost management tools in all Company's projects, as well as execution of the plan of actions within the framework of implementation of industry total cost and time management system TCM NC.

2.2.1. Financial Capital Management

Construction Cost Management

Cost Management Automation

The construction cost management procedures for facilities constructed in Russia are automated through the Automated Cost Management System (ACMS) module. The system is online accessible for the Investor, Customer and the EPC-Contractor.

ACMS is implemented at the Rostov, Kursk and Belarus NPP projects.

ACMS functional characteristics allow to:

- estimate the forecasted construction cost throughout the years of construction;
- generate the limited cost to the level of LSE/FSE;
- generate starting price level with account of the limits;
- accumulate actual project costs for the structure of costs;
- execution control of limits in the course of construction;
- forecast the construction cost under various scenarios of macroeconomic indices.

At the Novovoronezh NPP-2 Unit 2 site, ACMS functional features are implemented on the basis of the operating 1C platform. The system is put into the trial commercial operation and processes the operating data. The forecast of the cost before the completion of construction is calculated using the functionality of Novovoronezh NPP ACMS.

The cost management for foreign projects is implemented in the Integrated Risk Management System (IRMS) software package based on the 1C platform.

IRMS functional exploitation:

- keeping records of the full cost of construction, taking into account specific features of the foreign contracts;
- cost accounting in several currencies (multi-currency support);
- introduction of cost limits for cost items in the required detail;
- accumulating actual project costs for the structure of costs;
- follow-up and review of execution of the limits on the actual construction;
- delimitation of access to the data based on the role matrix.

In connection with the implementation of the industry solution, i.e – Milestone IPMS system on the S / 4 HANA platform, the transition from ACMS and IRMS to a new unified platform is planned.

In accordance with the decision of the ROSATOM Strategic Council, the Program for implementation of the integrated system of the complex TCM NC cost and time management was approved to develop the "Cost management" element of the Multi-D industry platform. The program is necessary to improve the effectiveness of assessment, planning and cost control processes, as well as to reduce the cost of NPP construction projects.

Financial capital is a reserve of resources the Company has to be used in production of goods/services rendering and which is generated as the result of commercial and investment activity, as well as received through financing (debt, shared capital). Financial capital management is effective use of all financial instruments to implement the Division strategic goals.

Cost Management Stages in the Concept of the Unified Information Space

Item No.	Stage	Stage Description
1	Calculation of cost at the pre-project stage	Formation of the cost at the pre-project stage is performed on the similar objects, taking into account the planned changes and depending on design solutions, geology, climate, seismic features of the construction site and the subsequent parametric modeling based on the previously concluded contracts and the final expert assessment of the current and estimated cost.
2	Calculation of cost at the stage of the detailed design documentation issuance and implementation	The subsequent clarification of cost with account of the issued detailed design documentation and actual capital investment performance, construction deadlines according to the level 3 schedule.
3	Setting the limits to NPP construction cost	Updating the cost in view of cost and time optimization and risk assessment.
4	Cost and change control	Compilation of the analytical reports and plan-fact analysis (PFA) for CI implementation, elaboration of remedial measures.
5	Decision-making on modification of the planned cost	Following the implementation of remedial measures and with account of the analytical information on CI and PFA.

Total Cost Management Nuclear Construction (TCM NC) is a system of the ROSATOM integrated project cost and time management, which is based on branch-specific knowledge, complex methods and processes used by the enterprises to manage investment costs in strategic assets within the portfolio throughout their whole life cycle.

TCM tasks:

- a credible valuation estimation of project costs;
- achievement of target indicators in terms of the project cost and time;
- an effective management system that is understandable for foreign investors.

The key project of the Program is "Development and implementation of the Integrated Cost and Time Management Information System".

Tendencies in the Cost Management System Development

- Updating of the functionality and putting of the Information Resource Management System into the trial commercial and commercial operation.
- Development of the program for extending the industry-wide cost control system jointly with the ROSENERGOATOM CONCERN JSC by developing the Technical Task and improving ACMS functionality in accordance with the Customer's requirements.
- Increase in the accuracy of planning at the stage of contracting (work with contractors and the Foreign customer, use of resource cost databases, consideration of localization).
- The further improvement of the limit management system by multilevel reserves with the centres of responsibility as per levels.
- Improvement of accounting and control of the expenditure component.
- Training of employees for more efficient NPP construction cost management as part of the project management.
- Formation of price and commercial terms for contracts and formation of limits under JSC ASE EC and JSC “Atomstroyexport” agreements for construction sites in order to achieve maximum production and financial results with minimum costs for the implementation of signed contracts and agreements.

Investment Management

The investment performance management process in the Division is arranged in accordance with regulatory documents and standards of ROSATOM and JSC ASE EC local regulatory acts.

The primary internal regulatory document that governs investment processes of the Engineering Division and determines the uniform rules for cooperation between the Division’s subdivisions when making and implementing investment decisions is CS 35.02-15 "Investment Activity Management".

The main parameters of the Division’s investment program are determined by the decisions of the ROSATOM Investment Committee.

The Investment Committee of JSC ASE EC, JSC ASE, JSC Atomenergoproekt and JSC ATOMPROEKT is the authority that makes investment decisions in ASE Group. This is a collective body that implements principles of the single industrial investment practice of ROSATOM and its companies.

To ensure the continuity of the principles of the industry's investment policy, the Division’s Investment Committee includes representatives of ROSATOM.

Starting from 2015, the Division has introduced a Task Group of the Investment Committee intended to improve the efficiency of investment activities and control over the implementation of investment decisions.

Main Results of Investment Management Improvement in 2016

- Adoption of gate approach practice in management of investment projects, thus allowing to ensure more effective structure of the Division investment portfolio.
- Implementation of the unified industry project management System.
- Formation of practice of monthly reports on meeting the deadlines of key project stages.
- As part of the investment planning for 2017, the feasibility study of investment applications of the Company’s subdivisions was carried out, followed by investment programme optimization by 1,478 mln rubles without changing the project deadlines and targets.
- Assurance of performance of key portfolio indicators required by the superior organization in the current and forecast periods;
- Including of individual indicators in investment project managers KPI cards in order to ensure implementation of the stated portfolio parameters.

Plans for Mid-term Investment Management

The mid term (3–5 years) investment management intends to ensure:

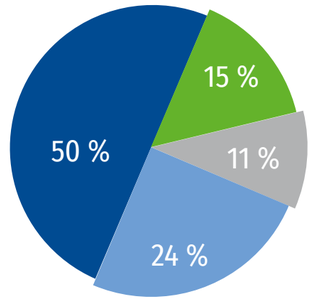
- Automation of investment decision-making processes in the implementation of adjustments to the investment budgets of the Division's organizations through the use of a specialized internal business process information management system.
- Adaptation for the Engineering Division’s business purposes of the method for carrying out a feasibility study based on industry standards used to further optimize the Division's investment costs.
- Red tape reduction in initiating new investment projects by the Division's units by for reducing the excessive administrative burden on project managers.
- Development of motivation principles for the Division’s organizations in order to identify and implement investment projects for new business lines of the Engineering Division.
- Development of an internal standard for planning and accounting of innovative R & D projects to develop one of the priority areas of the Division's investment programme.

Investment portfolio

The investment portfolio of the Division includes the projects aiming to maintain the Division's main activities in the area of object design and construction programmes implementation as part of participation in ROSATOM’s investment and construction projects.

The Breakdown of Division’s Investments

In 2016

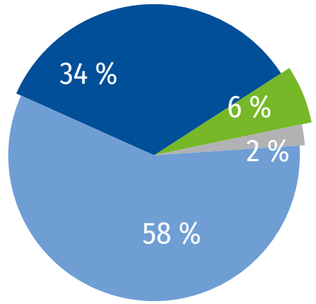


Infrastructure Development Projects (including safety)
Renovation of fixed production assets and safety measure

Infrastructure Development Projects (including security)
Renovation of fixed production assets and security measures

IT-projects
Modernization and upgrading of electronic computing equipment and provision of production processes with automation and software tools

Planned in 2017



Other Projects (engineering survey equipment, R&D, patents)

In 2017, investment costs are to be provided for the implementation of the "Replication of corporate ERP systems in the Engineering and construction Division” industry project in the amount of 949 mln rubles.

The priority task in the implementation of investment projects to equip construction sites is to provide production needs for the timely execution of contracts for the construction of the Rostov NPP, Novovoronezh NPP-2, Belarus NPP, Kursk NPP, Bushehr NPP, Ruppur NPP and other facilities constructed as part of the implementation of investment and construction projects of ROSATOM.

IT projects implementation aims to upgrade the key assets, in particular, electronic computing equipment and provision of production processes with automation and software tools.

Infrastructural investments provide the necessary renewal of fixed assets and the required level of safety.

Financing of investment projects is implemented at the expense of the consolidated investment resource of ROSATOM.

Results of Implementation of the Major (in terms of financing) Investment Projects

Groups of projects	Project description	2016 results
Motorization of construction sites for performance of CEW	Equipping NPP construction sites with required mechanisms having high lifting capacity, equipment and fixtures for construction and installation works. The project implies purchasing construction machinery to fulfill the Division's duties as the EPC-Contractor, including provision of subcontractors with expensive machinery on a rental basis. The project implementation excludes the risk of failure to meet the delivery date of construction, since contracts with the subcontractors can be concluded regardless of the availability of construction machinery.	The major portion of investments is spent on the equipment of construction sites for Belarus NPP (purchasing construction machinery and fixtures for the main construction stage) and Kursk NPP-2 (purchasing machinery and mechanisms for preliminary stage of NPP construction). In 2016, the delivery of the key equipment for the construction of these facilities was financed in the amount of 348 mln rubles including: Two Putzmeister concrete pumps, an assembly truck of 400 tons carrying capacity t and two gantry cranes of 50 tons carrying capacity, four KAMAZ dump trucks, a Volvo truck tractor.
IT-projects	Introduction of unified information space systems in JSC ASE EC, JSC ASE, JSC Atomenergoproekt and JSC ATOMPROEKT (serial replication of information systems for NPP projects). The Division's key assets were upgraded though purchasing state-of-the-art computers, office equipment and communication devices.	The process of the Division's IT infrastructure optimization as part of creation of the unified information space has started to reduce the number of information systems used to improve the efficiency of processes in the areas of the Division's interfaces: ROSATOM State Atomic Energy Corporation, customers, suppliers of equipment, partner organizations. In 2016, the Strategic Council of ROSATOM approved the new "Replication of corporate ERP systems in the "Engineering and Construction" Division investment project. The project aims at creation of a single reliable corporate information source for the Engineering and Construction division for the control panel of the Director General of ROSATOM. As part of the project, end-to-end business processes are being automated: • Contact to Cash (from the first contact with the Customer to receipt of cash). • Design to Supply (from design to supply and installation). • Presentation in a unified information system from JSC ASE EC Russian and foreign branches and from subcontractors. Also, the Division's main business will be transferred to a unified corporate information system instead of a set of traditional systems. The main objectives of the project implemented in the reporting year: • Automation of capital construction and local accounting of foreign branches, as the main project priority. • Optimization of existing business processes to be transferred to SAP, while maintaining (not decreasing) the existing Division automation level. • Development and implementation of technical and organizational decisions on the connection of foreign affiliates, which ensures the deployment of Milestone IPMS in the corporate data center. • Replication of CFT (corporate financial template) in JSC ASE EC.
R&D	Implementing R & D projects aims to develop innovative design and engineering solutions in the following areas: • Maintenance of hydrogen-potassium water chemistry; • Generation of software tools and design codes for design; • Storage of spent ion-exchange resins; • Creation of metal thermal insulation for pipelines.	A positive expert opinion was received based on the results of the expertise carried out by the "Scientific and Technical Center for Nuclear and Radiation Safety" Federal Budgetary Institution, of the Kupol-M software tool designed to calculate environmental parameters in the scope of WWER NPP containments to substantiate the safety of NPPs under construction. The software for calculation of thermal hydraulic systems for the "Virtual NPP power unit" software-technical complex has been developed. According to expert estimates, it allows to shorten the time for complex systems modelling as compared to the currently used tool, for up to 6 calendar months.

Investments in fixed income are growing annually. The trend in CAPEX sustainable growth is seen from 2014. The tendency to increase the amount of investment projects over 2014–2017 has been reported.

Most of the deviations of the planned values from actual ones in 2016 is caused by the updating of the schedule of delivery of construction equipment in accordance with the current production need. The significant growth of the plan in 2017 as compared to 2016 is related to the plan of project implementation for motorization of the construction site in the People's Republic of Bangladesh (Rooppur NPP) for construction and assembly works of the main construction period.

Investment Efficiency Indicators

The overall effect of investments for the Division consists in the upward trend of financial and economic performance indicators and the growth of productivity in the Division companies.

The main indicator established by the ROSATOM for monitoring the effectiveness of the investment programme is the integral investment performance indicator of (IIPI), which takes into account the compliance of the estimated return profitability on the planned portfolio of projects, as well as the fulfillment of the key milestones of investment projects established for the current year.

The value of the Division's IIPI based on 2016 results amounts to 108 % (with the target level being 100 %).

Infrastructure Investments Trend

The portfolio of the Division's projects assumes investment costs solely in terms of financing activities for upgrading and renovation of capital assets owned by the Division's organizations.

In the territory of Russia, the Engineering Division implements infrastructure investment projects for renovation of the fixed assets, such as: upgrading of IT equipment, reconstruction of production buildings, security of production facilities.

Projects are implemented in Russia too, to retrofit construction sites of the Kursk NPP, Novovoronezh NPP-2 and Rostov NPP.

The Division implements investment projects outside Russia that envisage to:

- Supply equipment to the construction site of Bushehr NPP (the Islamic Republic of Iran), Rooppur NPP (the People's Republic of Bangladesh), Belarus NPP (the Republic of Belarus), Paks II NPP (Hungary).
- Build up and develop the infrastructure of representative offices and branches to support construction and operation propesses at Bushehr NPP (the Islamic Republic of Iran), Rooppur NPP (the People's Republic of Bangladesh), Belarus NPP (the Republic of Belarus), Paks II (Hungary), Tianwan NPP (the People's Republic of China), Kudankulam NPP (the Republic of India).
- Upgrade IT equipment as part of infrastructure projects implemented in the Federal Republic of Germany (NUKEM Technologies GmbH), the Islamic Republic of Iran, the Arab Republic of Egypt, the People's Republic of Bangladesh, the Republic of India, the People's Republic of China.

Taking into account the specific features of the investment projects and the structure of the Division's fixed assets ownership, the current investments in infrastructure and social facilities in the Russian Federation regions are implemented indirectly, through cooperation with ROSATOM organizations or participation in charitable events.

ROSATOM Engineering Division's Investments Breakdown, mln RUB

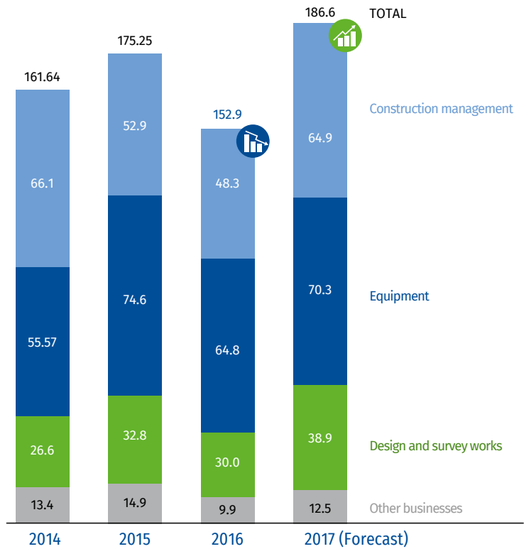
Name of legal entity	2014 fact	2015 fact	2016 plan	2016 fact	Δ 2016–2015, %	2017 plan
JSC ASE	114.12	118.15	156.87	118.78	101	2,248.48
JSC ASE EC	767.73	887.91	1,464.36	701.14	79	3,155.21
JSC Atomenergoproekt	308.38	151.34	386.10	302.76	200	412.59
JSC ATOMPROEKT	77.57	231.48	288.62	269.88	117	199.69
NUKEM (including: Nukem)	7.44	5.17	10.53	7.63	148	17.59
JSC NIKIMT-Atomstroy	19.65	133.05	69.87	59.82	45	121.57
Trest RosSEM LLC	–	13.49	11.81	5.37	40	51.82
JSC Energospecmontazh	51.74	4.07	3.84	3.70	91	19.22
Total scope of investments	1,346.64	1,544.65	2,392.00	1,469.09	95	6 226.18

2.2.2. Financial Results*

The medium-term planning, the key tool of which is a 3-year business plan, on the basis of which planned values for 2017 are given in this Report, is applied in the Engineering Division.

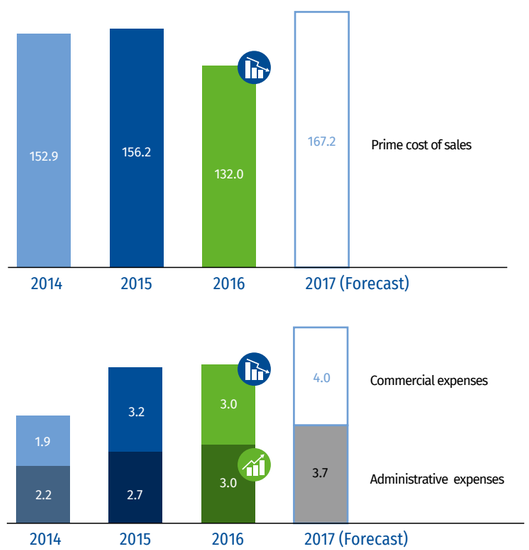
* The indicators of the Division financial report (GRI 102-48).

Revenue, bln RUB



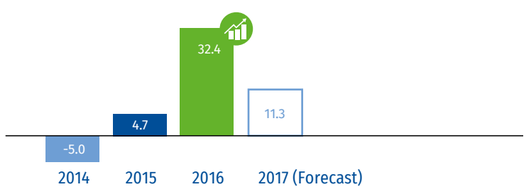
In 2016, the revenue trend data is accounted for by the reduction of active projects: Some projects are being finalized (Novovoronezh, Rostov, Tianwan NPPs) In 2017, it is planned revenue increase the income through beginning of active operations under new projects.

Expences, bln RUB



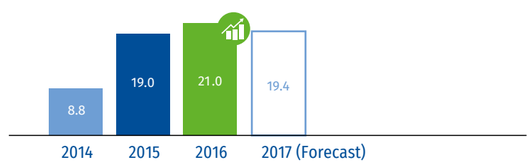
The trend in expenditures in 2016 is directly connected with the change of the production programme. The growth of labour productivity had a positive influence.

EBITDA, bln RUB



The significant growth in the actual level of the EBITDA for 2016 is accounted for by the Customer's reimbursement pays-off awarded by the Tribunal in favor of JSC ASE EC for cancellation the Belene NPP construction project (Bulgaria) (see Results of Production Activities).

Gross Profit, bln RUB

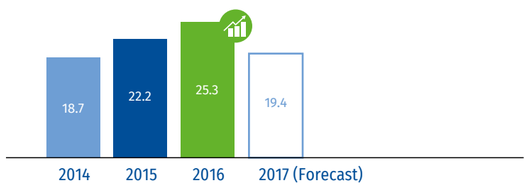


The result of the efficient cost management was the upward trend of gross profit.

The positive trend of financial results and profitability shows efficiency of the economy management in the Division in 2016.

Bushehr NPP (Iran)

Added Value/Revenue, %



The growth of the indicator in 2016 is related to the positive trend in the operational profit.

Profitability Ratios, %

Name	2014	2015	2016	2017 Forecast
EBITDA profitability	-3.1	2.7	21.2	6.0
EBIT profitability	-4.0	2.3	20.7	5.5
Net return on sales (ROS)	-0.8	-0.9	3.2	0.2

The trend of profitability indicators is accounted for by the growth of the operational profit.

2.3. INTELLECTUAL CAPITAL

Sergei Egorov,
Director for Science and Innovation

What is the main result of innovative activities in the reporting year?

In 2016 the business unit of science and innovations was established and the model of the unit organizational structure and the list of perspective developments were determined: Improvement of VVER technology, generation 4 reactors, promising products (research reactors, demineralization units, RW processing, Milti-D in other industries).

