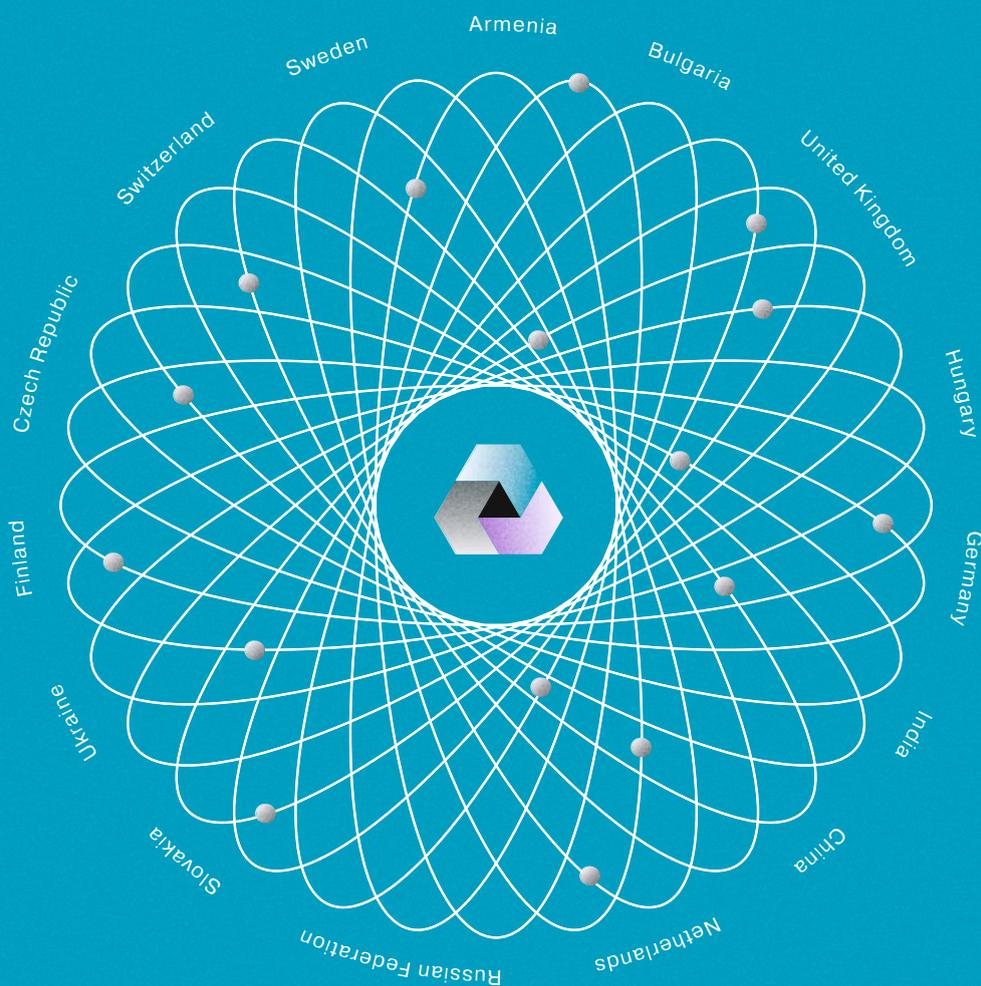


Annual statement of TVEL JSC

# 2012

# Theory and Practice of Winning



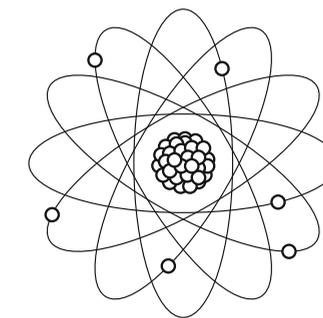
FUEL COMPANY OF ROSATOM  
**TVEL**



TVEL JSC

# The Theory and Practice of Winning

*Annual statement*



## **TVEL JSC**

The Theory and Practice of Winning: Annual Statement/Ed. TVEL JSC — M., 2013.—272 p. with images.

The annual statement Theory and Practice of Winning concludes the timeline of 2012. It includes general information, photos of the key players, financial performance graphics and figures of the production results. However, it is much more than that. It comprises hopes and aspirations, victories and achievements of the Company made over the past year. There are also the plans and ambitions for the future. For you can go up to a new level only by pushing off the level you are already standing at. For you can improve, become stronger and more successful only by a careful study of the theory and practice of winning.

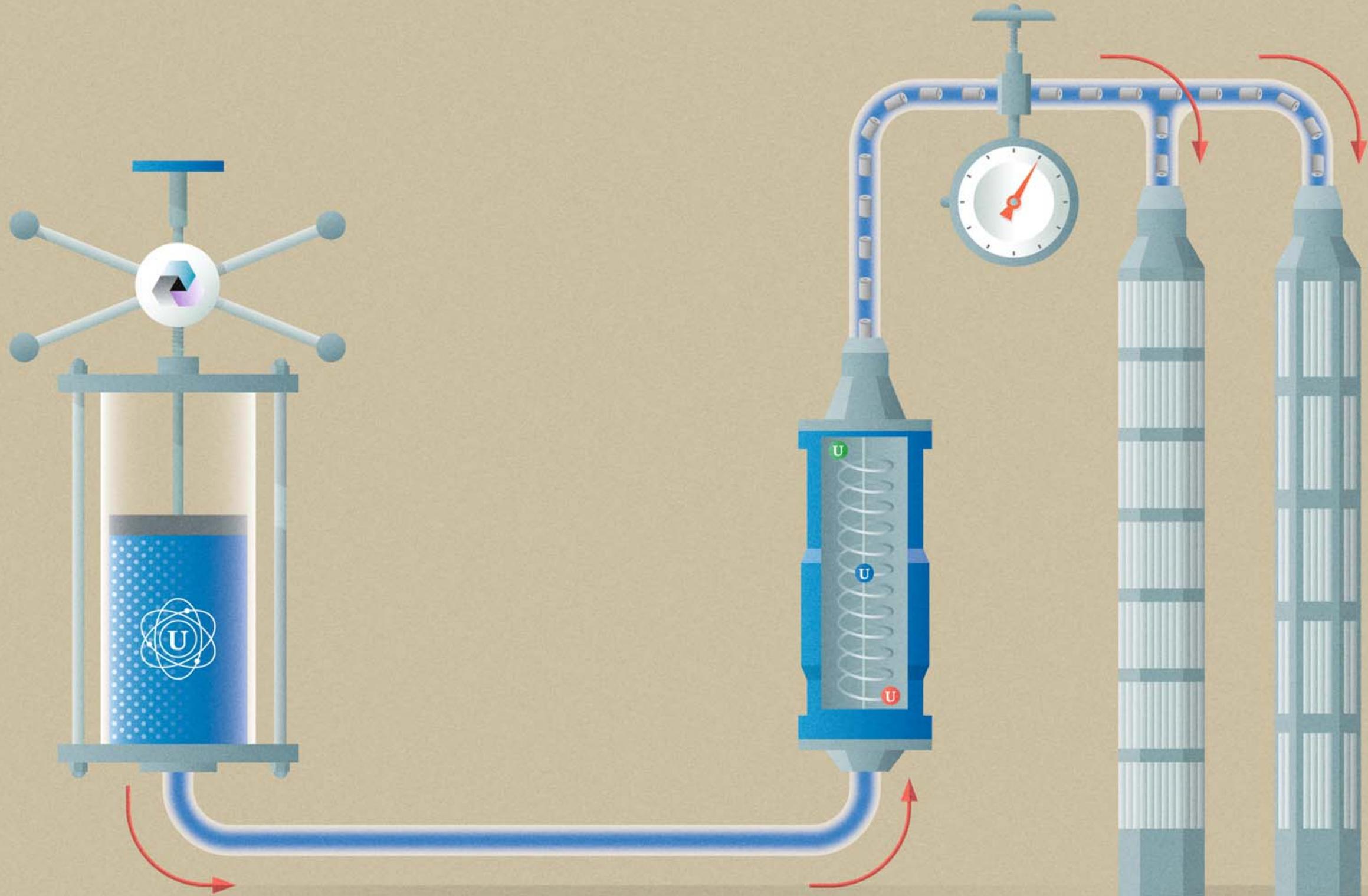
# Contents

<b>Introduction</b> .....	6
§1. Information about the Statement and preparation thereof.....	8
§2. Messages by the chief executives .....	12
§3. Key results.....	14
§4. Schedule of key milestones .....	15
<b>Chapter 1. General data</b> .....	16
§5. Company background information.....	18
§6. Basic characteristics .....	20
§7. Business model.....	21
§8. Mission, goal and values.....	31
§9. Geographic reach.....	32
§10. Place of TVEL FC in the world market of NFC IS.....	32
§11. Development strategy .....	38
<b>Chapter 2. Management system of TVEL FC</b> .....	46
§12. Corporate governance .....	46
§13. Organizational structure of TVEL JSC .....	54
§14. Productive efficiency management.....	56
§15. Investment activity .....	64
§16. Quality management .....	67
§17. Risk management .....	69
§18. Corruption management and settlement of Conflicts of interest.....	74
§19. Internal control of TVEL FC .....	75
§20. Procurement activities .....	78
§21. Information technologies .....	80
§22. Legal scope of activity of TVEL FC.....	83
<b>Chapter 3. Financial and production activity of TVEL FC</b> .....	84
§23. Financial policy of TVEL FC .....	86
§24. Financial results of activity of TVEL FC .....	87
§25. Production and economic results.....	90
<b>Chapter 4. Scientific and technological activities</b> .....	98
§26. Innovative activities in nuclear industry.....	102
§27. Innovative activities in non-nuclear industry .....	106
§28. Intellectual property of TVEL FC .....	110

<b>Chapter 5. Rules of sustainable development</b> .....	114
§29. Social and economic influence on surroundings .....	117
<i>Development of the regions of presence</i> .....	117
<i>Charitable activity and support of external social programs</i> .....	123
§30. Management of the personnel .....	125
§31. Ecological, nuclear and radiation safety .....	149
<i>Ecological policy</i> .....	149
<i>Environmental impact</i> .....	156
<i>Nuclear and radiation safety</i> .....	166
<i>Energy saving and efficiency improvement</i> .....	171
§32. Labour protection and industrial safety .....	174
<b>Chapter 6. Public reporting system and interaction with stakeholders during preparation of the Report</b> .....	180
§33. Public reporting system of TVEL FC .....	182
§34. Interaction with stakeholders .....	184
§35. Events for interaction with the stakeholders during preparation of the Report for the year 2012.....	190
§36. Conclusion on the public Report certification.....	192
<b>Appendixes</b> .....	196
<i>Appendix 1. Usage of public report indicators of Rosatom State Atomic Energy Corporation</i> .....	198
<i>Appendix 2. Disclosure of standard elements and indicators of the GRI Manual (G3.1)</i> .....	211
<i>Appendix 3. Table recording the offers expressed by the stakeholders regarding the improvement of the Annual Report 2012</i> .....	223
<i>Appendix 4. Report on performance of provisions of the Code of corporate governance</i> .....	231
<i>Appendix 5. Financial statements over 2012</i> .....	238
<i>Appendix 6. Auditors' Report on accounting (financial) statements</i> .....	247
<i>Appendix 7. Report of the Audit Committee based on the inspection results of financial and economic activity for the year 2012</i> .....	249
<i>Appendix 8. The conclusion of the Internal Control and Audit Department of TVEL JSC on the accuracy of the information in the annual report</i> .....	250
<i>Appendix 9. The Conclusion of the Internal Control and Audit Department of TVEL JSC on the accuracy of the information in the Annual Report</i> .....	252
<i>Appendix 10. Glossary and abbreviations</i> .....	260
<i>Appendix 11. List of regulatory legal acts regulating the activity of TVEL JSC and its subsidiaries and affiliates</i> .....	266
<i>Appendix 12. Contact information</i> .....	270
<i>Appendix 13. Feedback form</i> .....	271

Brief  
introduction

into the annual statement  
of TVEL, the Fuel Company  
of Rosatom



# Introduction

## §1. INFORMATION ABOUT THE STATEMENT AND PREPARATION THEREOF

**This** annual Statement (hereinafter — the Statement) covers the results of activity of TVEL JSC and subsidiary companies thereof (*hereinafter jointly referred to as the Fuel Company, TVEL FC, the Company*) for the year 2012.

The Company adopted the annual reporting cycle, and the previous report was published in 2011. The Statement for 2012 was prepared in an integrated format to provide for comprehensive description of the major results in financial and manufacturing fields of activity as well as results of activity in the field of sustainable development. The Statement was executed in follow-up of the Company activity as of 2012. The key indicators are cited in progress over the course of 3 years. The Statement also includes description of short-, medium- and long-term plans and intents of the Company.

All financial figures are formulated and cited in the Statement in accordance with the Russian accounting standard.

The consolidation profile shall include:

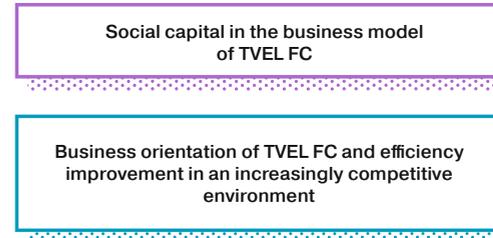
- TVEL JSC;
- MSZ JSC;
- JSC CMP;
- JSC NNCP;
- JSC “MZP”;
- JSC “VNIINM”;
- JSC UEIP;
- JSC “SGChE”;
- JSC AECC;
- JSC “PA ECP”;
- JSC “VPA “Tochmash”;
- “KMP” OJSC;
- EC RGC JSC;
- Incorporated Company RSK OJSC;
- UGCMP Ltd.;
- NRDC LLC;
- “EDB-Nizhny Novgorod”;
- “Centrotech-SPb”;
- Uralpribor Ltd.

and corresponds to the perimeter of consolidation of financial statements of TVEL FC.\*

All financial figures are formulated and cited in the Statement in accordance with the Russian accounting standard.

The following priority subjects of the Statement were set forth in the context of the company activity in 2012 and in compliance with the recommendations of the Public Reporting Committee members of TVEL JSC and related parties of the Company:

.....  
 \* According to the decision of the Committee on Public Reporting of TVEL JSC, the margins of the Statement's consolidation were modified as compared to the Annual Statement of TVEL JSC for 2011: UGCMP Ltd., Incorporated Company RSK JSC, “Centrotech-SPb”, “EDB-Nizhny Novgorod”, NRDC LLC, and Uralpribor Ltd. were included.



**The activities** of TVEL FC are directed not only to the strategic tasks to increase revenues and expand the market share, i.e. they are related to the achievement of certain economic indicators, but also include a lot of work on the harmonious development of both the company and society. The system of interrelations created in TVEL FC, as well as between the Company, various stakeholder groups and other companies, aimed at increasing mutual well-being, is recognized as social capital which is one of the resources for the business model. Development, strengthening and improvement of the relationship system formed over the years is one of the most important tasks of TVEL FC. The project “Social capital in the business model of TVEL FC” allows disclosing information about these activities of the Company in this Statement to the fullest extent possible.

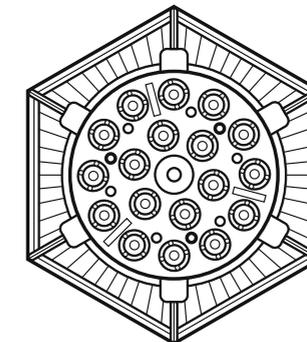
**The main mission** of TVEL FC is to provide high quality competitive product which is impossible without business improvement. The package of measures implemented in recent years to reduce costs, increase productivity and other economic indicators confirms the relevance and importance of these issues for both the management of the Company and the stakeholders which determined the choice of the project “Business orientation of TVEL FC and efficiency improvement in an increasingly competitive environment”.

The work related to the Statement preparation was accomplished in consort with stakeholders of TVEL FC (the controlling organization is Rosatom State Atomic Energy Corporation; the federal and regional authorities, suppliers, consumers, SA, administration of Closed Administrative-Territorial Entities, environmental organizations, trade union organization (RNPITU), foreign business partners, etc.).\*

### The Statement was prepared with account of requirements of the regulatory documents as follows:

- policy of Rosatom State Atomic Energy Corporation in the field of public reporting and Typical Standard of public annual reporting of the major organizations of Rosatom State Atomic Energy Corporation;
- order of FFMS №11-46/pz-n dd. 04.10.2011 “Concerning Approval of the Provision related to Information Disclosure by the issuers of issuable securities”;

.....  
 \* Chapter 6. “Public reporting system and the interaction with stakeholders during preparation of the Report”.



**TVEL** is a fuel pin that serves as a constructive basis for nuclear fuel of reactors, a sealed metal pipe that houses the fissile material (most frequently it is a sintered uranium dioxide) in the form of cylindrical pellets.

- Code of Corporate Conduct (recommended for use by the Resolution of the Federal Commission for the Securities Market dd. 04.04.2002 №421/r);
- Sustainability Reporting Guidelines — the Global Reporting Initiative, version G3.1;
- AA1000 standard of the International Institute of Social and Ethical Accountability.

Recommendations (prototype) of the International Council for Integrated Reporting, suggestions of stakeholders and auditors made during the preparation of this and previous annual statements, as well as the analysis of the best Russian and international practices of preparation of annual reports were taken into account in the preparation of this Statement.

### Information disclosure level

When preparing the present Annual Statement as well as 2011 Annual Statement, TVEL FC was geared to achieving information disclosure level A+ (version G3.1).\*

	C	C+	B	B+	A	A+
<b>STANDARD ITEMS</b>						
<b>Reporting element G3.1 — profile</b>	Disclosure of information on: 1.1 2.1–2.10 3.1–3.8, 3.10–3.12, 4.1–4.4, 4.14–4.15	<b>THE STATEMENT PASSED EXTERNAL CONFIRMATION</b>	Disclosure of information on all criteria for Level C, as well as on: 1.2 3.9, 3.13 4.5–4.13, 4.16–4.17	<b>THE STATEMENT PASSED EXTERNAL CONFIRMATION</b>	The same as for Level B	<b>THE STATEMENT PASSED EXTERNAL CONFIRMATION</b>
<b>Information on Management Approach G3.1</b>	Not required		Information on management approach for each category of Indicators		Information on management approach for each category of Indicators	
<b>Performance indicators G3.1 and performance indicators of industry applications</b>	Disclosure of information on 10 Performance Indicators, including at least one of the social, economic and environmental ones		Disclosure of information on 20 Performance Indicators, including at least one of the social, economic and environmental ones, as well as indicators of human rights, approaches to labour management, society and product responsibility		Response to each main indicator G3 and Industrial Supplement** with due regard to the Principle of materiality by: <b>a) disclosure of information on the indicator,</b> or <b>b) explanation of the reasons for its omission</b>	

\* A list of public reporting indices disclosed in the Statement in compliance with GRI Guidance is set forth in Appendix 2.

\*\* Industrial supplement in final version.

### Reliability of information contained in the Statement was confirmed by the opinions as follows:

- opinions of the Audit Commission (with regard to accounting reports of TVEL JSC);
- opinion of Internal Control and Audit Management of TVEL JSC (with regard to the efficiency of internal control system for reporting process and compliance of the Statement with the requirements of law and standards of Rosatom State Atomic Energy Corporation and TVEL JSC in the field of public annual reporting);
- opinion of the audit organization NP Consult CJSC confirming reliability of financial reports of TVEL JSC in accordance with AA1000 Assurance Standard 2008 and the International standard ISAE 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information;
- opinion of the audit organization confirming reliability of non-financial data published in the Statement.

### Major differences between the Statement of TVEL JSC for the year 2012 and the previous statement are as follows:

- the Statement was prepared with due regard to IIRC recommendations on Integrated Reporting: the concept of capital, business models and value creation was used; the basic principles and elements of the content offered in the Prototype were taken into account in the disclosure of the accounting information;
- the Report contains trend data over the last 3 years;
- the number of disclosed indicators for public reporting increased;
- the total number of the disclosed indicators amounted to 152 units (18 units more than in 2011);
- the total number of the disclosed indicators of public reporting in Rosatom State Atomic Energy Corporation is 48 units (1 unit more than in 2011);
- the total number of the disclosed efficiency indicators in the sustainable development of GRI amounted to 82 units (22 units more than in 2011).

The Company would like to thank all employees who participated in the preparation of the Statement, all the participants of public consultations and dialogues with stakeholders. We hope that you will read the Statement with interest, and you will learn more about TVEL FC. We are open to and would appreciate your feedback and suggestions on the topics and issues that you would like to see in the next annual statement.

§2.  
MESSAGES  
BY THE CHIEF  
EXECUTIVES



**A. M. Lokshin**

**Message by Mr. Lokshin A. M., Chairman of the Board  
of Directors of TVEL JSC**

*Dear colleagues!*

**The year** 2012 was a year of impressive performance in many lines of activity of Rosatom State Atomic Energy Corporation.

A key milestone in the development of the national atomic energy industry for the last year, of course, is a record-breaking electricity generation (more than 177 bn kWh) by Russian Nuclear Power Stations. The fourth power-generating unit of the Kalinin nuclear power plant (the first one built from greenfield in the post-Soviet period) was launched into commercial operation. Works on domestic and international reactor construction projects consistently increased. Traditionally in 2012, the government defence order was completely executed.

TVEL Fuel Company makes a strong contribution to the development of Rosatom State Atomic Energy Corporation while permanently showing good results. Guidelines laid down by the Board of Directors in 2012, were decisive in the development of its corporate structure, investment policies, measures of economic and social efficiency.

To improve the efficiency, the Fuel Company is now implementing the project “Transformation of industrial relations” which is focused on involvement of employees in the management process, team spirit development, and team orientation to achieve final results. The company’s concern about people, the aim to improve working conditions and help in solving personal problems define its socially oriented policy and make TVEL JSC an attractive domestic employer.

Today, Rosatom State Atomic Energy Corporation has a strategic objective to achieve global technological leadership. One of the conditions to reach it according to Rosatom is innovative development of the Fuel Company and increase of its scientific, technological and industrial capacity.

Success of the Fuel Company in the foreign and domestic markets, development of new business lines, and financial performance suggest that the TVEL JSC moves in the right direction.

*The Chairman of the Board of directors of TVEL JSC*

*A. M. Lokshin*

**Message by Mr. Olenin Yu. A., President of TVEL JSC**

*Dear colleagues!*

**The year** 2012, challenging for the global nuclear power industry, was marked by the success of TVEL JSC as a company being global player in the front end of nuclear fuel cycle. In the context of a clear decline in demand for the products of the front-end nuclear fuel cycle and large-scale structural changes, we have managed not only to maintain, but also to raise the bar of our global presence to surpass financial and economic indicators of 2011.

We successfully completed governmental order, plans for conversion and enrichment of uranium, production and supply of nuclear fuel. Annual increase in gross profit margin was 17.26%, net profit increased by 19.09%, the average salary — by 19%, labour productivity — by 21.62%.

The main lines of activity of TVEL JSC were defined by the corporate strategy of Rosatom to conquer technological leadership in the international market where 80% of the products of the Fuel Company are sold today. As part of this strategic task, new areas of sales and technology were explored, efficiency of science and existing industry increased, capacity and product samples were updated.

One of the undeniable achievements along the way is creating fuel for PWR reactors and testing of TVS-KVADRAT, which mark the actual breakthrough of the Fuel Company to the markets of the Western Europe. Projects of Russian-Ukrainian plant for nuclear fuel production and the Russian-Kazakh Uranium Enrichment Centre are underway.

The launch of a gas centrifuge of the 9<sup>th</sup> generation into series production was a milestone event last year. Unique technical solutions and new materials have significantly enhanced performance and resource use. The success of the GC-9 is assured with a strong intelligent-secured fusion of science and production activities of the Company, ambition to stay a driving force of the nuclear industry.

International conjuncture recently updated the course of TVEL JSC for the development of non-nuclear industries. In fact, it became the second point of the Company’s growth. Last year proceeds from the sale of general industrial products and services were half as much as in 2011. Significant growth is directly related to the dynamic development of innovative business lines, implementation of promising projects in the engineering, chemical, and metallurgical clusters. Necessary infrastructure is routinely created for the development of non-nuclear areas. Optimizing resources and costs, it stands a strong argument in favour of further expansion of export-oriented industrial society.

The fundamental principle of the Fuel Company is a balance between efficiency and social and environmental acceptability. In the reporting year, as before, TVEL JSC has positioned itself as a socially oriented company. Production activity of the companies within its contour was purposefully supported by a system of measures to maintain social stability. Business relations with the administrations, trade unions and public in



**Yu. A. Olenin**

the cities of presence were strengthened; it would be difficult to provide corporate and social responsibility of the Company without their help and support.

I would like to extend my heartfelt thanks to the heads and specialists of Rosatom State Atomic Energy Corporation, regional and local authorities, directors and employees of the enterprises of TVEL JSC, to everyone whose efforts helped the Fuel Company to manage and work effectively in 2012 and have created conditions for successful development in the current year.

*President of TVEL JSC*

*Yu. A. Olenin*

### §3. KEY RESULTS

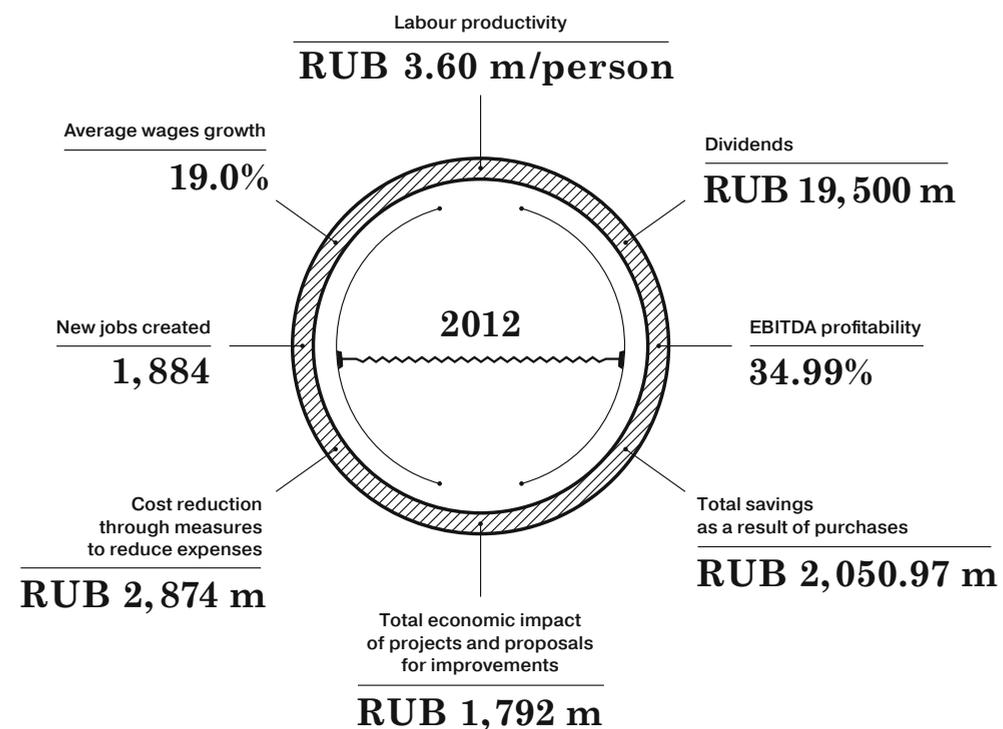


Table 2. Key performance indicators of TVEL FC.

Indicators	2010	2011	2012
Proceeds (net) from sales of products (excluding VAT and excise duties, similar mandatory payments), m RUB	121,443	126,090	121,958
Gross margin, m RUB	30,882	33,506	39,289
Net profit, m RUB	12,245	16,494	19,642
Net assets, m RUB	543,257	559,318	566,907
EBITDA (earnings from operating activity before interest, taxation, depreciation and amortization), m RUB	31,974	38,078	42,668
Gross tax deductions to the federal, regional and local budgets, m RUB*	14,162	16,921	15,402
Expenses related to implementation of environmental programs, m RUB	1,787	2,212	2,224

- Uranium Enrichment Centre Project: JSC “NAK Kazatomprom” and TVEL JSC signed key legal documents for the implementation of the Uranium Enrichment Centre Project;
- Technology Services Centre — ALVEL JV: contract with JSC “VNI-INM” to conduct research, the results of which are needed to ensure long-term supplies of nuclear fuel for the operator of a nuclear power plant in the Czech Republic;
- Ukraine Plant Project: solemn ceremony for the construction of the first plant to produce nuclear fuel in Ukraine;
- signing of a contract with a Western European company for the supply of an experimental batch of TVS-KVADRAT;
- introduction of the first industrial unit of gas centrifuges of the 9th generation into service in JSC “PA ECP”;
- start of the project “Proryv” was officially announced on the site of JSC “SGChE”;
- project “Replication and development of the automated control system for the design and technological preparation of production” (ACS-DTPP) started in the division of gas centrifuges TVEL FC;
- completion of the transfer of the gas centrifuges production from JSC “VPA “Tochmash” to “KMP” OJSC.