In order to establish an effective tool for management of innovation projects portfolio – Financial center -2 “Engineering and Construction”, within the last year the map of group of processes was implemented to manage the innovation works, including procedures “Management of projects review”, “Management of financing of Financial center-2 investment projects portfolio”, “Management of innovation projects”, “Management of the rights to use intellectual activities results:, which makes it possible to define the borderlines of the processes, to establish the scope and the order of performance of the process, the participants and their roles, the distribution of responsibilities within a process, parameters, risks and results of a process.

With the purpose of a systematic organization of the works, Regulation on Expert Council of Internal Customer Financial center-2 “Engineering and Construction” has been approved. Expert Council is a permanent consultative organ which reviews innovation projects aimed at reducing the time period and costs of NPP construction.

We constantly strengthen qualification level of personnel. Within the company educational program “Management of technological innovations: Scientific centers” on the basis of the Moscow management school SKOLKOVO, the personnel of the Division participate in training modules for analysis of models of organization and management of scientific-research activities, getting acquainted with prototypes of investment models and design solutions, study of best practices, comparing the studied materials and the obtained results with the projects of working groups.

Within development of the Division knowledge management system in 2016, a project on generation of the scientific portal “Knowledge management system” was implemented at the internal website of ASE group of companies, that was awarded in “Scientific and research content management” at the industry scientific and technological conference “ROSATOM knowledge management system. Techniques and tools 2016”.

What are the main tasks of “Science and Innovations”?

Within the medium-term planning, to expand the global presence of ROSATOM on the global market, it is planned to develop a new product offer ACMM on the basis of state-of-the art technologies applied in RF and scientific and technological achievements, considering the innovative solutions and development trends of ROSATOM.

For solving this problem, various aspects of integration into closed power systems will be considered, as well as implementation into Start Grid, interaction with the existing technologies of accumulation of electrical power, integration with renewable sources of electrical power, etc.

The end result of the work will be product offer of ROSATOM which will unite competitiveness of the global market of electrical power, the possibility of its duplication and compliance with global requirements to NPP safety.

In order to develop the technological strategywe initiated, a project for evaluation of the effect of “disruptive” technologies on the Division activity within the framework of medium-term and long-term strategy. “Disruptive” technologies are such technologies which create new markets for relatively short periods of time. And the main point is that they change the correlation of values in the market in such a way that the products created with use of the earlier existed technologies, become uncompetitive, and the companies selling those products, suffer financial losses or significantly loose the positions in the market. During the implementation of the project it will be necessary to develop an updated list of “disruptive” technologies, to perform a retrospective analysis of the projects of introduction of new technologies in JSC ASE EC, to forecast the influence of technologies on JSC ASE EC activities and to develop recommendations and programs of JSC ASE EC activities with “disruptive” production technologies.

To reduce the cost of NPP construction, special measures will be developed for using modern materials for pipelines. Measures will be taken to introduce pipelines assortment with optimized economic parameters.

Within the framework of activities dedicated to development of VVER TOI, a task was set to increase the service life of the NPP and the main equipment, also in the technologies of pipelines construction. The task in the sphere of pipelines is to increase the service life up to 60 years and reduce the metal consumption by more than 15 %. JSC AEP has developed a new catalog on the basis of PNAE G 002 calculation method and has analyzed results of R&D dedicated to the selection of modern materials for pipelines. The catalog has been developed jointly with JSC NPO VNIIPTMASh. The result of the above work is obvious: Increase of the life time of pipelines by up to 60 years, reduction of metal consumption by 20 %. This assortment has been successfully applied at Novovoronezh, Kursk NPP and partially at Akkuyu NPP. Besides, the catalog developed by JSC AEP has been downloaded to CAD of JSC ASE EC. For Akkuyu NPP this technology is applicable in its original format. The manufacturing plants of the Russian Federation are prepared to apply the above technologies.

Support will be rendered in the development of another new export product – desalination complex integrated with a high power NPP.

In addition, we see the significant potential of information models complex engineering objects creation including augmented reality and stage of operation.

2.3.1. Intellectual Capital Management

Knowledge Management System

Within the framework of knowledge management system of the Division, scientific portal “Knowledge Management System” was established in the internal resource of the company.

During the reporting year the personnel management service commenced the project for the establishment of Designing Academy in JSC Atomenergoproekt. The purposes of the project are as follows:

- maintenance in ATOMPROEKT JSC of unique expertise in the sphere of design and survey works that has been accumulated for many years, by establishing a knowledge management culture;
- enhancing the skills of designers in those spheres where it is insufficient for fast performance of works with proper quality, considering business requirements;
- development of the designers skills which will be required in future projects, considering the development of the industry and activities on international markets.

After pilot lunch of the project in Atomenergoproekt JSC, the project methodology will be submitted to the personnel management service of JSC ASE EC for duplication of this project in design institutes of the Division.

Designing 2.0 Project has been commences in JSC ASE EC. The project is aimed at identification and submission of most important knowledge and professional skills.

The specialized "Life cycle management systems for complex engineering facilities” department of the FSBEI HPE "Nizhny Novgorod State Technical University” by R.E. Alekseev has been performing specific-purpose training of students for future work in the Company. In 2016 thirty students have been trained.

2.3.2. Results of Innovation Performance

In 2016, in order to develop a single scientific and technical policy, informational, analytical and expert support of the Division’s activities by identifying and promoting promising areas of scientific, research, design and technological activities, the process of establishing the Unified Scientific and Technical Research Council has commenced.

According to plans of R&D project “Preparation for certification of source codes for justification of safety and process solutions”, the development of the product will have been completed in 2017.

According to plans of R&D project “Elaboration of demonstration sample of thermal vacuum drying unit for spent ion exchange resins”, the works were completed in 2016 after which ASE projects will be identified where the results of the works will be applied or the developed equipment.

Intellectual capital of the Division includes intangible assets such as knowledge, technologies, including information ones, and intellectual property. Intellectual capital has a value of principle for innovation performance and for achievement of strategic goals of the Division. Management of intellectual capital includes contributions to the in development of new technologies and improvement of the existing ones, preservation and multiplication of accumulated professional knowledge, innovative developments, R&D and patenting of developments.

15 Innovation Projects Launched in 2016

Intellectual Property Portfolio

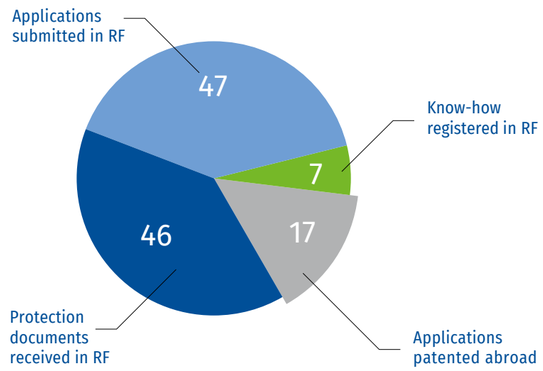
In the reporting year 17 new patentable process solutions for NPPs with VVER reactor plant have been identified, planning to patent in 2017.

In 2016 forty six applications for patenting and registration of intellectual activity were submitted, 7 production secrets were registered. Forty seven protection documents for intellectual property objects were received on the basis of previously submitted applications.

In 2016, within the framework of international patenting of **NPP technologies of VVER reactor plants**, the following was implemented:

- Projects “International patenting of inventions of JSC Atomenergoproekt abroad and “International patenting of inventions of JSC ATOMPROEKT abroad, as a result of which 102 national and regional applications were issued, and 17 of them were **submitted in 33 countries of the world**;
- Preparation works and submission of three international applications in accordance with PCT, with **further submission to 36 countries**.

Applications Patented in 2016



The intellectual property portfolio of the Division includes:

291	VALID PROTECTION DOCUMENTS
33	PATENTS FOR INVENTIONS
40	USEFUL MODELS
3	INDUSTRIAL SAMPLES
204	REGISTERED COMPUTER SOFTWARE PROGRAMS AND DATA BASES
11	TRADE MARKS

Application of Flexible “Agile” Methodologies

In 2016 project for development of optimized projects solutions was implemented on the basis of pilot project using flexible technologies “Agile”.

The following principles of Agile:

- The main emphasis to optimization.
- Generation and exercise of all hypothesis, technical ideas and variants of their optimization, their analysis and prioritizing.
- Establishing the following roles of Scrum team – Administrator (Scrum master), representative of the customer, technical leader (Product owner).
- Establishment of autonomous groups of specialists for 5 directions of optimization.
- Planning of iteration tasks, daily control, demonstration meetings, retrospectives at each sprint (iteration).
- Sprint duration is 2 weeks.
- Quick introduction and prioritizing of the necessary changes.

The five working groups for priority directions included specialists from St.Petersburg, Moscow and Nizhny Novgorod design institues, as well as from JSC Rusatom Energo International.

Production System of ROSATOM

Production System of Rosatom (PSR) is an industry product aimed at enhancing the labor productivity up to the level of foreign competitors, at reducing the costs, raising the salaries and developing new rules of career growth.

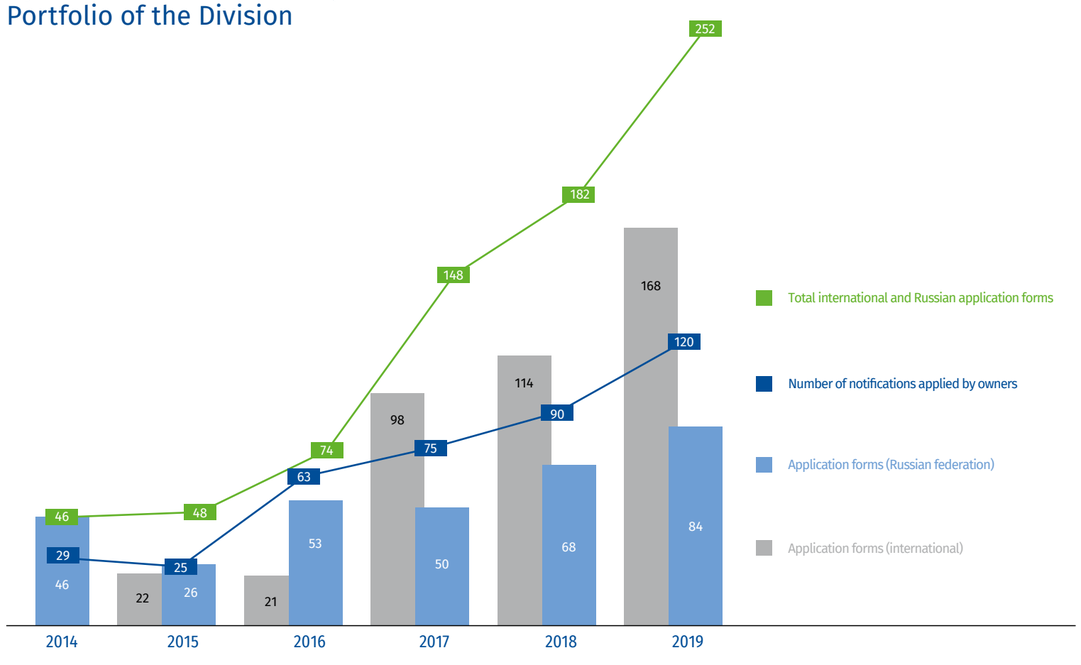
The aims of PSR introduction in business (designing, procurement, supply, engineering) of the Company are as follows:

- setting goals for the key products;
- optimization of production processes;
- development of methodological documents for application of tools for optimization of production processes.

From 2016 the process of work with ideas of JSC ASE EC personnel has become automated – industry information system, “The factory of ideas”, was introduced for employee’s proposals on improvement. In 2016 about 2000 PPUs and proposals for cost reduction, with the total economic effect of 9 bln rubles.

The introduction of PSR at construction sites is aimed at increasing the controllability of construction process on the basis of uniform standards, reduction of costs, elimination of losses, enhancement of labor safety and efficiency. At construction sites of Belorussian NPP, Kursk NPP, Novovoronezh NPP-2, Rostov NPP and all the subcontractors involved in their construction. The work is being performed in accordance with eight PSR standards developed by JSC ASE EC.

Dynamic of Intellectual Properties Portfolio of the Division



In 2015 the management of ROSATOM gave an instruction to establish an exemplary PSR-site on the basis of Novovoronezh NPP-2 site. The main criteria were as follows:

- transparent clear system of visualization of the construction progress;
- strict compliance with PSR standards of the engineering Division.

In May 2016 ROSATOM granted to the site the title of an exemplary site and took the decision about circulation of the experience of the exemplary PSR-site to all the construction facilities of the industry.

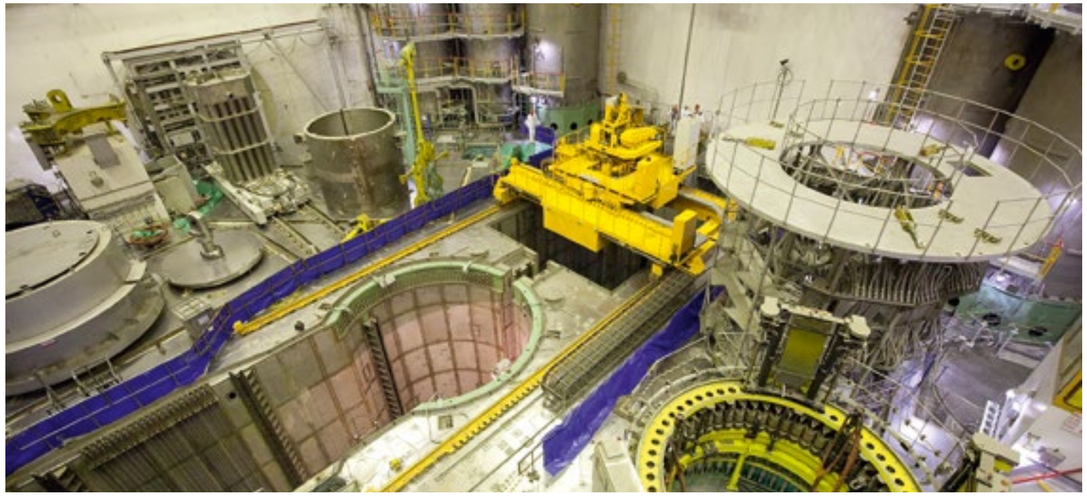
Within the framework of PSR development, Heads of Division have implemented over 200 personal PSR projects aimed primarily at reducing the time of processes performance and increasing efficiency of facilities construction.

Increasing attention is paid to PSR in international projects. In 2016 Division for development of PSR in international projects was established. Its main goal is development of program “Implementation of PSR during construction of power units within the framework of foreign projects”.

PSR specialists perform training for employees of both the Company and subcontractors. In 2016 more than 1,500 people have undergone training (about 50 % of them being employees of subcontractors) which is 1.5 more than in 2015.

Activity and Management System Improvement Projects Launched in 2016

Projects	Implementation effect
Non-conformance management	~ 40 mln RUB
Speeding-up of decision-making on financing of non-manufacturing costs	~ 666 mln RUB (in 2016)
Optimization of agreement of employment in JSC NIAEP	**The process of employment is reduced from 21 to 7 days**
Optimization of servicing upon employees’ requests	**The process of requests submission for servicing is reduced by 50 % from 10 to 5 minutes**
Optimization of authority system	Reduction of the average duration of signing the agreed contracts and supporting billing documents
Implementation of ELMA information business process management system	The period of processes are reduced, the quality is enhanced, losses are reduced, no more processes going back to the previous stage. Labour saving ~ 24 mln RUB



Results of PSR Introduction

Novovoronezh NPP-2

In Novovoronesh NPP-2 an electronic support chain was implemented that resolves problems from a workplace to the Company President. It makes it possible to identify and quickly eliminate problems arising on the site.

Power unit No. 2 has a PSR information center that increases the efficiency of construction management due to consolidation and optimal use of information for taking management decision on the site and not in offices.

About 30 RPS projects were implemented that are aimed at reducing the time of processes performance in the most problematic work areas. The most significant PSR achievements were:

- Installation of the main coolant pipeline of power unit No. 2 lasted for 72 days (the previous achievement at Rostov-4 was 96 days).
- The period of installation of quick-detachable thermal insulation was reduced at the Novovoronezh -2 NPP from 111 to 8 days.

Kursk NPP-2

About 8 PSR projects were implemented with the aim to reduce the time of processes performance in the most problematic work areas. The most significant projects were:

- The time of the construction base arrangement was reduced at Kursk NPP from 240 to 120 days.

Rostov NPP

About 26 PSR projects were implemented with the aim to reduce the time of processes performance in the most problematic work areas.

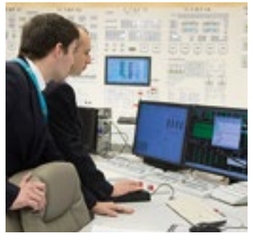
The most significant projects were:

- The period of elimination of non-conformances detected during the commissioning works at the Rostov-2 NPP Unit 4 was reduced from 153 to 90 days.
- The scope of Rostov-2 NPP as-built documentation accepted by the Customer at first attempt increased from 56 % to 90 %.

Belorussia NPP

Thirteen PSR projects were launched and implemented. The most significant projects were:

- The process of commissioning works performed at polar crane in building 10 UJA of power Unit No.1 was improved, their time period was reduced from 50 to 33 days.
- The process of structural elements acceptance was improved at the Belarus NPP, the period of the as-built documentation (each structural element) review and agreement was reduced from 13 to 1.5 days, the period of structural elements acceptance was reduced from 4 to 1 day.



Construction of Unit 2
of the Novovoronezh NPP-2 (Russia)

2.4. NATURAL CAPITAL

Sergey Streltsov,
Director of Quality Management Department

What are the most sufficient results of the natural capital management within the reporting period?

In 2016 the Engineering Division formation was completed and in this regard it became necessary to have the unified safety culture standards for the whole division. Approval of Industrial Safety Policy of JSC ASE EC was an important event of the year.

Last year the Environmental Management System was re-certified and internal standards and permitting documentation was updated taking into account a change in requirements of the law and production processes. Based on re-certification results, the system compliance with requirements of the international standard ISO 14001:2004 was confirmed.

I want to underline that the division's activity corresponded and corresponds to all the norms and requirements of the Russian Federation and the IAEA in the sphere of environmental and radiation safety.

How is the observation of environmental standards supervised and controlled during NPP construction?

For us, all aspects of environmental safety are of great importance, so requirements in the field of environmental protection are fixed by us in the contracts with all contractors. Besides, under these contracts we perform environmental monitoring at the construction facilities. The most part of the violations and non-conformances revealed according to the results of checks are eliminated. Claims work is in progress with a number of contractors, related to penalizing for violation of the environmental legislation.

What are the plans for 2017 and med-term plans in the field of environmental protection, particularly in the context that the year of 2017 was announced as the ecology year in Russia?

The year of 2017 has been announced by the President of Russia as the ecology year and it is the priority for our plants to always stay environmentally clean and safe.

Environmental safety is the key word of environmental policy as everybody knows that the nuclear industry provides the cleanest energy and practically does not disturb the environment.

It is the first thing to highlight that environmental policy of Rosatom supported by its own funds and that supported by the funds allocated under the Federal Target Program for settlement of environmental problems work together. And this is not a chance coincidence. Environmental projects are implemented centrally; Rosatom's subdivisions involved in this issue are working consciously and with reference to each other. Consistency of ecological governing bodies, mid-level bodies responsible for safety in Rosatom and environment services of the plants is one of the main principles of the environmental policy ideology.

As a result of rational use of the aggregate means for environment projects implementation, Rosatom takes the lead among all large business communities both in reduction and in minimum volume of harmful substances emissions, consistently decreasing negative indicators from year to year. ROSATOM and its organizations implement a responsible environmental policy based on the principles of priority for natural environmental systems preservation; of compulsory use of the latest scientific achievements and environmental safety provision; transparency and availability of information on environmental aspects of the industry plants' activities to public.

2.4.1. Environmental Safety Management at the Stage of NPP Designing

Natural capital means all renewable or non-renewable natural resources which, this way or another, are used by the Company during manufacture of goods/service rendering. Natural capital includes air, water, land, subsoil assets, forests, as well as biological diversity and ecosystem health. Natural capital management means contributions to respect for the environment and unconditional compliance with all necessary standards and requirements in environmental science and nuclear and radiation safety.

(GRI 416-1) Within the framework of RF environmental policy one of the main criteria used for taking decision about the possibility of implementation of the planned economic activity is its environmental safety.

Documentation is followed within any investment and construction project that is to be on the impact on the environment. During the development of environmental sections of project documentation, the Company uses safety standards (the main regulatory documents).

During the justification of environmental safety the following criterion is guided by: Any NPP is the source of three main types of impacts on the land, the aquatic system and population of its region – radiation, chemical and thermal.

In accordance with Federal Law "On environmental review", design documentation for NPP construction undergoes state environmental review in the course of which it is established that the planned activities comply with the environmental requirements and it is determined whether the implementation of the project is permissible in terms of prevention of possible adverse impacts of the activity on the environment.

(GRI 416-2) In the reported period was no identification of any Non-compliance of standard requirements and voluntary codes concerning influence of any facility on environment and wellfare of people.

There are no infringements of ecological requirements.

Design Assessment of the Environmental Impact

(GRI 102-11) To ensure the safety of the NPP, its systems and elements are developed assuming the following natural and anthropogenic design impacts:

- safe shutdown earthquake up to grade 8;
- aircraft crash with the weight of 400 tons with the speed 150 m/sec.;
- external shock wave with compression pressure in the front of 30 MPa;
- design maximum wind velocity up to 56 m/sec.

NPP design combine the advantages of active and passive safety systems. One of the important passive safety systems is the core catcher installed in the lower power of the containment. It is designed for localization and cooling of molten corium of the reactor core in case of a hypothetical accident which can result in core damage.

This device allows maintaining the integrity of the containment and to prevent release of radioactive products into the environment even in case of hypothetical severe accidents.

NPP safety is also ensured due to the system of physical barriers against the release of radioactive substances into the environment.

Radiation Impact of the NPP on the Environment and the Population

NPPs are designed in such a way that radioactive impact on the population and the environment during normal long-term operation, assumed operational disturbances and design basis accidents do not result in exceeding the established doses of the population exposure. Radiation impact on the population and environment is maintained below the established design limits on the reasonably achievable low level.

Maximal total doze of the population exposure to radionuclides developed during the operation of an NPP, **is from 2 to 5 % from the minimum significant dose produced by radionuclides of natural origin.**

Dose load on the critical components of the land and the aquatic systems during the NPP operation is five and more degrees of order lower than the safe level.

Thermal Impact by the NPP on the Environment

In the NPP designs the turbine equipment is cooled by evaporation cooling towers with counter-flow movement of the water and air coolant for one power unit.

The obtained average annual values of temperature and specific air humidity increment in the surface air is significantly lower than the average annual values and year to year variations of these

meteorological parameters. **Releases of heat and moisture during the operation of cooling towers will not have a significant impact on the microclimate of adjacent territories.**

Chemical Impact on the Environment

The technical solutions exclude the possibility of penetration into the environment of contaminated and untreated sewage. Sewage water undergo complete biological and intensive treatment and are re-used in the NPP cycle.

The sources of chemical contaminants are localized on the NPP territory, the value of hazardous chemical substances released into the environment do not exceed the established maximal permissible concentrations.

Waste Produced in the Process of an NPP Operation

Radioactive waste produced during an NPP operation are treated in accordance with the system of liquid and solid radioactive waste management.

At all the stages of works for reloading, transportation and storage of spent nuclear fuel, biological protection of the servicing personnel is ensured as well as limination of radioactive impact on the population and environment.

Monitoring of release of radionuclides from the NPP into the environment is performed by automated radiation monitoring system.

2.4.2. Environmental Safety Management at the Stage of NPP Construction Control

Responsibility for organization of works related to compliance with legislation in the sphere of environmental protection and environmental safety is determined in the internal organizational and administrative documents of the companies which are part of the Engineering Division.

Responsibility for organization, regulation and coordination of the activities in the sphere of organization of works for environmental protection is born by Quality Director of JSC ASE EC.

At construction facilities of the Engineering Division, responsibility for the compliance with the requirements to environmental protection is born by heads of structural divisions.

Ensuring Industrial Safety at Construction Sites

Industrial safety in the Engineering Division is ensured in accordance with the requirements of regulatory documents of the Russian Federation and the Uniform Industry Policy of ROSATOM in the sphere of industrial safety.

With the purpose of implementing the Uniform Industry Policy of ROSATOM, JSC ASE EC has issued the approved Policy of JSC ASE EC in the sphere of industrial safety.

In 2016 the inspection structures of the Engineering Division have performed inspections of industrial safety at the nuclear facilities constructed by the company and inspections of organization of industrial control over industrial safety at hazardous industrial facilities.

In the course of the performed inspections it was established that the companies operating hazardous industrial facilities comply with the requirements of industrial safety, namely:

- hazardous industrial facilities are registered in the state register;
- civil liability for damage as a result of an accident at hazardous industrial facilities is insured;
- there are local regulatory acts in place that nominate the persons responsible for organization and performance of industrial control of industrial safety at hazardous industrial facilities;
- job descriptions for the above mentioned persons have been developed, regulations on production control, industrial manuals and manuals for occupational safety for the operating personnel and the personnel involved in cargo slinging.

In branch offices of the general contractor there are appointed persons who are in charge of monitoring of the status of industrial safety at construction sites of hazardous industrial facilities, internal audits of safety are performed with inspection of the industrial site. Upon results of the audits the contractors receive prescription about elimination of the identified violations with further control of performing the prescription requirements.

Measures performed within the framework of inspection activities and industrial control made it possible to avoid accidents in 2016 determined in the RF legislation as accidents and incidents at hazardous industrial facilities.

The status of ensuring industrial safety in the Engineering Division, considering the absence of accidents and incidents at hazardous industrial facilities, is evaluated as satisfactory.

Industrial and Environmental Monitoring and Control

In 2016, Regulations on Industrial Environmental Control and Monitoring were enacted for joint use of JSC ASE EC and JSC ASE. This standard specifies the organizational structure of industrial environmental monitoring, the rights and obligations of officials, criteria of environmental monitoring at Russian and foreign construction facilities considering the categories of the facilities having a negative impact on the environment.

In 2016, industrial environmental monitoring was performed at all construction and operational facilities of the Engineering Division

together with Novovoronezh branch office – construction head office of JSC Atomenergoproekt, in Kursk branch office of JSC ASE EC, in branch officers of JSC NIKIMT-Atomstroy.

The results of the maximum permissible release compliance monitoring evidenced that the release standards were not exceeded.

Ensuring Nuclear and Radiation Safety During Construction of Nuclear Facilities and NPP Decommissioning

JSC ASE EC and the companies that are part of management scope of JSC ASE EC (JSC NIKIMT – Atomstroy, PJSC Energospetsmontazh and VDMU LLC) have been acknowledged by the state control authority of nuclear power – ROSATOM, to be suitable for activities related to operation and decomissioning of radiation sources and storage facilities for radioactive substances.

In order to use the sources of ionizing radiation, these companies have licenses for the right to perform works in the sphere of nuclear power issued by the state safety regulatory body. FMBA of Russia has granted sanitary and epidemiological permissions for the above activities. The companies have nominated persons responsible for ensuring and maintaining radiation safety. Such persons have undergone training, have obtained certification and permissions of Federal Environmental, Industrial and Nuclear Supervision Service of Russia.

Industrial radiation monitoring is performed in accordance with radiation monitoring program approved by FMBA of RF.

During NPP construction by the Engineering Division organizations for inspecting the quality of welds, basic metal and surfacing of the equipment and pipelines, the radiographic examination is carried out with the use of radionuclide flaw detectors with the closed radionuclide sources. In 2016, no accidents occurred caused by the use of radionuclide sources and radioactive substances release in the Engineering Division organizations.Individual exposure doses are accounted. Quarterly and annual doses as well as the total dose during the whole working period are accounted as well.

Industrial radiation monitoring is performed in accordance with radiation monitoring program approved by FMBA of RF. The norm is 19 mSv per year. All the indicators are significantly below the established norm.

The personnel is equipped with individual dose meters performing the accumulative and indicating function with a sound alarm when the radiation dose exceeds the threshold. Individual dose meters undergo annual verification with issuance of certificates.

Registration and control of radioactive substances are performed in accordance with NP-067-16 "General Rules for Accounting and Control of Radioactive Substances and Radioactive Waste in Organization".

These organizations are entered into the resister of organizations of the system of state registration and control of radioactive substances and radioactive waste. The storage of ionizing radiation source is performed in stationary storage facilities in accordance with the requirements of radiation safety.

In order to ensure readiness to prevention of accidents at nuclear facilities, measures for prevention of accidents and incidents are in place. There are plans available to protect the personnel against radiation accident and its consequences approved by FMBA of RF. Regular drills are held in accordance with the approved programs and methods of anti-accident drills.

Sets of individual protection means are available, as well as communication facilities and tools for elimination of the consequences of radiation incidents.

During 2016 there were examinations of the observation of requirements of federal norms and rules in the sphere of the use of nuclear power during the operation of radiation sources. Such examinations are performed by organs of internal control of safety and quality, state regulatory authorities of atomic energy use and state regulatory authorities of safety of atomic energy use. The drawbacks and non-conformances revealed by the commissions were promptly eliminated during the work of the commissions.

The radiation safety assurance in organizations operating radioactive substances is assessed as satisfactory.

Indices of Exposure Doses of Group A Personnel*

Name of company		Number of monitored persons	Number of persons who have received effective radiation doze						Annual effective dose (mSv)
			0–1 mSv	1–2 mSv	2–5 mSv	5–20 mSv	20–50 mSv	Above 50 mSv	
JSC ASE EC	2015	9	9	0	0	0	0	0	0.26
	2016	6	6	0	0	0	0	0	0.25
JSC NIKIMT-Atomstroy	2015	21	6	9	5	1	0	0	1.18
	2016	21	0	0	0	0	0	0	0
PJSC ESM	2015	73	22	20	19	12	0	0	3.11
	2016	43	10	8	19	6	0	0	4.38
VDMU LLC	2015	19	6	0	1	12	0	0	4.03
	2016	20	5	1	5	9	0	0	3.81

* These are persons who, in accordance with Basic Sanitary Regulations for Radiation Safety Assurance" (OSPORB-99/2010) are admitted to work with radioation sources (not younger than 18, without medical contra-indications, referred to Group A personnel in the order of the company director, having undergone graining on the rules of work with radiation source and radiation safety and instruction on radiation safety).

2.4.3. Results in the Field of Environmental Protection

Like in the previous years, the organizations of the Engineering Division were actively involved in the performans related to environmental protection, aimed at compliance with the requirements of the environmental legislation, mitigation of the negative impact on the environment and rational use of natural resources.

In 2016, JSC ASE EC, the managing company of the Engineering Division, successfully passed a re-certification audit of environmental management system for compliance with the requirements of international standard ISO 14001:2004.

JSC ASE EC has identified environmental aspects during designing, construction and the administrative activities.

The environmental aspects are extremely important for the Engineering Division because the slightest deviation from the established norms can result in irreparable consequences. That's why during the development of a design for NPP construction, all environmental aspects that have a significant impact on the environment, are considered. The developed design documentation undergoes public hearing and state environmental impact assessment.

All organizations of the Engineering Division of ROSATOM employ specialists and engineers qualified in ecology whose skills and knowledge allow achieving new results every year in management of natural capital (air, water, soil, biological diversity) during construction and operation of administrative and industrial facilities.

The description of environmental characteristics of facilities under construction you can see in chapter 2.2.3. Environmental protection of ASE Group's annual report for 2015.

Organizations which are part of the Engineering Division, in 2016 had an adverse effect on the environment during industrial performance, construction of NPPs, operation of administrative and industrial facilities, in terms of releases of contaminants into the atmospheric air, placement of waste in specialized waste fields and discharge of contaminants into water.

In 2016 the companies of the Engineering Division having a negative impact on the environment, were put in a specialized state register. Following the registration of Engineering Division facilities, the major part of its facilities was classified by the state authorities under category III (facilities of low environmental impact) and category IV (facilities of minimum environmental impact).

The state authorities refused to register some entities (e.g. office building of JSC ASE) because they produce no negative effect on the environment in accordance with the criteria approved in the Russian Federation. The state authorities also refused to register NPPs under construction which, in accordance with the approved criteria, are not to be registered as facilities having a negative impact on the environment.

The Engineering Division is not involved in NPP operation, all the negative impact on the environment is produced during NPP construction and operation of administrative and industrial facilities.

Waste Products

(GRI 306-2) The Engineering Division construction and operation facilities effect the industrial and consumer waste management in line with the environmental legislation of the Russian Federation, the countries of operation and the developed draft standards for waste production and limits for their disposal.

Waste accumulation areas are available at all construction and operation facilities of the Engineering Division of ROSATOM. Waste is accumulated in special containers, and as they are filled, the waste is handed over to specialized companies for further disposal, decontamination and burial.

The Engineering Division's facilities for long-term waste storage and disposal are out of operation.

International Public Inspection

In October 2016 an ecological expedition was arranged to visit the Belarus NPP construction site.

The expedition's goal was to issue an environmental passport of the Belarus NPP construction site that will make possible to have a database for further monitoring of the environmental situation at NPP. All studies were made by environmental engineers with their own certified professional equipment that was a guarantee of their objectiveness. Dosimetric measurements were taken in 220 points of the Belarus NPP construction site, the adjacent territory in the town of Ostrovets. Readings were within the range from 0.07 to 0.18 μSv/h that complies with the natural background of the region. Measurements also showed that building materials and equipment used for construction fully corresponded to the codes and requirements in force.

During the expedition a social research "Public environmental assessment of the Belarus NPP construction" was implemented. 262 respondents – inhabitants of Ostrovets, Grodno Region and Minsk – took part in a random enquiry. The enquiry showed that:

- 62 % support the NPP construction,
- 88 % think that NPP will create high-paid working positions in the region,
- 72 % consider that NPP will enhance power supply reliability, and 63 % think that it will reduce electricity rates.

Alan Khasiev, the expedition leader, the chairman of the Interregional Environmental Movement "Oka", said: "The public of the Republic of Belarus is more than ever convinced that Russia develops the nuclear power to create the fair, sustainable and environmentally clean world, particularly for increase of energy availability, poverty overcoming, steady economic development of the world regions and settlement of social tasks".

Waste Products*

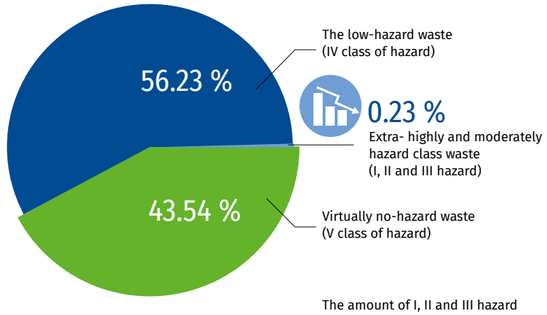
Generation of wastes as per hazard categories and treatment types	2014	2015	2016	Waste capacity, tons Δ 2016–2015, %
I hazard class waste (extremely hazardous), including:	2.09	3.73	2.35	–40
• storage on company site	–	–	0.08	No dynamics due to no waste generated in 2014 and 2015
• handed over to other specialized companies for use	0.60	0.39	0.57	+46
• handed over to other specialized companies for deactivation	1.49	3.34	1.70	–49
II hazard class waste (high hazard), including:	2.22	3.08	1.32	–57
• storage on company site	–	–	0.08	No dynamics due to no waste generated in 2014 and 2015
• handed over to other specialized companies for deactivation	2.22	3.08	1.24	–60
III hazard class waste (moderately hazardous), including:	8.20	8.93	8.46	–5
• storage on company site	–	–	1.58	No dynamics due to no waste generated in 2014 and 2015
• handed over to other specialized companies for use	3.49	3.45	3.27	–5
• handed over to other specialized companies for deactivation	4.24	3.74	3.06	–18
• handed over to be allocated on landfill of other company	0.47	1.74	0.55	–69
IV hazard class waste (low-hazard), including:	4,214.42	2,957.97	3,097.63	+5
• storage on company site	0.10	0.20	0.70	+249
• handed over to other specialized companies for use	6.713	41.20	78.81	+91
• handed over to other specialized companies for deactivation	1,046.46	661.81	69.33	–90
• handed over to be allocated on landfill of other company	3,161.14	2,254.76	2,948.80	+31
V hazard class waste (no significant hazard), including:	1,652.15	1,780.93	2,398.89	+35
• used for in-house manufacture	174.52	411.52	46.85	–89
• storage on company site	–	–	8.59	No dynamics due to no waste generated in 2014 and 2015
• handed over to other specialized companies for use	298.94	344.99	460.32	+33
• handed over to other specialized companies for deactivation	–	–	0.90	No dynamics due to no waste generated in 2014 and 2015
• handed over to be allocated on landfill of other company	1,178.70	1,024.43	1,882.24	+84
TOTAL for I–V hazard class wastes	5,879.08	4,756.94	5,508.65	+16

*For more details see Annex 13.

In 2016 the Total Waste Production Amounted to

5,508.65 TONS

Increase of the amount of waste production in most cases was caused by increase of the number of personnel and tenants in administrative and office buildings. Reduction of the volume of waste production was related to reduction of work scope at some construction facilities, reduction of the number of personnel and implementation of measures aimed at reduction of waste production. One of the examples of such measures was active use of electronic document circulation system, due to which paper waste volume decreased significantly in total volume of hazard class IV and V waste.



The amount of I, II and III hazard class waste was reduced by 40, 57 and 5 %, respectively.

(GRI 306-4) Transportation and handover of waste for use/decontamination/disposal was performed under contracts with specialized companies having license for collection, transportation, treatment, disposal, decontamination and burial of hazard I–IV classes waste. In some cases hazard V class waste was transported in the company's own vehicles.

JSC ASE EC and the companies which belong to the management scope, did not perform in 2016 any transportation, import, export or treatment of waste which is hazardous according to Annexes 1, 2, 3 and 4 to Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal".

During the reporting period, the organizations of the Engineering Division of ROSATOM did not produce any significant impact on the environment during transportation.

In 2016 the technical maintenance of motor vehicles was performed in specialized technical centers on the basis of concluded contracts.

Applied Materials

During construction and assembly works, road filling at NPP construction facilities, the Engineering Division uses such non-renewable materials like broken stone, sand and semi-products like bricks, metal structures and pipelines.

No accounting of materials per weight and volume is maintained as construction and assembly works and erection works at construction facilities are performed with involvement of contractors who independently procure raw materials in accordance with the working documentation.

In the Engineering Division there is no registration of treated or re-used waste.

Impact on Ambient Air

During the reporting year, releases of pollutants into ambient air were performed in strict compliance with the requirements of the legislation of RF.

The organizations which belong to the scope of the Engineering Division and which release pollutants into the ambient air, have standards of maximum admissible releases and permissions for release of pollutants into the atmospheric air.

The motor vehicles of the companies of Engineering Division underwent technical maintenance within the established dates under contracts with specialized service centers.

Measurements of polluting releases (CO, CH) were performed regularly, the measurement results were recorded in the appropriate logs, further adjustment of fuel systems of motor transport was performed (when necessary).

Releases of Pollutants into Ambient Air, tons

	NO	SO_2	CO	Other substances	Total
in 2014	3.73	0.80	15.69	63.93	84.15
in 2015	3.75	0.32	13.91	61.56	79.54
in 2016	2.83	0.21	10.06	63.42	76.52
	–25 %	–34 %	–28 %	+3 %	–4 %
	Nitrogen oxide release was reduced in 2016 as compared to 2015	Sulphur dioxide release was reduced in 2016 as compared to 2015	Carbon oxide release was reduced in 2016 as compared to 2015	Other substances release was increased in 2016 as compared to 2015	

Impact on Water Resources

Mostly city water supply systems were used in the companies of the Engineering Division for water supply.

The total volume of water consumed from city water supply systems, compared to 2015, increased by 17 % and totaled in 129.438 thousand m³.

Water intake from surface water reservoirs (Tsimlyansk storage lake) in 2016 was performed at Rostov NPP and totaled in 30.5 thousand m³ which is 14 % less than in 2015.

Water intake from artesian wells was performed at Baltic NPP site and Lesnoy Uyut recreation center of JSC ASE EC.

In 2016 water intake from underground water reservoirs (artesian wells) increased by 78 % and totaled in 12.246 thousand m³.

At Baltic NPP construction site the water intake was performed in accordance with the license for the use of subsoil obtained by ROSENERGOATOM CONCERN JSC on 24.09.2015 KLG No 02483 ВП valid until 01.09.2020. The Baltic Branch Office of JSC ASE EC as General Contractor, takes technical water from an artesian well for temporary water supply of the construction site.