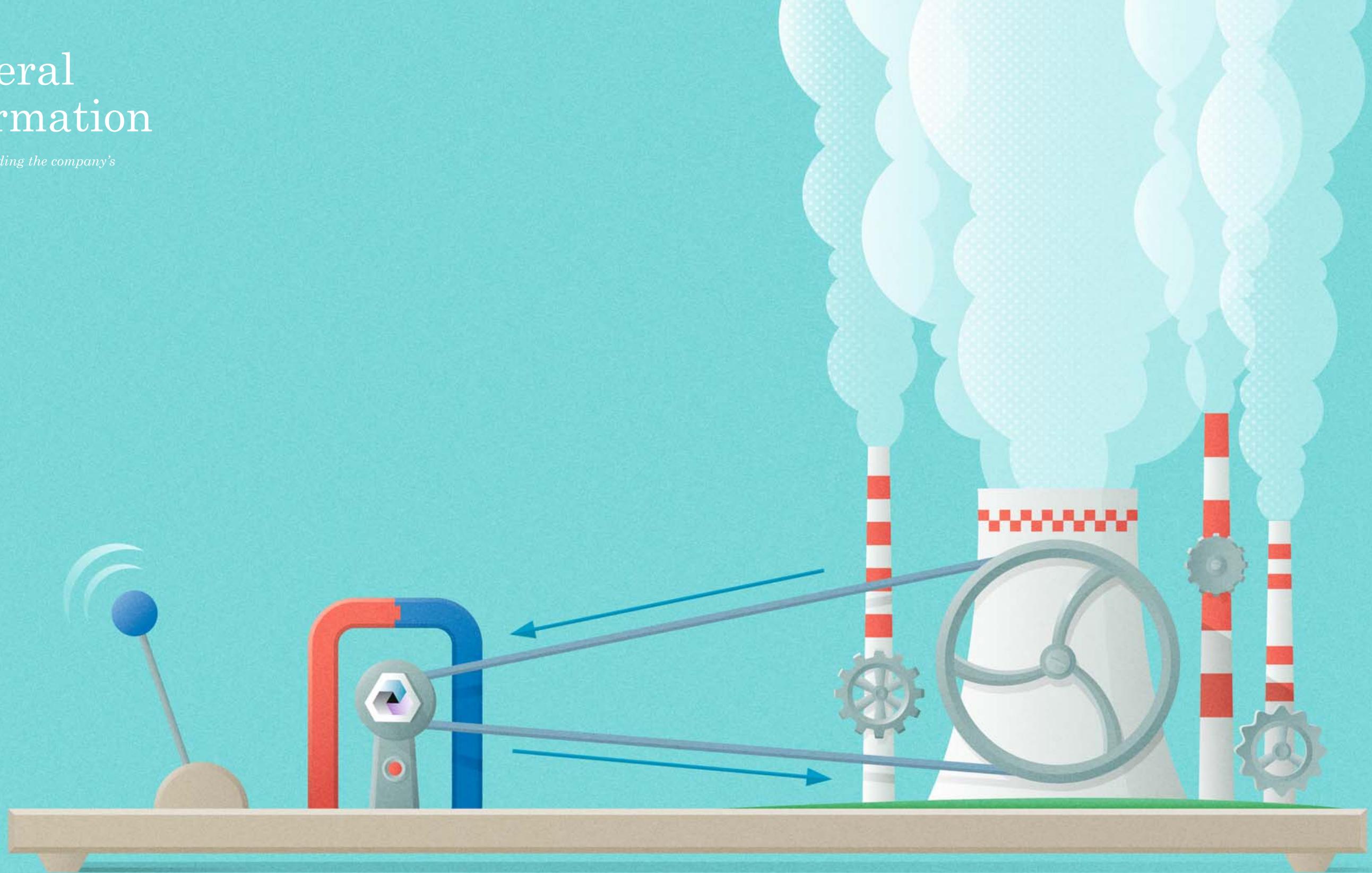
### §4. SCHEDULE OF KEY MILESTONES

Signing of the Agreement for cooperation between Rosatom State Atomic Energy Corporation and the governors of Sverdlovsk and Tomsk Regions, Krasnoyarsk Territory, and the President of the Republic of Udmurtia.

\* Net of VAT to be recovered from the budget.

# General information

*for understanding the company's  
profile*



# Chapter 1. General data

## §5. COMPANY BACKGROUND INFORMATION

**The Fuel** Company is a part of Fuel Division\* of Rosatom State Atomic Energy Corporation and includes enterprises engaged in nuclear fuel fabrication, uranium conversion and enrichment, production of gas centrifuges as well as research and development organizations.

TVEL JSC is a parent company of the Fuel Company Rosatom State Atomic Energy Corporation.

The full name of the company is Joint Stock Company TVEL.

The short name of the company is: TVEL JSC.

The company is registered by Moscow Registration Chamber on September 12, 1996.

Location: 24, Big Ordynka Str., Moscow, 119017, Russia.

Postal address: 49, Kashirskoe Shosse, 115409, Moscow.

### History

1991

1991 — State Concern TVEL was established on the basis of the Third Chief Technology Directorate of the Ministry of Atomic Energy and Industry of the USSR.

1992

1992 — Nuclear fuel cycle enterprises established Open Joint-stock Company “Concern TVEL” to pool resources and expand cooperative ties.

1996

1996 — Nuclear fuel cycle operating organization was established in the sphere of nuclear fuel production, as well as parent company TVEL JSC which consolidated shares of some nuclear fuel cycle enterprises in its registered capital. 100% of the Company’s shares are in the federal ownership.

Further

In the late 1990-s and early 2000-s, TVEL JSC increased its participation share in the subsidiary companies, established support infrastructure companies as well as consolidated industrial ore mining assets which further served as a basis for foundation of industrial uranium mining company JSC “Atomredmetzoloto”.

In 2007, the Open Joint-Stock Company “Atomic Power Generation Complex” became the sole shareholder of TVEL JSC, consolidating assets of the civil sector of the Russian atomic industry.

In compliance with the Federal law dd. December 1, 2007 №317-FZ “Concerning Rosatom State Atomic Energy Corporation”, shares of Atomenergoprom JSC (100%) assigned as federal property were transferred to Rosatom State Atomic Energy Corporation as an asset contribution of the Russian Federation.

In September, 2009, Rosatom State Atomic Energy Corporation adopted a decision to establish Fuel Company of Rosatom State Atomic Ener-

\* In addition to TVEL JSC and its subsidiaries, the Fuel Division also includes Techsnabexport JSC which is an exporter of Russian uranium enrichment services and enriched uranium products to the international markets.



1

Fig. 1. A fragment of a fuel assembly for the VVER-1000 reactor.

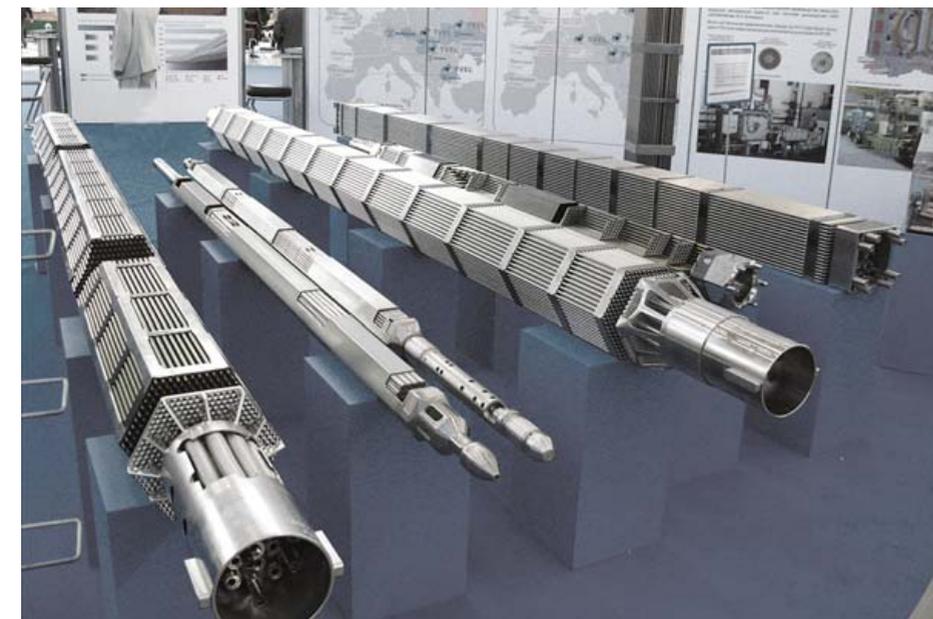
Fig. 2. Fuel pellets made of uranium dioxide for fuel assemblies.

Fig. 3. Fuel assemblies for various types of power plant reactors (VVER-440, VVER-1000, BN, PWR).

Fig. 4. Fuel pellets made of uranium dioxide for the assemblies of the RBMK reactor.



2



3



4

gy Corporation based on TVEL JSC; the new company, apart from TVEL JSC and its subsidiary and affiliated companies, included enterprises of separation and sublimation and gas-centrifuge complexes.

The Corporate Structure of TVEL FC as of 31.12.2012 is presented in the Corporate Governance Section (see Fig. 8).

You can find more information about the history of the company and its current activities at [www.tvel.ru](http://www.tvel.ru).

Electronic versions of the annual reports of TVEL FC for 2011 and prior periods are available at:

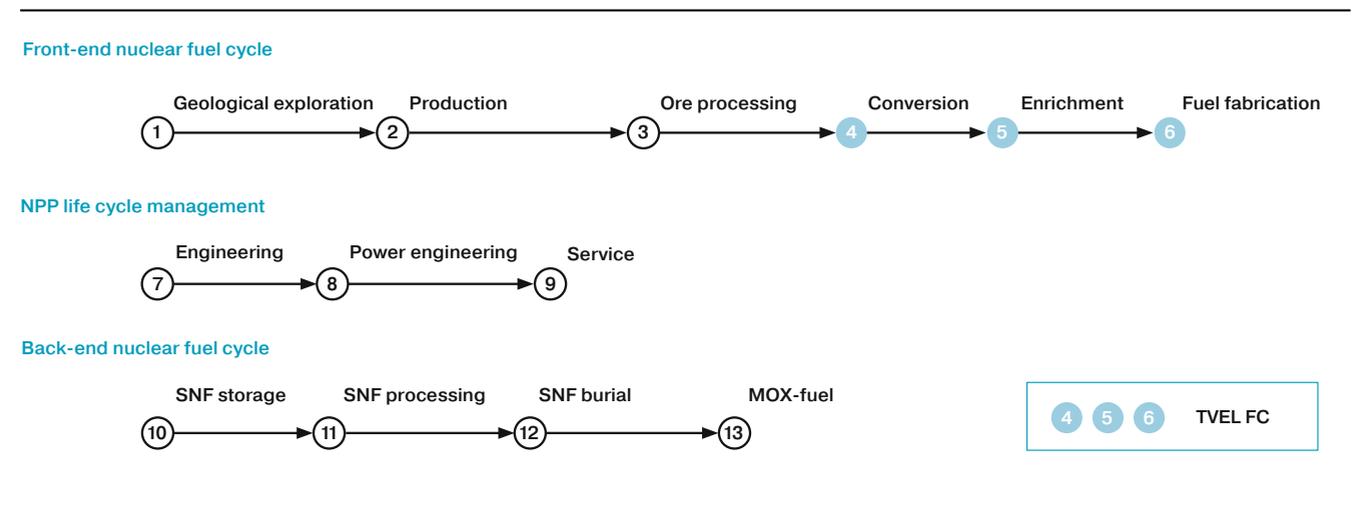
[http://www.tvel.ru/wps/wcm/connect/tvel/tvelsite/finance/annual\\_report/](http://www.tvel.ru/wps/wcm/connect/tvel/tvelsite/finance/annual_report/)

## §6. BASIC CHARACTERISTICS

**The core** activity of TVEL FC is production and supplies of nuclear fuel for power and test reactors in Russia and abroad, relevant nuclear and non-nuclear products. One of the business priorities of the Fuel Company is also nuclear, radiation, environmental and industrial safety performance.

TVEL FC takes the central place in the structure of Rosatom State Corporation for the front-end nuclear fuel cycle.

Fig. 1. Position of TVEL FC in the nuclear fuel cycle.



TVEL FC satisfies the needs of 74 power reactors in Russia and 15 power reactors in Europe and Asia, 30 test reactors worldwide, as well as Russian transportation plants of Nuclear-powered Fleet. Every sixth power reactor in the world operates using the fuel produced by TVEL FC.

Apart from its core activity related to nuclear fuel production, TVEL FC supplies to the Russian and global market a wide range of non-nuclear

products: zirconium, lithium, calcium, magnets, and thin-wall pipes, polishing powders, pinch rolls, zeolite catalysts, superconductor materials and other products.

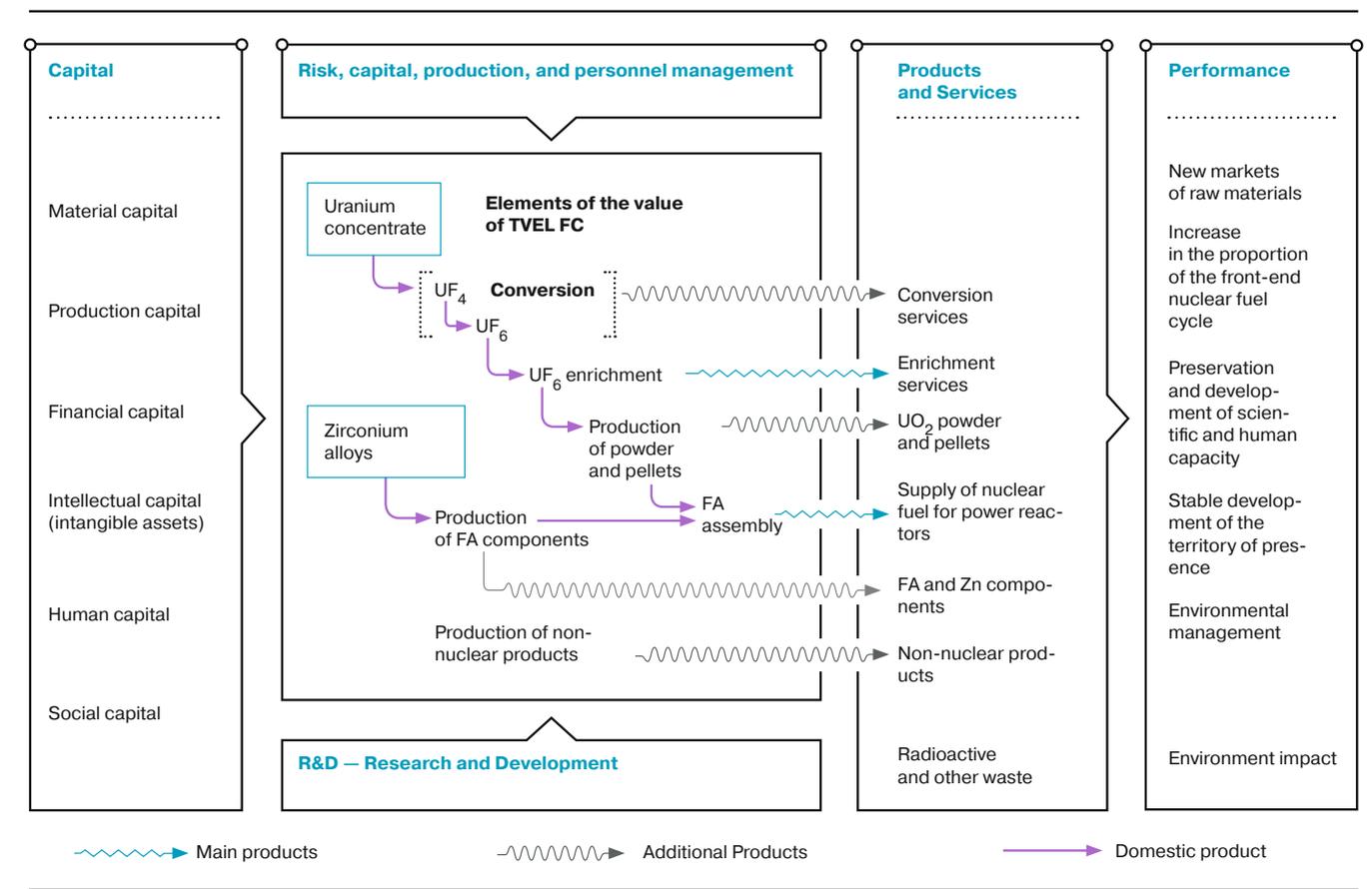
Hydrometallurgical, metal-working, machine-building plants and rolling mills successfully operate at the enterprises of TVEL FC with the assistance of its own design, engineering and R&D divisions.

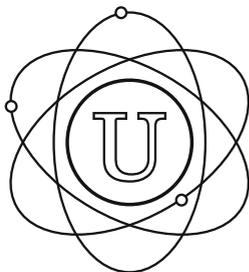
**Two** value chains are identified in accordance with the main activities in the business model of TVEL FC.

The first and basic value chain underlying the Company's business is related to the production of nuclear fuel.

## §7. BUSINESS MODEL

Fig. 2. Business model of TVEL FC.





Uranium-235 is a natural uranium isotope with an atomic mass of 235 and a half-life period of  $7.1 \times 10^8$  years. It is the only fissile material that is found in nature.

The material capital for the business model is raw materials and materials used for the production of nuclear and non-nuclear products. The raw material for the production of nuclear fuel is uranium concentrate which goes to the chemical production area of the separation-sublimation complex where concentrate is averaged and cleaned of impurities. The final product of the chemical production area is uranium tetrafluoride ( $UF_4$ ) which is then sent to the conversion. Further, with the help of gaseous fluorine, uranium tetrafluoride is transformed to uranium hexafluoride ( $UF_6$ ). At the enterprises of the separation-sublimation complex, uranium hexafluoride is enriched in the isotope uranium-235. Uranium enrichment is based on a modern and cost-effective gas centrifuge technology allowing us to achieve the required level of uranium enrichment.

Uranium dioxide powder ( $UO_2$ ) is made of enriched uranium hexafluoride at the enterprises of the fabrication complex.

The derived powder is used for the production of fuel pellets being completed in the fuel assemblies ( $FA_s$ ). The main structural material used for making the fuel element is zirconium alloys.

The main end products of the companies fabricating nuclear fuel are the fuel assemblies for energy, research and transport reactor units produced in Russia or Western countries.

Other resources (capital) are involved in creating value in addition to the material ones.

The high-tech industrial base and advanced equipment and technology are one of the most important conditions for the effective functioning of the business. Research and development activities related to the improvement of the industrial and technological base steadily increase the cost of the Company. Thus, the relationship of industrial and intellectual capital has a significant impact on the development both of business of TVEL FC and the nuclear industry and science in general.\*

Priorities for the nuclear industry are availability of highly qualified specialists and development and improvement of their skills. It is impossible to overestimate the degree of business dependence on competent staff and impact of human capital on the society.\*\*

The relationship of TVEL FC with the suppliers and contractors, clients and customers, partners and society is the social capital having significant impact on the business and is one of the major capitals in the business model. Social capital can be measured by both quantitative and qualitative parameters; our approach is to assess the relevance and materiality of its impact on other capitals involved in value creation, as well as on the external community in the present and future. This approach is implemented in the Statement in the description of processes and outcomes of the Company's interaction with stakeholders, in particular:

- the involvement of TVEL FC in social projects;
- infrastructure projects in the regions of presence;

\* For details see Chapter 4, "Scientific and Technological Activities".

\*\* For details see section "Personnel Management", Chapter 5.

- positioning the Company as a responsible employer;
- scientific and human potential development;
- participation in cultural and educational projects;
- evaluation of customer satisfaction;
- solicitous attitude to the natural resources and management of adverse effects on the environment;
- introduction of advanced control technologies;
- ensuring transparency in procurement and fair competition.

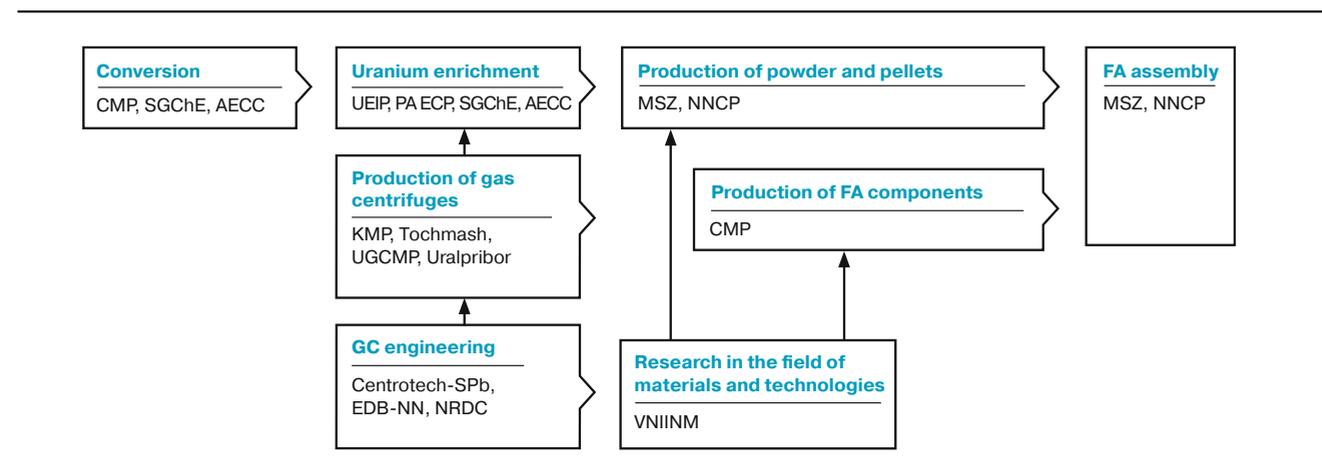
The allocation of the second major value chain — "Production of non-nuclear products" — is based on adoption and approval of the Fuel division strategy in 2011, development of the second core business defined by the management of TVEL FC as one of the priority strategic initiatives, as well as the development and implementation of project activities in the field.\*

The Fuel Company's activities related to the production of components for the fuel assemblies, engineering and manufacture of gas centrifuges enable creation of the Company's additional products.

Effective financial, risk and innovation management is the basis for the success of TVEL FC.

The market advantages of TVEL FC products are represented by delivery completeness, high quality and competitive price achieved due to extensive production scope and technological know-how.

Fig. 3. Place of particular enterprises of TVEL FC in the value chains.



The operations management centre of the Fuel Company is TVEL JSC.

\* For details about production of non-nuclear products see sections "Production and economic results", Chapter 3, and "Innovation Activities in Non-Nuclear Industry", Chapter 4.

## Separation-sublimation complex

Joint Stock Company Angarsk Electrolysis Chemical Complex (JSC AECC),  
Angarsk, the Irkutsk Region

The main activity of the company is the production of uranium hexafluoride enriched in isotope U-235 up to 5%, as well as services for the conversion of uranium oxide and uranium tetrafluoride into uranium hexafluoride, and services for the enrichment of uranium in the form of uranium hexafluoride from customer's raw materials.

Along with the core operations, JSC AECC produces chemical and other products. The proceeds from the sale of non-nuclear products constitute about 4% of the total proceeds of the enterprise.

At the present time, the Company is actively involved in the discussion of the issue of a large-scale development of non-nuclear production to be closely related with the future of JSC AECC. There are several projects of sublimation products diversification in the future. For details about these projects and performance results of JSC AECC refer to the company's web-site: [www.aecc.ru](http://www.aecc.ru) and the annual statement of JSC AECC for 2012.

Joint Stock Company "Production Association "Electrochemical Plant" (JSC "PA ECP"),  
Closed Administrative-Territorial Entity of Zelenogorsk,  
Krasnoyarsk Territory

Joint Stock Company "Production Association "Electrochemical Plant" produces uranium hexafluoride enriched in U-235 isotope up to 5%, which is used for production of fuel for nuclear power plants (NPP). In 2012, the company launched production of highly enriched uranium raw material for the manufacture of nuclear fuel for energy and power plants; it fully developed the technology and reached the design capacity for processing of depleted uranium hexafluoride and transfer of it in an environmentally less dangerous form.

Moreover, Joint Stock Company "Production Association "Electrochemical Plant" is one of the world's largest manufacturers of stable isotopes of various chemical elements using gas centrifuge technology, possesses know-how for radioactive isotopes production. The company is engaged in storage and processing of depleted uranium hexafluoride (DUHF), including production of fluohydric acid and anhydrous hydrogen fluoride, and sells a number of other high-tech products.

In 2012, JSC "PA ECP" set a unit of gas centrifuges with GC of the 9<sup>th</sup> generation in operation.

JSC "PA ECP" is a core company of Zelenogorsk Closed Administrative-Territorial Entity (Krasnoyarsk Territory).

For details about the activities of JSC "PA ECP" refer to the company's web-site: [www.ecp.ru](http://www.ecp.ru) and the annual statement of JSC "PA ECP" for 2012.

Joint Stock Company "SIBERIAN GROUP OF CHEMICAL ENTERPRISES" (JSC "SGChE"),  
Seversk, the Tomsk Region

The production kernel of JSC "SGChE" is represented by four plants handling nuclear materials:

- isotope separation plant;
- sublimation plant;
- radio-chemical plant;
- chemical-metallurgical plant.

The major produce is uranium hexafluoride 5% enriched in U-235 isotope, uranium hexafluoride for enrichment as well as related services concerning enrichment, conversion and refining (affinage) of uranium materials. JSC "SGChE" is selling its products (services) both on the domestic market and starting from 1993 — on the external market.

JSC "SGChE" is a town-forming enterprise of the Closed Administrative-Territorial Entity of Seversk.

For details about the activities of JSC "SGChE" refer to the company's web-site: [www.atomsib.ru](http://www.atomsib.ru) and the annual statement of JSC "SGChE" for 2012.

Joint-Stock Company Ural Electrochemical Integrated Plant (JSC UEIP),  
Novouralsk, the Sverdlovsk Region

JSC UEIP is the largest uranium enrichment enterprise in the world. A gas centrifuge technology is used for uranium enrichment.

Today, the core activities of JSC UEIP include production of uranium hexafluoride 5% enriched in U-235 isotope for nuclear power plants; nickel products; development of filters and filtering elements of general industrial and special use; production of accumulators; isotopic products (standard specimens of uranium isotopic and chemical composition).

Unique scientific research results of JSC UEIP enabled creation of specialized affiliates and arrange delivery of non-nuclear products: electrochemical generators of various modifications, nickel-hydrogen batteries for communication satellites, sintered metal filters for purification of indoor air and process gases in the nuclear industry and national economy.

The system of standard specimens of uranium isotopic composition (SSUIC) includes 140 types of standard specimens encompassing the overall range of uranium-235 content to satisfy any consumer demands.

For details about the activities of JSC UEIP refer to the company's web-site: [www.ueip.ru](http://www.ueip.ru) and the annual statement of JSC UEIP for 2012.

Table 3. Key performance indicators of main enterprises of the separation-sublimation complex for 2012.