Water intake at Lesnoy Uyut recreation center was performed in accordance with the license for the use of subsoil No. 01272 ВЭ dated 24.07.2009 received by JSC ASE EC. Increased water consumption was caused by increased number of employees of JSC ASE EC who go to the recreational center on holiday.

Water intake of organizations of the Engineering Division in 2016 did not have a significant impact on water supply sources.

(GRI 306-1, 306-5) No process sewage water was produced in the reported period.

Total volume of domestic and rain water sewage was 234.92 thousand m³.

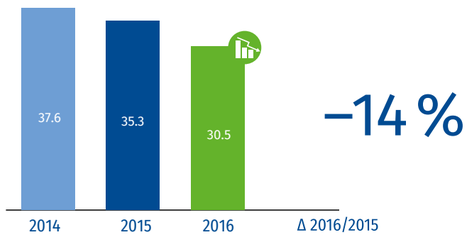
Domestic and rain water was discharged mainly to city sewage network, except Volgodonsk and Baltic Branch Offices of JSC ASE EC.

In Volgodonsk Branch Office of JSC ASE EC sewage water was discharged mainly through the central treatment facilities of Rostov NPP.

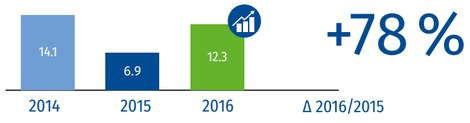
In the Baltic Branch the sewage water was discharged to channel ИН-18-8 after preliminary treatment at sewage mechanical and biological treatment facilities.

(GRI 306-3) Significant spills were not committed in JSC ASE, JSC ASE EC and other companies of ASE Group.

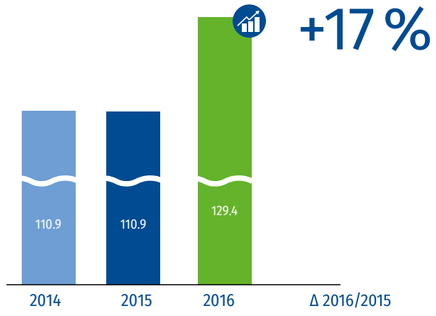
Surface Waters Consumption, Including Swamps, Rivers, Lakes and Oceans, thousand m³



Underground Waters Consumption, thousand m³



Waters Consumption of Municipal and Other Water Supply Systems, thousand m³

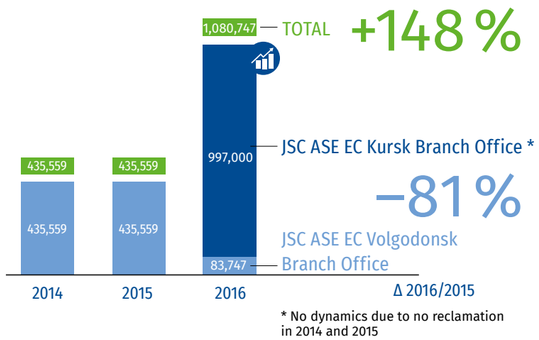


Impact on the Soil

In 2016, reclaimed land were at the Kursk NPP-2.

The complex construction of Rostov NPP Power units 3 & 4 was followed by rehabilitation of 351,812 m² out of the totally disturbed 435,559 m², that was underway within 2014–2016. The remaining part of the disturbed land, i.e. 83,747 m² is to be reclaimed at the final stage of construction.

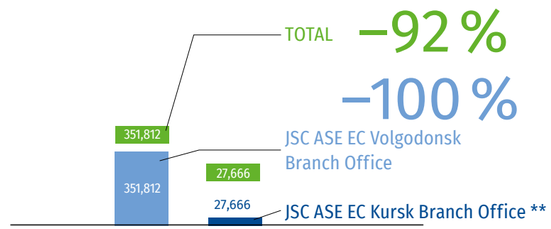
The Area of Disturbedland, m²



* No dynamics due to no reclamation in 2014 and 2015

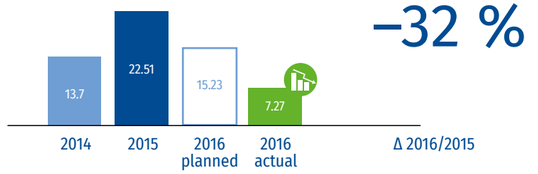
In accordance with the design of construction of Kursk NPP-2, in 2016 a vegetation soil layer of the total area 997,000 m² was disturbed. During the reported period 27,666.67 м² of land was rehabilitated. The soil was stored in the areas indicated by the Customer, for further use.

The Area of Rehabilitate Land, m²



** No dynamics due to no reclamation in 2014 and 2015

Expenditures for Environmental Protection Measures, mln RUB



The main reason of reduction of expenses for environmental protection measures at construction sites in 2016 was the reduction of work scope, and, accordingly, reduction of produced waste and consumption, the number of employees and absence of necessity to issue and develop permitting environmental documentation which was developed in the previous years.

The reduction of expenses for environmental protection measures at operational facilities in 2016 was caused by introduction and active use of electronic document circulation system, increase of the scope of paper materials handed over to archives which resulted in reduced.

Payment for negative environmental impact (hereinafter – NEI) in 2016 was made by all the companies of the Division with the exception of representative offices and branch offices located abroad.

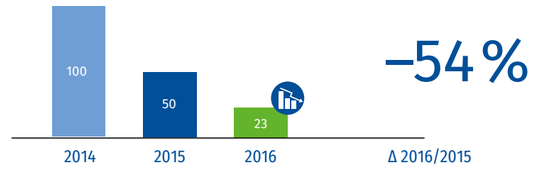
Upon the results of 2016, the total amount of payment for NEI was 3.398 mln rubles.

Compared to 2015, the payment for NEI in 2016 in the Engineering Division on the whole reduced by 8 %. Reduction of NEI payment amount is related to reduction of work scope, and, accordingly, to the scope of negative impact on the environment.

Payment for NEI and Taxes for Use of Natural Resources, thousand RUB

Type of payment	2014	2015	2016	Δ 2016–2015, %
For waste disposal	3,460.39	3,447.29	3,308.09	–4
For releases of pollutants into atmosphere by stationary sources	104.94	42.91	22.20	–48
For releases of pollutants into water bodies	184.85	194.85	63.80	-67
Water tax	2.35	2.71	3.84	+41
Total	3,752.54	3,687.77	3,397.93	–8

Amount of Penalties in the Division for Violations in the Field of Environmental Protection, thousand RUB



(GRI 307-1) The total amount of penalties for failure to comply with the environmental legislation in the reporting period reduced by 54 % and totaled in 23,000 Rubles.

2.4.4. Power Efficiency

In Engineering Division, energy resources were mainly used for service-utility and production-technological needs.

The amount of energy resources consumption in 2016 amounted to:

FOR ELECTRIC POWER **40.25** MLN KW/H

If compared to 2015 the volume of electric power consumption reduced by **–14 %**

OR THERMAL POWER **215,162.60** GJ

Volume of thermal power consumption reduced by **–3 %**

Consumption of Electricity

Type of resources	2014 kW/h	2014 mln RUB	2015 kW/h	2015 mln RUB	2016 kW/h	2016 mln RUB	Δ 2016–2015, %
Electric power, including spent:	39,228,710	188.58	46,644,024	239.03	40,245,507	208.82	–14
• for domestic needs	23,613,965	116.70	25,033,253	128.91	23,749,587	126.14	–5
• for operation of electric devices in process flows	15,179,268	70.10	21,139,762	107.89	15,882,414	79.83	–25
• for operation of electric motors	435,476	1.78	471,008	2.23	613,505	2.85	+30

Consumption of Thermal Energy

Type of resources	2014 GJ	2014 mln RUB	2015 GJ	2015 mln RUB	2016 GJ	2016 mln RUB	Δ 2016–2015, %
Thermal energy, including spent:	219,662	64.17	221,212	70.44	215,162	77.05	–3
• for heating	149,163	37.75	151,852	44.55	140,925	48.38	–7
• for process needs	4,098	2.70	5,602	3.54	7,593	2.95	+36
• for hot water supply	7,689	3.82	7,745	2.76	10,107	4.15	+30
Other (heating and hot water supply)	58,710	19.90	56,012	19.59	56,536	21.57	+1

In 2016 the companies of the Division used non-renewable types of fuel for motor vehicles and heating.

The volume of fuel consumed in 2016 reduced as follows: for petroleum consumption – by 2 %, for diesel fuel – by 22 %, for fuel oil – by 48 %, for coal – by 10 %.

Reduction of consumption of the above fuel was caused by optimization of expenses for own needs, reduction of the scope of own transportation, use of rented vehicles, discharge from the books of motor vehicles with diesel motors, reduction of the scope of performed works, purchase of new equipment with lower capacity and high energy efficiency.

In 2016 the consumption of natural gas increased insignificantly – by 6 %.

Fuel Consumption*

Fuel type	Fuel flow rate / fuel purchase expenses 2014 t	2014 mln RUB	2015 t	2015 mln RUB	2016 t	2016 mln RUB	Δ 2016–2015, %
Gasoline	1,218.90	37.24	1,419.70	47.86	1,390.30	49.26	–2
Diesel fuel	2,508.80	78.35	2,949.40	96.36	2,314.90	93.76	–22
Fuel oil	72.20	2.14	68.00	2.04	35.00	1.07	–48
Natural gas	1,541.30	9.03	1,435.00	8.69	1,525.00	9.70	+6
Coal	126.30	0.59	116.50	0.46	104.30	0.52	–10

* More detailes you can see in Annex 12.

Construction of the Belarus NPP (Belarus Republic)

2.5. HUMAN CAPITAL

Nikolay Sheshokin,
Vice-president, Human Resources and Administration

What were main priorities in human resources management in 2016?

In 2016 our activities were aimed at enhancing the company's efficiency and at growth of labor productivity. As far as the strategic goals are concerned, we should mention that the most important one is creation of a skilled, efficient and united team which can implement the ambitions tasks facing the Engineering Division and which shares the values of the Division and ROSATOM.

What is being done, in terms of human resource management, to enhance the Division efficiency?

Several tasks are being implemented in this direction:

Firstly, the task on increasing the motivation of the Division employees for decreasing the cost and deadlines of facilities construction. At the present time, various tools of both material and non-material stimulation are being developed.

Secondly, significant contribution in increasing of the effectiveness is brought by proposals of the employees within the framework of the production system of Rosatom. Since 2016, the process of work with ideas of employees has been automated. There was launched the industry information system for the employees proposals on improvements – "The Factory of Ideas". The economic effect from proposals of the employees in the reported period was about 9 bln rubles.

Thirdly, classical tools such as training still remain an important component for increasing the effectiveness of labour. Last year, more than 7,500 employees of the Company underwent training and increased their qualification, this is more than 50 % of the total number of the personnel. Special attention was paid to increasing of the competence of the personnel in the area of the English language knowledge. By 2019, almost 4,000 employees of our Division, participating in international projects, must reach the required level of the English language knowledge.

Fourthly, a serious step for increasing the effectiveness of the Division is transfer to flat structures of personnel management. Such systems are being introduced in many state corporations, since they save the budget and increase the effectiveness of the activity. Now we are decreasing the number of management levels, at that the target is four, maximum five levels.

What was done to enhance employee's project management skills?

We are implementing a corporate program of project management training which includes certification under IPMA, a course of lectures on project management standards in the company and practical tools training on the basis of Multi-D. In 2016 about two thousand people were trained, in 2017 we will continue training our specialists on the basis of these programs.

2.5.1. Human Capital Management

Human (human resources) capital management includes contributions to the refresher training of employees, work with the staff pool and labor market, as well as the programs of personnel motivation and support.

The Engineering Division HR management system is based on perception of the Company's strategic objectives and business priorities.

The Strategic HR Management Objectives in 2016–2018

- Building up a competitive team of designers, leaders in operational efficiency and leaders in international globalization.
- Developing a result-oriented corporate culture.
- Enhancement of HR management processes efficiency.

Building Up a Competitive Team of Designers, Performance Leaders and International Globalizer Leaders

The main activities within the scope of the strategic goal:

- Implementation of industry and company programs aimed at identification, development and retention of leaders in the strategic protects.
- Enhancing the efficiency of participants of international projects by developing the competence of language proficiency;
- Retention and handing over of key knowledge and skills with the help of couching system, relocation of the key specialists from completed facilities to new facilities under construction.
- Development of competences for reduction of time period and cost of designing and construction and enhancement of their quality.

Developing a Result-oriented Corporate Culture

The main activities within the scope of the strategic goal:

- Development and implementation of involvement management programs.
- Maintaining uniform principles and approaches to human resources management in all the regions of operation considering the local specific features, in strict compliance with the applied legislation.
- strengthening the value management system.
- Implementation of projects aimed at internal competition and timely acknowledgement of the employee's achievements.

Enhancement of HR Management Processes Efficiency

The main activities within the scope of the strategic goal:

- Transforming the human resources management functions into a full-scale business-partner.
- Efficient organization of human resources management system, improvement of interaction with employees via further implementation of PSR projects.

Ensuring a high performance work organization, the Division faces the task to transition to flat organizational structures. Flat organizational structures are characterized by a low number of layers of management levels and a broad scope of management functions. The target status of the Division is maximum 4 layers of management.

Within the framework of this task implementation, flat structures have been approved in JSC ASE EC and in branch offices of NPP construction of the Engineering Division. During a year the structures of construction companies within the management scope have been modified.

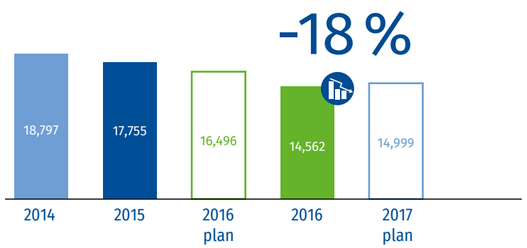
The norms and rules of business relations in the Division is defined in the ethical code of employees' official behavior. The Code provide to each employee an idea about the values and the principles of ethic behavior which determine the relations between the employees in the team and with partners. The Code serves as a tool for preventing possible violations and conflict situations.

The key element of the development of the Division of maintaining human capital due to permanent professional training of the employees. The training system embraces all the levels of the personnel and envisages regular assessment of effectiveness.

2.5.2. Results of Human Resources Policy Implementation

Results of Human Resources Policy Implementation

Trend of the Total Manpower, pers.*



* Total manpower means the aggregate value of the payroll staff, external part-timers and employees on civil law contracts as of the end of the year.

The manpower change is caused by completion of works at the construction project sites and organizational changes in the Division (including JSC ATOMPROEKT merger), by measures undertaken to enhance the labour productivity and business efficiency.

(GRI 102-8) Total Manpower of the Division in the Breakdown by Gender, Age and Employees Categories, pers

Employees categories	TOTAL planned	TOTAL actual	Share of employees under 35	Under 35 y.o m	Under 35 y.o f	Under 35 y.o total	36–50 y.o m	36–50 y.o f	36–50 y.o total	Over 50 y.o m	Over 50 y.o f	Over 50 y.o total
Company management	2,349	2,087	19 %	290	105	395	595	305	900	566	226	792
Specialists	8,860	7,968	49 %	1,885	1,985	3,870	941	1,381	2,322	718	1,058	1,776
Other office staff	127	118	30 %	4	31	35	6	37	43	6	34	40
Workers	5,133	4,346	35 %	1,378	134	1,512	1,408	126	1,534	1,122	178	1,300
Other**	26	43	33 %	9	5	14	13	4	17	7	5	12
Total	16,495	14,562	40 %	3,566	2,260	5,826	2,963	1,853	4,816	2,419	1,501	3,920

** “Other” category refers to the employees recruited on the basis of civil law contracts.

Remuneration Policy

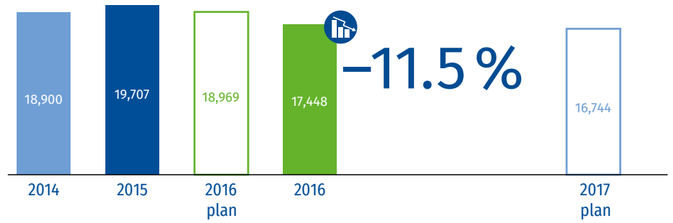
The main objective of the remuneration and motivation system is to provide a decent salary level in JSC ASE EC for achievement of the Company’s strategic and current goals.

According to the Labor compensation regulation (implemented as per the Unified standard salary system in ROSATOM) valid in 2016, unified principles and approaches to arrangement of labor compensation and incentive mechanism are applicable in JSC ASE EC.

The issues related to labor remuneration of JSC ASE EC President is regulated by the Labor Contract, decisions of JSC ASE EC Board of Directors, JSC ASE EC Labor compensation regulation.

In JSC ASE EC separate subdivisions located beyond the Russian Federation, the Labor compensation regulation is ensured taking into account legislation requirements of foreign states.

Salary and Other Employee Benefits, mln RUB



Payroll budget reduction is caused by decreasing of the manpower, the average salary has an upward trend per an employee.

Average Salary, thousand RUB*

Name of legal entity	Branch office/representative office	Region	Average monthly salary, thousand RUB
JSC ASE EC	Headquarters	Nizhny Novgorod Region	132.6
	JSC NIAEP Representative Office in the Republic of Belarus	The Republic of Belarus	58.8
	Volgodonsk branch office	Rostov region	62.3
	Kursk branch office	Kursk region	73.0
	Moscow Branch office	Moscow	128.4
JSC Atomenergoproekt	Moscow	Moscow	148.3
	Maloyaroslavets Survey Branch of JSC Atomenergoproekt (MSB)	Kaluga region	89.9
	Balakovo Design and Survey Branch of JSC Atomenergoproekt (BDSB)	Saratov region	115.5
	Volgograd Design Branch of JSC Atomenergoproekt (BDB)	Volgograd region	104.1
	Kurchatov Design and Survey Branch of JSC Atomenergoproekt (KDSB)	Kursk region	89.2
	Desnogorsk Design and Survey Branch of JSC Atomenergoproekt (DDSB)	Smolensk region	81.1
	Novovoronezh Design and Survey Branch of JSC Atomenergoproekt (NDSB)	Voronezh region	116.4
	Novovoronezh Branch of JSC Atomenergoproekt – Directorate of NVNPP-2 construction (NB-DC)	Voronezh region	101.3
	Novovoronezh Branch of JSC Atomenergoproekt – “Don” hotel (NB-Hotel)	Voronezh region	39.0
	VNIPIET Branch of JSC Atomenergoproekt	Saint-Petersburg	120.5
JSC ASE	JSC ASE	Moscow	132.6
	Construction Division at Kudankulam NPP site, Representative office of JSC ASE in India (Mumbai), Representative office at Kudankulam NPP site	India	178.2
	Representative office of ASE JSC in Iran (Tehran)	Iran	123.2
	Representative office of JSC ASE in China (Lianyungan), Representative office of JSC ASE in China (Beijing)	China	127.5
	ASE JSC Branch Office in the People’s Republic of Bangladesh	Bangladesh	142.0
	JSC ASE Branch Office in the Republic of Turkey	Turkey	234.9
	ASE JSC Representative Office in Vietnam (Hanoi)	Vietnam	227.0
	ASE JSC Branch Office in Belene (Bulgaria)	Bulgaria	330.9
	JSC ASE Representative Office in Hungary (Budapest)	Hungary	264.7
	JSC ASE Representative Office in Slovakia (Bratislava)	Slovakia	171.6
	JSC ASE Representative Office in the Republic of Belarus	The Republic of Belarus	77.7
	ASE JSC Branch Office in Ozersk	Chelyabinsk region	82.7
JSC ATOMPROEKT	JSC ATOMPROEKT	Saint-Petersburg	129.8

* More detailes about average salary you can see in Annex 11.

KPI System

Bonuses are paid to employees based on KPI performance once per year and within the limits of the salary fund with account of results of the Company activities for the year that ended.

The Company's KPIs are described in the JSC ASE EC President's KPI Chart and cascaded for subordinated workers.

Employee's key targets and KPIs shall ensure implementation of targets and KPI's of the Organization or a higher position.

KPIs are established for a year according to key targets of the employee with account of the functional loads.

KPIs are established necessarily for managers of all levels of management. Availability of the approved KPI Chart is a prerequisite for payment of the bonus for managers.

Individual KPIs can be established also for specialists, white and blue collar workers.

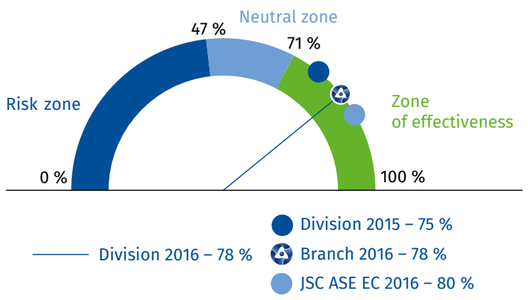
The annual KPI bonus is paid upon the performed evaluation and approval of its final rates according to the Organization procedure as a rule in May-April of the year following the reporting year.

Approaches to Top-Managers Motivation to Increase Their Work Performance

Top management salary approach is similar to the one of other employees of the Company.

- For monthly assessment of the effectiveness, the assessment system of operative performance indicators is applied.
- For the annual assessment of the effectiveness the KPI system is applied.
- For assessment the effectiveness over a year period, the design and strategic bonus award with the relevant indicators is applied.

Level of Personnel Involvement



GRI (102-38, 102-39) Ratio of the Maximum and Medium Remuneration of Employees

Oraganization	Ratio of the total annual remuneration of the best-compensated official of the organization in each country, where the relevant business activity is carried out, to the average annual remuneration of all employees (without best-compensated official of the organization) in the same country.	Ratio of the growth percentage of the total annual remuneration of the best-compensated official of the organization in each country, where the relevant business activity is carried out, to the growth percentage of the average annual remuneration of all employees (without best-compensated official of the organization) in the same country.
JSC ASE	8.6	1.1
JSC ASE EC	37.5	1.2
JSC Atomenergoproekt	6.0	–2.5
JSC ATOMPROEKT	9.1	1.1

Results of Human Resources Policy Implementation

Since 2011 the Engineering Division organizations have been taking part in the industry research of employees involvement level. The involvement (employees' personal interest in achievement of the company's strategic goals) has a direct impact on financial and economic results. Following the research results of 2016 covered over 2,700 employees of the organization (19.7 % of the total manpower), the level of the personnel involvement amounted to 78 % that is 3 % more than in 2015.

Level of Personnel Involvement by Employees Categories, %

Employees categories	JSC ASE EC	JSC Atomenergoproekt	JSC NIKIMT-Atomstroy
Top executive managers	100	100	67
Mid-level executive managers	80	84	76
Specialists	81	74	72
Workers	77	73	75

Source: Aon Hewitt Employee Research data base.

Following the research results the Engineering Division's advantage remains to be the employees satisfaction by line directors and colleagues. The Division's employees are satisfied with the employer's reputation, availability of resources for works performance, in the employees' opinion the top management carries out its control functions in the efficient way.

As within the previous research, insufficiently high balance between the work and private life, as well as insufficient satisfaction of the employees concerning the employer's acceptance of their merits and contribution to work may refer to the area of the Engineering Division development.

In general, in terms of involvement the Division is still within the effectiveness area along with the world leaders of the economy, that proves the constant and methodical work in the field of personnel management, implementation of new involvement control mechanisms, interest of the Division's all employees in improvements.

In 2016 in order to create a unified corporate culture and improve the personnel involvement level:

- based on conducted research of employees involvement of the companies not included in the industry inquiry perimeter, each organization developed and implemented involvement increase plans;
- "AKCNOWLEDGMENT" program has been launched – a quarterly through general division system of constant contest and acceptance of best employees' merits;
- all workers at the construction sites without access to the corporate IT information resources are informed on the possibilities and prospects through the corporate gazette "Bulletin of Construction sites" and Info-terminals (pilot – Belarus site). Expansion of scale and content of existing resources, as well as transfer to the unified corporate information Portal is planned for 2017.

Training of line management in the field of involvement management tools, generation of involvement increase local plans are expected in 2017.

In 2017, creation of the unified system of tenders, which allows training the specialists for the industry all-Russia and professional skill championships, is planned.

Personnel Assessment

The Performance Effectiveness Management (PEM) System is a main tool for assessment of the employees efficiency in relation to the Company's general goals.

In 2016 managers and specialists of all companies of the Division were subject to assessment in terms of corporate values, EPM process covered 100 % companies of the Division. In a number of the Division's organizations, according to the employee's performance assessment results, the system of individual material incentives may be reviewed and a decision may be made on transfer to a higher position or inclusion in the staff pool.

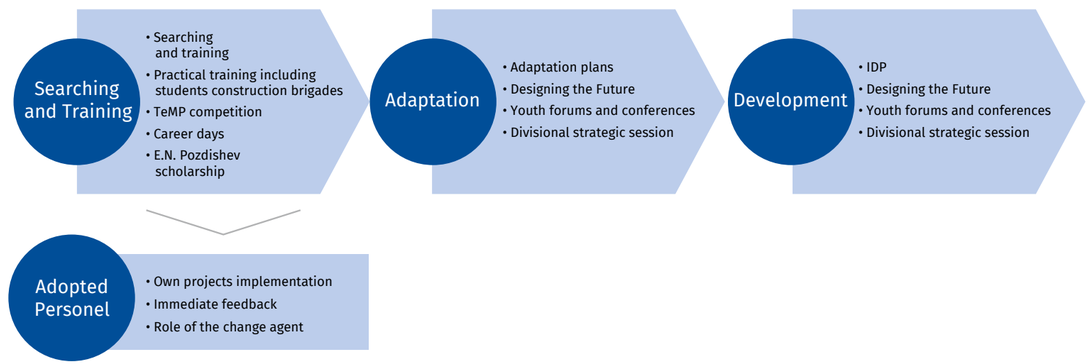
Personnel assessment results are important for both the Engineering Division management and for each employee. The assessment process support by top and line management of the Division is a key factor for success of all assessment activities to be conducted.

Involvement of Graduates and Cooperation with Higher Educational Institutions (HEI)

Achievement of strategic goals requires from the Division companies a flexible and system approach to involvement and retention of young specialists.

The Engineering Division keeps on actively cooperating with higher educational institutions. Reference HEIs covers over 50 % of the total company's demand in young specialists. In order to keep and strengthen the positions in the field of nuclear power plants design and construction, the Division's organizations recruit young specialists on an annual basis. In 2016, 65 graduates were employed in JSC ASE EC, JSC Atomenergoproekt and JSC ATOMPROEKT.

The Work Cycle with Graduates Comprises Three Consecutive Steps



Human Resources of NPP Construction Projects

One of the primary goals of human resources management is arrangement of the manpower accounting, planning and movement control within the construction projects.

The construction sites are provided with labor force under the supervision of JSC ASE EC. At a number of NPPs under construction electronic accounting systems of construction and assembly personnel are implemented, which allow monitoring of the personnel engaged at the construction site. Quickly and effectively monitor the trend of the personnel manpower and timely response to the situations minimizing the risk of staff deficiency at the main construction facilities.

In 2016 the following regulations for system management of these processes at the level of the Division were developed: "Planning of human resources manpower within the construction projects" and "Accounting and control of the personnel working time within the construction projects".

The unified system for demand calculation and manpower plans approval, as well as for human resources accounting and control is implemented in principal projects in Russia and on the territory of the Republic of Belarus. The work on this system is adopted for distribution to foreign projects is in process.

The production tasks over the 2014–2016 period were completed through annual average engagement of over 20 000 persons from contracted organizations that were simultaneously employed at the Division key construction sites. In 2016 in comparison with 2015 at a number of sites the decrease of manpower of contracting and subcontracting organizations took place. Such decrease was planned and caused by the construction cycle to be at the stage of completion and scope of works at Novovoronezh-2 and Rostov NPP construction sites to be reduced. At the same time growing of contracting and subcontracting organizations human resources involved in the projects being in the active construction phase: Belarus NPP – CSO total manpower in 2016 was increased by almost 20 % in comparison with the previous year, Rooppur NPP – the manpower in 2016 was increased by 122 %.

Share of Contractors and Subcontractors Employees Engaged in the Key Construction Project and Employed from Local Residents

	2014	2015		2016			
Construction sites	Number of subcontractor organizations' personnel	Local residents share of the total number, %	Total number of contractor organizations' personnel	Local residents share of the total number, %	Total number of contractor organizations' personnel	Local residents share of the total number, %	Change of the staff number in comparison with the last year, %	Employment trend of local residents (%)
JSC ASE								
Bushehr NPP (Iran)*	406	6	375	4	195	2	–48.0	–2
Akkuyu NPP (Turkey)	6	67	97	96	117	94	+21.0	–2
Rooppur NPP (Bangladesh)*	159	91	480	95	1,065	93	+122.0	–2
JSC ASE EC								
Rostov NPP	7,123	81	6,362	79	4,891	90	–23.0	11
Kursk NPP	770	71	847	68	810	81	–4.0	13
Belarus NPP	3,915	79	7,266	79	8,695	72	+20.0	–7
JSC Atomenergoproekt								
Novovoronezh NPP-2	7 601	60	7,961	59	5,803	61	–27.0	+2
Total manpower of contractors and subcontractors engaged in construction	19,974	70.8	23,388	71.0	21,575	74.0	–7.8	+3

* Subcontractor organizations manpower is provided as of 31.12.2016.

Local Residents Employment

In 2016, the average 70 % of the total number of contractor and subcontractor manpower employed in the construction of the key projects were accounted for by permanent residents in the region hosting the construction site. Growth of this indicator by 1 % in comparison with 2015 is caused generally by reduction of the contractors' seconded personnel share at the projects under completion (Novovoronezh-2 NPP, Rostov NPP). In case of planned reduction of the manpower at site the contracting organizations minimize a number of workers involved on a rotational basis from other regions (to minimize travel expenses, housing rent expenditures for seconders, compensation of transportation to the place of work and back). For projects under active stage of implementation (for instance, Belarus NPP) a share of workers hired by contracting and subcontracting organizations out of local residents representatives for the previous year was decreased by 7 %. Generally, it is connected with the development turn at site of separate subdivisions of the Division's own resources and large Russian construction and installation organizations, which attract highly professional personnel from Russia.

Public Counseling Offices

Public counseling office – a functional structure on consolidating involvement of human resources to the site in the construction region. The main task implemented by means of such structure – attracting and selection of engineering and technical specialists and qualified workers at the local market to be employed within own and subcontracting organizations.

For the last three years, for ensuring demands in labor resources, three Public Counseling Offices were opened at the Division's facilities.

In 2014, the Public Counseling Office was opened in Ozersk town, Chelyabinsk region, through which the necessary personnel was hired to perform production tasks at FSUE PO Mayak facilities. In 2015, the Public Counseling Office was opened in Novovoronezh to ensure demands in labor resources at Novovoronezh-2 NPP construction site. Since May 2016, in Minsk, the Public Counseling Office of the general contractor for Belarus NPP construction started its operation.

The practice of opening of Public Counseling Offices was developed in the Division in 2008. Except for the main goal – personnel recruitment for NPP construction, opening of the Public Counseling Office in the construction region contributes to the increase of information awareness of the local population about the opportunity to be employed for NPP construction and has a favorable impact on the region employment level on the whole. For the whole period of Public Counseling Offices operation (since 2008), there were over 32,000 applicants, 5,208 of them were employed.

The implementation of NPP construction projects is focused on the involvement of resident population. Creating new fairly-paid jobs is an incentive to promote employment and to reduce the outflow of able-bodied workers from the area of their residence.

A Number of the Employed Personell Out of Applicants of the Public Counseling Offices, pers.

Name of legal entity	2014	2015	2016
JSC ASE, Public counseling office (Ozersk, FSUE PA Mayak)			
Number of applicants	554	–	–
Number of the employed	150	–	–
JSC ASE EC, Public counseling office (Volgodonsk, Rostov NPP)			
Number of applicants	2,339	1,171	506
Number of the employed	362	63	67
JSC ASE EC, Public counseling office (Ostrovetz, Belarus NPP)			
Number of applicants	–	–	763
Number of the employed	–	–	105
JSC ATOMPROEKT, Public counseling office (Novovoronezh, Novovoronezh-2 NPP)			
Number of applicants	–	315	202
Number of the employed	–	45	20
Total in the Engineering Division (applicants)	2,893	1,486	1,471
Total in the Engineering Division (employed)	512	108	192

Personnel Training

In 2016 in training centers of ROSATOM and other organizations, as well as by means of internal training, 7,614 employees of the Company confirmed and improved their qualification, that amounts to 51.2 % of the total manpower.

As per ROSATOM methodology, training is distributed into priorities, the key of which are obligatory training in accordance with the legislation requirements and industry training and development programs (Training for the industry management staff pool participants, training for managers by “Management schools” programs etc.).

Particular attention is given to personnel training in the field of project management mechanisms according to IPMA international standards, use of Agile methodology. In the reporting period 234 employees were trained and certified in compliance with IPMA standards. 28 technical specialists of JSC ATOMPROEKT were trained according to Design solutions optimization program using Agile methodology.

Working at the market of high technology requires full compliance with environmental, industrial and radiation safety at the construction facilities. In 2016 external training was conducted for 105 managers and specialists of the Division under waste treatment programs, safety culture, environmental management systems.

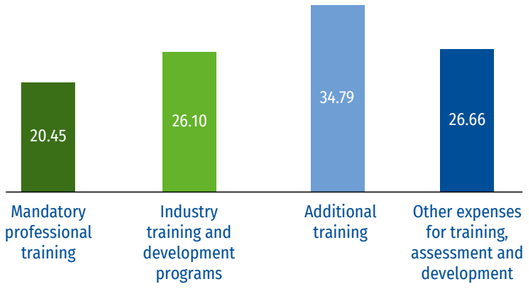
89 employees of JSC ATOMPROEKT, JSC Atomenergoproekt were trained in the field of fight corruption policy and methods in 2016.

The Engineering Division takes active part in the project of Professional standards development. Professional standard is the characteristics of the qualification (knowledge, skills, professional skills and expertise) required for the employee to perform specific professional operations. In 2016 five industry professional standards were developed in the field of nuclear power industry construction:

- A specialist in the field of international tenders and pre-contract works.
- Economist in the field of projects efficiency assessment in terms of Nuclear Facilities construction.
- Design-engineer of the reactor plant.
- Process engineer of thermal and installation works production at the NF.
- A specialist in the field of quality control of construction and erection works at NPP.

With regard to the mentioned professional standards, positive decisions are made by the Working group on the issues of arrangement and development of professional standards in the field of nuclear industry construction and by the Council on professional qualifications in the field of nuclear power. In 2017 drafts of the developed professional standards will be submitted to the Ministry of Labor and Social Protection of the RF to be agreed and approved.

Expenses for Employees Training in 2016, mln RUB



Number of Trained Employees, pers.

Name of legal entity	2014 actual	2015 actual	2016 planned	2016 actual	Δ 2016–2015, %	2017 planned
JSC ASE	210	120	70	49	–59.2	480
JSC ASE EC	1,323	1,423	1,367	1,570	10.3	1,870
JSC Atomenergoproekt	1,702	1,114	1,100	1,246	11.8	1,200
JSC ATOMPROEKT*	1,625	1514	641	904	–40.3	1,198
Trest RosSEM LLC**	102	423	370	321	–24.1	390
PJSC Energospecmontazh	593	2,174	2,200	2,510	15.5	2,000
JSC NIKIMT-Atomstroy	648	1,190	950	1,014	–14.8	950
TOTAL	4,578	6,444	6,698	7,614	18.2	8,088

Decrease in the number of trained employees in some organizations of the Division is caused by reduction of the manpower in connection with the completion of construction, as well as with functions consolidation and standardization.

* JSC ATOMPROEKT become integrated into the management framework in 2016.

** Trest RosSEM LLC was included in the Division since the 3d quarter of 2014, the data in 2014 are provided for the 3d and 4th quarters, JSC ATOMPROEKT is within the management circuit since 2016.

Work With Staff Pool

Career and succession management is a process aimed at providing availability of trained successors for senior positions of the Engineering Division.

To minimize HR risks and within the career and succession management process implementation, in the beginning of 2016 a succession plan for key positions was developed. The succession plan includes 21 positions and 36 successors for key positions of all enterprises of the Division. Also, the effective tool to reduce staff losses is a succession plan for managerial positions up to the level of the head of Division. This plan is updated on a quarterly basis and enables to get in a prompt manner the current human resources information.

The successor’s status is obligatorily accompanied with an individual development plan (hereinafter – IDP). FFollowing the results of successors IDP development, a concept of the training program for 2017 – “Functional Academy” is developed, which includes training in the field of financial, corporate legislation issues, etc. In order to keep and transfer key knowledge and skills, a coaching and rotation system was introduced for key specialists, which implies rotation from completed facilities to new ones under construction (including within implementation of the individual development plan for a planned position).

Development of managerial staff pool is a key element of career and succession management.

The main objective of the staff pool is to provide the Engineering Division with managers and experts having expertise in efficient task performance, establishment of a common corporate culture of management meeting the strategic goals and improving the management efficiency.

In the Engineering Division a unified industry system of the staff pool development is being successfully implemented for different levels of positions: “ROSATOM Talents” – for initial management level, “ROSATOM Capital” – for middle management level and “ROSATOM Heritage” – for senior management level.

In 2016 the industry staff pool comprised 237 people.

The appointment to senior, middle and initial managerial positions in the Division’s organizations is performed with consideration for priority given to the trained employees, as a rule, out of the staff pool. Efficiency of the administrative skills pool is approved by the career development of the participants: In 2016, 38 % of high potential employees of the Engineering Division have been nominated to new positions.

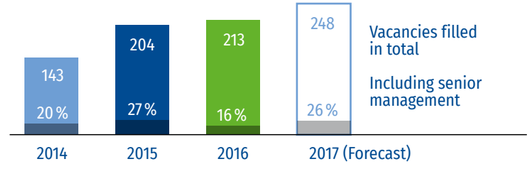
Engineering Division’s Need for Skillful and Qualified Staff

In 2016 the function of personnel recruitment was unified for all the companies of the Engineering Division and was centralized on the basis of Human Resources and Recruitment Division of JSC ASE EC. Personnel recruitment is performed in accordance with unified Standard STO 8841271.278.027-2016 “Organization of personnel recruitment” defining the procedure of recruiting personnel.

Applicants for the job positions of specialists and managers are selected on the competitive basis, and under otherwise equal conditions those applicants are given preference in the contest that demonstrate the highest proficiency required by the vacant job. Due to active works in implementation of foreign projects, when selecting the personnel an extra priority in placement is given to English-speaking candidates of the intermediate or higher level.

Preliminary forecast for filling the vacancies in 2017 was developed on the basis of the needs of the companies of the Division. The Division’s growing demand for the competent personnel is connected with the planned increase in staffing of the units involved in several foreign projects, namely Project Divisions and branch (representative) offices at the construction sites (Rooppur NPP, Bushehr-2 NPP etc.) and in Russia-based projects (Kursk-2 NPP). Besides, due to implementation in 2017 of the program of recruitment of graduates of the main educational institutions of ROSATOM in companies of the Engineering Division, the share of such specialists in the total forecasted demand is 31.5 %.

Our Need for Skillful and Qualified Staff



The Number of Students Who Underwent Practical Training and the Number of the Students Who Were Given a Job Offer Upon the Results of Such Practical Training, persons

Name of legal entity	2014	2015	2016	Δ 2016–2015, %	2017*, forecast
JSC ASE EC					
The number of students who underwent practical training	109	99	96	–3	90
The number of students who were given a job offer upon the results of practical training	17	19	20	+5	21
Preliminary selection upon the results of practical training, to be employed in the future (after completion of education)	15	15	15	–	–
JSC Atomenergoproekt					
The number of students who underwent practical training	17	13	35	+169	35
The number of students who were given a job offer upon the results of practical training	6	–	4	+100	–
Preliminary selection upon the results of practical training, with recommendation to be employed in the future (after completion of education)	11	13	31	–	–
JSC ATOMPROEKT					
The number of students who underwent practical training	40	69	43	–38	40
The number of students who were given a job offer upon the results of practical training	5	8	8	–	4
Preliminary selection upon the results of practical training, with recommendation to be employed in the future (after completion of education)	4	1	1	–	–
PJSC ESM					
Number of students who have undertaken an internship	9	7	7	0	10
The number of students who were given a job offer upon the results of practical training	–	–	–	–	–
Preliminary selection upon the results of practical training, with recommendation to be employed in the future (after completion of education)	–	–	7	–	–
JSC NIKIMT-Atomstroy					
The number of students who underwent practical training	10	4	3	–25	7
The number of students who were given a job offer upon the results of practical training	–	3	1	–67	–
Preliminary selection upon the results of practical training, with recommendation to be employed in the future (after completion of education)	–	–	2	–	–
Trest RosSEM LLC					
The number of students who underwent practical training	–	2	–	–100	–
The number of students who were given a job offer upon the results of practical training	–	2	–	–100	–
Preliminary selection upon the results of practical training, with recommendation to be employed in the future (after completion of education)	–	–	–	–	–
Total in the Engineering Division (that undertook internship)	185	194	184	–5	182
Total for the Engineering Division – recruited	28	32	33	+3	25
Total for the Engineering Division – preliminary selection upon the results of practical training, with recommendation to be employed in the future (after completion of education)	30	29	52	–	–

* The forecast for 2017 was developed on the basis of the companies' plans for inviting students for practical training.