Key performance indicators	AECC	PA ECP	SGChE	UEIP
Proceeds (net) from sales of product, m RUB	5,979	13,244	16,933	19,836
Gross margin, m RUB	2,421	4,173	3,663	8,367
Income tax, m RUB	291	494	397	1,139
Net profit, m RUB	878	1,139	377	4,185
Net assets, m RUB	13,994	31,849	21,624	54,811
Labour efficiency, m RUB/persons	3.3	3.9	2.6	4.6
Current (operational) environmental expenses, m RUB*	55.9	136.8	665.5	752
Average list number of employees, persons	1,835	3,360	6,818	4,341

### Nuclear fuel fabrication complex

Joint Stock Company "MASHINOSTROITELNY ZAVOD" (MSZ JSC),  
Electrostal, the Moscow Region

The basis of the production program of Joint Stock Company "Mashinostroitelny zavod" is nuclear fuel production supplied in the form of fuel assemblies (FA) for various types of power plant reactors (VVER-440, VVER-1000, LWGR-1000, BN-600, BN-800, EGP-6, PWR, BWR), marine propulsion reactors of the Russian Fleet and test reactors as well as fuel components (fuel pellets).

Along with the nuclear fuel production for NPP, the plant manufactures other products. The enterprise successfully carries out production of anisotropic ferritic-strontium magnets of various geometric patterns. At the present time, the plant has mastered manufacture of magnets based on neodymium-iron-boron alloy, arranged for the production of highly thin-wall pipes made of corrosion-resistant steels and alloys for nuclear fuel units (fuel pins) and FA components of power plants, and for the needs of machine-building industry. The company provides for the manufacture and supply of calcium in granulae and chips.

For details about the activities of MSZ JSC refer to the company's web-site: [www.elemash.ru](http://www.elemash.ru) and the annual statement of MSZ JSC for 2012.

\* Employees under civil law contracts and external part-timers are not considered here and below.

Joint-Stock Company "NOVOSIBIRSK CHEMICAL CONCENTRATES PLANT" (JSC NNCP),  
Novosibirsk, the Novosibirsk Region

JSC NNCP is one of the largest enterprises of the Russian nuclear fuel cycle (NFC) for the production of nuclear fuel for power and test reactors, production of lithium and its compounds.

The plant represents a modern automated complex of chemical and machine-building production processes related to fuel production for NPP (major produce is fuel for NPP with reactor VVER-1000), test and power reactors.

The enterprise has a large-scale technological complex for the manufacture of lithium products.

For details about the activities of JSC NNCP refer to the company's web-site: [www.nccp.ru](http://www.nccp.ru) and the annual statement of JSC NNCP for 2012.

Joint-stock company "Chepetsky Mechanical Plant" (JSC CMP),  
Glazov, the Udmurt Republic

JSC CMP produces construction materials and components for fuel assemblies, and production of natural uranium and is a sole manufacturer of zirconium, zirconium-base alloys in Russia as well as items made of zirconium nuclear quality alloys, natural and depleted uranium and calcium metal.

The plant uses unique technologies for the manufacture of rolled tubular products, sheet products made of zirconium and items made thereof applied not only at the nuclear power enterprises, but also in chemical, oil-and-gas, medical and food industries.

The plant is also one of the largest world producers of calcium and a sole enterprise in Russia possessing unique equipment for the production of superconductors based on niobium-titanium alloy and niobium-tin compounds which will be used in the manufacture of magnets for nuclear fusion reactor ITER — the largest international project of the future.

For details about the activities of JSC CMP refer to the company's web-site: [www.chmz.net](http://www.chmz.net) and the annual statement of JSC CMP for 2012.

Joint Stock Company "Moscowpolymetalplant" (JSC "MZP"),  
Moscow

JSC "MZP" has been the head organization for the development and production of controls, regulators and protection systems for nuclear power reactors VVER-1000, LWGR-1000/1500, BN-600, BN-800 test and commercial reactors as well as marine reactor plants of nuclear-powered vessels and special-purpose vessels. Since 2012, the production of absorbers for the nuclear reactor controls and protection systems has been transferred to JSC "MZP".

The enterprise supplies products for 42 power units of NNP in Russia and abroad, including such countries as Ukraine, Bulgaria, China, and Iran.

For details about the activities of JSC “MZP” refer to the company’s web-site: [www.mzp.ru](http://www.mzp.ru) and the annual statement of JSC “MZP” for 2012.

Table 4. Key performance indicators of main enterprises of the nuclear fuel fabrication complex for 2012.

Key performance indicators	MSZ	NNCP	CMP	MZP
Proceeds (net) from sales of product, m RUB	12,358	5,946	11,167	1,660
Gross margin, m RUB	3,347	2,139	2,193	788
Income tax, m RUB	353	168	120	104
Net profit, m RUB	1,019	362	(-1,359)	390
Net assets, m RUB	24,719	14,567	13,268	3,202
Labour efficiency, m RUB/persons	3.0	2.6	2.6	4.4
Current (operational) environmental expenses, m RUB	4,128	2,272	4,255	374
Average list number of employees, persons	123.8	204.6	205.4	4.5

### Gas-centrifuge complex

Gas-centrifuge complex is a group of industrial companies producing gas centrifuges and accessories for the enterprises of the separation-sublimation complex.

Kovrov Mechanical Plant Open Joint Stock Company (“KMP” OJSC),  
Kovrov, the Vladimir Region

It is an enterprise for mass production of gas centrifuges for the needs of uranium enrichment companies; it is designed to provide complete gas centrifuges for acquisition-sublimation separation facilities of TVEL FC.

Since 2010, “KMP” OJSC has started implementation of “New Plant” project aimed at reduction of cost of gas centrifuges while improving the quality, thereby becoming a competitive company in the market of the world’s nuclear power industry. In this project, the production capacities of JSC “VPA “Tochmash” were transferred to the sites of “KMP” OJSC; thus, the production of gas centrifuges today is concentrated in one place. The Centre of Mechatronics was set up in JSC “VPA “Tochmash”.

For details about the activities of “KMP” OJSC refer to the company’s web-site: [www.kvmz.ru](http://www.kvmz.ru) and the annual statement of “KMP” OJSC for 2012.

Joint Stock Company “Vladimir Production Amalgamation “Tochmash” (JSC “VPA “Tochmash”),  
Vladimir, the Vladimir Region

Earlier, about 70% of the products manufactured by JSC “VPA “Tochmash” were represented by major equipment for uranium enrichment — gas centrifuges. Currently, the company manufactures components for gas centrifuges, products for the storage of spent nuclear fuel — Ampules PT, Penalty, as well as products for the general industrial use.

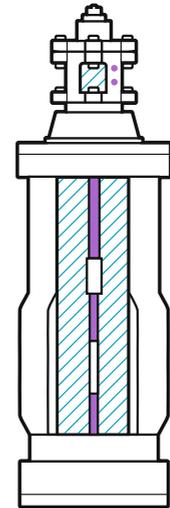
JSC “VPA “Tochmash” is currently focused on the development of new modern products of highly-precise instrument and machinery engineering.

For details about the activities of JSC “VPA “Tochmash” refer to the company’s web-site: [www.vpotochmash.ru](http://www.vpotochmash.ru) and the annual statement of JSC “VPA “Tochmash” for 2012.

Limited Liability Company “Ural Gas Centrifuge Manufacturing Plant”(UGCMP Ltd.),  
Novouralsk, the Sverdlovsk Region

It is a monoplant specializing in the serial production of gas centrifuges for the needs of uranium enrichment enterprises.

In 2013, they plan to set up mass production of a new generation of gas centrifuges.



A period of continuous operation of a centrifuge produced by TVEL FC is up to 30 years.  
The speed of rotation is more than 1,500 times per second.

Table 5. Key performance indicators of main enterprises of the gas-centrifuge complex for 2012.

Key performance indicators	JSC “VPA “Tochmash”	“KMP” OJSC	UGCMP Ltd.
Proceeds (net) from sales of product, m RUB	1,974	4,388	2,538
Gross margin, m RUB	134	641	137
Income tax, m RUB	0	12	—
Net profit, m RUB	(-336)	6	2
Net assets, m RUB	3,440	2,119	5
Labour efficiency, m RUB/persons	1.1	2	2.5
Current (operational) environmental expenses, m RUB	24.5	23	1.3
Average list number of full-time employees, persons	1,812	2,059	1,000

## R&D complex

Joint Stock Company "A. A. Bochvar High-Technology Research Institute of Inorganic Materials"  
(JSC "VNIINM"), Moscow

JSC "VNIINM" is the leading research and development institute for the development of fissionable, radioactive, construction, superconductor and nano-materials; resistance, rare-earth, super-purity and other metals; creation of alloys on the basis thereof, development of manufacturing techniques for the production of goods thereof; development of radiochemical production technologies and technologies for handling radioactive waste.

State Scientific Centre of the Russian Federation JSC "VNIINM" is a parent organization of Rosatom State Corporation on the issues related to materials and fuel cycle technologies, treatment technologies and fissile nuclear materials. Scientific and technological activities of the Institute are focused on the development of fundamental and applied research, implementation of the state defense order, increasing the share of nuclear materials and technologies in the world market, safe and efficient production of electricity and heat at NPP, ensuring the safe use of nuclear energy.

A centre for scientific competences is being created on the basis of JSC "VNIINM"; the centre will have the following objectives:

- challenges in creation of the scientific and technical development management system in the Fuel Company;
- challenges in the field of scientific and technical development of the Fuel Company;
- challenges in assessing and monitoring of scientific ideas;
- challenges in conducting a centralized database of scientific knowledge of the Fuel Company.

JSC "VNIINM" participates in the development and implementation of the federal target programs and state defense order, and fulfils the obligations under the interstate and intergovernmental agreements, contracts and other documents related to scientific and technical cooperation.

For details about the activities of JSC "VNIINM" refer to the company's web-site: [www.bochvar.ru](http://www.bochvar.ru) and the annual statement of JSC "VNIINM" for 2012.

NRDC LLC, "EDB-Nizhny Novgorod", "Centrotech-SPb", Uralpribor Ltd. are scientific and engineering organizations the main activity of which is the development of gas centrifuges with maintenance of the entire life cycle of a product. In addition to engineering development, these organizations also conduct research in the field of construction materials, measuring devices, and automation equipment. The equipment under development can be subdivided into equipment for the enrichment of uranium used in fuel assemblies, and for the enrichment of stable isotopes used in various fields of science and technology.

Table 6. Key performance indicators of JSC "VNIINM" ex for 2012.

Key performance indicators, measuring unit	Value
Proceeds (net) from sales of product, m RUB	3,200
Gross margin, m RUB	771
Income tax, m RUB	108
Net profit, m RUB	415
Net assets, m RUB	5,602
Labour efficiency, m RUB/persons	2.7
Average list number of employees, persons	1,179
Current (operational) environmental expenses, m RUB	7.3

### Mission of TVEL FC

**Manufacture** high-quality products to increase competitiveness of the power energy produced by NPP by way of implementation of energy strategy of Russia in terms of supply of enriched uranium product and nuclear fuel of Russian-design NPP acting, being under construction and planned for construction both on the territory of Russia and outside the same, entry into the global NF market for reactors of PWR, BWR type.

#### Strategic goal of TVEL FC

Win 30–32% of the global market of products and services in the front-end nuclear fuel cycle (hereinafter — NFC IS) by 2030 through the manufacture of products with high consumer properties enabling TVEL FC to retain and to expand its presence at the enriched uranium product and nuclear fuel market.

#### Values of TVEL FC

- Reliability, quality and safety of nuclear fuel, compliance with the highest international requirements and standards;
- confidence of the customers and partners of the Company in the future through establishment and development of stable, foreseeable and long-term relations;
- self-development and self-fulfilment of the employees of incorporated enterprises in the dynamically developing and prosperous company.

## §8. MISSION, GOAL AND VALUES

§9.  
**GEOGRAPHIC REACH**



The Fuel Company's enterprises are located in various regions of the Russian Federation. A characteristic feature of the social environment in which TVEL FC operates, is that three enterprises of the Company are located in the closed administrative-territorial entity (cities: Seversk, Novouralsk, Zelenogorsk) and one — in a monotown — Glazov where they are the major town-forming organizations and taxpayers.\*

The produce of TVEL FC is sold in the Russian Federation and abroad.\*\*

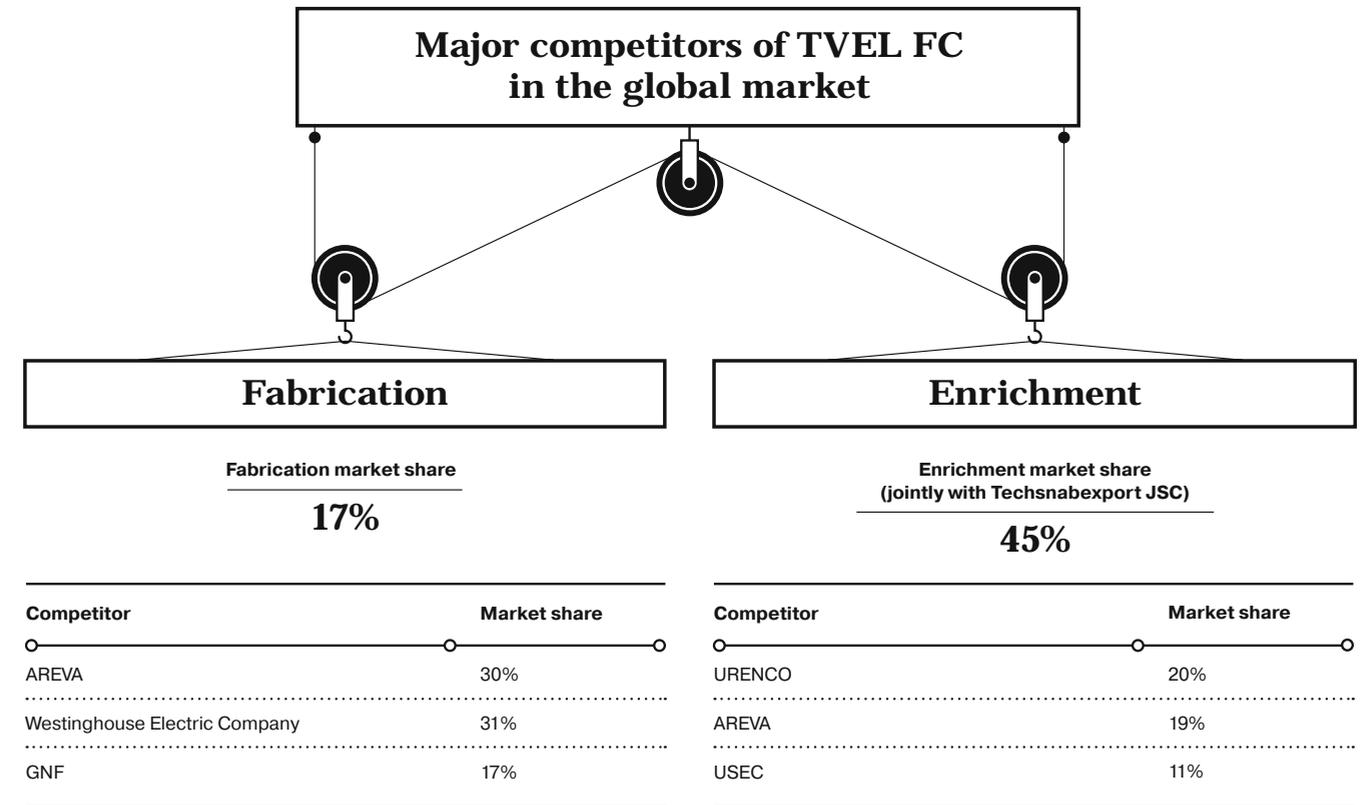
§10.  
**PLACE OF TVEL FC IN THE WORLD MARKET OF NFC IS**

**TVEL FC** is the world leader in the production of nuclear fuel and provision of uranium enrichment services.

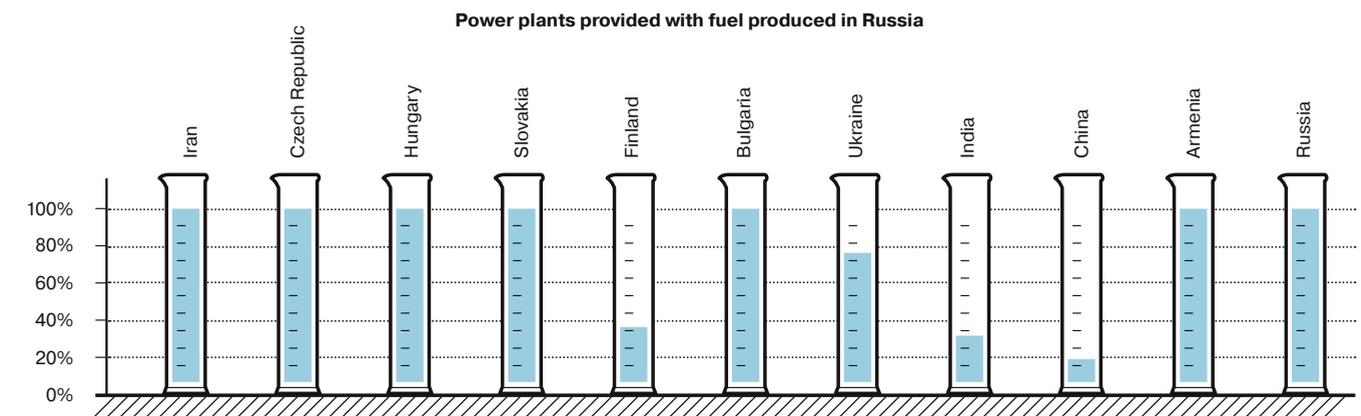
\* For details about the activities of TVEL FC in the special territories of presence refer to Section "Social-Economic Impact on the Environment", Chapter 5.

\*\* For details see section "Place of TVEL FC in the world market of NFC IS", Chapter 1.

**Major competitors of TVEL FC in the global market**



**Information on the main indicators**



**Number of reactors provided with fuel produced in Russia**

**74**

**Number of in-service NPP nuclear units in the world/Russian Federation**

**437/33**

**Number of NPP nuclear units under construction in the world/Russian Federation**

**67/11**

**Number of countries in which nuclear power plants are under construction**

**30**

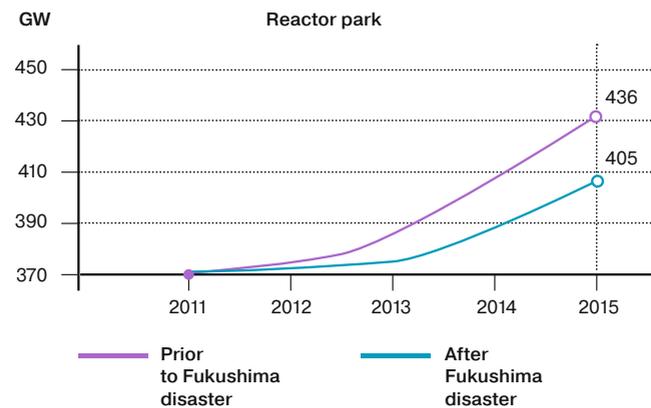
## Opinion of TVEL FC on the world market of NFC IS

The major factor for the establishment of global nuclear fuel market shall be the condition and development prospects of global nuclear power industry.

The events of 2011 related to the Fukushima nuclear disaster had a great impact on the development of the world nuclear power industry:

- a number of countries, including Germany, Switzerland, Belgium, and Taiwan, refused to develop nuclear power industry (with gradual closedown of all reactors). Italy, the Philippines, Thailand, and Kuwait, where there are no in-service NPP, also denied the plans related to NPP construction;
- a number of countries (Japan, China) review the scope of national programs for the development of nuclear power industry;
- almost all countries that are building NPP take measures for additional safety assessment (stress-tests) of nuclear facilities which shall obviously increase the time for implementation of the relevant projects.

However, in general, most countries recognize and support the role of the nuclear energy in the global energy mix, along with alternative and conventional energy.

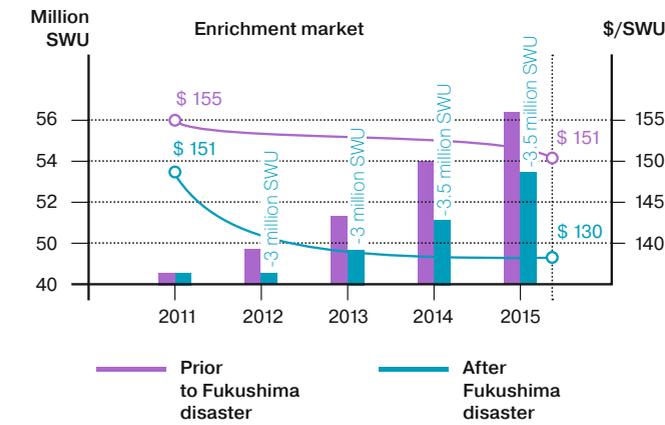


**Comments:** prior to the Fukushima disaster, a rapid growth of the world reactor park with the installed capacity of 436 GW was forecast by 2015. After the disaster, the estimated rates of the reactor park development were adjusted, and at the present time, the installed capacity of the reactor park is estimated at ~400 GW by 2015.

## Uranium enrichment market

Since 2011, there has been a sharp fall in the world prices for enriched uranium products caused by increased competition in the market, which was conditioned, in its turn, by the following factors:

- global transition to the gas centrifuge technology;
- excessive development of uranium enrichment capacity in anticipation of large-scale construction of new nuclear power plants.



## Comments

Enrichment services to foreign customers form a significant proportion of revenues of TVEL FC.

Since the uranium-enriched product, as opposed to the nuclear fuel, has no expressed specific technical characteristics, and taking into account market saturation, it is obvious that only price competition is possible in this segment.

Prior to the Fukushima disaster, the fall in prices in 2011–2015 was forecasted from \$ 155/SWU to \$ 151/SWU (or by 2.6%).

After the Fukushima disaster there was a sharper drop in prices. The trend will continue in the long run.

## Market of nuclear fuel fabrication

The main threats in the market of nuclear fuel fabrication that could pose risks for the activities of TVEL FC are as follows:

- trend towards the localization of nuclear fuel suppliers and establishment of national players in potential new markets;
- conservatism of companies-operators of NPP in attracting new suppliers of nuclear fuel and the related complication of the nuclear fuel safety and performance procedures.

Entry of the Russian Federation into the World Trade Organization (WTO) will have a significant impact on TVEL FC in the near future. So, for example, the rates of export customs duties on almost all products of TVEL FC should be reduced to zero which will surely provide some advantages for the Company.

## International economic activities of TVEL FC

TVEL FC exports nuclear fuel and provides services for the uranium conversion and enrichment.

The situation on the world market of NFC IS as it has developed for the last years, and the apparent trends of its development indicate that TVEL FC undergoes high risks in achieving the set strategic goals using only export-oriented approach.

These risks are based on the desire of countries, actively developing nuclear power generation, to ensure its energy security by localizing the production of nuclear fuel.

In such a situation, the client-oriented Fuel Company is forced to look for new approaches and solutions for interaction with its partners, while holding the leading position in technology and innovation.

The project to build a plant for the nuclear fuel production in Ukraine is a vivid example of the policy pursued by the Fuel Company as part of its development strategy.

The project will allow the Russian side to expand its position in the Ukrainian market and successfully promote services for the construction of the reactors of Russian design in the future.

In future, the plant's products may be delivered to third countries.

**The project to build a plant for the nuclear fuel production in Ukraine**

The project involves construction of a nuclear fuel fabrication plant in Ukraine using Russian technologies. The plant's capacity will be 800 fuel assemblies per year to provide all existing and new reactors VVER-1000 (water-water power reactor) in Ukraine with nuclear fuel. Stakeholder participation in the project: 50% -1 share — Russia (TVEL JSC); 50% +1 share — Ukraine (Nuclear Fuel State Concern). TVSA-type assemblies will be produced at the plant during the first phase. Throughout the project, TVEL JSC will provide technological support of production. In 2012, the activities were carried out in accordance with the schedule.

**Key events of the project in 2012:**

June 27: The Cabinet of Ministers of Ukraine approved the feasibility study;  
 October 4: A solemn ceremony for the beginning of the plant construction took place with the participation of N.Ya. Azarov, Prime Minister of Ukraine, and Sergey Kiriyyenko, CEO of Rosatom State Corporation;  
 December: The registered capital of the joint venture was formed, the design contract was signed; the project documentation development was initiated.

**Challenges for 2013:**

- the project documentation development and approval;
- the joint venture funding;
- signing of contracts for the supply of non-standard equipment and transfer of rights to use of Russian technology; the beginning of the preparatory work on the site.

The major share of the global reactor park is composed of reactors of the Western design. TVEL FC actively develops nuclear fuel that meets all the requirements of quality and technical characteristics for this type of reactor using the best design solutions used now for VVER reactors.

**The signing of the contract with a European company for the supply of test fuel assemblies for reactors of Western design**

As part of the Contract with a Western European company for the supply of test fuel assemblies (TVS-KVADRAT) providing justification for the design, production skills at the manufacturing factory (JSC NNCP) and, at first hand, supply of a test batch of TVS-KVADRAT, design study stage was completed; production qualification is performed.

Successful engagement in the implementation of the project will allow the Russian manufacturer to enter the market of reactors of Western design which account for over 50% of the world reactor park, thus expanding the presence of Russia in the global nuclear fuel market.

Other significant projects strengthening the position of TVEL FC on the world market are:

- creation of joint venture ALVEL a.s. as part of the project to establish R&D centres;
- creation of Uranium Enrichment Centre (TSOU) on the basis of JSC UEIP;

**The project on creation of the Centre for Technology Services in the Czech Republic (ALVEL a. s.)**

ALVEL a. s. — the Centre for Technology Services — is a Russian-Czech company founded by TVEL JSC and ALTA Invest a. s. Participation in the project, 49% — Russia, 51% — Czech Republic. The Centre will be conducting research and development activities.

**The project on creation of Uranium Enrichment Centre**

TSOU is a Russian-Kazakh uranium enrichment centre (TSOU CJSC) created on the basis of JSC UEIP. Agreement on the implementation of the project includes the acquisition of shareholdings of JSC UEIP by TSOU CJSC with access to the uranium enrichment in the amount of up to 5 million SWU per

year. Also, it includes establishment of joint ventures in Kazakhstan for uranium mining in the amount of 6 million tons, and in Russia — of a joint venture to enrich uranium. The project will last for 30 years.

**Key events in 2012:**

- key economic parameters of the project were approved;
- all the basic documents necessary for the practical implementation of the project were signed.

**Challenges for 2013:**

- acquisition of shareholdings of JSC UEIP by TSOU CJSC.
- transition of the project from concept to reality — the first commercial delivery.

- Cooperation with French company AREVA NP.

*Cooperation of TVEL FC with company AREVA NP began in 1994 and provided for the production of FA at MSZ JSC using reprocessed uranium for reactors of the PWR- and BWR-type.*

*Initially, the fuel was supplied to Germany, further, the list of countries widened and included Sweden, Switzerland and the Netherlands, and since 2008 — the United Kingdom.*

*By the end of 2012, the fuel produced by MSZ JSC is used in 10 reactors of the PWR- and BWR-type at NPPs in Western Europe. There have been no cases of depressurization of FA produced by the plant under the contract with AREVA NP.*

*Terms of the contracts between AREVA NP and MSZ JSC provide for the production and supply of nuclear fuel for a number of Western European NPP by 2020.*

International activities of TVEL FC are not limited to strengthening the Company's position in the global market. In addition, the Company is working closely with other countries and international partners within the frame of:

- implementing a number of socially significant international projects in the field of science and innovation (ITER);
- strengthening the international nuclear non-proliferation regime;
- developing international legal infrastructure for the promotion of Russian companies on the world market of nuclear technologies and services.

In 2012, the Government of the Russian Federation, the Government of Hungary and the Cabinet of Ministers of Ukraine prepared and signed the Agreement on the transportation of nuclear materials between Russia and Hungary through the territory of Ukraine.

### Project ITER\*

Russia is the initiator and occupies a key position in the implementation of the international ITER project.

The project involves the construction of the international thermonuclear reactor.

The construction site — Cadarache, France.

The participants of the project: the European Union, China, India, Japan, Republic of Korea, Russia, and the USA.

Total Cost of construction is 5 billion euro.

Russia's contribution to the ITER project includes the manufacture and supply of high-tech equipment, main systems of the reactor, which is 10% of the cost of construction according to the reactor's technical plan. Russia will supply superconductor materials (SCM) along with other equipment and major systems. In 2013 and 2014, for the purposes of fulfilment of international obligations, Russia is going to supply about 85 tons of superconductors.