During the last three years 563 students underwent practical training in companies of the Engineering Division. Every year most of such students undergo practical training in designing units of the Division (designing institutes JSC ASE EC, JSC Atomenergoproekt, JSC ATOMPROEKT) in accordance with their training specialization.

Of the total number of the students who underwent practical training in 2016, 42% were selected for employment (17.9% were employed, 28.3% – preliminarily selected to be employed upon completion of higher education).

The Engineering Division established criteria for selection of graduates and young specialists for recruitment in companies of the Division, among them:

- good academic performance (average grade not less than 4.5);
- knowledge of the English language (intermediate level and higher);
- participation in industry and Division projects for students (TeMP tournament of ROSATOM, student construction brigades for the nuclear industry, corporate scholarship programs).

The results of practical training give the possibility to take the final decision about the employment of a graduate (in case of compliance with the target criteria of graduates' selection).

Employer-sponsored Education

Low percentage of employed students is due to the fact that most students with whom employer-sponsored education contracts were signed, are still studying, they may be employed only in the future, after graduation. Besides, such graduates shall also comply with the general compulsory criteria used for selection of graduates and young specialists. If a graduate fails to comply with the compulsory criteria, his/her employment may be disapproved.

The Number of Students of Higher Educational Institutions and Specialized Educational Institutions of Target Training that Were Recruited by the Engineering Division of Rosatom Upon Completion of Education

Name of legal entity	2014	2015	2016	Δ 2016–2015, %	2017 planned
JSC ASE EC					
Number of students educated according to programs of target training	50	63	52	–18.0	52
The number of students who were given a job offer	3	3	2	–33.0	2
JSC Atomenergoproekt					
Number of students educated according to programs of target training	25	41	43	+5.0	50
The number of students who were given a job offer	–	–	–	–	–
PJSC ESM					
Number of students educated according to programs of target training	9	8	7	–13.0	10
The number of students who were given a job offer	–	–	–	–	–
JSC NIKIMT-Atomstroy					
Number of students educated according to programs of target training	4	4	3	–25.0	3
The number of students who were given a job offer	–	–	–	–	–
Total for the Engineering Division – educated according to the target training programmes	88	116	105	–9.5	115
Total for the Engineering Division – recruited	3	3	2	–33.0	2

Occupational Safety Management

The Company's priority goal is to ensure occupational health and safety of its employees. To meet this goal, the Company improves the occupational health and safety management system, take precaution measures to prevent industrial injuries, improves labor conditions, organizes training for managers and specialists to improve their knowledge about occupational safety. The employer's activities related to occupational health and safety is reflected in the collective employment agreement.

Occupational Safety Management in JSC ASE and Companies of the Division

(GRI 403-2, 403-3, 403-4) To ensure occupational safety during the performance of subcontracted works, the contracts with subcontractors include compulsory requirements on occupational health and safety.

The typical subcontract stipulated the procedure of interaction between the parties, responsibility and obligations of the subcontractor in the field of occupational safety in accordance with which the companies of ROSATOM have the right to control the performance of the works under the contract and check the compliance with the occupational safety requirements.

Claims related to violation by a subcontractor of its obligations under the contract, are prepared and made in accordance with "Procedure for claim work and enforcement activities in JSC ASE".

Collective agreements cover 100 % of JSC ASE EC, JSC Atomenergoproekt and JSC ATOMPROEKT emploees. The collective contract is not available in JSC ASE. Therefore, the payments are made according to the order. The order covers all the emploees (GRI 102-41).

Heads of the structural units located on the territory of construction facilities shall perform measures aimed at occupational safety in relation to contractors, including:

- Assessment of occupational safety in contractors' companies.
- Organization of interaction between the occupational safety Division of its own unit and the contractor's companies, before the commencement of the works at the construction site.
- Informing the contractor's companies about accidents and occupational diseases during the performance of works at the construction facility.
- Providing information to the contractor's company and (or) their employees about possible hazards and risks related to occupational safety at work places, initial workplace instructions.
- Control of completeness and timeliness of performance of occupational safety requirements stipulated in OHSAS of ROSATOM and the terms of the contract, during the work performance on the site.

LTIFR in Key Companies of the Division, % *

Company	2014	2015	2016 planned (allowable limits)	2016	2017 planned (allowable limits)
JSC ASE	0.56	0.00	0.19	0.00	0.19
JSC ASE EC	0.00	0.38	0.26	0.00	0.35
JSC Atomenergoproekt	0.00	0.06	0.00	0.00	0.00
JSC ATOMPROEKT	0.00	0.20	0.28	0.00	0.28

* For more information regarding injury rate including LTIFR, see Annex 10.

2.5.3. Social Policy

In accordance with the Regulations on non-state pension provision of employees of JSC ASE EC, the company is the guarantor of non-state pension provisions in terms of financing of non-state pensions until award of pension, and non-pension fund Atomgarant is the guarantor of payment of the awarded non-state pensions.

For a number of years the companies of the Division have concluded contracts with medical insurance companies for organization and payment for medical aid for the employees. Employees of the central offices, branches and representatives offices have medical insurances on the basis of uniform programs. Employees can buy medical insurances for members of their families at corporate tariffs.

The employer provides insurance to the employees of the Division against accidents and professional diseases. All the employees who are seconded abroad, are provided with insurance policies at the expense of the employer.

The employer compensates partially the following expenses of the employees:

- children's stay in recreation camps and recreation centers;
- vacation in recreation centers and tourist camps;
- health resort treatment.

The expenses for medical care of the employees, including expenses for voluntary medical insurance, health resort treatment and recreation, increase every year. Special attention is paid to preventive care and early diagnosis of severe diseases, including cardiovascular diseases, flue, cancer, etc.

The employer provides information to the employees about the regulatory requirements to labor conditions at workplaces, about necessary and compulsory individual and collective protection means for disease prevention. All the employees of the company have access to medical examination, timely diagnosis and treatment of diseases. Flu innoculation of the employees is provided every year. Employees and their children are provided with guaranteed financial aid for paid medical services in case of severe diseases. Preventive treatment and sports events are arranged for the purpose of health maintenance.

Social guarantees to veterans are envisaged in the regulatory documents of the Division. A program of social support of pensioners is ongoing in the company. The program envisages one-time and monthly welfare payments to pensioners. The company veteran councils uniting over 2,300 veterans are involved in active work. The Group of Companies has spent about 43 mln rubles for social aid to veterans during the reporting period.

The veterans are involved in the organization of recreation for pensioners, participation in important events in the life of the company. Veterans are always welcome at company's festive events, they do sport in the company gym. Traditional river tours on the Volga are organized every year for veterans. Veterans of the Great Patriotic War receive bonuses up to 50,000 rubles for the Victory Day every year.

(GRI 403-1) *From 2013 JSC ASE EC has been implementing the program of non-state pension provision. Over 150 persons are members of this program. Minimal personal and company contribution depends on the age and labour expirience. The company's expenses for the program in the reporting period totaled in 14.7 mln rubles.*

Monthly Minimal Contribution to the Program of Non-state Pension Provision

The participant's age on the date of joining the Program	Monthly minimal contribution of the participant (% of the basic salary)	Monthly contributions of the Company* (% of the basic salary)
from 18 to 29 years	0.8	1.5
from 30 to 35 years	1.0	2.5
from 36 to 40 years	1.3	3.5
from 41 to 45 years	1.5	4.5
from 46 to 50 years	1.7	7.5
51 years and older	2.0	8.5

* The amount of monthly contribution of the Company cannot exceed 8000 rubles.

Factor of Increase of the Company's Pension Contribution

The participant's length of services, years	Factor of increase of the Company's pension contribution
From 3 to 7	1.05
From 8 to 15	1.10
From 16 and more	1.15

Expenses for Voluntary Medical Insurance, mln RUB

Company	2014 actual	2015 actual	2016 actual	2017 planned
JSC ASE	20.89	52.23	51.11	49.62
JSC ASE EC	6.78	6.52	4.65	5.51
JSC Atomenergoproekt	48.00	27.91	41.30	36.55
JSC ATOMPROEKT	38.18	37.00	31.89	35.97
TOTAL	75.68	86.67	128.96	127.66

2.6. SOCIAL AND RELATIONSHIP CAPITAL

Nina Dementsova,
Head of Communications Division

Nina Anatolyevna, tell us about prioritized areas of work with social and reputation capital.

To start with, the social and reputation capital means good relations with the stakeholders. In our case, these are residents living in the vicinity of NPPs, environmentalists, shareholders, company employees, Russian and international partners and contractors, investors, public authorities, inspection and supervision bodies, local authorities and stakeholders. We show that we have on our side high proficiency, extensive experience, advanced technologies and transparency in doing business; we show ourselves as a reliable, safe and economically advantageous partner. Trust-based relations with the stakeholders are eventually manifested in promoting the public acceptability of the nuclear energy industry, which in turn increases the sustainability of the Division's business.

The work is carried out in all the regions of our operation. Information about the events in the company is regularly presented on internal and external websites, in numerous Russian and foreign publications, in social networking websites. We provide printed and photo and video materials, leaflets, books promoting the nuclear industry. Besides, it organizes photo exhibitions with participation of Russian and foreign secondary and higher school students, fairs for the public and journalist press tours to construction sites.

We participate in all major topic-based forums and arrange international organizations and experts visits to NPPs. So, for example, in March 2016 Yukiya Amano, IAEA Director General, visited the Belarus NPP.

How does the Company interact with foreign stakeholders in the regions of NPP construction?

All the stakeholders are needed, all the stakeholders are important, but the competitive international market of NPP construction is the Division's priority area of activity. We participate in numerous exhibitions, forums and conferences in various countries all over the world. Upon requests of our foreign partners, we organize workshops, expert meetings, round-tables, symposia, interviews with the company management on foreign TV channels. When requested by the local public of the customer's country, we hold seminars on the NPP safety, as we did this for example, in India and Bangladesh in the reporting year. We publish popular literature on nuclear power industry for junior school students. Public counseling office is starting its work in Pabna district, Bangladesh, where the NPP is being constructed. The premise for the public counseling office has already been allocated. Each year we bring school students from the countries of operation to participate in the International creative project for children Nuclear Kids. In the reporting year it was already shown the eighth Nuclear Kids musical.

Our annual report is an important and efficient tool of interaction with our foreign stakeholders. We have been already drafting it for several years taking into account international standards just to interact with our foreign users in the common reporting language.

What are the plans for 2017 and mid-term prospects for interacting with stakeholders?

We are going to expand our activities in Mass Media, the Internet and social networks. In general, we plan to uphold our information activities as a whole, for in 2016 the Engineering Division management framework was extended and consequently the scope of our operation was expanded, too. The main topics for work in the information field are such as: the Engineering Division's contributing to enlargement of the Rosatom foreign orders portfolio, development of PMS services and implementation of projects based on Multi-D technology.

But I see our main purpose in implementation of the awareness-raising activities for opinion leaders, media representatives and other concerned parties about our activities, plans and intentions. It is important not just to inform, for the sake of appearance, but to implement awareness-raising activity sincerely and extensively, not to be afraid of disputes, that is, what they call, to communicate, than the dialogs with the stakeholders will be fair and open. In short, we should meet oftener.

2.6.1. Social and Reputation Capital Management

Social and reputation capital management includes arrangement of constructive cooperation with main stakeholders, building of public acceptability of nuclear technologies development, brand management, contributions to the development of the areas of presence, charity activities, etc.

The principles of relationship with the stakeholders are as follows:

- Record and response principle – the Company considers the requests and demands of the main stakeholders, including the interest of those who cannot express their opinion (e.g., the future generations).
- Materiality principle – The Company interacts with the stakeholders on all the issues that are significant for the company and all the interested parties.

Detailed information about interaction with the stakeholders is given in Chapter 3 Interface with stakeholders.

Formation the Positive Public Attitude Relative to Development of the Nuclear Energy Industry

In 2016 the Company pursued the policy of implementation of external communication strategy of ROSATOM. The strategy is aimed at:

- enhancing the level of confidence in the regions;
- enhancing social consent with the plans of NPP construction in the regions of presence;
- providing information about activities relating to enhancing the safety of nuclear facilities;
- providing information about the high level of competitiveness and reliability of Russian nuclear technologies.

Formation of a positive public opinion about the activities of the Company in the previous year was centered around the topics of informational campaign "NIAEP is 65" and "Rosatom Engineering Division (ASE Group of Companies) as a Tool for Strengthening Rosatom Positions in the Global Market", aimed at demonstration of the latest achievements of the Russian nuclear power industry.

The Engineering Division participated in all significant industry international and Russian events (conferences, exhibitions, forums, etc.) There was a close coordination with regional, federal and foreign mass media. Additionally the Company ensured the growth of informational coverage about the current events via corporate publications and in the Internet.

For more information, please see Chapter 3 Interaction with Stakeholders.

2.6.2. Social and Economic Results

Taxes

The company plays a significant role in forming the income part of the budget in areas where the company operates.

Taxes and Fees Imposed on and Paid by Subdivisions, thousand RUB

	2014		2015		2016	
	Charged	Paid	Charged	Paid	Charged	Paid
JSC ASE EC						
Taxes and fees in total	1,397,009	(1,481,821)	1,883,072	(2,555,032)	2,708,820	(2,302,786)
Including:						
The Federal budget	262,849	(448,098)	161,196	(766,607)	950,613	(275,659)
RF subjects budget	22,099	(25,303)	262,319	(562,450)	262,319	(562,450)
Local budgets	2,190	(2,135)	1,026	(1,314)	2,027	(2,192)
Foreign countries budgets	192,575	(206,914)	137,854	(211,745)	215,646	(189,377)
Insurance fees to off-budget funds	917,296	(799,371)	1,127,795	(1 120 293)	1,278,215	(1,266,394)
JSC ASE						
Taxes and fees in total	196,095	335,282	(4,618,006)	110,097	(4,633,321)	5,625,621
Including:						
The Federal budget	(7,792)	531,717	(4,854,474)	112,651	(4,826,885)	5,822,561
RF subjects budget	31,726	(31,580)	24,154	(25,372.)	31,515	(29,380)
Local budgets	4,797	(7,672)	10,079	(6,974)	10,079	(10,079)
Foreign countries budgets	–	–	1,652,266	(510,311)	1,279,148	(1,633,381)
Insurance fees to off-budget funds	167,364	(157,183)	202,235	(190,402)	151,969	(157,482)
JSC Atomenergoproekt						
Taxes and fees in total	483,902	(1,094,654)	668,547	(265,779)	2,399,453	(2,149,983)
Including:						
The Federal budget	(506,303.)	(126,368)	(780,709)	1,023,400	1,468,745	(742,227)
RF subjects budget	26,230	(25,798)	39,455	(37,804)	45,070	(48,503)
Local budgets	7,846	(7,967)	7,550	(8,664)	5,665	(5,962)
Foreign countries budgets	–	–	–	–	–	–
Insurance fees to off-budget funds	956,129	(934,521)	956,288	(983,719)	836,618	(760,638)
JSC ATOMPROEKT						
Taxes and fees in total	2,258,428	(2,124,096)	1,461,470	(2,345,363)	1,680,665	(1,397,033)
Including:						
The Federal budget	1,293,049	(985,248)	585,282	(1,465,527)	929,198	(653,214)
RF subjects budget	169,040	(376,647)	1,600	4,285	5,202	(5,887)
Local budgets	(3,216)	888	4,413	(4,765)	4,228	(4,149)
Foreign countries budgets	–	–	–	–	–	–
Insurance fees to off-budget funds	799,555	(763,089)	870,175	(879,356)	742,037	(733,783)

Charity Activities

JSC ASE EC's relations with regional authorities and local self-government bodies, as well as public organizations are based on mutual interest and commitment in the area of social and economic development of the regions where it operates. One of the most important Company's tools of work is charity.

JSC ASE EC priorities in implementation of charitable activities are such as:

- maintaining high social and cultural standards in the areas where nuclear facilities are located;
- implementation of projects that promote the socio-economic development of the regions;
- ethical and spiritual cultivation of personality;
- support of regional environmental projects;
- formation of a positive image of the Company.

Basic directions of the charitable activity:

- strengthening the material and technical base of health, culture and education institutions;
- support for veteran organizations;
- support of social welfare organizations (provision of assistance to disabled people, children's funds etc.);
- conducting cultural and sports events;
- support to the activities of nuclear industry information centers
- support and promotion of Russian nuclear technologies development projects at foreign markets;
- support of faith-based organizations.

A significant area of work with local communities is organization of the Charitable Projects Contest for non-profit organizations, which is held in the following categories: culture and sports, environmental protection, patriotic initiatives, younger generation.

The contest is held within the 5-year period. The total grant funding amounted to 11 mln RUB in 2016. The competition was provided with 136 requests, 79 were acknowledged as winners.

The new form of charitable work is implementation of joint projects. The example of such project is: trilateral interface agreement in development of children's sport in the Nizhny Novgorod region. There are several participants in the project: JSC ASE EC, the Government of the Nizhny Novgorod region and the State Autonomous Institution "Sports Training Center". The amount of support in 2016 amounted to 25 mln rubles.

Charity Funds, mln RUB

Company	2014 actual	2015 actual	2016 planned	2016 actual	2017 planned
JSC ASE	5.4	1.5	0.9	0.9	1.0
JSC ASE EC	69.4	40.0	166.8	166.8	106.9
JSC Atomenergoproekt	1.8	8.0	6.8	6.8	4.6
JSC ATOMPROEKT	–	–	–	–	1.5
Reserve for work with unscheduled turnaround	5.8	9.0	10.0	10.0	8.0
Reserve for charity projects competitions	7.0	9.0	11.0	11.0	26.4
Engineering Division	89.4	67.5	195.4	195.4	148.4

Contribution to the Development of Regions of Presence

The performance of the Division affect the development of the regions where NPPs are constructed both directly (through infrastructure investment projects) and indirectly. The Division's economic effect on the public infrastructure is not evaluated. As an example of this effect, the Kursk, Rostov, Belarus and Novovoronezh NPPs are referred to.

The area of the Company's investment projects implementation covers many regions in Russia and countries in the South-East Asia, Middle East and Europe. The territorial breakdown of investments is connected primarily with the schedule of objects construction and maintenance, with the need in infrastructure support of the Company's affiliated branches and representative offices.

Construction and commissioning of nuclear facilities including NPP power units promote new jobs. The major part of workers are employed from the amount of local residents living within 100 km from the construction site. Moreover, each job in the power unit construction facilitates emerging of additional 10–12 jobs in the related economy sectors (such as metallurgy, machine engineering etc.)

For more details see Chapter 2.5.2. Results of Human Resources Policy Implementatio.

The Engineering Division does not provide any preferences to suppliers depending on the supplier's locality in respect of the region of operations. The choice of the suppliers is influenced only by the supplier's compliance with the requirements and criteria mentioned in the procurement documentation. Proceeding from this definition, the share of procurements from "local suppliers" in the regions of construction makes ~ 5.68 % of the sum total of all contracts concluded in 2016.

For more details, see Chapter 2.1.1. Production Capital Management.

Novovoronezh NPP-2

The volume of housing construction is increasing – about 74 thousand square meters of housing were commissioned in Novovoronezh in 2014. The project of the “Central” residential complex with an ice rink has been elaborated. The residential complex with the surface of 4.5 hectare, is located in the center of Novovoronezh.

In the city, there is "ENERGETIK” sanatorium (a subdivision of the Novovoronezh NPP-2). The main activities - rehabilitation of the personnel and patients after acute illnesses, rehabilitation of dispensary patients, nuclear veterans and participants in the liquidation of the Chernobyl NPP accident, activities during the holidays for rehabilitation of children of the Novovoronezh NPP employees, children from orphanages and boarding schools.

Belarus NPP

Owing to the construction of the Belarus nuclear power plant, the city of Ostrovets is being given a new look. There are about 9,500 permanent residents in Ostrovets. According to the plans, the city's population will have increased up to 35 thousand people by 2020.

At present, all the employees are provided with housing. 850 persons were provided with a job at the NPP, the total number of employees amounts to 2,400 persons.

The first residential area of the town of Ostrovets initiated the housing development, the Losha river side was landscaped, a bridge was built across the river and a beach area was arranged. The Information Center for Atomic Energy is set up, whose main task is to ensure indoctrination in the area of nuclear power principles, which is accounted for by the public's intention to raise the level of its awareness in matters of NPP safe operation.

The second residential area is the area where a central district hospital, two kindergartens, schools and a sports-and-recreation complex are being built with 407 apartments having already been commissioned.

The works have started to construct the third residential area, i.e. – a residential and administrative center in Ostrovets.

Nuclear power information center has been established. Its main goal is education in the field of nuclear power. The construction of the center was a response to request for information by the population in terms of NPP safe operation.

There will be a large shopping center to emerge here, too.

Kursk NPP

On December 15, 2016, the opening of the Palace of Culture-2 in Kurchatov marked the 40th anniversary of the Kursk NPP. The completion of the Palace of Culture is directly connected with the construction of the Kursk NPP-2 power units and implementation of investment projects of the Kursk NPP. According to the Agreement between the ROSATOM, the ROSENERGOATOM CONCERN JSC and the administration of the Kursk Region, a part of additional tax deductions that come to the region from investment programmes and ROSATOM projects are channelled to develop the infrastructure of the city of Kurchatov. It is from this source that almost 60 mln rubles have been totally received to carry out the 2nd stage construction works to complete the municipal Palace of Culture.

The Kursk NPP includes social facilities of regional importance; moreover, the municipalities-promoting "Association of the Location of Nuclear Power Plants” Foundation was engaged to finance seven social programs of the city of Kurchatov in the amount of approximately 4 mln rubles in 2016.

Rostov NPP

Rostov NPP has been making a serious economic and social contribution to the development of the Rostov region.

Ten units of the public transport were received by the municipality of Volgodonsk as part of implementation of the Agreement on cooperation between the Rostov NPP and the Government of the Rostov region. This is an environmentally friendly and efficient transport, which is convenient for landing and exit allowing to roll in a wheelchair easily. The additional taxes transferred by the Rostov NPP to the Rostov region were converted into the public transport for residents of Volgodonsk. In 2015, ten trolleybuses at the cost of 104 mln rubles were purchased. In 2016, the city administration received 190 mln rubles, of which 105 mln were used to purchase trolleybuses and buses and another 85 mln were used to purchase 17 units of road and municipal equipment.

As part of the traditional environmental programme, students took 80 soil samples in the territories adjacent to the Rostov NPP. As part of this programme, the environment was monitored in the area of the eventual adverse impact of the Rostov NPP. The results obtained during the soil investigation and radioactive measurements were compared with the data obtained from the monitoring which was carried out before the station was put into operation.

The results convincingly show that the nuclear power plant has had no harmful impact on the environment over 16 years of its existence.

3. INTERFACES WITH STAKEHOLDERS

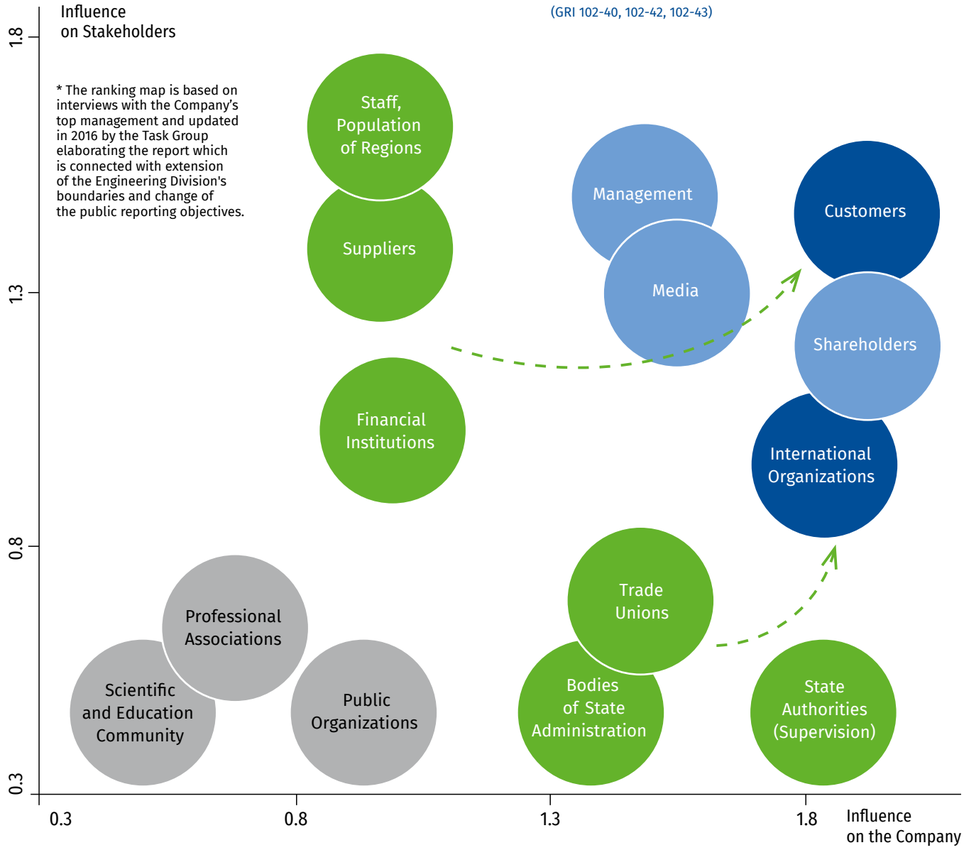
Ultimate way to run a better tomorrow

3.1. STAKEHOLDER ENGAGEMENT

In its activities, the Division is pursuing to establish partnership and mutually advantageous relations with all the stakeholders.

GRI (102-40, 102-42)

Stakeholders' Rank Map *



3.1.1. Interactions with Stakeholders

The principles of relationship with the stakeholders are as follows:

- Record and response principle – the Company considers the requests and demands of the main stakeholders, including the interest of those who cannot express their opinion (e.g., the future generations) and timely responds to the grounded requests and proposals.
- Materiality principle – The Company interacts with the stakeholders on all the issues that are significant for the company and all the interested parties.
- Mutual benefit principle – the Company strives to build interactions with the parties concerned based on the principle of partnership and mutual benefit.

(GRI 102-40, 102-42, 102-43)

Key Stakeholders

Key stakeholders	Basic interests	Methods of interactions
Shareholders: ROSATOM, JSC "Atomenergoprom", JSC "Atomstroyexport"	Strategy implementation Economic efficiency. Business sustainability Business process transparency.	Participation in implementation of the shareholder's strategic objectives Improvement of the corporate management system Implementation of the ROSATOM production system. KPI implementation. *See chapters 1. Strategic Overview, 1.6. Corporate management, 1.4. Target markets.*
Customers: ROSENERGOATOM CONCERN JSC, NPPD Company of Iran, JSC Slovenske elektrarne", NPCIL, Akkuyu Nucleer JSC, Jiangsu Nuclear Power Corporation (JNPC), Chinese Nuclear Power Engineering Corporation (CNPE), Chinese Nuclear Energy Industry Corporation (CNEIC), GU DSAE, EVN, FSNPC, NN EGC "Energoatom"	Implementation of construction plans. Reduction of construction periods and cost. Improvement of the quality of works.	Participation in the headquarters work. Mastering of up-to-date engineering technologies Bilateral visits. *See sections 1.6. Strategic Overview, 1.4. Target markets.*
Partners: suppliers, contractors	Acquisition of new orders Company's financial status. Prospects of cooperation.	Open bidding Entering into long-term contracts with transparent pricing principles Participation in exhibitions and forums Bilateral visits Building up of strategic parterships. *See chapter 2.1. Production capital .*
Employees and organizations representing employees' interests: Trade union, Young professionals board, Veterans Board,	Company's development Professional and career promotion. Labor safety requirements. Fair remuneration.	Personnel qualification upgrade. Management staff pool programmes. Social support of employees. Social partnership. *See Section 2.5. Human Capital.*
Local Authorities	Environmental and radiation safety. Infrastructure development. Taxes. Creation of new jobs. Implementation of social programmes.	Memoranda on cooperation. Social and charity programmes. EIA development. Public counseling offices. Public accountability. *See chapter 2.6. Social and reputation capital.*
State inspection/supervision authorities Federal Environmental, Industrial and Nuclear Supervision Service	Meeting Russian and international legal requirements.	Obtaining licenses. Conducting inspections. Reporting. Development of proposals for improvement of legislation. *See See chapter 2.4. Natural capital.*
International nuclear organizations: IAEA, WANO, WNA, Nuclear Energy Agency of the Economic Cooperation and Development Organization	Nuclear power development. Environmental and radiation safety.	International conferences/exhibitions/forums Joint programmes. Work in joint committees, commissions, expert teams dealing with nuclear power issues.
Professional associations: the RF Chamber of Commerce and Industry, the Russian Union of Industrialists and Entrepreneurs	Prospects of cooperation.	Forums/conferences/exhibitions.

Key Stakeholders

Key stakeholders	Basic interests	Methods of interactions
Public authorities: the RF Government, RF State Duma, RF Council of Federation	Nuclear power development. Environmental and radiation safety. Infrastructure development Taxes. Creation of new jobs. Implementation of social programmes.	EIA development. Work in joint committees, commissions, expert teams dealing with nuclear power issues. Public accountability. Contribution to the development of regions of operation. *See chapters 2.1.1. Manufactured capital management, 2.6. Social and reputation capital.*
Insurance organizations: JSC SOGAZ and other	Civil liability for causing harm due to deficiencies in works in the area of Construction, design and Engineering surveys that affect the safety of Capital construction facilities.	Insurance of civil liability risks and other types of insurance. *See chapters 1.5. Risk management, 2.1.1. Manufactured capital management, 2.5.3. Social policy.*
Finance and credit institutions: JSC "AKB SAROVBIZNESBANK", Volgo-Vyatsky Bank and other	Financing, debt financing.	Debt financing. *See sections 1.6. Corporate management.*
Scientific community: R&D, Academy of Sciences and other	Development of sectoral research Development of innovative technologies.	Joint programmes. R&D orders. Scientific conferences. *See chapter 2.3.1. Intellectual capital management.*
Company's management	Company' strategy implementation.	Improvement of the management system. Efficiency improvement programme.
Population of the regions of operation: Residents, prospective employees	Environmental and radiation safety. Creation of new jobs. Contribution to the development of regions of operation.	Public counseling offices. Social and charity programmes. EIA development. *See chapters 2.5. Human capital, 2.6. Social and reputation capital.*
Mass media: Corporate, industry-specific, Russian and foreign media	Provision of prompt access to information about the Company's information.	Press-conferences and press tours Public accountability. Updating of information at the site, official weblog, resources in the social networks.
Educational institutions: the National Research Nuclear University (NiYaU MIFI), NSTU, NSU named after N.I. Lobachevsky, Ivanov State Power University, ISPU and other	Personnel target training Development of sectoral research Development of innovative technologies.	Training, retraining and refresher training of employees. Organization of students' field periods. R&D orders. *See chapter 2.5. Human capital*
Environmental organizations: "Oka" interregional environmental movement and others	Social and charity programmes. Social partnership. Environmental protection.	Social and charity. Programmes. Environmental expeditions. EIA development. Public accountability. *See chapter 2.4. Natural capital.*

Novovoronezh NPP (Russia)

3.1.2. Interface With Partners (main 2016 agreements)

As part of the 3rd international "Nuclear Knowledge Management. Challenges and Approaches" conference, JSC ASE EC and Dassault Systèmes signed a cooperation agreement that would allow the Division to expand the use of the 3DEXPERIENCE information platform to create solutions within the PMC business based on Multi- D technologies for the needs of design, construction and operation of major capital objects.

As part of the XXth St-Petersburg International Economic Forum, the Engineering Division and IBM signed a partnership agreement to generate a comprehensive solution for NPP operation management based on the Multi-D and IBM Maximo information platforms. The agreement will complement the "IBM Maximo for Nuclear Power" process platform with the NPP information model generated at the design and construction stage. The main goal is to ensure the digital collection and transfer of data from the design and construction stage to the operation phase.

As part of the ATOMEXPO-2016 International Forum, JSC ASE and SAP CIS, (the Russian division of SAP SE, Germany), signed a Memorandum of Understanding on establishing the expanded cooperation. It focuses on exploring the possibility of working together to generate a prototype of the industry solution for NPP engineering and construction management taking into account the Division's best practices on the SAP HANA platform.

As part of the 3rd "Integrated Knowledge Management Solutions" International Knowledge Management Forum, JSC ASE EC, the International Project Management Association (IPMA) and the SOVNET National Project Management Association signed a trilateral cooperation agreement.

3.1.3. Information and Communication

Interaction with stakeholders is carried out in all the Division's regions of operation. The active work with customers, partners, local media, public and environmental organizations, authorities and other stakeholders is carried out in the format of regular meetings, forums, conferences, exhibitions, round tables and press tours to the Division's NPPs.

The results of interaction with foreign stakeholders can be assessed as positive ones (the estimate is based on AtomSMI.ru data). The Division presents media statistical surveys on Russian and foreign media, Internet resources in which the Company's information field is reviewed on the weekly basis. Year 2016 resulted in the radical decrease of anti-nuclear articles in the media. The public declarations in respect of Russian nuclear technologies in general and the Engineering Division in particular became much more loyal.

Information Activities Management Plans for 2017:

- building up of information activity, especially in terms the Division's contribution to expansion of the portfolio of foreign orders, development of PMS services, implementation of Multi-D-based projects;
- enlarging of the channels for information the target groups (through Internet, social networks), improving of the quality of the divisional content and the amount of information messages;
- clarification work with opinion leaders, media representatives and other interested parties in order to prevent adverse interpretations of divisional events.

Meeting With Utilities Representatives

In July, the Novovoronezh NPP-2 was attended by CEOs of Slovenske Electrarne Company (the main producer of electricity in Slovakia). The Slovak power engineers were interested in the advanced experience in construction and commissioning of the next-gen power units. The guests visited the Novovoronezh NPP training center and met with representatives of JSC Novovoronezhatomtekhenergo at the site of the NVNPP-2 state-of-the-art power unit.

In May, representatives of the French energy company EDF visited the Novovoronezh nuclear power plants. The EDF representatives were told about the history of the oldest in Russia commercial NPP, experience of upgrading the existing power units, distinctive features of the first Gen III+ Novovoronezh NPP-2 power unit, which is preparing for power start-up, as well as the current design and construction technologies.

(GRI 102-43)

Main Communication Projects of 2016

- Information support:
  - Ceremony of the Kudanlulam NPP power units 1, 2 hand-over to the Indian people in the video conference format;
  - Ceremony of the first concreting of the Kudankulam NPP Units 3 and 4 foundation plate in the video conference format;
  - Commissioning of the Interim Spent Fuel Storage Facility of the Ignalina NPP, Lithuania;
  - NUCKIDS-2016 Project;
  - Forsage-2016 Forum;
  - Atomskills Project;
  - Sports competition organized by trade unions among companies of Nizhny Novgorod;
  - Commemoration of the 30-year memorial day after the Chernobyl accident.
- Organization of he groundbreaking ceremony at the Bushehr-2 NPP (Iran).
- International Atomexpo-Belarus 2016 Forum (Yukiya Amano, IAEA Director General, visited the first Belarus NPP construction site).
- Press tour to the Tianwan NPP (in China).
- Press tour to the Kudankulam NPP (in India).
- International ATOMEXPO-2016 forum (Moscow).
- Exposition as part of the General IAEA conference (Vienna).
- Roundtable in Bangladesh "NPP. Environmental protection and safety". Experience of Russia and Bangladesh in providing information to the public about nuclear power" (Dhaka, Pabna).
- A series of events "Children and the atom" within the framework of celebration of Independence Day in Bangladesh.

3.2. PUBLIC REPORTING SYSTEM

Statement of Chairman for Public Reporting

Ivan Borisov,
Vice-President for Development

Statement of Chairman for Public Reporting

For the Engineering Division taking efforts on both national and global markets, the informational transparency is an issue of primary importance. We understand that the attitude to the nuclear power industry directly depends on the quality and volume of information available to a wide range of stakeholders, therefore we consider the annual report to be one of the effective tools for communication and information.

This is the second public annual report of the ROSATOM Engineering Division. The boundaries of information disclosure were again extended: now the information is revealed also about JSC ATOMPROEKT. Despite the extension of the reporting boundaries, we tried not to enlarge its scope, focusing on essential and priority topics. The priority topics of this year: "Achievement of leading positions in project management, "Company integration and establishment of Engineering Division". A part of the reporting information is included into the interactive/electronic version which may be studied on out site http://www.niaep.ru/information_disclosure/Annual_reports/.

We are responsible for the information included in the report and we believe that the report includes all the mandatory elements, it is prepared taking into account the principles and fundamental concepts of the International Standard of Integrated Reporting (International <IR> Framework).

The report was prepared by the joint efforts of our company. The process of its preparation involved as usual representatives of our main stakeholders. This year, the innovative "Rapid Foresight" technology was used again to determine the essential aspects and priority topics. Applied technology allows to form the materiality matrix within a short period of communication by joint efforts of the company's top management and stakeholders.

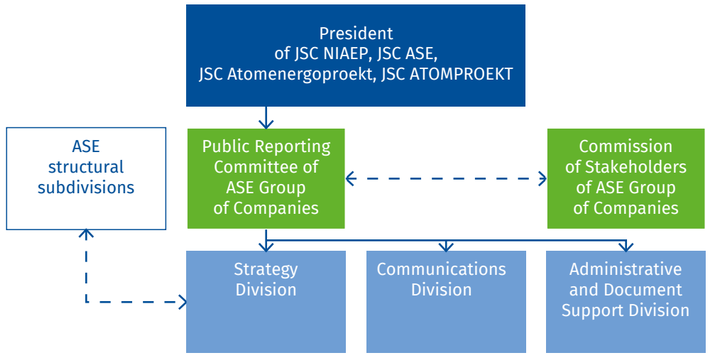
I would like to express my special gratitude to representatives of our stakeholders for ongoing close cooperation and interest in the activity of our Company. Within the framework of our cooperation (meetings, discussions, researches) we come to the better understanding of our agenda.

Each year we step up our requirements to public accountability. In the short-term horizon we face some challenges. We plan to expand the scope of the stakeholders involved in the process of report preparation. First of all, these are our foreign partners. We are to implement the public accountability system in organizations included in the expanded scope of Division management. We also plan to include in the report more information interesting for the investment community. We are constantly searching ways to improve our annual reports. And we shall continue to apply up-to-date approaches and methods for this purpose. I'm sure we will meet all the challenges ahead of us!

In 2016, the functional responsibility for the preparation of the public annual report was transferred from the Companies' Investments and Economy Department to the JSC ASE EC Strategy Department. I.A. Borisov, Vice-President for Development of JSC ASE EC was appointed a Chairman of the Committee on Public Reporting.

Public reporting system (PRS) was established in the Company in 2010. Due to expanding of the management scope of the Engineering Division the system has been under reorganization from 2015. The project of upgrading of public reporting system is under development. The project will be launched in 2017–2019.

Public Reporting System of the Engineering Division



Detailed information about the existing PRS is provided in Report for 2015.