SCMs are manufactured by JSC CMP.

Production of superconductors removed an acute for Glazov problem of employment of workers unemployed as a result of production conversion, and made a significant contribution to the maintenance of the social base of the city through tax deductions from output value for more than \$ 100 m.

The established production allows the manufacture of a wide range of superconductors for the mining industry (separators, electromagnetic stirring of melts), transport (magnetic levitation train), aviation, space and medicine.

A project for the production of a national tomographic scanner is at the stage of its practical implementation.

*TVEL FC has legal framework for international cooperation with all foreign partners (except for Finland: the cooperation is performed in accordance with the terms of contracts).*

### Key external external-economic events in 2012:

- the contract documents for the supply of fuel were signed for the second and third overload for the reactor CEFR, China.
- tender documents for the supply of nuclear fuel and related services to start-up blocks 3, 4 of Temelin NPP as a part of the Consortium MIR.1200 were prepared and submitted.
- the first contract with Russian-Czech joint venture ALVEL was concluded; and testing assemblies were delivered to Temelin NPP (the Czech Republic) for their exposure and study of the behaviour of long-term zirconium alloys.
- FA prototype models were supplied to the reactor MARIA (Poland) for the reactor tests and qualifications of TVEL JSC as an alternative supplier of LEU fuel.
- the fuel supplied to Uzbekistan, Kazakhstan and Ukraine within Russian-American Program to reduce fuel enrichment for research reactors. The contract documents for the supply of fuel assemblies (19.7%) to the Czech Republic, Hungary and Uzbekistan were signed.

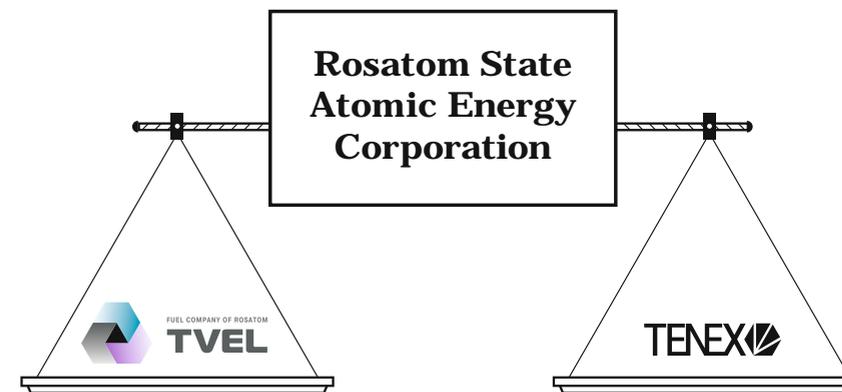
## §11. DEVELOPMENT STRATEGY

**Fuel** Division Development Strategy 2030 adopted on *December 6, 2011* by Rosatom State Atomic Energy Corporation is the primary document that determines TVEL Fuel Company's development strategy.

\* For details about the project refer to <http://www.iterf.ru/>

In addition to TVEL JSC and its subsidiaries, Fuel Division also includes Technobexport JSC which is an exporter of Russian uranium enrichment services and enriched uranium products to international markets.

Fig. 4. The structure of the Fuel Division of Rosatom State Atomic Energy Corporation.



Fuel Division Development Strategy 2030 is aimed at implementing a strategic initiative launched by Rosatom State Atomic Energy Corporation “Global NFC IS Leadership Retention” vested in the provision of the Strategy of Rosatom State Atomic Energy Corporation for the period up to 2030, adopted in 2010.

### Strategic tasks of the Fuel Division

Strategic tasks of the Fuel Division set the following objectives:

- increase proceeds from \$ 6 bn in 2011 to \$ 16 bn by 2030;
- increase the share in the basic NFC IS market from 25% to 30–32%.

### Strategic Initiatives

The strategic objectives are achieved through the mechanism of strategic initiatives identified by the management of TVEL JSC and Technobexport JSC on the basis of the total investment resources, global market conditions, competitive and technological developments.

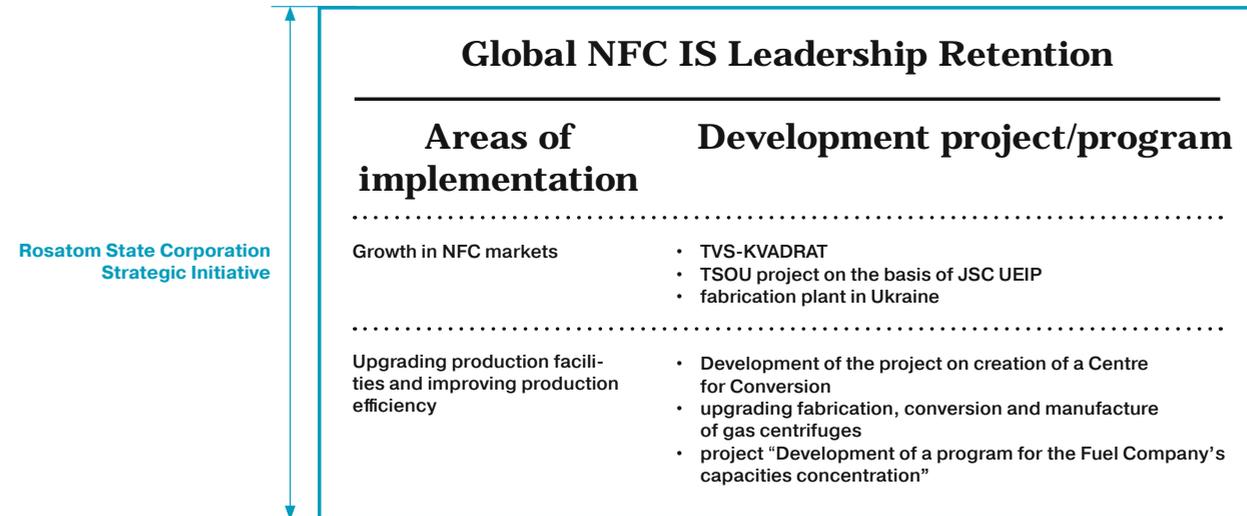
As of *31.12.2012*, the portfolio of strategic initiatives of TVEL FC on implementation of the nuclear industry development strategy, and plans for the development of the Company's business consisted of three strategic initiatives.

The strategic initiatives are implemented through a set of interrelated activities of the project nature integrated according to the company's priorities.

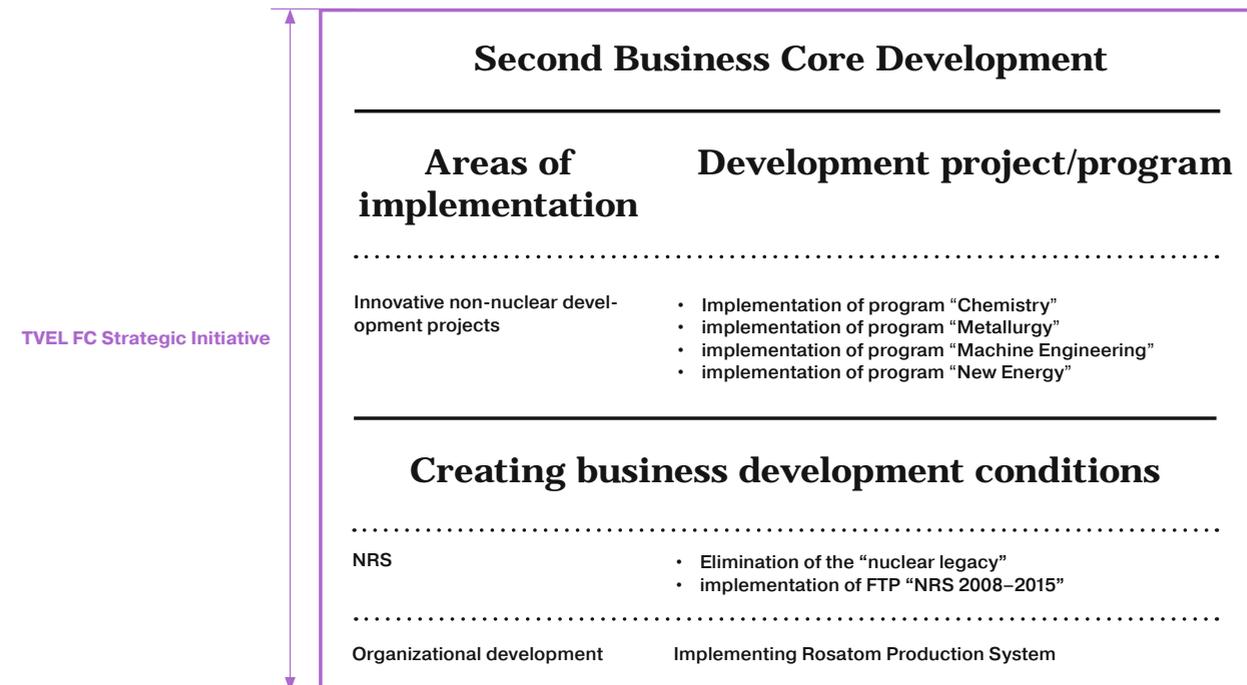
The figure below (see Fig. 5 a, b) shows a scheme of the main directions of the strategy implementation of the Fuel Division, as well as the development projects implemented in these areas.

Fig. 5 a, b. Main strategic initiatives of the Fuel Company.

a)



b)



1

Figure 1. Tubes made of stainless steels, special steels and titanium alloys.

Figure 2. FA for BN-600 fast-neutron reactor.



2

### Global NFC IS Leadership Retention Initiative

The Initiative will be implemented through a differentiated approach to the two key market segments: nuclear fuel market and uranium enrichment service market.

The market strategy in the field of nuclear fuel fabrication is based on the protection of its traditional markets and expansion to new markets through innovative products and local manufacturing sites. Implementing the strategy in the field of nuclear fuel fabrication shall result in nuclear fuel output increase from 1.5 thousand tons to 2.5 thousand tons by 2030.

The marketing strategy in the field of commercial uranium enrichment is based on strategic SWU cost management. Implementing the strategy in the field of enrichment shall enable an increase in the share of commercial enrichment market from 33% to 41%.

These objectives will be achieved within two areas of strategy implementation: growth in NFC markets and improved production efficiency.

The following basic projects have been elaborated within the said areas of the current implementation status, the description of which is presented in the figure below (see Fig. 6 a, b).\*

Fig. 6 a, b. Global NFC IS Leadership Retention Initiative.

a)

Areas of implementation	Development project/program	Description of the project progress status
Growth in NFC markets	TVS-KVADRAT	The implementation of the contract with a European partner for the supply of 4 experienced TVS-KVADRAT
	TSOU project on the basis of JSC UEIP	<ul style="list-style-type: none"> <li>• Coordination of the purchase of the shares of JSC UEIP by TSOU JV</li> <li>• coordination of the upgrading order and conditions</li> </ul>
	Fabrication plant in Ukraine	<ul style="list-style-type: none"> <li>• Project documentation development. Preparation of technology cost estimation.</li> <li>• Coordination: agreements for the supply of equipment, budget and structure of the joint venture for 2013.</li> <li>• The results of the additional issue are approved</li> </ul>

\* For the information on the process and results of the international projects implementation, please refer to Section "Place of TVEL FC in the world market of NFC IS", Chapter 1.

b)

Areas of implementation	Development project/program	Description of the project progress status
Upgrading and improving efficiency of the production	Creating a conversion centre	Design of a new conversion manufacture
	Upgrading fabrication, conversion and manufacture of gas centrifuges	<ul style="list-style-type: none"> <li>• Upgrading facilities for fabrication and division is conducted according to the investors' schedules.</li> <li>• "KMP" OJSC set up batch production of GC-9, works on the development of UGCMP Ltd. are underway</li> </ul>
	Project "Development of a program for the Fuel Company's capacities concentration"	<ul style="list-style-type: none"> <li>• A plan for the project implementation is formed.</li> <li>• The composition of the advisory council and working group is defined.</li> <li>• The implementation plan and project objectives have been approved at the kick-off meeting by A. M. Lokshin</li> </ul>

### Second Business Core Development Initiative

The initiative is implemented through non-nuclear product manufacture for achieving its target proceeds and implementing its corporate social obligations.

The tasks are the following:

- increasing proceeds by expanding its project portfolio in new markets with a high growth potential;
- separating supporting production sites, improving management efficiency and attracting capital from external investors;
- creating new jobs for employees released in connection with the production network geography restructuring;
- setting up anchor businesses in industrial parks using released spaces for that purposes;
- commercializing the existing technologies of TVEL FC enterprises and scientific infrastructure;
- maintaining tax revenues in regions by locating new production sites there.

Developing second core business should provide additional \$ 5–6 bn of proceeds by 2030.

TVEL FC's second business core will be created in the two main directions: centralization of the existing production businesses that support the Company's core activity and launching new innovation-based non-nuclear production businesses.\*

### Creating Conditions for Business Development\*\*

TVEL FC's third strategic initiative is aimed, first of all, at making the Company's business socially acceptable by creating conditions for the development of business in its regions of presence. It is based on several principles:

- maintaining stability and a high quality of life in the regions where TVEL FC is present;
- fostering a comprehensive business environment in the cities and regions of its presence;
- increasing tax payments to the closed administrative-territorial entity and regions;
- responsibility of regions for long-term development projects and creating new jobs through increased tax deductions.

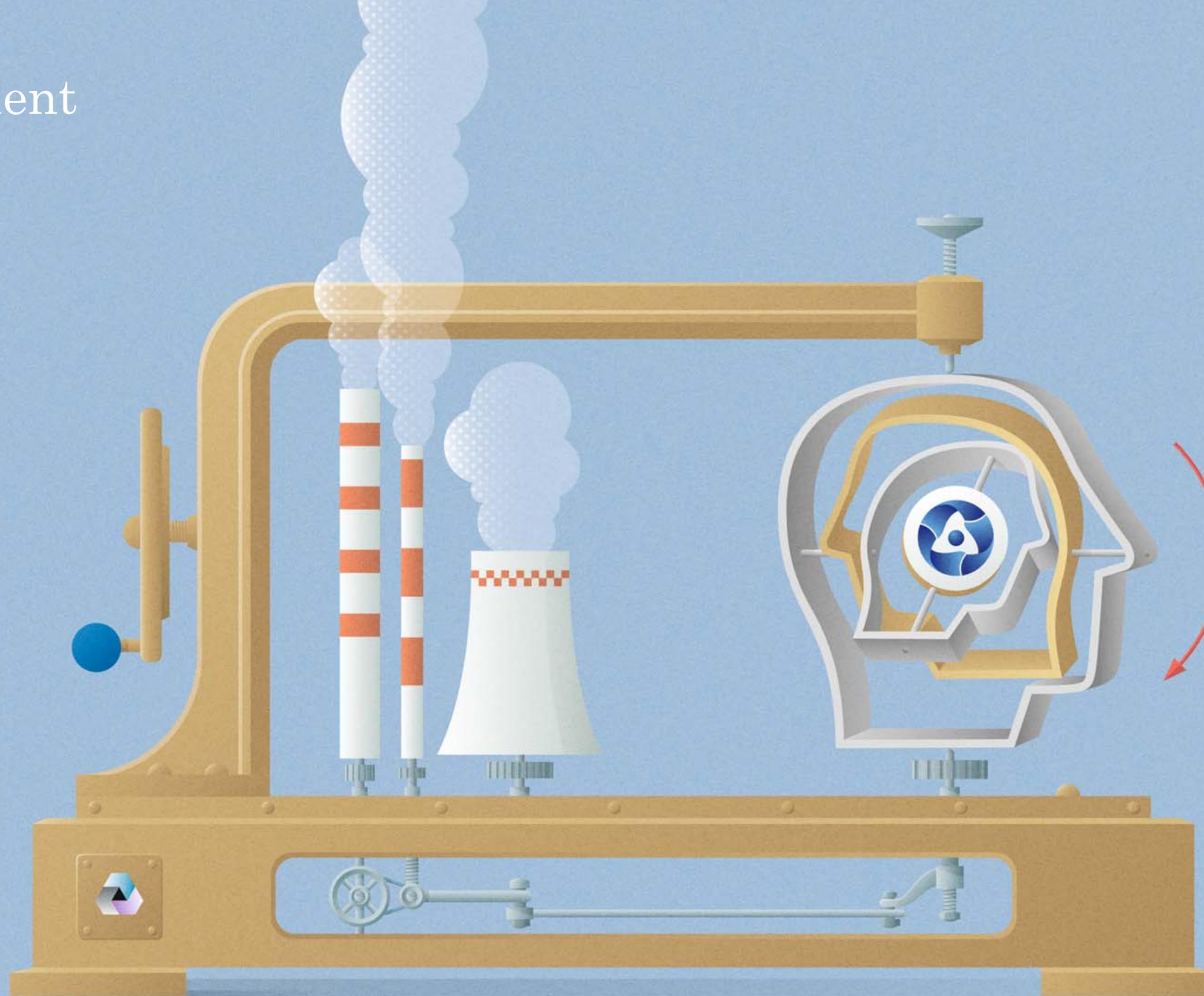
\* "Innovation Activities in Non-Nuclear Industry", Chapter 4.

\*\* For the information on the progress and results (interim results) of the implementation of the projects see the following sections: "Productive Efficiency Management", Chapter 2 — information on RPS implementation; "Ecological, Nuclear and Radiation Safety", Chapter 5 — information on elimination of the "nuclear legacy" and the implementation of FTP "NRS 2008–2015".

*Characteristics of the effective*

# management system,

*key actors, corporate quality management*



## Chapter 2. Management System of TVEL FC

### §12. CORPORATE GOVERNANCE

**TVEL JSC** abides by basic Russian and international standards in the area of corporate governance. Improvement of corporate governance practices is aimed at increasing the capitalization of the Company at the expense of efficiency, accountability and transparency of its operations and management.

During the implementation of corporate policies the activities of subsidiaries are coordinated and monitored in the industrial, scientific, technical, investment, financial, pricing, sales, social and human resource areas. Legal and organizational relationships between TVEL JSC and its subsidiaries are regulated in the implementation of decision-making procedures in production and economic activities.

Performance targets of strategic development and efficiency improvement comprehensive programs approved by the governing bodies of the Fuel Company are based on the optimization of production and functional structure and reducing costs through creation of new facilities and modernization of existing ones, improving processes, implementing an effective system of personnel motivation, restructuring of non-core assets and productions.

Corporate procedures at TVEL JSC are implemented in accordance with the provisions of the Code of Corporate Conduct recommended by the Federal Commission on Securities Market of Russia. The provisions of this Code related to the shareholders' rights, disclosure, the quality of preparation and conduct of meetings of the board of directors and meetings of shareholders, control of business and financial operations are set forth in the relevant in-house regulations of the Company and its subsidiaries.

In accordance with the Regulation on disclosure of information by issuers of securities (approved by Order №11-46/pz-n of the Federal Service for Financial Markets dd. *October 4, 2011*), the Company discloses the following information on the web-sites *www.e-disclosure.ru*, *www.tvel.ru*: the charter, amendments and modifications to the charter, annual reports, annual financial statements, reports on the approval of the annual financial statements, notes to the annual financial statements, audit reports, lists of affiliates, changes made to the list of affiliated persons, and reports disclosing the list of affiliated persons.

The managerial bodies of TVEL JSC are formed in accordance with the Charter of the Company.

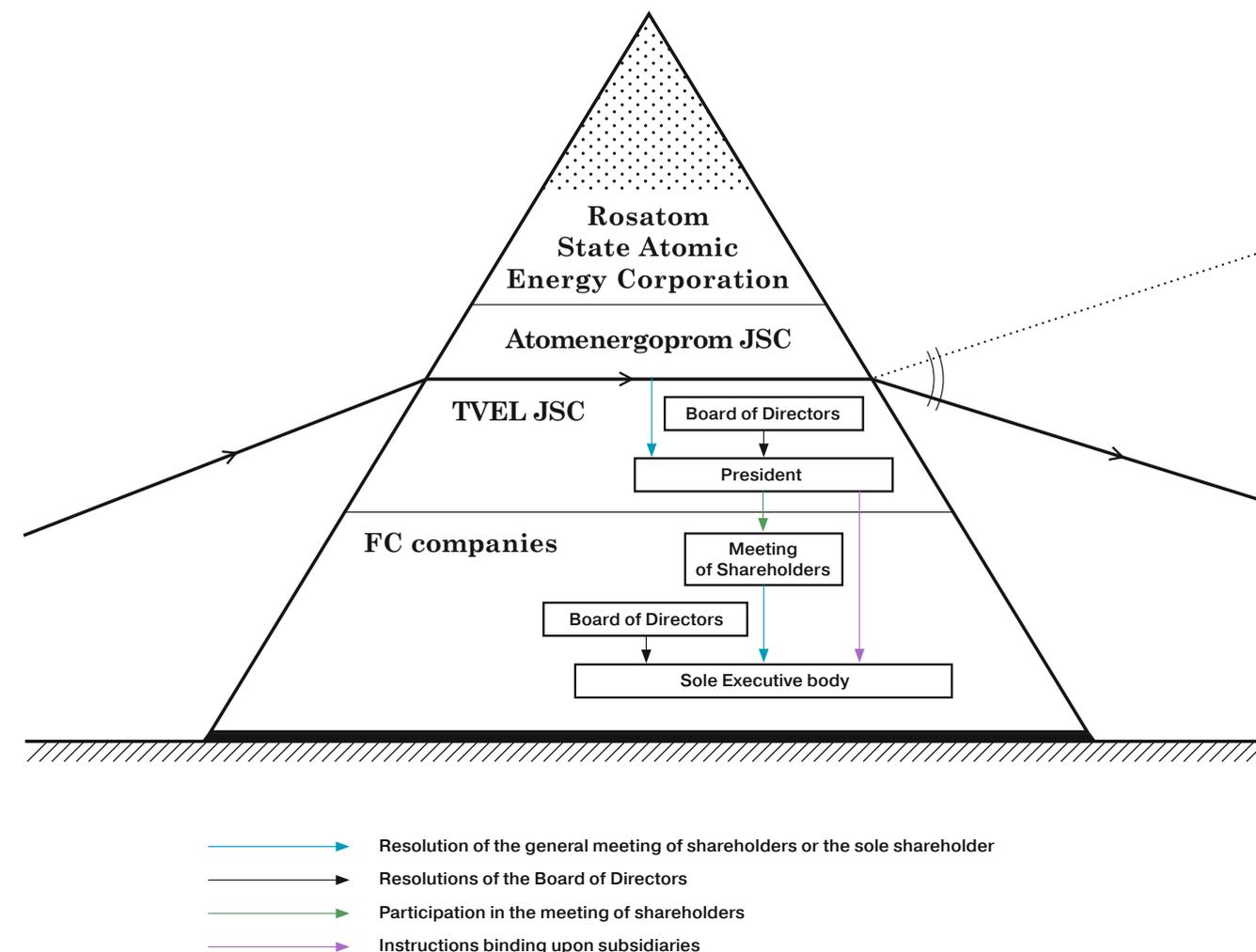
All decisions falling to the competence of the general meeting of shareholders are taken by Atomenergoprom JSC, being the sole shareholder of TVEL JSC.

General meetings of shareholders (members) are the superior governing bodies of the companies — members of TVEL FC. The procedure of taking resolutions by general meetings of shareholders (members) of the TVEL FC companies is laid down in the regulations pertaining to these companies.

In addition, the governing bodies of TVEL JSC and TVEL FC companies include boards of directors and sole executive bodies operating in accordance with the relevant regulations approved by general meetings of shareholders.

Controlling bodies of TVEL JSC and TVEL FC companies include audit commissions operating in accordance with the relevant regulations approved by general meetings of shareholders (members).

Fig. 7. Corporate governance bodies of TVEL JSC.



## BOARD OF DIRECTORS

The Board of Directors of TVEL JSC plays a key role in strategic management of TVEL JSC and the Fuel Company of Rosatom State Corporation in general.

By resolution №18 of the sole shareholder of TVEL JSC dated *June 29, 2012*, six people were elected to the Board of Directors.

The BoD members do not hold shares of TVEL JSC.

No remuneration was paid to the BoD members in 2011.



### LOKSHIN Alexander Markovich

**Date and place of birth:**  
October 11, 1957, Chita

**Education:**  
Leningrad Polytechnical Institute named after Kalinin

**Employment History:**

1980 to 1996 — engineer, senior engineer at the thermal test laboratory, senior engineer for power generating unit control, shift supervisor at the turbine workshop, shift supervisor at power generating unit №2, shift supervisor of the first-state station at Smolensk Nuclear Power Plant (Desnogorsk, Smolensk Region). 1996 to 2008 — deputy head of the general directorate, deputy head of the commerce department; first deputy director for marketing, economy and commercial activity; acting director, director, deputy general director of Rosenergoatom Concern — director of Smolensk Nuclear Power Plant; first deputy general director, acting general director of Rosenergoatom Concern OJSC. 2008 to 2010 — deputy general director of Rosatom State Corporation. 2010 to 2011 — deputy general director — director of the Directorate for Nuclear Energy Complex, Rosatom State Corporation. 2011 to 2012 — first deputy general director — director of the Directorate for Nuclear Energy Complex, Rosatom State Corporation. Since 2012 — first deputy general director for the Operation department. Honoured power engineer of the Russian Federation.



### GRIGORIEV Alexei Antonovich

**Date and place of birth:**  
April 15, 1952, Kiev

**Education:**  
Moscow Institute of Chemical Technology  
All-Union Academy for Foreign Trade

**Employment History:**

1998 to 2007 — senior expert, deputy director of Uranservice, director of Uranservice, deputy general director, first deputy general director, acting general director of Technsnabexport JSC. 2007 to 2012 — general director of Technsnabexport JSC. Since 2012 — Senior Vice President for Special Projects of TVEL JSC.



### KOROGODIN Vladislav Igorevich

**Date and place of birth:**  
October 25, 1969, Moscow

**Education:**  
Moscow Institute of Physics and Technology

**Employment History:**

1994 to 1995 — expert, senior expert of Basmany Branch of JSCB Presentcombank. 1995 to 1997 — expert, head of unit at Khoroshevsky Branch of JSCB Conversbank. 1997 to 1999 — deputy head of unit, head of unit, deputy head of department at Conversbank CJSC. 1999 to 2004 — head of unit, director of department of Technsnabexport JSC. 2004 to 2007 — deputy head of department of the Federal Agency for Nuclear Energy. 2007 to 2010 — director of the Department for Marketing and Markets of Atomenergoprom JSC, deputy director of Atomenergoprom JSC. 2010 to 2012 — deputy director of the Directorate for Nuclear Energy Complex of Rosatom State Corporation. Since 2012 — Lifecycle Management Director for Nuclear Fuel Cycle and Rosatom State Corporation.

### OLENIN Yuri Alexandrovich

**Date and place of birth:**  
November 13, 1953, Kirovabad

**Education:**  
Yerevan Polytechnic Institute  
Penza State Technical University  
Manchester Business School  
German Academy of Management

**Employment History:**

1978 to 1989 — engineer, senior engineer, senior research officer, head of laboratory of the Special Design and Technology Bureau. 1989 to 1993 — chief design engineer at the Research and Design Institute of Radio-Electronic Engineering (NIKIRET). 1993 to 2004 — director of Subsidiary State Unitary Enterprise NIKIRET — deputy general director of State Unitary Enterprise SNPO Electron. 2004 to 2007 — general director of the Federal State Unitary Enterprise Federal Research and Production Centre Production Complex "Start". Since 2007 — first vice-president, president of TVEL JSC. Ph. D. in technical sciences. He was awarded the Medal of Honour, medals; Honoured structural designer of the Russian Federation. Since 2002 — A member of the Legislative Assembly of the Penza region. 2005 to 2007 — President of the Association of manufacturers and industrialists of the Penza region.



### SOLOMON Nikolai Iosifovich

**Date and place of birth:**  
January 3, 1971, Moscow

**Education:**  
Moscow Automobile & Road Construction Institute  
Moscow Finance Academy under the Government of the Russian Federation

**Employment History:**

1994 to 2003 — held different positions at the departments of audit and management consulting of PricewaterhouseCoopers (consulting major companies in energy sector). 2003 to 2005 — director of project management department, acting general director of the financial and accounting centre of Yukos-Moscow JSC. 2005 to 2009 — financial controller and director for economy and controlling at Siberian Coal Energy Company JSC (SUEK OSC). 2009 to 2010 — deputy general director for finance of Rosatom State Atomic Energy Corporation. 2010 to 2011 — deputy general director for economy and finance of Rosatom State Atomic Energy Corporation. Since 2011 — first deputy general director for corporate functions — chief financial director of Rosatom State Atomic Energy Corporation. A member of the Association of Chartered Certified Accountants of England and Wales.



### KOMAROV Kirill Borisovich

**Date and place of birth:**  
December 29, 1973,  
St. Petersburg

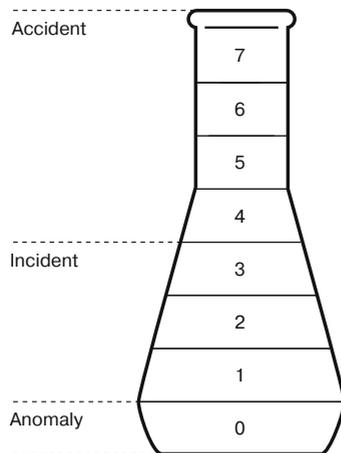
**Education:**  
Law Lyceum under Ural State Law Academy  
Ural State Law Academy

**Employment History:**

2000 to 2005 — director for legal affairs and project management at RENOVA CJSC, first deputy general director of RENOVA CJSC, general director of RENOVA — Razvitie CJSC. 2005 to 2006 — deputy head of the Federal Agency for Water Resources of the Russian Federation. 2006 to 2007 — vice-president of TVEL JSC. 2007 to 2012 — general director of Atomenergomash OJSC. 2007 to 2010 — deputy director of Atomenergoprom JSC, executive director of Atomenergoprom JSC. Since 2010 — director of Atomenergoprom JSC. He combined this office with the position of executive director of the Directorate for Nuclear Energy Complex of Rosatom State Corporation. Since 2011 — deputy general director for development and international business of Rosatom State Corporation. He combines this office with the position of director of Atomenergoprom JSC. Candidate of Juridical Sciences.



INES is an International Nuclear EventScale introduced in the USSR as of September 1, 1990, and in operation in Russia to this day. It evaluates all unusual events at the nuclear facilities by the eight-point scale level. Over the last 5 years, during the operation of the Russian nuclear power plants there was not a single event above level 1.



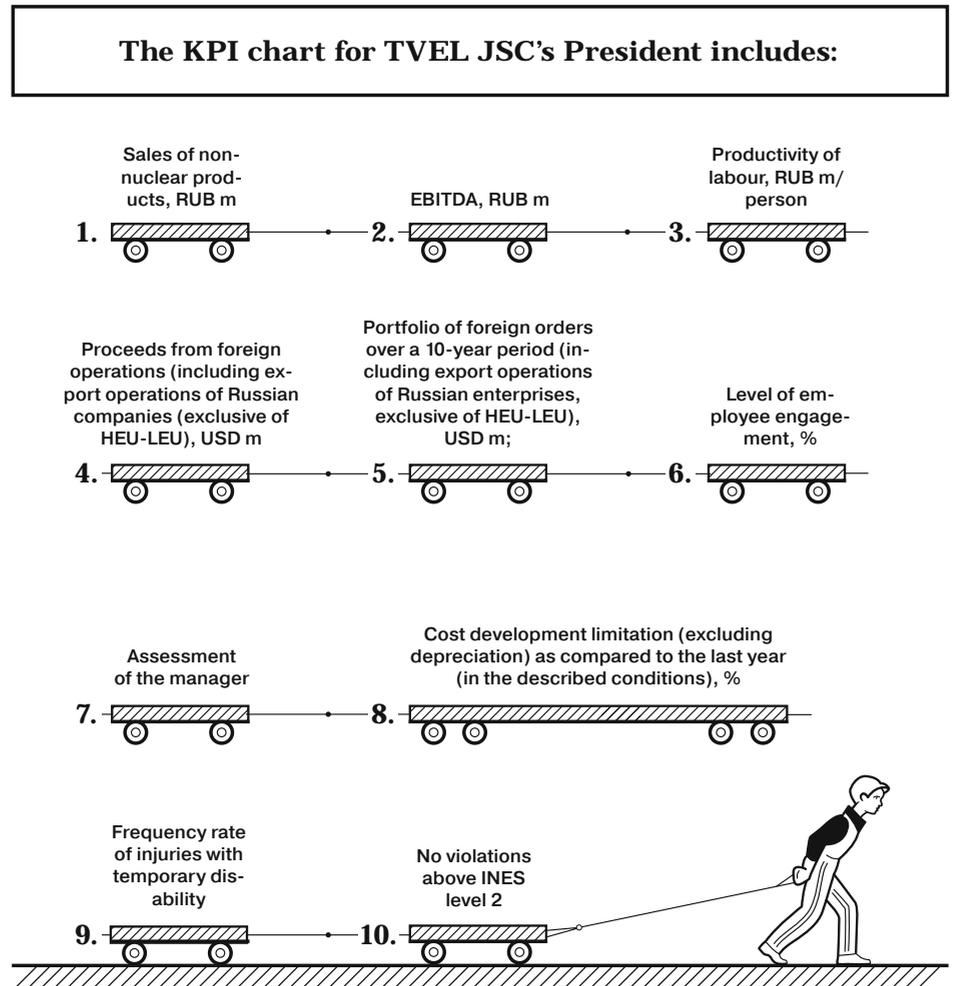
7 — Major accident; 6 — Serious accident; 5 — Accident with wider consequences; 4 — Accident with local consequences; 3 — Serious incident; 2 — Incident; 1 — Anomaly; 0 — No safety significance.

### Sole Executive Body

The functions of the sole executive body are performed by Yuri Olenin, the President of TVEL JSC, in accordance with the decision of the sole shareholder of the Company (№17 dd. 28.06.2012) based on the Charter of TVEL JSC and the contract signed with the Company.

The President of the Company has no shares of TVEL JSC.

In accordance with the contract between TVEL JSC and the President of TVEL JSC, the amount of president's remuneration for the year shall be determined by resolution of the Company's Board of Directors based on the performance of the Company.



Information on the annual income of Yury Aleksandrovich Olenin, President of TVEL JSC, in 2012 is disclosed on the website of Rosatom State Corporation.\*

\* [http://www.rosatom.ru/aboutcorporation/public\\_reporting/dohody\\_pravlenie/](http://www.rosatom.ru/aboutcorporation/public_reporting/dohody_pravlenie/).

### Auditing Commission

Auditing Commission controls business operations of TVEL JSC. By resolution №18 of the sole shareholder of TVEL JSC dated 30.06.2012, the following three members were elected to the Auditing Commission:

- Oleg Ivanovich Linyaev — Head of the Department for projects of life cycle of NFC of Rosatom State Corporation;
- Galina Ivanovna Bobrova — Head of the Internal Control and Audit Service of TVEL JSC;
- Dmitry Vitalievich Khomaza — Head of Economy and Consulting Directorate of Rosatom State Corporation.

### Management of Subsidiaries and Affiliates

The boards of directors play significant role in the management of subsidiaries. According to the charters, their responsibilities include vital issues for the subsidiaries. Preparation of the meetings of the SA board of directors includes involvement of departments of TVEL JSC in the study of materials on the agenda and draft decisions.

Property management in TVEL JSC aims to improve the structure and efficiency of non-current assets use, including stakes in subsidiaries and other business companies, as well as fixed assets, including real estate. Both property of TVEL JSC and its subsidiaries is managed accordingly.

Management of the stakes of the companies is based on the mechanism of corporate relations as well as internal documents that define the order of interaction between TVEL JSC and its subsidiaries in various areas of their operational and financial activities. The most significant decisions regarding management of non-current assets are taken by the general meeting of shareholders (the sole shareholder) and the Board of Directors of TVEL JSC within their competence.

Non-current assets management in the Company is performed using a single database on capital assets, including non-privatized federal property, operated by subsidiaries of TVEL JSC.

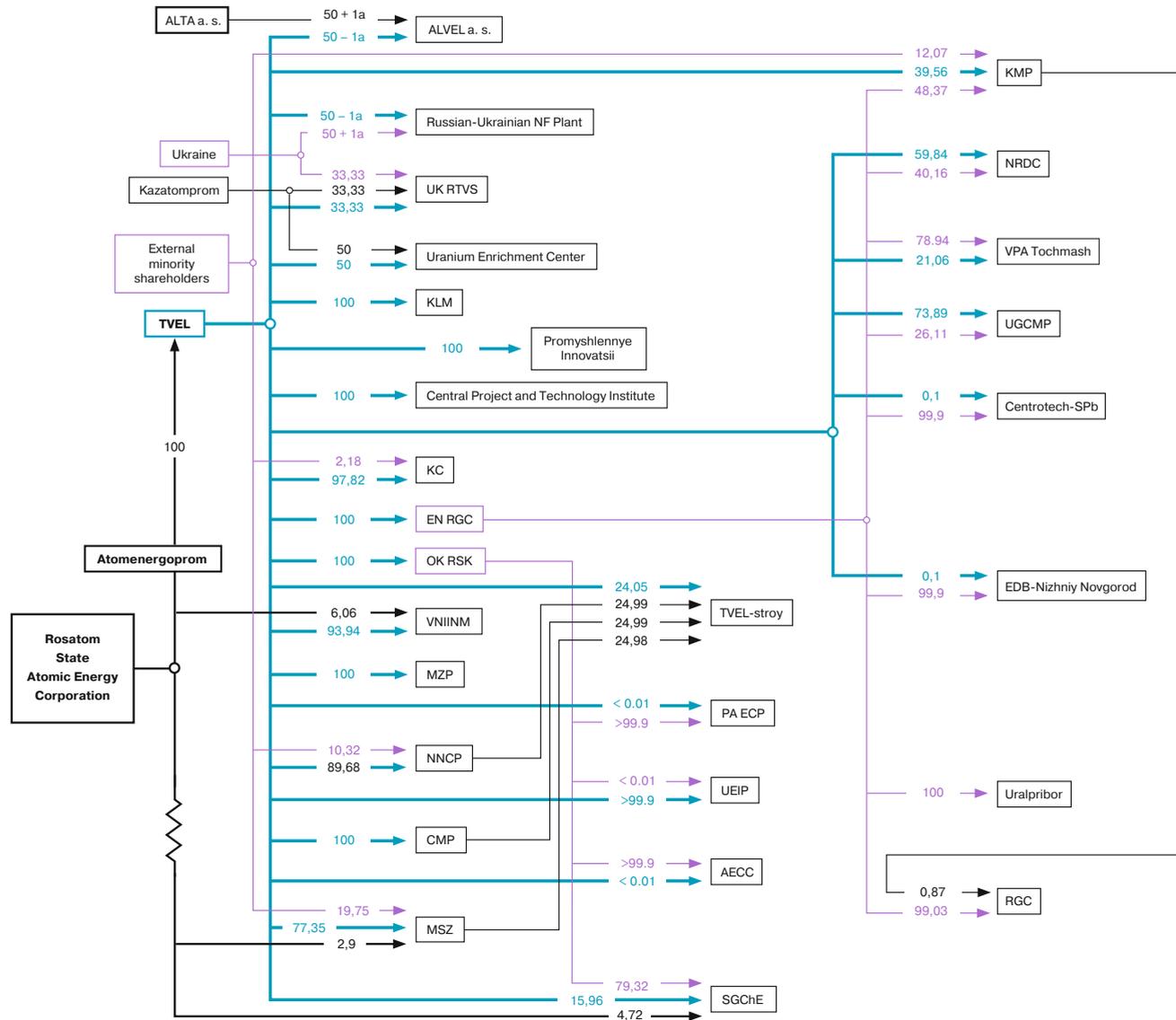
Rent of fixed assets and disposal of not fully depreciated property, plant and equipment in accordance with the statutes of its subsidiaries are subject to approval by the BoD of lessors and TVEL JSC.

Acquisition and alienation of a real estate by subsidiaries, regardless of its value, is carried out after the approval of the transaction by the Board of Directors of these companies. The purchase of the real estate shall be fulfilled on a competitive basis at the market price.

Property management procedures provide efficiency and transparency of decisions on transactions with non-current assets and are aimed at increasing income of the Company.

Fig. 8. Corporate ownership structure of TVEL JSC (at the level of subsidiaries and affiliates) as of 31.12.2012.

The ownership structure of TVEL JSC  
(at the level of subsidiaries and affiliates) as of 31.12.2012



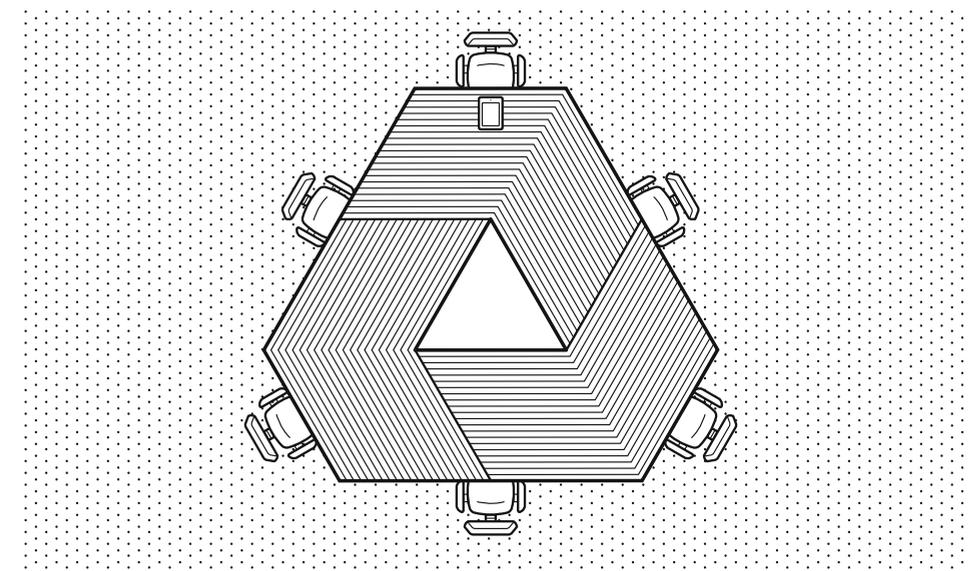
Major transactions and related-party transactions

In 2012, TVEL JSC did not make any transactions recognized in accordance with law as major transactions and related-party transactions which do not require prior approval by the governing bodies of TVEL JSC.

Report by the board of directors of TVEL JSC on the results of the joint-stock company's development according to its activities priorities.

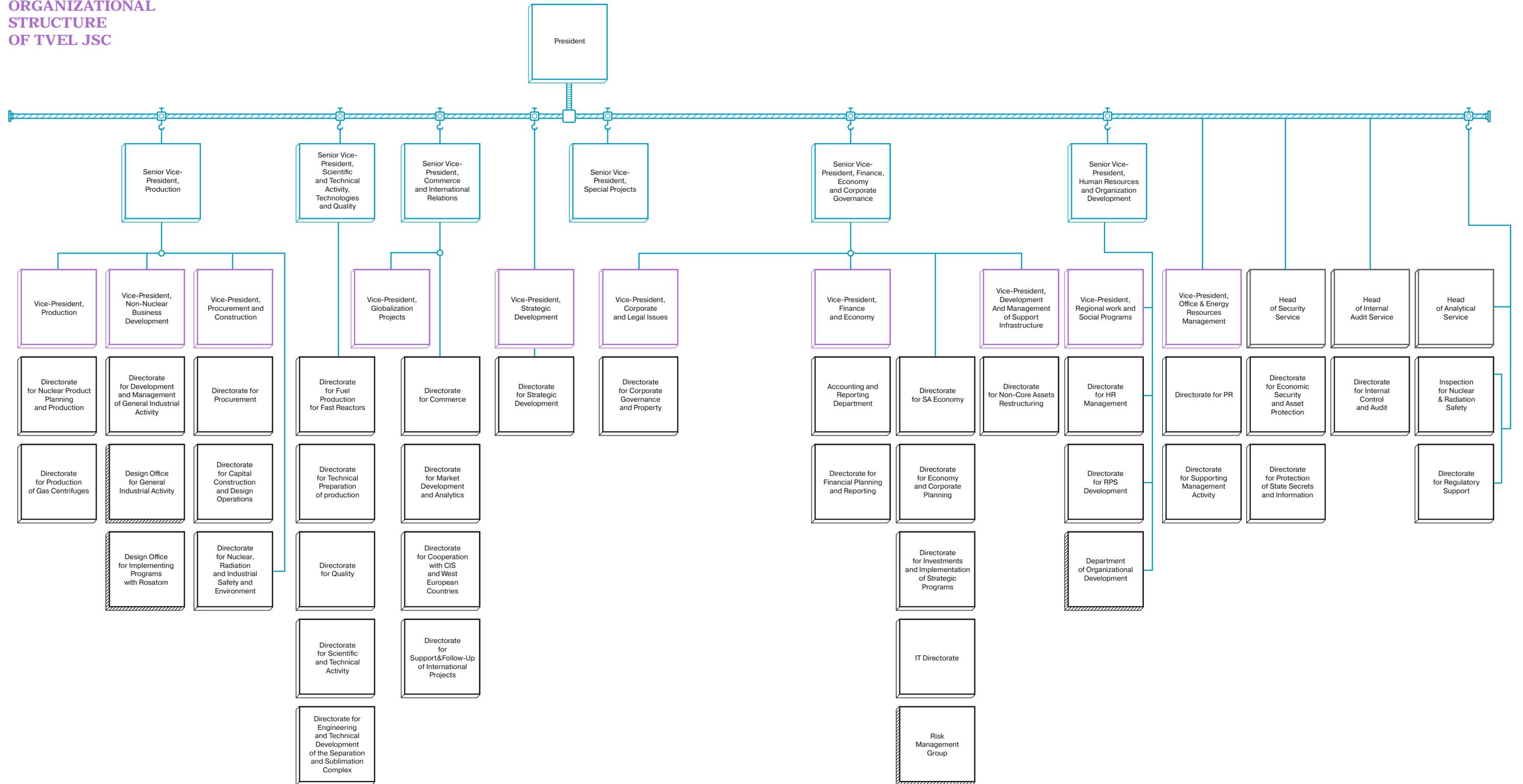
In 2012, 30 board meetings to decide on the major issues of TVEL FC took place, including:

- approval of budget and performance targets for TVEL FC;
- organizational structure adjustment;
- approval of a series of transactions with equity capital and share capital of the enterprises of TVEL Fuel Company, including the purchase of additional shares and KC OJSC; "KMP" OJSC, MSZ JSC, JSC CMP, JSC NNCP, JSC "VPA "Tochmash", TSOU CJSC, NT Plant PJSC, Promyshlennye Innovatsii CJSC, KLM LLC, and ALVEL a.s.;
- approval of the new edition of TVEL JSC Standard "Procurement Process";
- approval of recommendations on distribution of the net profit at year-end 2011;
- approval of amendments to the Articles of Association.



**ORGANIZATIONAL  
STRUCTURE  
OF TVEL JSC**

Fig. 9. Organizational Structure of TVEL JSC as of 31.12.2012.



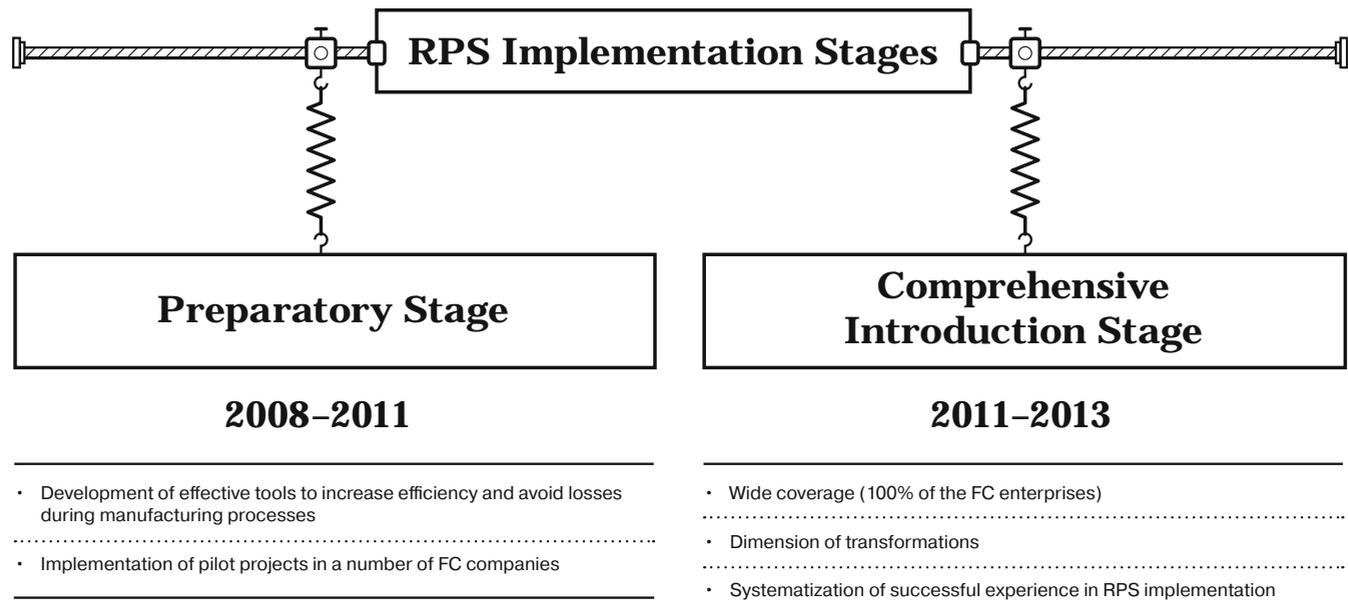
*The need to expand the portfolio of orders to achieve strategic goals, and tough and ever-increasing competition in world markets always demanded from the Company special approaches to the production and management processes, performance management system development.*

**Since** 2008, organizations of the nuclear industry, including the enterprises of the control loop of the Fuel Company, have begun to implement Rosatom Production System (RPS). MSZ JSC became the first pilot site for RPS implementation.

RPS is an industrial complex of interconnected production processes designed to improve enterprise performance and minimize all possible costs. The Japanese philosophy of continuous improvement (Kaizen), pioneered by Toyota, was taken as the basis of the system.

RPS is aimed at continuously improving production and business processes, technologies used, as well as workplaces. It is based on operation optimization and cost reduction by eliminating losses associated with the activities that do not add value:

- unnecessary movement;
- losses by expectation;
- equipment downtime;
- excess stock;
- excess processing;
- readjustment and faulty production;
- excess production.



The preparatory phase and comprehensive introduction phases were started in 2011, and the main results thereof include:

- transfer from RPS implementation in several pilot areas to all major operating units of TVEL FC enterprises in order to spread experience;
- detecting leaders of efficiency improvement;
- preparation of internal coaches for RPS;
- analysis of possible improvements.

Development of RPS in 2012 took place in four main areas:

- process standardization;
- development of small groups;
- practical training;
- solving problems at the production sites.

In 2012, the campaign for comprehensive optimization of production was carried out at the enterprises of the FC as part of the Three-Step Strategy, including:

- Step 1:** Housekeeping (5S System/Ordering: “Sort out!”, “Keep in order!”, “Keep it clean!”). All businesses have reached the target values.
- Step 2:** Analysis of the value stream and its reduction to the target value (“Product flow mapping”).
- Step 3:** Development of performance standards (“standardized performance”). 9,210 workplaces were standardized, while the planned indicator was 7,414.

The implementation of the three-step strategy helped identify deviations in the main production processes for their subsequent stabilization.

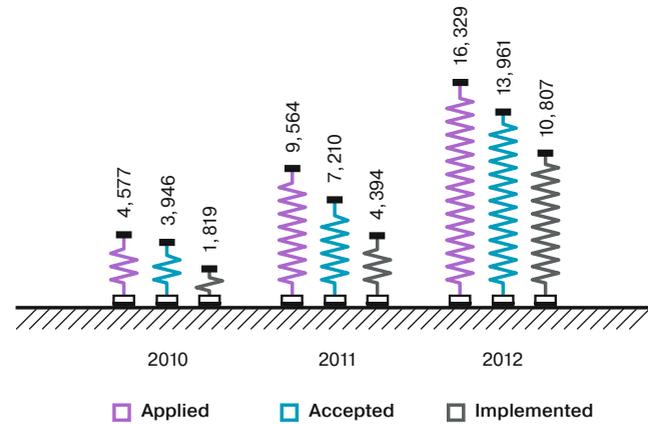
For the purpose of synchronization of the RPS tools with the strategy of the Fuel Company, the FC decomposed its strategy to the level of small groups (SG) — teams. The leaders were assigned and trained and the plan for the SG development was approved. In 2012, the company established 832 SGs, 100% of the basic workers were trained, and all the targets for SGs for 2012 were achieved

The transfer of operational meetings between the functional managers and CEOs of TVEL FC enterprises from their offices directly to the production sites was a kind of ‘innovation’ for 2012, which reduced the amount of paper-laden processes in performing current operating tasks. In 2012, over 19,523 employees of the Fuel Company received training in RPS.

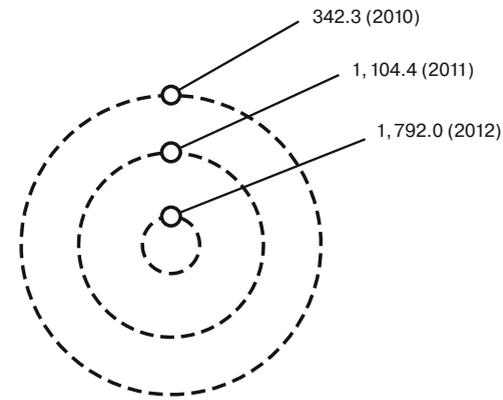
The state corporation and division managers completed practical training at the production sites of “KMP” OJSC and MSZ JSC on April 26–27 and October 12, 2012. The managers of the Fuel Company and the Executive Directors of TVEL JSC were trained according to the adequate program on May 30–31, 2012.

RPS requires involvement of every employee in the process of developing suggestions for practical improvements at the workplace. In 2012, we received 16,341 suggestions for improvements; 13,961 of them were adopted, and 10,813 were implemented. The economic effect of the improvement offers implementation amounted to RUB 238 m.

Working with suggestions for improvement.



The economic impact of the implementation of RPS projects, RUB m.



In 2012, 645.9 thousand m<sup>2</sup> of production area was released at the enterprises of TVEL FC, the target indicator was exceeded by 12%. Reduction of the storage area amounted to 83.4 thousand m<sup>2</sup>.

#### Plans for 2013 and the medium term:

The main task in the efficiency improving of production activities in 2013 will be the transformation of the RPS in the operational efficiency management through the production control.

The following is scheduled for 2013 and the medium term:

- identification of reserves and their use in key areas;
- development, training and appointment of leaders for change (appointment of key staff leaders for the RPS);
- effective feedback (problem-solving);
- alignment of the production plan for the year;
- distribution of tasks, depending on the work load;
- production analysis of assignments, identification and addressing the root causes of deviations;
- adherence to standards and discipline;
- training and development of providers having an impact on the Company's RPS;
- production estimates improvement;
- approval of the payment system and personnel motivation including the RPS.



1

Figure 1, 4. Training of the managers of the State Atomic Energy Corporation and divisions at the MSZ JSC production sites.  
Figure 2, 3. Training of the managers of the State Atomic Energy Corporation and divisions at the "KMP" OJSC production sites.



2



3



4

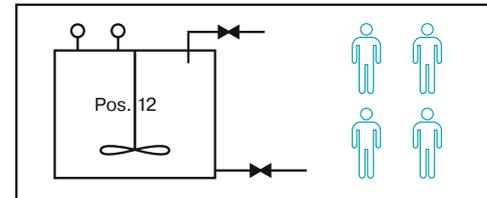
**Example of improvement offer implementation submitted by JSC AECC**  
**Modification of equipment control and management procedures for lime milk preparation**

Andrey Evgenievich Rykov, Process Engineer

Provided:

1. Arrange a duplicate alarm system for agitators from bldg. A to bldg. B.
2. Set the work schedule for lime slakers in 2 shifts of 11 hours, 2 people per shift. The lime slakers working in the 2<sup>nd</sup> shift shall prepare a milk reserve for the night and leave it in the agitator.
3. If there's urgent need of lime milk at night shift, the operator of build. B. shall be obliged to provide it accordingly.
4. To display the alarm, use the existing straight and return water flow temperature control cables for bldg. A.