2016 Results of PRS Improvement

Scopes of works	Results
Improvement of the public reporting quality	A study of the significant impacts of the Engineering Division organizations and delineation of reporting boundaries in the 2016 report due to the changed management framework
	Investigation of the best practices of integrated reports preparation
	Organization of the report expert assessment by the Russian Union of Industrialists and Entrepreneurs' Center for Corporate Social Accountability and Non-Financial Reporting
	The 2015 report is included into the IIRS database (http://examples.integratedreporting.org/organisation/112) as one of the "Main principles of report preparation and presentation" best international practices of the contents element disclosure and implementation of the materiality principle
Interactions with Stakeholders	Investigation of the best Russian and foreign interaction practices with the stakeholders
Improvement of the regulatory and methodical basis	The company's standard "Procedure for preparation of the annual public report of the Engineering Division of ROSATOM for the reported period" is updated

The Report's Awards in 2015

Industry competitions	
The public accountability contest of ROSATOM organizations (competition in the nuclear industry)	2nd place in the overall rating list
	Winner in the "Efficiency of public reporting and interactions with stakeholders" category
National competitions	
The rating of the corporate transparency of the major Russian companies in 2016	1st place in the overall rating list
The yearly competition of the annual Moscow Exchange reports	"For the integrated reflection of the sustainability subjects in the annual report" special award
The annual rating of the RAEX rating agency annual reports (Expert RA)	The 5* level (the highest quality of AR)
International competitions	
MarCom Awards	The platinum award in the "Corporation – the best corporate annual report" category
	The platinum award in the "Corporation – the best design of the annual report" category
	The platinum award in the "E-Annual Report – the best interactive report" category
Australasian Reporting Awards	The bronze award in the general competition
APEX (Award for publication excellence)	Winner in the "Best annual report" category
LACP Vision Awards 2015/2016	6th place in the top-50 annual reports
	The platinum award in the "The best financial report" category
	Platinum award for achievements in the industry for the annual report preparation

2017 plans for PRS improvement

Scopes of works	Results
PRS upgrading	Development of PRS upgrading project connected with enlargement of the management framework
	Upgrading of the existing information collection processes for public accountability due to enlargement of the management framework
	Training workshop with the dedicated departments specialists
Interactions with Stakeholders	Development of the interaction concept with the stakeholders, first of all with foreign stakeholders (as part of the PRS upgrading project)
	Development of the project for interactive platform upgrading for interaction with stakeholders
Improvement of the public reporting quality	Investigation of the best practices of integrated reports preparation
Improvement of the regulatory and methodical basis	Updating of the Public Reporting Standard, Regulations on the Public Reporting Committee, Regulation on the Commission of Stakeholders

3.3. STAKEHOLDERS ENGAGEMENT IN REPORT PREPARATION

Stakeholders Engagement in Report Preparation

To increase the transparency and accountability of the Engineering Division, representatives of the main stakeholders are involved in the preparation of the report by participating in discussions of the important aspects of the Division activities and reflection of such activities in the report and by participating in public verification of the report. Interface with stakeholders is a requirement of international standards AA1000SES Institute of Social and Ethical Accountability, Global Reporting Initiative (GRI Standards), Integrated Reporting International Framework.

During the preparation of this Report, public consultations and two dialogues with representatives of the main stakeholders were held (protocols of the dialogues are published at panel of interface with stakeholders http://stakeholderpanel.ru/ru/).

A dialogue for determining the important subjects to be reflected in the Report was held in the Moscow Branch Office of JSC ASE EC on 31.11.2016. The dialogue was held with application of Rapid Foresight technology which made it possible to perform a full cycle of works for the development of materiality matrix of significance due to joint work of the Company top-management and representatives of the main stakeholders.

Dialogue for priority subject of the Report: "Achievement of leadership in project management" was held in the Moscow Branch Office of JSC ASE EC on 02.03.2017.

Public consultations on draft report were held in the Moscow Branch Office of JSC ASE EC on 19.04.2017. Representatives of Moscow Branch Office of JSC ASE EC, Novovoronezh NPP and stakeholders in Novovoronezh participated in the event in the video-conference mode.

Fifty proposals and recommendations were put forward in the course of all the dialogues. 86% of the proposals were related to inquiries about the publication of certain information in the Report, the other proposals were related to the development of public reporting system of issues of Interactions with Stakeholders. Proposals related to the activities of the Company were submitted to appropriate structural divisions. The company has responded to recommendations on the draft report (about the structure, contents, format of the reporting documentation) and improvement of the public reporting system. In total 80% of proposals were taken into account; 6% were not taken into account (justified answers were provided); 14% of proposals will be taken into account or reviewed during the preparation of reports for the next reporting periods.

(GRI 102-44) Considering of the Main Proposals on Disclosure of Information in the Report Made by Stakeholders in the Course of the Dialogues

Stakeholders' proposals	Stakeholders	Consideration of proposals by the Company
More detailed presentation of environmental priorities	Environmental organizations	taken into account, *see 2.4. Natural capital chapter*
To illustrate the company's achievements, in particular to disclose information on a third class of competence in the field of project management		*Taken into account in the chapter* 2.1.1. *Manufactured capital management*
To cover the topic of efficient use of resources and enhancing of labor efficiency in the report		Taken into account *in all main report chapters*
Include the results of reports on audits performed by environmental organizations at the construction sites of nuclear companies.		*Taken into account, see 2.4. Natural capital chapter*
Reduce specialized terminology use for convenience of stakeholders	ROSATOM	Taken into account
In the beginning of the report to draw attention to the start-up of Novovoronezh NPP-2 unit		Taken into account
To provide a more detailed comment on revenue results in the report		Taken into account, *see 2.2. Financial capital chapter*
To indicate information on average salary for the 2016 in the report		Taken into account, *see 2.5. Human capital chapter*
To be future focused when including information on the company in the report	The scientific community	Taken into account
Implement risk map when showing information on risks		Taken into account *in the chapter* 1.5.2. *Key risks*
Provide assessment of Multi-D project's contribution to the methodology of the company projects' management		*Taken into account in the chapter* 2.1.1. *Manufactured capital management*
Include specific information on radiation, ecological and industrial safety and labour protection in the report		Taken into account, *see 2.5. Human capital chapter*
To underline the fact that Multi-D system is a basis for further development of the company	Media	*Taken into account in the chapter 2.1.1. Manufactured capital management*
To include in the report information on a number of employees subject to advanced training with different specializations	Education organizations	Taken into account, *see 2.5. Human capital chapter*
To show in the report that the company's activity is in line with the UN goals for sustainable development adopted in 2015		Taken into account *in the chapter 1.2.3. Agenda for the sustainable development"*
Indicate return on investment R&D and patents (including patents of 1990-s)	International organizations	Not considered. These information is considered as commercial secret
To include in the report information on headcount by specialties and assess a quantity of specialists to be prepared in future		Partially taken into account *in the chapter 2.5.2. Results of human resources policy implementation"*
To include in the report information on agreements with educational institutions		Partially taken into account, *see 2.5. Human capital chapter*
To indicate specific information on a quantity of concluded contracts and, if possible, their amounts, or delete this chapter when no specific events took place in 2016, in the chapter "Construction of research and low-power reactors"	Customers	Not considered. Information on contracts/amounts is a commercial secret and a general approach of the Company on these activity is included in the report
Provide more detailed information on the condition of labour protection at the power units under construction, in particular the industrial injury rate with comments		Taken into account, see 2.5. Human capital chapter

Fulfillment of Liabilities Taken by the Company During Preparation of the 2015 Report

Proposals	Consideration
To include information on the assets allocated for the safety culture	Shall be accounted for in the 2017 report
To include the results of audits performed by environmental organizations and researches of environmental organizations at the construction sites of nuclear companies	Taken into account, *see "Natural capital" chapter*

Liabilities on Proposal Consideration in the Reports of Next Periods

Stakeholders' proposals	Company's Liabilities
Confirm information on future prospects of nuclear industry state financing	Shall be considered in the process of concept development for the 2017 report
To cover the topic of public involvement in the company's projects in more detail	
Add information on cooperation with higher educational institutions within the framework of scientific and research activity *into the chapter 2.3.*	
To indicate in the report information on the company's intention to participate in the implementation of the RF Strategy for scientific and technology development	Shall be accounted for in the report of the next year
To underline in the report the activity for handling with RW, SNW and NPP decommissioning as important components for operation sustainability and to consider them as key components of integrated proposal during the construction of NPPs under russian projects abroad	
Prepare a program of actions on sustainable development	
To show in the report connection of charity to the basic activity of the company	
Consider new NPP safety standards in preparation of the report	

Statement on the Results of Public/Stakeholder Assurance of the 2016 Public Annual Report of Engineering Division

Introduction

Engineering Division (hereinafter referred to as the Company) has provided us with a possibility to evaluate the Annual Report for 2016 (hereinafter, the Report), including the completeness and the materiality of the disclosed information and response of the Company to requests of the stakeholders. For this purpose, we and our representatives were given a possibility to participate in the public consultations on Draft Report which took place on April 19, 2015, as well as in two dialogs with the stakeholders:

- dialog on definitions of the material topics to be disclosed in the Report, which took place on 31.11.2016;
- dialog on disclosure of a priority topic «Achievement of leading positions in project management», which took place on 02.03.2017.

Report Assessment Procedure

Our conclusion is based on the comparative analysis of two versions of the Report (Draft Report for public consultations and final version of the Report) and submitted materials following the results of the dialogs and consultations (records of events, summary tables on comments of the stakeholders), as well as comments made by Company managers and employees in the course of the external assurance of the Report.

In the process of the external assurance of the Report we did not set a task to check the data collection and analysis system of the Company. Reliability of the actual data presented in the Report is not a part of this assurance.

All participants of the public consultations could freely express their opinion. We have not received any remuneration from the Company for participation in the external assurance procedure.

Assessment, Comments and Recommendations

We agree in the positive assessment of the Report concerning its format and the scope of disclosed information. It is extremely important that the Integrated Report is prepared on a voluntary basis, and it is a good example of improvement of transparency and openness on the part of the Company. In the process of preparation of the Report the Company demonstrated a high level of aspiration for assurance of public and environmental acceptability of nuclear energy industry development, as well as readiness for open dialog with the stakeholders in various directions of its activity.

In 2016, the Engineering Division of ROSATOM was established completely, all of the NPP design and construction assets were collected under the common governance framework, and the Report was for the first time prepared with such a wide scope: all key organizations (ASE EC JSC, ASE JSC, Atomenergoproekt JSC and ATOMPROECT JSC) and a number of subsidiaries within the governance scope.

Company operates in 20 countries of the world. Following the integration the stakeholders' scope has been extended due to stakeholders of ATOMPROEKT JSC. Therefore, the importance of the report preparation in compliance with international standards and absolute transparency of operations, including for the foreign stakeholders is extremely high.

The Report is prepared in accordance with the International Integrated Reporting Framework (International <IR> Framework), AA1000 Series Standards (Institute of Social and Ethical Accountability), GRI Sustainability Reporting Sandards (comprehensive option).

The integrated nature of the Report facilitated the integrated disclosure of information on the core activity of the Company, its performance in the field of sustainable development, strategy and plans for the future.

We assess the disclosure of information in the Report as sufficient both in terms of the use of international public reporting standards and in terms of response to the stakeholders' comments raised during the Report preparation.

To our opinion, it is the Integrated Report that shall present the official position of the Company's management on all key socially important issues and activity areas of the Company.

Materiality of Information

We consider that the Company has taken into account the requirements of international standards for determination of materiality. During the report preparation, the Company used the Rapid Foresight technology to define the material topics. The innovative technology allowed the top management of the Company and stakeholder representatives, including members of the Stakeholders Panel to fully develop a materiality matrix.

The suggested material topics were checked for compliance with GRI SRS. The material topics were disclosed in sufficient details. The priority topics of the Report are: "Achievement of leading positions in project management, "Companies integration and establishment of Engineering Division". All sufficient data on the priority topics was disclosed.

Special attention was given to the environmental protection. And the essentially important point was to proclaim 2017 as the year of Environmental protection in Russia.

Thus, the Report includes all important information either for the Company, or for stakeholders.

Completeness of Information

We also consider that reduction in the scope of the Report when disclosing all material information complies with the best international reporting practices and enables to present a full description of the activity of the Company, including the creation of value.

This year the Company made serious efforts to comply with the Conciseness principle. Despite the wider scope of disclosure, the volume of the Report was reduced comparing to the previous year. Availability of references to other information sources in the Report enables to get all required information and at the same time reduces Relieve the report from redundant information, which could be found in previous reports, online or in other sources. Furthermore, annexes were published as a separate book, which could be found on the Company's website. The Company has presented part of the reporting information in the form of graphics, tables and diagrams, and it makes the Report more friendly for readers and reduces volume of the Report even further.

In general, we believe that compliance with Materiality and Conciseness principles allowed all material topics to be fully disclosed.

We recommend the Company to pay attention to the need to disclose the following information in the further reports: detailed description of markets where the Company has business activities (basic competitors, trends, prospects, etc.); detailed description of both direct and indirect Company's influence on the regions of presence; description of the environmental impact of contractors at the construction sites.

Response of the Company to Suggestions and Recommendations of the Stakeholders

We consider that the Company has demonstrated a significant progress in development of cooperation with the stakeholders and introduction of the public reporting practice into its activities. In the course of the Report preparation, three dialogs with the stakeholders were carried out. One of them was carried out on modern communicative technology Rapid Foresight.

The Company has responded to the stakeholders' comments by introducing updates and additional information into the final version of the Report. In particular, the following Sections were redeveloped and supplemented with the requested information: "About Engineering Division", "Social and Relationship Capital" and "Financial Capital".

The Company undertook to disclose information in subsequent reports on some matters or explained the reason why this requested information could not be disclosed.

In addition, the Company undertook to improve the Public Reporting System in future, particularly to engage with foreign stakeholders more often.

In connection with the expansion of the division management scope, the range of tasks related to the public reporting of the Company has expanded. We hope that the modernization of the public reporting system will be carried out taking into account the opinion of the stakeholder environment. We also hope that the Company will go on with consistent introduction of the principles of responsible corporate behavior into its activities through development of the public reporting system, improvements in the quality of annual reports and cooperation with the stakeholders.

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GLOSSARY

Box-models – simplified 3D-models.

EPC-companies (EPC-contractor) – (EPC-engineering, procurement, construction) – companies implementing a project on a turn-key basis., The functions of an EPC companies include designing, procurement and construction.

EPCM-companies – (EPCM – Engineering, Procurement, Construction, Management) – companies applying the methods and technique of portfolio management of turn-key projects. The functions of an EPCM companies include designing, procurement, construction and project management.

ISO – a set of international standards on management organization of a company aimed at ensuring a predictable and stable level of services.

LCOE – Levelized Cost of Electricity – [KW*h] during the whole life cycles, it is expressed in monetary unit for generation of 1 KW*h.

LCOE is determined as the unit cost of electricity, as the sum of all the expenses (capital, operational, including the cost of fuel, treatment of spent nuclear fuel and radioactive waste, personnel expenses, NPP decommissioning and other costs) during the whole life of an NPP (considering the time value of money) in relation to the NPP capacity (design or actual capacity).

LEAN – concept of management of a company aimed at minimizing all types of losses. LEAN production assumes the involvement of each employee in the optimization process.

Rapid Foresight – is a technology which allows the people who participate in the foresight, to agree upon the future concept, their activities in relation to such future and their desired future. Basis of the method: Joint work of the participants in a time map; working with images and diagrams instead of tests

Smart Grid – upgraded electrical supply networks that use information and communication technologies for collection of information about power generation and power consumption making it possible to automatically increase efficiency, reliability, economic return and stability of power generation and distribution.

World skills – the international non-commercial movement aimed at improving the profile and recognition of skilled people, and developing professional education by harmonization of the best practices and professional standards all over the world by arrangement and conduct of professional skills contests.

Business "Equipment" – the economic activity of the Division aimed at gaining revenue from supply of equipment for nuclear power plants construction.

VVER.1000 – safe NPP design developed with consideration of the national experience in construction and operation of the previous reactor plant (B-320) Zaporizhye, Balakovo, South-Ukraine and Kalinin NPP and the latest world achievements in the field of NPP design and operation. According to the international classification, VVER.1000 is included into the category of nuclear power plants of the III generation. When designing the nuclear power plant, the designers focused on the maximum reduction in the human factor. Such concept was implemented in two directions. Firstly, the design included passive safety systems. This term refers to systems operating almost without any external power supply and requiring no human intervention. Secondly, the concept of the double-purpose active safety systems was adopted, which considerably reduced the possibility of undetected failures. To avoid the uncontrolled chain reaction in the reactor, the special control rods made of neutron-absorbing materials are used which immediately suppress nuclear reaction when inserted in the core.

VVER.1200E – is the most advanced typical design of the Russian nuclear power plant of III+ generation with improved technical and economic characteristics. This project is aimed at achievement of modern safety and reliability indicators with optimized capital investments in power plant construction. VVER reactor with a minimum electric power of 1,150 MW (and possible boost up to 1,200 MW) is supposed to be used. According to the approved Terms of Reference, designs of two nuclear power plants were developed: Novovoronezh NPP-2 (General Designer – JSC Atomenergoproekt, Moscow) and Leningrad NPP-2 (General Designer – St.-Petersburg Research and Design Institute Atomenergoproekt JSC).

BN-800 – is a sodium-cooled fast reactor for final fine-tuning technologies of the fast-fission reactors using the uranium-plutonium MOX-fuel. The electrical power – 880 MW.

Back-End – the final life cycle stage of nuclear facilities and materials.

VVER.1300TOI – a standard optimized and information-based design for a two-unit NPP with VVER.1300 reactor (pressurized-water reactor). The VVER-TOI design is developed on the basis of the VVER.1200E design materials with maximum consideration of the experience obtained by industry organizations designing NPP based on the VVER technologies (Novovoronezh NPP-2). Design solutions are optimized to minimize failures having adverse effect on economic performance of the power unit.

General Contractor – a contract party which assigns performance of certain types and packages of work under the contract to the specialized contracting organizations – subcontractors. The General Contractor is fully responsible to the customer for performance of the contractual work package and proper quality thereof, timely removal of defects and faults, etc.

Customer (Developer) – a person or legal entity intending to carry out construction, reconstruction or other type of construction works which requires a construction permit.

Expenses for EP (environment protection) – the amount of expenses of enterprises (organizations, institutions), individual

entrepreneurs, the state (budgets of RF, constituent entities of the Russian Federation and the budgets of subjects of the Russian Federation, and municipalities) for the purposes of nature protection (collection, treatment, reduction, prevention or elimination of pollution, contamination as such, or any other types and elements of environmental degradation, which are the result of entrepreneurial activities), carried out at the expense of all sources of financing.

Engineering – engineering and consulting services of research, design and engineering, calculation and analytical nature, preparation of projects feasibility studies, elaboration of recommendations in the field of production and management administration, i.e. a package of commercial services for preparation and support of the production and product distribution process, maintenance and operation of industrial, infrastructure and other facilities.

Obeya or Oobeya room – in Japanese means "Big room or big conference hall" where work is coordinated and decisions are taken. Obeya room is a humanistic approach to new products development.

Local supplier – supplier registered in the area of the facility location.

International Project Management Association (IPMA Delta) Model – enhancing of effectiveness of the company design activities implemented in accordance with the best international practice in the field of project management. Confirmation of the company competence in the field of project management on the international level.

Plan-Do-Check-Act Model (planning-action-checking-adjustment) – the cyclic process of decision taking during quality management.

Design documentation – documentation containing materials in textual form and in maps (diagrams) determining the architectural, functional, process, structural, engineering and technical solutions to ensure construction, reconstruction of capital construction facilities, their parts, capital refurbishment if during such refurbishment structural and other properties of reliability and safety of capital construction are affected.

Design and survey works – works related to engineering survey, development of feasibility studies for construction, development of designs, working documentation, budget documentation for construction (new construction, expansion, reconstruction, technical refurbishment) of buildings and facilities.

Detailed Design Documentation – documentation developed based on approved design documentation and meant for construction works performance.

Radioactive substances – substances with radioactive nuclides in their structure.

Construction – a whole process of NPP construction from survey and design works to putting into the Customer's operation.

Environmental safety – protection of environment and vital human interests against possible negative effects of economic and other activities, natural and man-induced emergency situations and their consequences.

NPP Power Unit (power unit) – a part of a nuclear power plant representing a set of main and auxiliary equipment, combined in a unified process system designed to generate electricity by using one or two turbine units with/without heat generating by converting the nuclear fuel energy.

List of Abbreviations

SNPP – small nuclear power plants

NPP – nuclear power plant

PSA – probabilistic safety analysis

EC – the European Commission

CI – capital investments

IWL – individual work limit

IMP – initial maximum contract price

FS – feasibility study

EIA – environmental impact assessment

PNAE – nuclear power rules and regulations

PSAR – preliminary safety analysis report

RPS – ROSATOM Production System

RAW – radioactive waste

RS – radioactive substances

DDD – detailed design documentation

SME – subjects of small and medium-sized business entities

LCM – life-cycle management

FMBA – Federal Medical-Biological Agency of Russia

P/u – power unit

CONTENT OF THE BOOK OF ANNEXES

see Book of Annexes at the web-site:
http://www.niaep.ru/information_disclosure/Annual_reports/

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