**Previously**

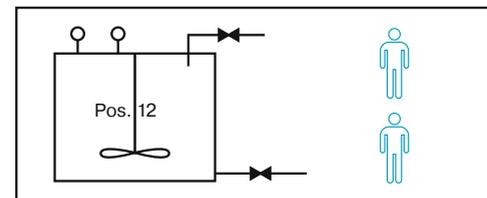


- local control and monitoring of the office equipment.
- operation monitoring of the equipment by the staff — 4 people required.

**Result**

1. release of surplus personnel
2. transfer of the remaining staff to work using the optimal schedule
3. release of personnel from the “control” operations
4. annual economic effect, inclusive of costs, 1,512 thous. RUB/year.

**Now**



- equipment control and management is effected via the Central Dispatcher Board.
- no need for operation monitoring of the equipment by the staff.

**Example of implementation of the suggestions for improvement at JSC “SGChE”**

Bakhtuev Andrey Aleksandrovich — Sanitary Engineering Systems Foreman (TPP), Zyubanov Alexander Pavlovich — Plumber (TPP)

**Previously**



**Problem**

To operate the valves in the pumping stations, you have to prepare and sign a permit in accordance with the Regulations. The team shall include three persons. It requires additional time and effort and will not provide for a fast switchover.

**Result**

**The process of switching is accelerated. No need for permits. Only 1 operator is required.**

**The annual economic effect, inclusive of costs, 78,779.34 thous. RUB/year.**

**Now**



**Solution**

A remote control (open/close) device was installed on hand wheel of slide valve. All operations are carried out without the need to descent into the well.

**Example of implementation of offers for improvement at the production site of spacer grids, work shop №52 at MSZ JSC**

Bychkov Vladimir Mikhailovich — Foreman, Mazur Nicholai Nikolaevich — Deputy shop foreman, Pavlinov Alexei Valerievich — Leading specialist of RPS, Sidorov Sergey Mikhailovich — Shop foreman

**Previously**

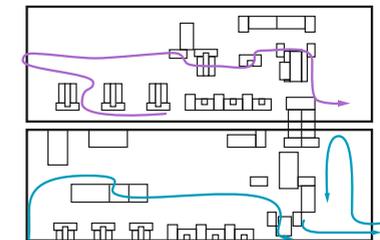


**Now**



**Indicator improvement**

Indicator name and measuring units	Current condition	Target condition	Result, %	
Personnel	persons	22	16	-27
Average operator loading	%	61	87	+26
Number of equipment	unit	21	17	-19
WIP	pcs	3,207	1,428	-55
Plot area	m <sup>2</sup>	330	130	-60



**Example of implementation of the suggestions for improvement at JSC CMP**  
**“Flow optimization in work shop №85”**

Safonov Vladimir Nikolaevich — Foreman

**Previously**



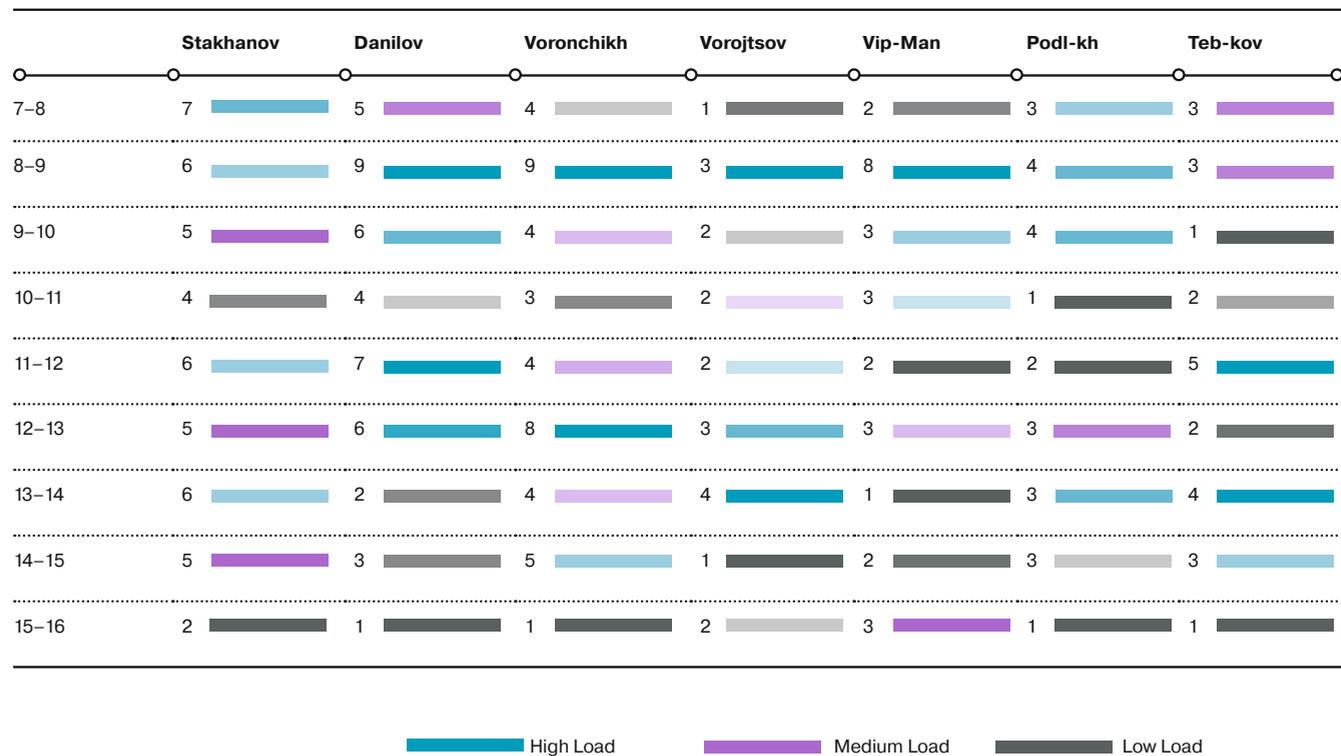
**Now**



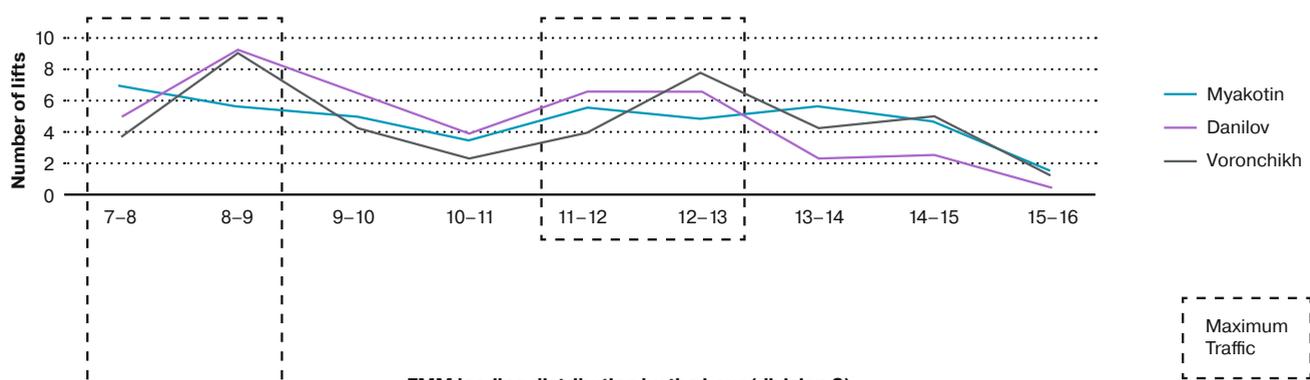
	Before	After	Result
Movement, m	350	120	-230
Number of crane lifts, pcs	6	1	-5
Waiting, min	≈ 120	30	-90

**The result: the production time is reduced by 1.33% as a result of reducing the waiting time and the number of transport operations.**

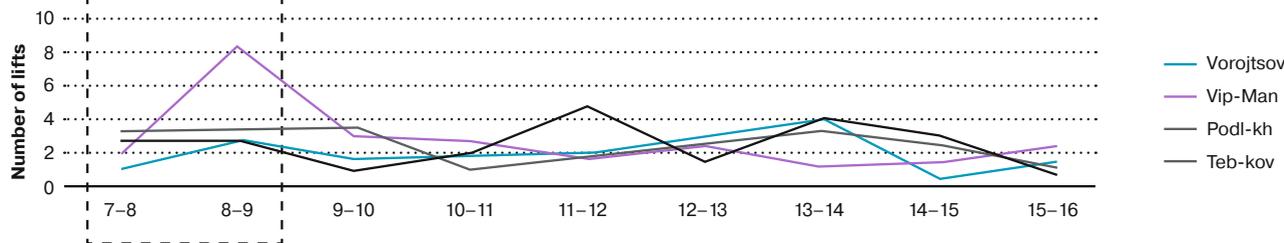
FMM loading analysis during the morning shift



FMM loading distribution by the hour (section 31)



FMM loading distribution by the hour (division 2)



Example of implementation of the suggestions for improvement at JSC "VPA "Tochmash" Project "The manufacture of products of special purpose"

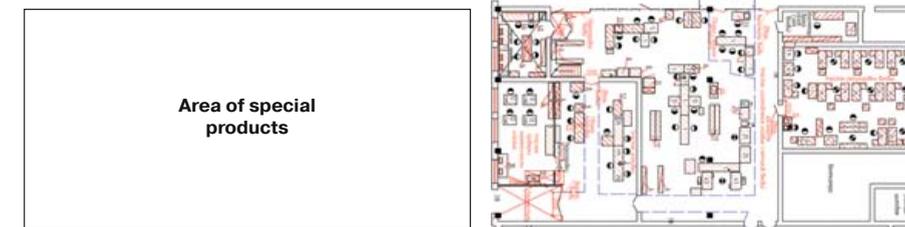
The Project Manager — Kuzmenko Oleg Anatolevich, Chief operating officer №2

Previously — 1,600 m<sup>2</sup>



Problem: The underoccupation of the area, distance from the main production area.

Now — 850 m<sup>2</sup>



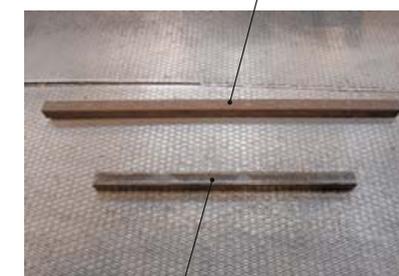
Solution: production concentration in one building

Release of the area under lease, m<sup>2</sup>: 1,600  
 Conditional economic effect, thous. RUB: ≈2,400

Example of implementation of the suggestions at "KMP" OJSC

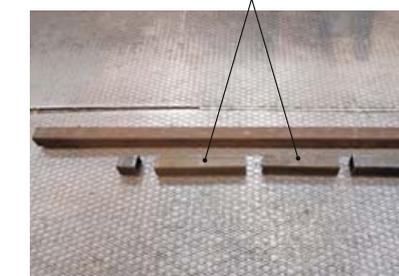
Gavrilov Vladimir Vyacheslavovich — senior foreman of Division 7

Previously 02586-02-1005 "Bar"



Deviation

Now 02586-02-1007 "Column" 2 pcs



Deviation from the work piece on the technological process was utilized as metal junk. It was suggested to use metal junk to produce "Column".

The economic impact for the 6 months of work amounted to, thous. RUB: 562.46

The total economic impact of projects and offers for the improvement in 2012 amounted to RUB 1,792 m, while the planned impact was RUB 1,404 m (RUB 1,104 m in 2011).

## Non-core asset restructuring of TVEL FC

In 2012, the FC continued to restructure non-core assets which resulted in a significant decrease in their number.

At the beginning of 2012, the balance of the Fuel Company enterprises accounted for 888 non-core asset (4, 451 objects); as of the end of the year, the number of assets decreased to 473 (2, 392 objects).

In this case, the conservation of the facilities and recognition of them as specialized and secondary in addition to the output of non-core assets out of the contour (by sale, donation, and elimination). The results of the FC in 2012 on the withdrawal of non-core assets out of the contour is shown in the table below.

Table 7. Withdrawal of the non-current assets of the FC.

Withdrawn out of the contour	Assets, pcs	Objects, pcs	Sales proceeds, RUB m	Reduction in annual costs, RUB m
Sold	53	234	329	66
Donated	12	436	0	165
Eliminated	3	3	0	0
<b>Total:</b>	<b>68</b>	<b>673</b>	<b>329</b>	<b>231</b>

The Fuel Company occupies the leading position on the restructuring of non-core assets among all the divisions of Rosatom State Corporation, not only effectively performing the tasks, but actively participating in shaping the policies of the nuclear industry on the restructure of non-core assets.

## §15. INVESTMENT ACTIVITY

**Investment** activity of TVEL FC is conducted according to TVEL JSC Investment Policy Regulation and the following industry-specific governing documents:

- standard governing investment project and program management at Rosatom State Corporation, its organizations and subordinate enterprises, as well as their subsidiaries;
- standard governing the preparation of investment project passports at Rosatom State Corporation;
- standard governing investment project and program management at TVEL JSC.

The main body controlling the investment activity of TVEL JSC is the Investment Committee of TVEL JSC (Investment Committee Regulation

that was set up by order №26 dated February 26, 2010 (as amended by order 4/288-П dd. 22.11.2012).

The Investment Committee (hereinafter the Committee) is a collegial body set up with a view to improve production and investment activities, increase the investment attractiveness of TVEL FC and improve the justification of managerial decisions.

The Committee's responsibilities include issuing recommendations (opinions) and preparing decisions regarding investment policy, endorsement of strategic development programs, investment programs, strategic investment projects, projects for reorganizations of companies and diversification of business.

### The composition\* of the Investment Committee of TVEL JSC.

<b>Chairman</b>	Yu. A. Olenin — President of TVEL JSC
<b>Vice-chairman</b>	A. V. Golovlev — Senior Vice-President of TVEL JSC
<b>Secretary</b>	E. I. Lukina — Executive Director of TVEL JSC
<b>Members</b>	V. V. Rozhdestvensky — Senior Vice-President of TVEL JSC
	P. I. Lavrenyuk — Senior Vice-President of TVEL JSC
	Yu. A. Kudryavtsev — Senior Vice-President of TVEL JSC
	K. K. Sokolov — Vice-President of TVEL JSC
	I. A. Karavaev — Director for Strategic Management of Rosatom State Corporation
	V. I. Korogodin — Director for Lifecycle Management of the Nuclear Fuel Cycle and NPP of Rosatom State Corporation
	N. S. Khlebnikova — Director of the investment management of Rosatom State Corporation

### Investment controlling mechanisms:

- collective investment decisions of TVEL JSC Investment Committee or, according to the value of the investment project and its strategic importance, the Investment Committee of Rosatom State Corporation;
- certification of investment projects and programs, including the elaboration and description of the current state of the feasibility study and plans of their implementation;
- usage of the gate approach to the management of investment projects and programs, including the audit of the efficiency and effectiveness of their implementation;

\* Executive order of TVEL JSC №4/288-П dd. 22.11.2012.

- annual preparation and updating of the FC Investment Memorandum defining the medium-and long-term investment of the enterprises included in the perimeter of the FC, with its subsequent approval by the Investment Committee of TVEL JSC.

### Results of 2012

In total, the Investment Committee of TVEL JSC held 15 meetings in 2012 including 6 meetings with persona presence. The amount of investment project financing amounted to RUB 41, 328 m (in 2011 — RUB 43, 434 m). The largest share of the total investment costs account for financing of industrial and technological base of primary production.

Table 8. Actual funding of TVEL FC investment projects in 2011-2012 broken down by enterprises.

Enterprise	Investment funding		
	2011	2012	Share, %
	Fact		
TVEL JSC	13,635	10,422	25.2
JSC UEIP	5,151	6,251	15.1
JSC "SGChE"	4,935	5,930	14.3
JSC "PA ECP"	4,373	7,184	17.4
UGCMP Ltd.	4,160	151	0.4
JSC CMP	3,749	2,436	5.9
MSZ JSC	2,276	2,514	6.1
JSC AECC	1,618	1,164	2.8
JSC "VNIINM"	1,254	1,264	3.1
JSC NNCP	1,131	1,449	3.5
JSC "VPA "Tochmash"	467	645	1.6
"KMP" OJSC	411	1,333	3.2
JSC "MZP"	275	585	1.4
<b>Total:</b>	<b>43,434</b>	<b>41,328</b>	<b>100.0</b>

### §16. QUALITY MANAGEMENT

*In the course of its business, the Company seeks to provide a high level of quality, reliability and safety of products and services, the maximum satisfaction of all requirements and expectations, as well as the requirements established by Russian and international rules and regulations on the safety of nuclear facilities.*

The Quality Management in TVEL FC is built on the principles of total quality management, as reflected in the international standards ISO 9000. TVEL JSC operates a corporate quality management system certified for compliance with ISO 9001 by TUV CERT International Certification.

The system covers the full cycle of design, development, production, storage, supply and scientific and technical support of fuel assemblies and components of reactor cores, as well as the materials and components for them.

In 2012, the enterprises of the Fuel Company continued to implement an integrated corporate quality, environment and safety management system (hereinafter referred to as "IMS"):

- JSC "VNIINM", "KMP" OJSC, JSC "VPA "Tochmash", JSC "SGChE", UGCMP Ltd. were certified;
- the area of the systems distribution has been extended to: JSC AECC, JSC "PA ECP", JSC UEIP, "EDB-Nizhny Novgorod", NRDC LLC, Novouralsk instrument factory LLC. Thus, as of the end of 2012, the area of IMS distribution included all the enterprises of TVEL FC.

In 2013, it is planned to complete IMS certification of all the enterprises of the Fuel Company.

Moreover, in 2012, standards "Quality Guidelines for the Fuel Company" (RAC-1-2011) and "Guidelines for Environmental Management, Occupational Health and Safety Systems" (RISM-1-2012) were issued and implemented to improve the quality management system; and program "Zero failure level" was developed and implemented throughout the enterprises of the Company.

*In 2012, Memorandums for participation of the operating organizations of Russia, the Czech Republic, Ukraine and Bulgaria in the project "Zero Failure Level" were signed; practical implementation started. The achievement of zero failure level of the nuclear fuel will improve the reliability and security of the Russian production and lead to the operation of nuclear power units exclusively with sealed fuel assemblies which in turn will reduce stress, improve the environment and economic gains.*

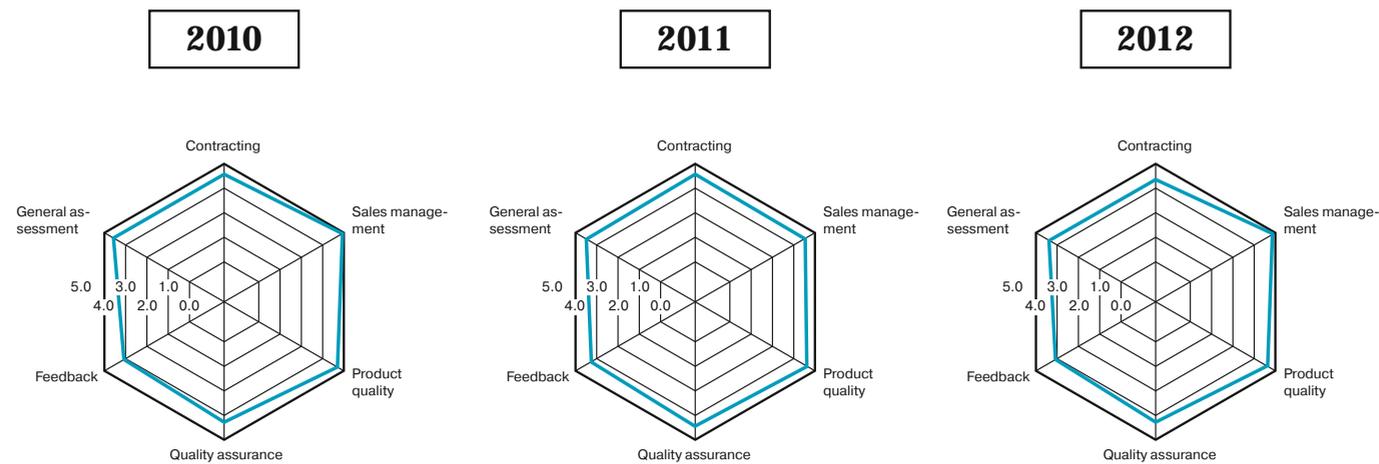
Every year, TVEL FC assesses the satisfaction of their main customers in accordance with the procedure Customer Satisfaction Assessment based on ISO 9001:2008 requirements.

In 2012, the Customer Satisfaction Assessment survey covered more than 10 customers:

- Institute of Nuclear Physics, Academy of Sciences of the Republic of Uzbekistan;
- National Centre for Nuclear Research (Poland);
- Kozloduy NPP (Bulgaria);
- Nuclear research Institute, National Academy of Sciences of Ukraine;
- Fortum Power and Heat Oy, Finland;
- Temelin and Dukovany NPP (Czech Republic);
- Haykakan Atomine Elektrine CJSC (Armenia);
- Mochovce NPP (Slovenske Elektrarne a.s.) (Slovakia).

Based on survey results, average customer satisfaction index in 2012 made 4.5 (on a 5-point scale). In 2010-2012, TVEL FC received no complaints or claims from consumers of its products.

Fig. 10. Customer satisfaction assessment, 2010–2012.



**Main** tasks and objectives of the Corporate Risk Management System (hereinafter referred to as the CRMS) of TVEL JSC:

- implementation of the corporate strategy of Rosatom State Corporation on the basis of performance of the corporate-wide risk management process;
- maintenance of continuity (stability) of all business-processes through identification, assessment and minimization of threats that can influence the results of TVEL JSC activities, as well as through development and introduction of necessary procedures for continuous monitoring and reporting on risks;
- integration of the process of risk management with processes of making administrative decisions.

Table 9. The participants of the CRMS of TVEL JSC and their role in the risk management process.

The participants of the CRMS of TVEL JSC	The role of the CRMS participants in the risk management process
President of TVEL JSC	Approval of the risk management policy of TVEL JSC, the risk tolerance parameter level, CRMS plan. Control over the implementation of the CRMS development plan
Risk holders	Ensuring the risk management processes implementation
People responsible for the Risk Management	The risk management processes implementation
Risk officer of TVEL JSC	Methodological support of risk management processes, monitoring their implementation and results

**The organization of the risk management processes at TVEL FC**

The risk management is based on continuous monitoring of the external and internal environment, analysis of threats and probabilities that influence the achievement of economic and social objectives of TVEL FC.

Risk management processes are carried out by the employees of TVEL JSC (responsible for Risk Management) in the context of depart-

ments whose activities are subject to the risk. The risk officer assesses the overall risk of the Company, develops a unified integrated risk management program (based on the developed parts of risk management activities), and monitors its implementation and analyses the effectiveness.

The main activities on the implementation of the CRMS in 2012:

- the key risks of TVEL JSC are updated, their owners and persons responsible for their managing are identified;
- the qualitative and quantitative impact assessment of the key risks to the main performance indicators of TVEL FC for the period until 2017;
- the key risk management measures are developed and implemented in accordance with the plan. The main results of these activities achieved in 2012 are shown in the table below (see Table 10).

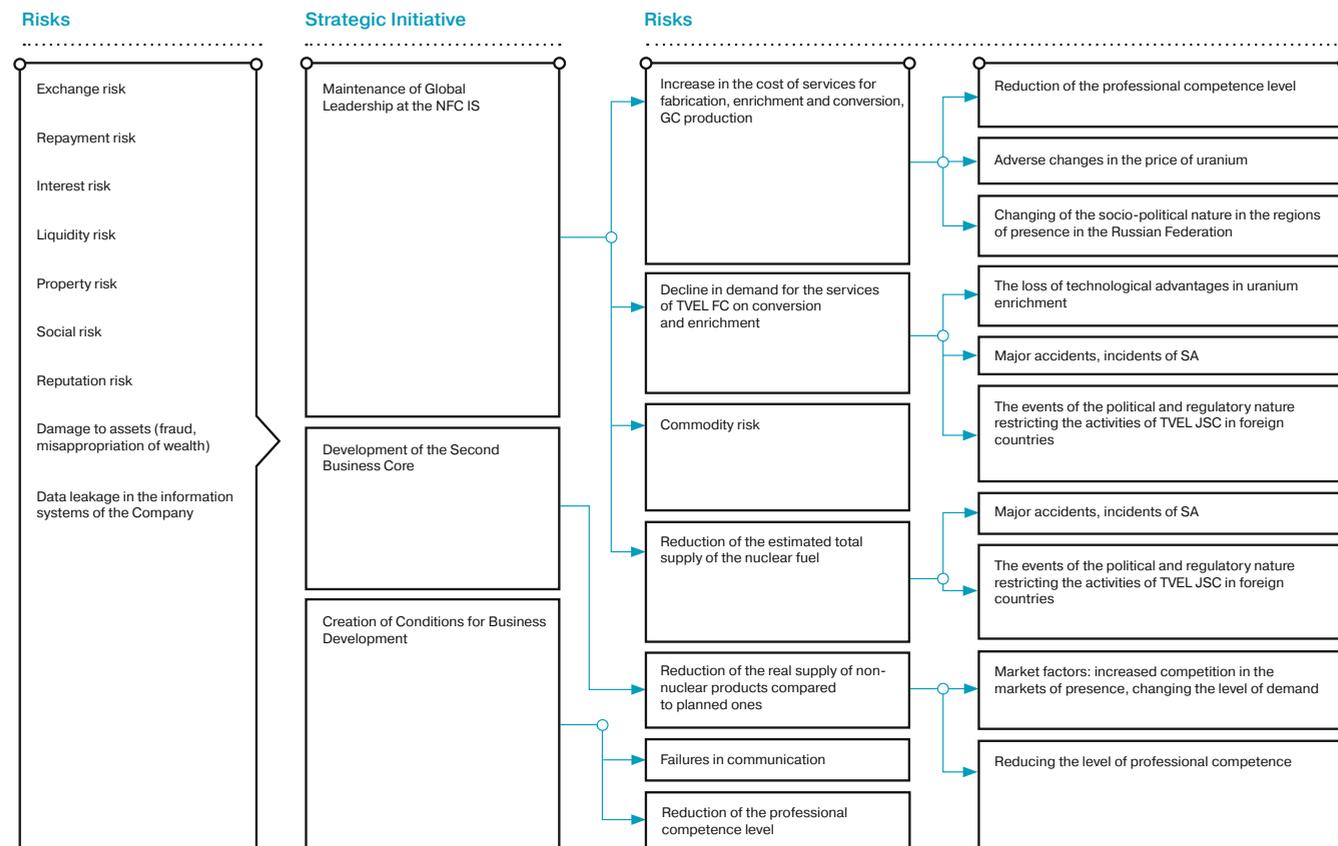
Table 10. Results of the key risk management of TVEL FC achieved in 2012.

Risk	Risk management results
Exchange risk	The risk is parried by hedging instruments
Repayment risk	The risk is parried by insurance
Commodity risk	The risk is completely cancelled by fixing the prices of the EUP, SWU in products in 2012 in the respective contracts
Property risk	The risk is completely cancelled by the insurance
Social risk	The risk is parried by: <ul style="list-style-type: none"> <li>a series of PR and GR-actions aimed at maintaining social and political stability in the regions;</li> <li>support of new business units formed during the restructuring process;</li> <li>creation of highly qualified personnel relocation system (project "Personnel relocation");</li> <li>initiation of a series of projects to create innovative productions at the released areas of TVEL FC enterprises</li> </ul>

Table 11. The key risk management of TVEL FC.

№	Risk	Threats	Risk management activities
1	The risk of reduction in demand for products and services of NFC IS (including reduction of the estimated volume of nuclear fuel supplies and steady volume of work on the conversion and enrichment)	Disaster at Fukushima NNP. Early decommissioning of power units. Delays in the construction and commissioning of power units. Transition to the production of nuclear fuel with increased resource characteristics. Transition of the foreign enrichment market competitors to centrifuge technology and tightening of quotas. Development of new enrichment facilities in China, etc.	Organization of nuclear fuel production for the reactor units VVER- 1000 in Ukraine. Development of nuclear fuel for NPPs with PWR — TVS-KVADRAT. Creation of TVS-KVADRAT production. Increased production and sales of products for general industrial use (in particular, on the basis of machine-building, chemical, metallurgical, machine-building complexes of the enterprises of TVEL FC)
2	The risk of loss of technological advantages in uranium enrichment technology	Lagging in the technology development behind the competitors	Development and improvement the design of GC of the 9th and 10th generation. Development of structural materials and GC of the 11th generation
3	Social risk	Social changes in the regions of presence (Russia) influencing the activity of TVEL JSC and its subsidiaries and affiliates. These changes are the result of non-alternative (in terms of competitiveness) production optimization and reconfiguration of the facilities of TVEL FC	PR and GR-actions. Support for new business units formed during restructuring. Initiation of a series of projects to create innovative productions at the released areas of TVEL FC enterprises
4	Exchange risk	Gaps in the claim volume and liabilities denominated in the same currency. Volatility of the world currencies	Hedging (including natural)
5	Commodity risk	Market dynamics	Fixing prices for products
6	Risk of increase in the cost of services for fabrication, enrichment and conversion, GC production	External threats: <ul style="list-style-type: none"> <li>disruptions in the global/Russian monetary system;</li> <li>changes in tariffs for services of public utilities, transportation companies, etc.;</li> <li>increase in the minimum wage, etc.</li> </ul> Internal risk factors: <ul style="list-style-type: none"> <li>failures in the organization of production processes;</li> <li>reduction in equipment utilization;</li> <li>depreciation of production technology and equipment;</li> <li>malfunctions, etc.</li> </ul>	Development and improvement the design of GC of the 9 <sup>th</sup> and 10 <sup>th</sup> generation. Development of structural materials and GC of the 11 <sup>th</sup> generation. Creation of a new conversion production at JSC "SGChE". Development of new models of accessories for separation plants. Implementation of programs on energy conservation and efficiency

Fig. 11. Classification of the key risks of TVEL FC up to 2017 in the context of the Strategic Initiatives.



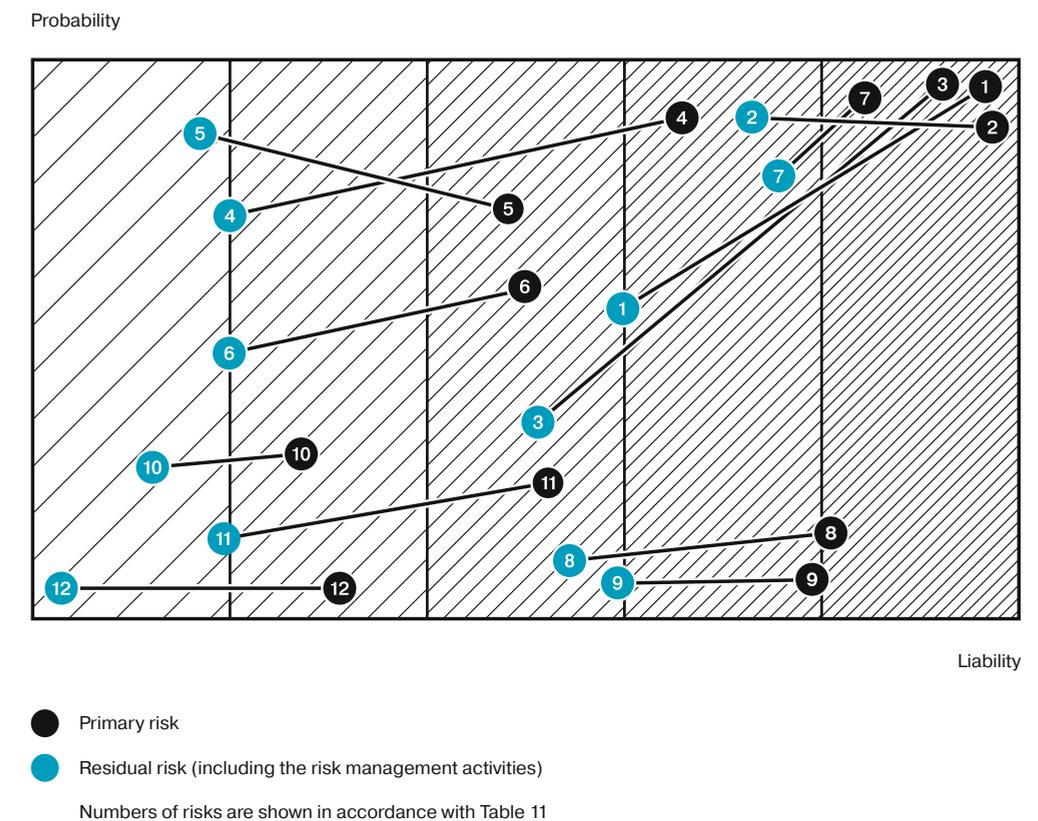
Nº	Risk	Threats	Risk management activities
7	Reduction of the real supply of non-nuclear products compared to planned ones	Overrated demand for non-nuclear-valued products. Absence of explicit advantages of the high level of competition in promising markets. Lack of skills and human resources for the successful development of non-nuclear businesses	Optimization of process analysis, development and implementation of investment projects aimed at the creation of the production of non-nuclear products. Financial and organizational support for the production of innovative products in the times of local deteriorating market conditions. Human resources building-up, more efficient use of human resources, attraction of highly qualified personnel made redundant during the restructuring of the enterprises of TVEL FC. Involvement of students and young professionals in the process of production and development of new products
8	Reputation risk	Publication of materials containing false/intentionally distorted facts and aimed at discrediting the Company and its products in the media. Implementation of any key risks	Rebutment (including in the court) of false information damaging the reputation of the Fuel Company. Organization of PR-campaign to bring to a wider audience of stakeholders of reliable information and levelling the possible reputational damage. Implementing measures for the key risk management
9	Major accidents, incidents of SA	System breakdown important to safety. Lack of coordination in security management. Lack of resources to implement safety measures. Lack of qualified security staff. Failure to comply with the mandatory requirements for the safety	Introduction of modern means of protection and production technologies to ensure the protection of the workers, population and environment from the negative effects and threats. Modernization and technical re-equipment of dangerous facilities. Neutralization (liquidation) of hazards. Personnel Development. Implementation of PR-campaigns to minimize the impact of risk on the activities of the FC
10	Property risk	Theft, damage, personnel negligence. Technical, technological, information system failure	Insurance
11	Risk of reduction of the professional competence level	The lack of a well-functioning of mentoring institution. Deficiency of highly skilled engineering staff. Gaps in programs for career growth and development of employees, including the assessment of the effectiveness of their work. Reduced labour mobility. Lack of employee engagement	Implementation of human resources development programs to retain workers — the carriers of core competencies and attract young specialists. Implementation of mentoring programs. Standardization of production processes to minimize the impact of human factors on the production stability. Elaboration of a plan on the development of small groups. Implementation of training and development of the top-managers and personnel reserve as the leaders of changes

Nº	Risk	Threats	Risk management activities
12	Repayment risk	Counterparty's failure to fulfil obligations in full and on time due to: the deterioration of financial stability of suppliers/customers, increase of advances to suppliers/customers, increase in volumes/timing of accounts receivable, etc.	Insurance. Decline in the share of advance payments in final pay with external suppliers

By implementing measures for key risk management, it is planned neutralize (minimize) their impact on the implementation of strategic initiatives of TVEL FC, as well as to achieve the target values of key performance indicators within reasonable deviations set by Rosatom State Corporation in the amount of 5% of their planned value for 2013, at a rate of 10% — for the period 2014–2017.

The importance of risks (a combination of probability and liability) from the point of impact on the achievement of the strategic initiatives by Rosatom State Corporation “Maintenance of Global Leadership at the NFC IS” is presented in the figure below.

Fig. 12. Impact of the risks to the achievement of the strategic initiative of TVEL FC “Maintenance of Global Leadership at the NFC IS”.



§18.  
CORRUPTION  
MANAGEMENT  
AND SETTLEMENT  
OF CONFLICTS  
OF INTEREST

**State** policy on the fight against corruption is fully shared by the management of TVEL FC. In order to create conditions for reducing corruption and embezzlement in the enterprises of the Fuel Company, the Company adopted local regulatory document “On implementation of the Comprehensive Program on corruption and embezzlement management in TVEL JSC and the enterprises included in the contour of the Fuel Company” (Order №4/253 — P dd. 23.10.2012) based on “The comprehensive program on corruption and embezzlement management in the nuclear industry (2012–2013)” (Order №1/761 — P dd. 20.08.2012) approved by Rosatom State Corporation.

To establish a system on illegal activities management in TVEL FC, the following divisions are created:

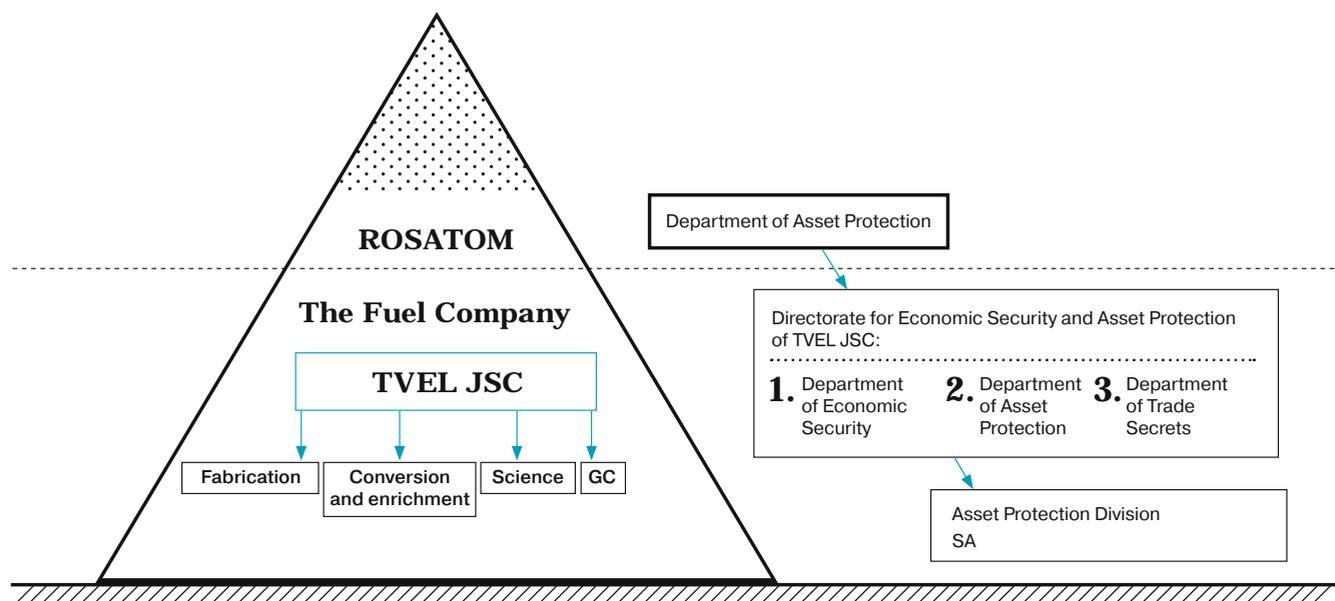
- directorate for Economic Security and Asset Protection (in TVEL JSC);
- division for the Protection of Assets (in SA) (see Fig. 13).

The activity of the structural units on illegal activities management, in particular, their function, structure and arrangement of work both within TVEL FC, and in cooperation with external organizations, is determined by the regulations of the relevant departments.

The main focus areas of the structural units are:

- to ensure economic security and asset protection in TVEL JSC and its enterprises in industrial and financial-economic activities;
- to identify, prevent and allocate threats (risks) to the economic interests and goodwill of TVEL JSC and its enterprises;
- to provide the President of the Company and the Company’s divisions with information and analytical support to in the field of economic security;
- to implement measures of common policy in the sphere of protection of information constituting a trade secret of the Company and its subsidiaries and affiliates;
- to provide personnel security of the Company and its subsidiaries and affiliates.

Fig. 13. Illegal activities management system of TVEL FC.



As of 31.12.2012, 15 enterprises of the FC created and operate Asset Protection Divisions (APD). During the reporting year, these units have been set up in JSC “MZP” and JSC NNCP. As of 31.12.2012, the APD is being formed in the MSZ JSC which will continue in 2013.

The number of employees at Asset Protection Divisions of TVEL FC amounted to 61 people.

The Fuel Company teaches the employees standards of ethical business practices, anti-corruption and embezzlement and enforcement of these standards. In 2012, the total number of employees of TVEL FC trained on anti-corruption and anti-embezzlement policies, and in particular the program “Complex measures to ensure economic security and fight corruption at the enterprises of TVEL FC includes 43 persons.

**Key results of 2012:**

- 397 inspections were organized and conducted (in 2011 — 226) to prevent damage and loss of assets. 83 packages of materials (2011 — 58) were sent to the police;
- 51 inspections were conducted as part of the information verification on abuses and violations received via specialized channels “Hot line”, in 24 cases the information was confirmed;
- the size of the prevented and compensated damage amounted to RUB 366.5 m, as a result of the implementation of measures to ensure economic security and assets protection, which is 47% more than in 2011;
- in November 2012, Directorate for Public Relations of TVEL JSC designed and implemented Plan for PR-activities to inform the public on the measures taken by the Company to fight corruption.

**Internal Control** of TVEL FC is an interconnected integral complex of organizational structures, processes and procedures, rules for their implementation, management system characteristics which constantly or occasionally fulfils the function of internal control and ensures the achievement of the objectives of internal control.

Internal Control of TVEL FC is operating in accordance with the regulations of the Russian Federation, local regulations of Rosatom State Corporation and TVEL JSC and the Provision on the ICAM of TVEL JSC.\*

The purpose of the internal control system is to improve assurance in achievement of the strategic goals of TVEL FC and contribute to corporate governance improvement in TVEL JSC and the companies within the control loop of the Fuel Company in accordance with the laws of the Russian Federation, regulatory government bodies and international standards.

\* ICAM of TVEL JSC — Internal Control and Audit Management of TVEL JSC.

§19.  
INTERNAL  
CONTROL  
OF TVEL FC

The most important task of the system of internal control is to maintain corporate governance mechanisms (first of all, supervising ones) in adequate condition to changing external and internal situation.

The main subjects of the internal control system in the Fuel Company are: President of TVEL JSC, the Board of Directors of TVEL JSC, management of TVEL JSC, Internal Control and Audit Service of TVEL JSC (ICAS of TVEL JSC), as well as corporate bodies and specialized agencies of the internal control of TVEL JSC enterprises.

The objects of control are: TVEL JSC and its organizations, their subdivisions, as well as their activities.

### Results of 2012:

1. Most of the work on creation a system of specialized organs of internal control and audit in key organizations Fuel Company is completed. Subdivisions of the Internal Control (hereinafter the SIC) are created and develop (work) in the following enterprises of the Fuel company: JSC AECC, JSC "SGChE", JSC UEIP, "KMP" OJSC, JSC CMP, MSZ JSC.
2. The internal control system effectiveness was audited, including:
  - 3 audits of business processes of the Company
  - 5 audits of the effectiveness of internal control of financial reporting.
3. In order to create a mechanism for evaluation and self-assessment system of internal control of financial reporting, TVEL JSC successfully introduced the Control procedure matrix on major accounting processes.
4. Risk-based internal audit planning is introduced and developed in the ICAS, risk-based approach to internal audit is replicated in SIC of the enterprises of TVEL FC.
5. A draft Regulation on audit committees is developed to reinforce the role of audit committees in internal control system.
6. Anti-theft and fraud activities, including audit, are focused on identifying and preventing fraud.\*
7. In order to improve the activities on complaint investigation in accordance with Rosatom State Corporation order №1/870-P dd. 25.09.2012, TVEL JSC created an arbitration committee with a mandate to deal with complaints on the actions (inaction) of the customer, authorized body, procurement authority, procurement commission during procurement procedures in the interests of the organizations referred to the control loop of TVEL FC.

The arbitration committee considered 22 complaints during the period from 01.10.2012 (date of establishment of the committee) to 31.12.2012.

\* For more information see Section "Corruption management and settlement of conflicts of interest", Chapter 2.

Table 12. The number of control activities carried out by specialists ICAM in 2010–2012.

Indicator	Measuring unit	2010	2011	2012
Number of control measures carried out by specialists of ICAM in accordance with the plan, total:	pcs	34	33	38
Incl.				
In the audit committees	pcs	20	23	25
Audits of the financial and economic activities, including procurement and HR administration	pcs	14	10	8
Internal audit	pcs	—	—	5
Number of unplanned control measures carried out by specialists of ICAM, total:	pcs	—	58	22
Incl.				
Audits of the financial and economic activities, including procurement and HR administration	pcs	—	21	19
Internal audit	pcs	—	4	3
Hotline of the SC*	pcs	—	33	—

All of the audits scheduled in the Consolidated Plan of control measures are implemented.

ICAS carries out the follow-up monitoring of the corrective actions according the results of the control activities.

### Tasks for the period until 2015

According to the concept of internal control systems of Rosatom State Corporation by 2015 it is planned to implement:

- regular assessment and self-assessment of internal control and separate control systems;
- quality control of the internal audit function;
- systematic monitoring of the management process;
- risk-based planning of the control and audit activities.

\* The Directorate for Economic Security and Protection of Assets of TVEL JSC has been processing applications (relating to TVEL FC) received via the Hotline since 2012.

§20.  
**PROCUREMENT  
ACTIVITIES**

The main documents regulating procurement policy and establishing the basic criteria for the selection of suppliers and contractors for TVEL JSC and its companies are the following:

- unified industrial procurement standard for Rosatom State Corporation;
- corporate Standard of TVEL JSC “Procurement Process”.

The procurement procedures are carried out using the following electronic platforms: EETP OJSC, Fabrikant LLC, A-K-D LLC. This approach to procurement management contributes to its openness and transparency, and saves labour and financial resources.

In 2012, TVEL FC held 94.8% of the total volume of all the tender procedures on electronic trading platforms. In 2011 this indicator was 39.4%. The dynamics of the main indicators of the FC procurement effectiveness is shown in the table below (See Table 13–Table 14).

Table 13.

Indicator	2010		2011		2012	
	Fact		Fact	Plan	Implementation, %	
The share of procurement carried out through public open competitive procedures, %	64.5		90.1		96.2	80.0 120.3
The share of trade conducted on electronic trading platforms.	10.0		39.4		94.8	60.0 158.0

Table 14.

Indicator	2011	2012	2013
	Fact	Fact	Plan
Total procurement amount TVEL FC (m RUB)	98, 152.6	133, 386.7	171, 294.8
Total savings of the enterprises of TVEL FC as a result of procurement procedures on the open competitive basis (m RUB)	1, 994.6	2, 050.97	—

The dynamics of these indicators shows the procurement management efficiency improvement and transparency of the procedures. Effective interaction with suppliers reduces the risk of corruption and fraud, risks of buying products of inadequate quality.

Under the provisions of the Procurement Standard of TVEL JSC, the Company has no right to set preferences to suppliers on a territorial basis, excluding outsourcing companies created during the restructuring of the Fuel Company (TVEL FC guarantees certain volume of orders for five years). For example, in 2012, the volume of orders remained at the level of 2011. As from 2013, the proportions will change: 75% will be guaranteed by the FC Enterprises, and 25% will be distributed in the open competition; then 60% to 40%, 50% to 50% and 25% to 75%.

Thus, local suppliers are involved in competitive procedures on the same basis, and there are no specific approaches to work with local suppliers.

According to the results of 2012, the participants of the tendering procedures filed no complaints.

Some of the key suppliers and contractors of TVEL FC enjoy a monopoly in the market. Under the provisions of the Standard, Procurement procedures with such counterparties are carried out in the following order: non-competitive (for natural monopolies), and through the process of “Procurement of a single supplier”.

TVEL FC supports, respects and protects basic human rights, builds its external business relations on the principles of honesty, integrity and openness.

The competitive procedures at the discretion of suppliers contain no conditions that would violate human rights; the company also does not include such aspects in their contracts and agreements.

In 2012, the FC continued its efforts to streamline and improve the efficiency of the procurement process, including its decentralization. Thus, since the mid-2012, TVEL JSC, its subsidiaries and affiliates may independently conduct competitive procurement procedures with maximum initial bid price, not exceeding RUB 5 m. In 2012, the following problems were solved within this area:

- unified industrial procurement standard for Rosatom State Corporation (UIPS) was adopted and approved by all the enterprises of the Fuel Company which corresponds to the requirements of the Federal Law №223-FZ dd. 18.07.2011;
- revised standard of TVEL JSC “The procurement process” was developed, agreed and implemented by all the enterprises of the Fuel Company;
- the process of creation and organization of procurement management departments at the enterprises of the FC was completed.

As part of procurement accounting simultaneously in the information systems TVEL SAP ERP, KC SAP ERP and Rosatom State Corporation SAP SRM:

- annual procurement program is developed; actually signed contracts and reports on procurement procedures carried out in the Rosatom State Corporation SAP SRM are reflected;

- a system of registration of beneficiaries of contracting companies of TVEL FC enterprises is introduced using information systems SKD and EOC NSI of Rosatom State Corporation.\*

Plans for 2013:

- development of methods for warehouse inventory rationing;
- implementation of transparent KPI system on reserves of ME;\*\*
- introduction of supplier qualification procedures.

§21.  
**INFORMATION  
TECHNOLOGIES**

*TVEL FC uses the latest information technologies and solutions in order to improve performance optimize business processes.*

**In 2012** the following works were performed in the area of information technologies:

- implementation of project activities on development and implementation of new information systems in accordance with the program of rearrangement of FEB and IT of Rosatom State Atomic Energy Corporation, the requirements of the management of TVEL JSC in view of plans to establish TVEL FC;
- coordination of IT activities of the TVEL FC enterprises;
- continuous performance of staff, existing infrastructure and information systems.

**Key results of 2012:**

1. JSC UEIP and UGCMP Ltd. have successfully completed the replication project for the resource management system pattern of the Fuel Company on the basis of SAP ERP. The system was put into operation on *01.01.2013*.

The system SAP ERP of TVEL FC is a full-featured scalable resource management tool designed to unify, organize processes and improve operational efficiency, speed and accuracy of management decisions within multi-purpose business of the Fuel Company. In 2011, the system was implemented in TVEL JSC and MSZ JSC.

Implementation of SAP ERP of TVEL FC at another two enterprises can expand the consolidated information area of the Fuel Company, bring business processes to the same standard.

At the moment, the system has more than 1,600 users.

In 2013, the developed solution will be replicated for another five companies: JSC NNCP, JSC AECC, JSC “PA ECP”, JSC CMP, “KMP” OJSC.

\* Unified Industry Reference Data System of Rosatom SC.

\*\* Materials and equipment.

2. In the 3–4 quarter of 2012, the unified sectorial electronic document management system of Rosatom State Corporation (EOSDO) will be implemented at 8 more companies of TVEL FC: JSC NNCP, JSC AECC, JSC “PA ECP”, JSC “SGChE”, JSC CMP, JSC “VPA “Toch-mash”, “KMP” OJSC, JSC “VNIINM”.

The implementation of EOSDO improves employees’ working efficiency through the immediate provision of all information and documents necessary to perform the tasks, increases the level of control of the Guidelines execution, provides the transparency of implementation, and ensures transition to electronic data interchange and decision making. Previously, the system has already been implemented in TVEL JSC, MSZ JSC, JSC UEIP, UGCMP Ltd.

3. MSZ JSC, JSC UEIP and UGCMP Ltd. have successfully completed project “The replication of master system for personnel management for the Fuel Company” at the same time. The system has been put into commercial operation since *01.01.2013*.

The system fully automates the personnel records, organizational structure management, basic time registration, payroll, performance management, and job safety indicators records.

4. Automated Control System for Design-Engineering Preproduction (ACS DEP) for the Fabrication Division was put into commercial operation at MSZ JSC, JSC CMP, JSC NNCP, TVEL JSC in September 2012.

5. System ACS DEP of Gas Centrifuges Division was put into commercial operation at “EDB-Nizhny Novgorod”, “KMP” OJSC, TVEL JSC in September 2012.

**The introduction of ACS DEP will allow:**

- reducing the costs of design and technological preparation of production through the use of more efficient ways of activity management by 10%;
- shortening the terms of design and production start-up of products, including by coordinating cooperation between divisions of the companies and using standard design and technological solutions by 20%;
- reducing the terms of technical documentation coordination with external organizations by 10%;
- providing transparent passing of electronic design documentation from the designer to the workshop technologist/processing centre;
- providing specialists of TVEL FC with controlled access to the current information on the status of DEP projects being conducted in various companies;
- providing the information systems of the enterprises with relevant reference data for production purposes;
- minimizing the risk of loss of technical documentation (including intermediate) and risks associated with operational changes, developing new TD, quality and relevance of the developed and used technical documentation.

6. The corporate portal of TVEL JSC has been put into operation since *31.12.2012*.

The implementation of the corporate portal will create a consolidated information area to store key regulatory and reference materials and to report the news and events of the Company, and increase the efficiency of business communications.

7. MSZ JSC started project P-ME1-3 “The development and implementation of standard solution for operative industrial management for the group of companies “Fuel fabrication”.

8. JSC “VNIINM” put into commercial operation system “1C Payroll and Personnel Records”.

9. JSC “VNIINM” put into commercial operation enterprise resource management system based on standard 1C ERP: Rosatom in *January 2012*, and the enterprise was transferred to the MF CSC (Multi-functional Common Service Centre) for accounting and tax accounting service.

10. JSC “VPA “Tochmash” completed the project of enterprise resource management system replication based on 1C ERP. The system has been put into operation since *01.01.2013*.

11. “Centrotech-SPb” and “EDB-Nizhny Novgorod” have been transferred to the MF CSC in terms of IT functions since *01.06.2012* and *01.08.2012* respectively.

According to Rosatom Information Transformation Technology Program, the following project activities are planned for 2013 (upon availability of funding):

- implementation of project “The replication and development of ACS DEP in Gas Centrifuge Division”;
- implementation of project “The development of ACS DEP in Fabrication Division”;
- implementation of project “Pilot implementation of Lifecycle Element Management Subsystems of the product in Gas Centrifuge Division”.
- implementation of project “The development of automation concepts for operating activities of JSC “VNIINM”;
- implementation of project “The development of a concept for an integrated design management system at CPTI OJSC”;

- development of the FC standard regulating the procedure for the products design using 3D-modeling and application of ACS DEP in scheduling design and technological preparation of production;
- implementation of project on creation of a model agreement on co-operation in the development of design and technical documentation in the Fuel Company using an electronic signature in accordance with the Federal Law №63-FZ dd. 06.04.2011. Implementation of project “The development of a standard solution for operative management system for a group of companies with the discrete nature of the production and its integration into MSZ JSC in basic functionality”;
- “implementation of project “The creation of a centralized corporate fund of normative and technical documentation (CFNTD) for procurement and documentation of integrated management system for quality, environment and safety of the Fuel Company”;

- implementation of project “The replication of functionality of enterprise resource management system” (JSC AECC, JSC “PA ECP”, JSC NNCP, JSC CMP, “KMP” OJSC);
- implementation of project “The extension of the functionality of the Enterprise Data Warehouse in accordance with the contour map of the EDW project”;
- implementation of project “The replication of the unified sectorial electronic document management system at the FC enterprises”.

- implementation of project “The replication of unified enterprise resource management system 1C ERP:Rosatom” (NRDC LLC);
- implementation of project “The replication of master system for personnel management for manufacturing facilities of the 2<sup>nd</sup> line”. (JSC “PA ECP”, JSC CMP, “KMP” OJSC).

**TVEL** JSC is involved in legislative initiatives of Rosatom State Corporation in accordance with the plan of law-making activities and within their competence. The working group prepares suggestions, analyses draft documents of federal executive authorities, and drafts bills. The suggestions considered by the working group affect the regulation of the activities of both TVEL FC, and other organizations of nuclear power industry.

For example, in 2012 the Company was involved in the development of the following regulations:

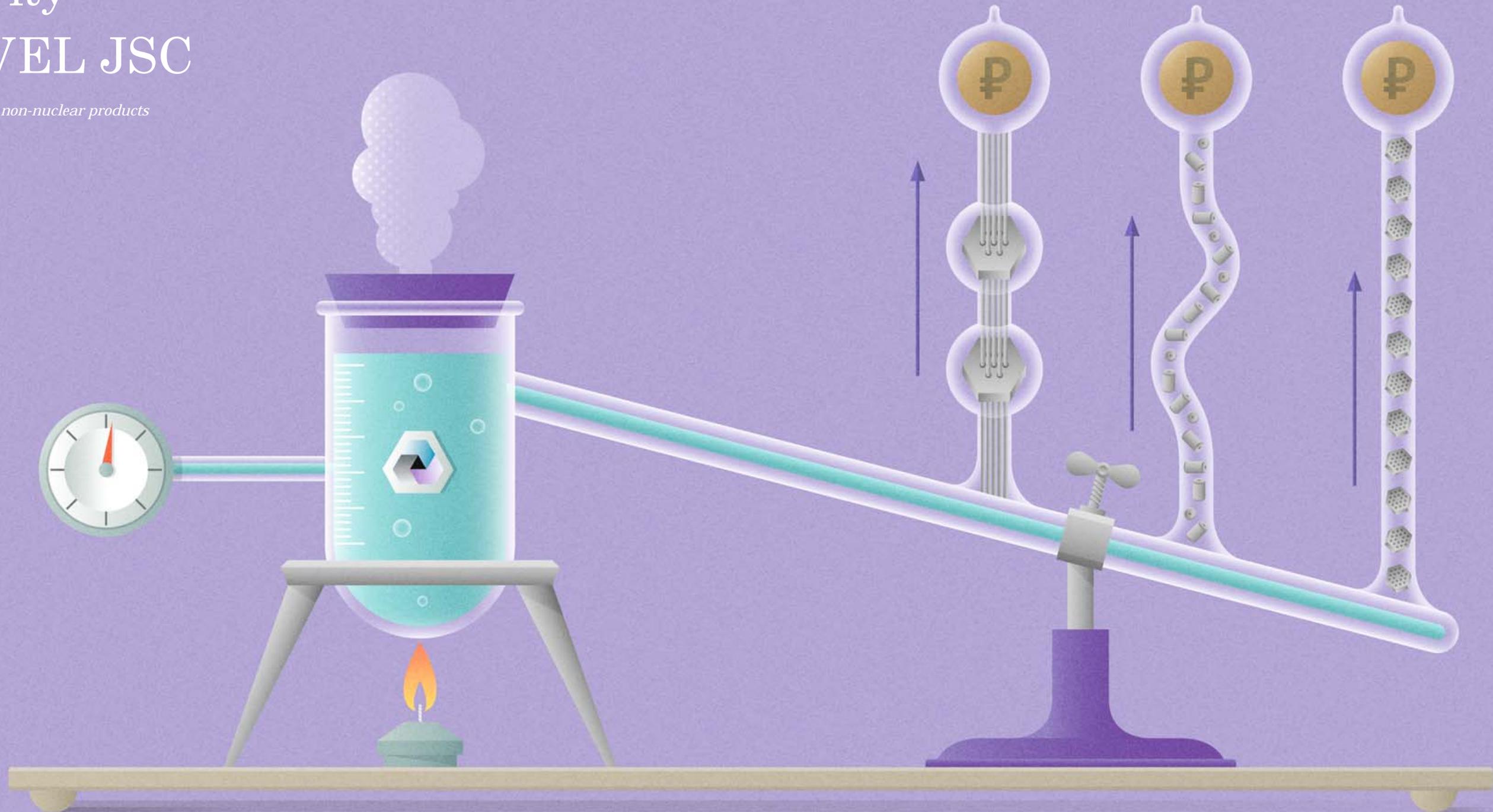
§22.  
**LEGAL SCOPE OF ACTIVITY OF TVEL FC**

Table 15. Participation of TVEL JSC in drafting of regulations.

№	Legislative draft	Purpose of the draft
1	Draft Federal Law “On the amendments to Federal Law №170-FZ” “On the Use of Nuclear Energy dd. 21.11.1995”	Updating the Russian legislation in the field of nuclear energy under the current terms and conditions of business
2	Draft Federal Law “On the accreditation in the Russian Federation”	Formation of an exhaustive list of areas (fields of activity) subject to voluntary or mandatory accreditation
3	Draft Russian Federation Government Regulation “On approval of the list of strategic goods and resources for the purposes of Article 226.1 of the Criminal Code of the Russian Federation”	Filling the gaps in the criminal law of the Russian Federation by allocation of responsibility for illegal export of goods and technologies subject to export control
4	Draft Ruling of the Government of the Russian Federation concerning introduction of amendments into the ruling of the Government of the Russian Federation dd. July 14, 1997 №865 “Concerning approval of the regulation related to licensing activity in the field of atomic energy use”	Simplification of licensing of entities in their reorganization
5	Draft Government Regulation “On amendments to the Regulations on the procedure for special security arrangements in closed administrative-territorial entities with objects of Rosatom State Atomic Energy Corporation approved by Russian Federation Government Regulation №693 dd. 11.06.1996”	Improvement of safe operation of facilities in closed administrative-territorial entities, with regard to: <ul style="list-style-type: none"> <li>• extension of the list of reasons for rejection of entry or permanent residence in CATE where the objects of Rosatom State Corporation are located;</li> <li>• introduction of the following into the requirements for the protection of population, industrial and social infrastructure in case of emergency: <ul style="list-style-type: none"> <li>• alerting and population evacuation scheme;</li> <li>• measures aimed at life-saving and loss prevention;</li> <li>• coordination procedure for organizations and (or) objects, guard units, police, civil defences and other services with the threat of emergency</li> </ul> </li> </ul>

# Financial and Production Activity of TVEL JSC

*on nuclear and non-nuclear products*



# Chapter 3. Financial and Production Activity of TVEL FC

## §23. FINANCIAL POLICY OF TVEL FC

The financial management of the Company is performed in accordance with the approved financial policies of the Fuel Company enterprises and its subsidiaries agreed with Rosatom.

### The main provisions of the Financial Policy of TVEL FC are the following:

- TVEL JSC is a pool leader and conducts overall centralized control over relationships between the TVEL JSC enterprises and financial institutions (supporting banks, partner banks) in the management of the consolidated debt portfolio, allocation of free cash and management of company liquidities;
- TVEL JSC directly agrees transactions of the TVEL FC enterprises on allocation of temporarily free funds and raising loans. Financial transactions are conducted in accordance with the requirements of the Uniform Industry Procurement Standard;
- intercompany loans are implemented using software products of supporting banks in order to optimize the consolidated loan portfolio of TVEL FC and the cost of external financing, as well as for centralized finance operating activities of enterprises and management of current liquidity.

The budgeting process at the enterprises of TVEL FC is in accordance with the unified budget regulations and standards of Rosatom SC.

The approval of budgets of the TVEL FC enterprises at the meetings of the Board of Directors is performed on the basis of review of the consolidated budget of TVEL FC at budget committees of TVEL JSC and Rosatom SC.

In 2012, all KPI targets and performance indicators used to measure the Company's successful performance were achieved, as well as 100% of the state defence order was executed.

Table 16. Achievement of KPI and performance indicators of TVEL FC in 2012.

	Indicator (based on 1 <sup>st</sup> and 2 <sup>nd</sup> level KPI-maps in the centre of financial responsibility)	Target	Actual Value	Deviation, %
1	Volume of sales of non-nuclear products, m RUB	11,704.4	13,466.4	15,05
2	EBITDA, m RUB	38,389.2	42,667.8	11.15
3	Workforce productivity, m RUB per person	3.56	3.60	1.12
4	Revenue from international operations (including export operations of the enterprises of the Russian Federation, excl. HEU-LEU), million US dollars	1,403.14	1,428.97	1.84
5	Export order portfolio for the 10-year period (including export operations of the enterprises of the Russian Federation, excl. HEU-LEU), million US dollars	10,178.2	10,178.2	—
6	No violations of Level 2 or higher upon INES scale	completed	completed	—
7	Cost development limitation (excluding depreciation) as compared to last year (in the above conditions), %	-5.6	-9.2	64.28
8	Lost time injury frequency rates (LTIFR), %	0.35	0.26	-26

Financial and Economic Department of TVEL JSC consolidates data on the enterprises of the Fuel Company and prepares consolidated financial statements, including upon International Accounting Standards providing information on the economic and financial results of the Company as a whole.

Key financial and economic indicators of the financial state of TVEL FC, as well as the efficiency and effectiveness of the Company are presented in the table below (see Table 17).

## §24. FINANCIAL RESULTS OF ACTIVITY OF TVEL FC

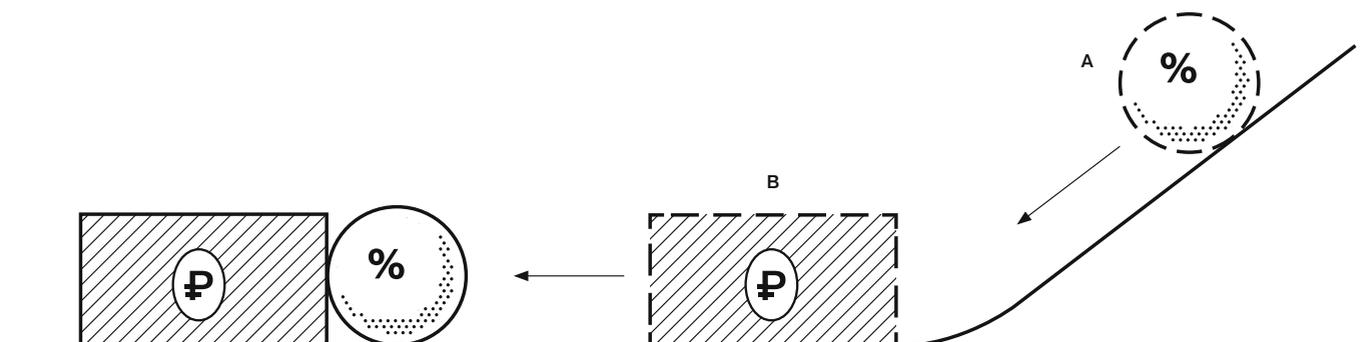


Table 17. Main financial and economic performance characteristics of TVEL FC.

Description	Measurement Unit	2010	2011	2012	Change of 2012 to 2011, %
Net sales	m RUB	121,443	126,090	121,958	-3.28
Gross profit	m RUB	30,882	33,506	39,289	17.26
Gross margin percentage to revenues	%	25.43	26.57	32.22	21.26
Share of total administrative expenses in the revenue	%	1.69	2.14	2.29	7.0
Commercial expenses	m RUB	2,352	2,434	2,400	-1.4
Administration costs	m RUB	2,169	2,700	2,799	3.64
EBITDA	m RUB	31,974	38,078	42,668	12.05
Net profit	m RUB	12,245	16,494	19,642	19.09
Net assets	m RUB	543,257	559,730	566,907	1
Net cash flow	m RUB	3,931	1,699	-470	-128
Profit margin	%	10.08	13.08	16.11	23.09
Return on equity	%	0.023	0.059	0.035	-40.7
EBITDA profitability	%	26.33	30.20	34.99	15.86
Debt to equity ratio	—	8.12	7.83	7.26	-7.38
Current liquidity ratio	—	2.32	2.39	2.52	5.16
Labour productivity	m RUB per person	2.11	2.96	3.60	21.62

A significant factor contributing to revenues in 2012 compared to 2011 was reduction of EUP sales and conversion and enrichment services to Techsnabexport JSC by RUB 11,246 m, as well as the volume of current fuel reload for Russian and foreign NPP by RUB 5,337 m. However, these losses are partially set off by expansion into new market segments and sales of new products, in particular, by initial fuel load for Novovoronzhskaya NPP-2 and BN-800 components. The decrease in revenue happened also due to the completion of the restructuring process and withdrawal of non-core assets of TVEL FC. Changes in prices for nuclear fuel and components for foreign NPPs, conversion and enrichment services, deflator index for nuclear fuel for Russian NPPs, and electricity tariffs have positively influenced the results of 2012.

The main volume of revenues from sales of products and services (62%) is attributed to nuclear fuel and its components, but compared to 2011 the share of this type of production increased substantially (in 2011 it was 55%). At the same time, the revenues from conversion and enrichment services decreased by 37% as compared to 2011.

Table 18. Distribution of consolidated revenues among areas.

Product	Sales, m RUB		
	2010	2011	2012
Nuclear fuel and components	65,199	69,190	75,017
Conversion and enrichment services	27,252	29,166	18,403
Gas centrifuges	1,608	2,053	2,917
R&D	2,374	3,332	4,301
Other revenues	25,010	22,349	21,320
<b>Total:</b>	<b>121,443</b>	<b>126,090</b>	<b>121,958</b>

In 2012, the export of products amounted to \$ 1,429 m (accounting for 35% of total revenue of the Company). The largest share in the export revenues was composed of nuclear fuel and its components — 94.7%.

Table 19. Distribution of export revenues by product.

Product	Sales, m USD	Share in total export, %
	Nuclear fuel and components	1,353.5
Engineering services	7.2	0.5
Lithium products	16.3	1.1
Calcium, titanium, zirconium	12.4	0.9
Isotope products	9.9	0.7
Other products and services	<b>29.7</b>	2.1
<b>Total:</b>	<b>1,429</b>	<b>100</b>

In 2012, TVEL FC took the following measures to reduce costs:

- energy conservation and energy efficiency;
- modernization and innovation;
- RPS implementation;
- production space reduction;
- personnel retrenchment.

The cumulative effect of these measures was cost reduction by RUB 2,874 m.

In 2012, reduction of administrative expenses in production cost to RUB 1,601 m, if compared to 2011, is determined by organizational changes re-

lated to headcount optimization. Corporate-wide expenses and costs of information and consulting, legal and advertising services are reduced as well.

Net income of TVEL FC in 2012 increased by 19.09% to 2011, and amounted to RUB 19,642 m.

The main factors affecting the change in the net income are the above measures to reduce costs, changes in product prices and rates, and changes in exchange rates.

Table 20. Dividend payout.

Year	Amount, m RUB
2010	1,724
2011	3,000
2012	19,500

In 2012, dividend payouts increased 6,5-fold against the level of 2011 and amounted to 19.5 billion roubles due to changes in the dividend policy of Atomic Energy Industrial Complex, the sole shareholder of TVEL JSC.

## §25. PRODUCTION AND ECONOMIC RESULTS

**The plan** of TVEL FC for production and services in 2012 is fully completed. This ensured that contractual obligations of the Company to Russian and foreign clients were fully met.

Significant increase of labour efficiency in TVEL FC in 2012 indicates production efficiency increase (one of the main business objectives) and achieved through the RPS\* introduction and personnel retrenchment as a result of the FC restructuring.

Table 21.

Description	Unit	2010	2011	2012	Change of 2012 to 2011,%
Average staff number	person	57,556	42,752	34,088	-20.3
Workforce productivity	m RUB per person	2.11	2.96	3.60	21.6

\* Section "Productive Efficiency Management", Chapter 2.

The problem to solve for the next few years is to transform production relations, organize small groups as a form of production control covering 100% of the main workers, increase the capacity of operators to 85%, create a system of cooperation among all levels through specific controlled indicators, shift the focus on partnership between an employee and the employer, and develop internal communication system.\*

In order to expand the industrial and technological base of the main production, capitalized expenses in 2012 amounted to RUB 27,792.93 m which include the value of the newly introduced property, plant and equipment amounting to RUB 23,330.66 m.

Stable relationships with contractors allow developing production plans for the future. Thus, the foreign order portfolio amounts to \$ 10,178.2 m up to 2022 and includes the supply of fuel assemblies for foreign reactors of Russian design, BWR and PWR reactors, and fuel pellets for AREVA NP.

### Separation-Sublimation Complex

The distribution of the volume of supplies of nuclear products to customers (%SWU) in 2012:

- enterprises of TVEL FC for fabrication of NF — 63%
- Techsnabexport JSC for foreign consumers — 32%;
- under HEU-LEU agreement 5%.\*\*

Performance improvement management brings tangible effect; labour productivity at all companies of the separation-sublimation complex is much higher than the levels of previous years.

Table 22. Dynamics of work performance, m RUB per person.

Enterprise	2010	2011	2012
JSC "SGChE"	1.4	2.0	2.6
JSC AECC	1.3	2.0	3.3
JSC "PA ECP"	1.6	2.4	3.9
JSC UEIP	2.1	2.9	4.6

\* Section "Productive Efficiency Management", Chapter 2.

\*\* Participation of TVEL FC enterprises in the implementation of the agreement between the Governments of the Russian Federation and the United States providing an irreversible processing of Russian highly enriched (weapons-grade) uranium into low-enriched uranium, fuel for U. S. NPPs (HEU-LEU Program). The technology of "dilution" is unique, only Russia owns the rights of it. HEU-LEU Program ends in 2013.

**Key Events of 2012:**

- plans for modernization of the main process equipment are fully implemented; eight processing units are brought into operation which includes gas centrifuge unit equipped with GC of the 9<sup>th</sup> generation which was introduced at JSC “PA ECP” for the first time;
- JSC “PA ECP” produces highly enriched uranium raw materials for the manufacture of nuclear fuel for the needs of the power industry;
- JSC “PA ECP” has fully mastered the technology and achieved design capacity of depleted uranium hexafluoride processing and transfer of it to the less environmentally dangerous form;
- JSC “PA ECP” has produced the first batch of highly enriched uranium product to make nuclear fuel for Chinese reactor CEFR;
- JSC UEIP completed the first pilot export delivery of enriched uranium product through the port of the Far East;
- as part of an international agreement between International Uranium Enrichment Centre JSC and Nuclear Fuel State Concern (Ukraine), the first commercial supply of enriched uranium was made for nuclear fuel fabrication plant in Ukraine. JSC AECC made enriched uranium product out of raw materials of Ukrainian origin;
- the first pilot delivery of Australian uranium concentrate was made to JSC “SGChE”.

The main tasks of the separation-sublimation complex of TVEL FC for 2013 and midterm are:

- to continue technological equipment modernization with the installation of gas centrifuges of the latest generation;
- to develop the production of enriched uranium product out of the raw materials of different origin (Australia);
- to manufacture highly enriched uranium product for the production of Mo-99 targets for medical purposes.

**Nuclear Fuel Production Complex**

Production and sales of fuel assemblies for nuclear power and research reactors is the main activity TVEL FC.\*

For example, in 2012 the share of revenues from the FA sale was 55% of TVEL FC revenue which is 5% more than last year.

Table 23.

Indicator, measuring unit	2010	2011	2012
FA sales revenues, RUB m	57,231	63,623	67,550

\* For detail see Section “Business model”, Chapter 1.



1



2

Figure 1. Calcium products (chips, pellets, solid calcium, calcium chloride).  
 Figure 2. Fuel elements for fuel assemblies.  
 Figure 3. The component for the manufacture of superconducting strand.  
 Figure 4. Cascade of gas centrifuges at the separation plant.



3



4

FA sales revenue increased by RUB 10,319 m (or by 18%) over the period 2010–2012.

Table 24. Distribution of revenues from nuclear fuel based on geographical location of consumers.

Revenues	2010		2011		2012	
	RUB M	%	RUB M	%	RUB M	%
Consumers in Russia	22,892	40	29,793	47	31,022	46
Consumers in Europe	33,194	58	31,923	50	36,528	54
Consumers in Asia	1,145	2	1,907	3	0	0
<b>Total:</b>	<b>57,231</b>	<b>100</b>	<b>63,623</b>	<b>100</b>	<b>67,550</b>	<b>100</b>

During 2010–2012, consumption structure of the products by enterprises of the Complex did not change significantly, and the main consumers are still Russian NPPs which account for 46% of the Complex revenues.

TVEL FC plan for the production of nuclear fuel in 2012 is made in full.

Table 25. The production volume of the Company's nuclear fuel fabrication unit, m RUB.

Products	2010	2011	2012	2013, (plan)
FA, VVER-1000	1,498	1,289	1,119	1,239
FA, VVER-440	1,808	1,769	1,806	1,810
FA, RBMK-1000	3,630	3,210	2,690	2,680
FA, BN-600, BN-800	249	405	437	485
FA, EGP-6	144	144	96	144
FA, for, research, reactors	445	630	227	180
TBC, PWR	326	116	204	277
Total, OF, FA:	8,100	7,563	6,579	6,820
Ceramic, fuel, pellets, tU	1,464	1,583	1,534	1,564

The planned volume of produced fuel products is determined in accordance with the pre-order of the customers on the basis of plans for loading and reloading of the fuel. In 2012, the total number of produced fuel assemblies decreased by 13%, of the ceramic fuel pellets — by 3%.

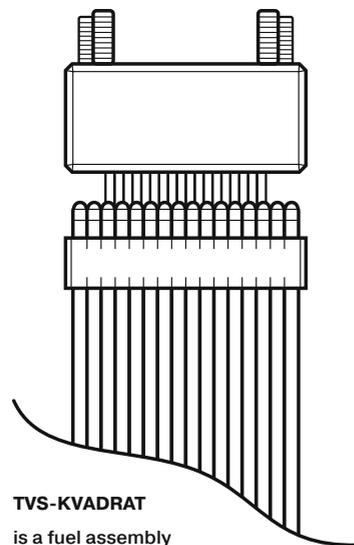
Table 26. Dynamics of work performance, m RUB per person.

Enterprise	2010	2011	2012
MSZ JSC	2.6	2.5	3.0
JSC NNCP	1.7	1.9	2.6
JSC CMP	2.3	2.4	2.6
JSC "MZP"	3.6	3.0	4.4

Productivity in the fabrication complex plants has increased substantially.

#### Key Events of 2012:

- in 2012, fuel assembly imitator sets, start-up set of FA AES-2006 of new generation, FA start-up set of the second generation for newly commissioned third unit VVER-440, fuel elements under project "Pro-ryv" were manufactured;
- as part of the restructuring on the newly created production site, MSZ JSC mastered the manufacturing and production of the planned amount of fuel assemblies for fabrication enterprises, thereby eliminating such production in JSC NNCP;
- as part of manufacture concentration project, control element production for civil nuclear power reactors was transferred from JSC "MZP" to MSZ JSC;
- as part of production concentration by MSZ JSC;
  - newly created production unit started production of uranium-gadolinium fuel (pellets and fuel assemblies) in the amount of all the needs of the FC, thereby eliminating such production in JSC NNCP;
  - FA VVER-1000 assembly area is commissioned;
  - production of absorber elements for VVER reactors and KPO for RBMK was transferred from JSC "MZP";
- in 2012, commercial production of advanced fuel assemblies started and a batch of products for the research reactor at the Institute of Nuclear Physics (Alma-Ata, Kazakhstan) was produced;
- JSC NNCP produced a pilot lot of sample targets for production of isotope products Mo-99 for medical use;
- new FA are made using new advanced zirconium alloys;
- experimental FAs containing uranium silicide fuel with plate-type fuel elements for research reactors of Western design were produced and delivered to a foreign customer;
- JSC NNCP made a full-scale model of TVS-KVADRAT for PWR reactors of Western design;
- JSC CMP mastered the process flow sheet for manufacturing of shell pipes VVER using new equipment (press, radial forging machines, mills KPW) which will provide the technical requirements for the



**TVS-KVADRAT** is a fuel assembly of Western design, square in cross-section

product on the level and above the requirements of the leading global manufacturers of nuclear fuel;

- JSC CMP and JSC NNCP additionally produced and supplied two sets of stainless steel and zirconium blanks for the production of nuclear fuel to Chinese customer.

The main tasks of the complex of TVEL FC for nuclear fuel fabrication for 2013 are the following:

- production of a pilot batch of TVS-KVADRAT for experimental operation of PWR reactor and search for new supply routes;
- concentration of production of fuel assemblies and FA VVER in one case: creation of FA VVER-440 assembly at new sites in MSZ JSC;
- launching into manufacture, qualification of production till the end of 2013 and obtaining permits (licenses) for the manufacture of uranium silicide fuel with plate-type fuel elements for research reactors of Western design in JSC NNCP;
- JSC CMP manufactures products using large size work piece according to new flow sheet with the help of modern technological equipment for different nomenclature pipes;
- production of nuclear fuel cores for transport power reactors in the MSZ JSC in line with the planned volumes.

#### Gas Centrifuge Complex

The main customers of the gas centrifuge complex are companies of SSC.

The share of sales of the gas centrifuge complex enterprises in 2012 accounted for 2% of total revenues of TVEL FC. As compared to 2011, this indicator rose slightly.

In 2012, plans to produce gas centrifuges were implemented to the full extent.

In 2012, the mass production of centrifuges of the new ninth generation began.

As part of production centralization, the serial production of gas centrifuges is focused on "KMP" OJSC and UGCMP Ltd., and parts and components are produced JSC "VPA "Tochmash".

Table 27. Dynamics of work performance, m RUB per person.

Enterprise	2010	2011	2012
"KMP" OJSC	1.2	1.7	2
JSC "VPA "Tochmash"	0.9	1.3	1.1
UGCMP Ltd.	1.4	1.5	2.5

#### Key Events of 2012:

- serial production of a prospective model of gas centrifuge GC-9 at "KMP" OJSC;
- supply of GC-9 to JSC "PA ECP" for the commissioning of the first unit with perspective model GC-9 ("KMP" OJSC);
- "KMP" OJSC manufactured and put on trial the installation series (US-1) of export model of gas centrifuge GC-9;
- UGCMP Ltd. reached the volume of gas centrifuge GC-8 production exceeding the volume of production in 2010 in 3.5 times;
- preparation of serial production of GC of the 9th generation (UGCMP Ltd.);
- JSC "VPA "Tochmash" started mass production and supply of component parts and assemblies for a prospective model GC-9;
- JSC "VPA "Tochmash" launched serial production of stators for GC;
- mass production of products for NPPs and storage of spent nuclear fuel (JSC "VPA "Tochmash");
- series production of a new model of the inverter EMPRES-180-380, and the installation of automated control system CSSA-3 for gas centrifuge of the 9<sup>th</sup> generation (Uralpribor Ltd.).

The main perspective of development is the expansion of mass production of centrifuges of the ninth generation and accessories to them.

#### Non-nuclear production

TVEL FC develops the production of competitive, high-tech products for general industrial nuclear industry and for other industries. At the end of 2012 the share of non-nuclear products revenue was 11% of the revenue of the Company.

Sales of non-nuclear production in 2012 amounted to RUB 13,466.4 bn, incl. on the foreign market — RUB 6,220 bn. The change in sales compared to 2011 was 14.2%.

The main types of non-nuclear products are:

- goods made of zirconium and its alloys (JSC CMP) for the petroleum and chemical industry and medicine;
- calcium metal, injection calcium wire (JSC CMP) for steel industry, nonferrous metallurgy, automobile industry;
- lithium and compounds (JSC NNCP) for the manufacture of electrochemical cells and batteries, light structural alloys of chemical components for nuclear reactors, and for the production of glass, ceramics and synthetic fibers;

\* For details see Section "Development Strategy", Chapter 1.

\*\* For more details on the prospects for the non-nuclear production see Section "Innovation Activities in Non-Nuclear Industry", Chapter 4.

- permanent magnets (MSZ JSC) for electronic and automotive industry, mechanical engineering and other industries;
- seamless cold-finished tubes of stainless ferritic steel (JSC CMP);
- products (JSC CMP) of titanium alloys: seamless tubes, rods, ingots;
- 95 stable isotopes of 19 chemical elements (JSC "PA ECP");
- zeolite catalysts (JSC NNCP) for oil and gas processing enterprises for the production of motor fuels out of hydrocarbons;
- AHF, hydrofluoric acid (JSC "PA ECP", JSC AECC);
- superconducting niobium-titanium and niobium-tinny strands, superconducting wires of tomographic type, nanostructure electrical wires with ultra-high strength and electrical conductivity;
- rare-earth products (JSC CMP): polishing powders, concentrates, carbonates and oxides of rare earth metals, niobium metal and niobium powder;
- components for gas centrifuges, nickeliferous and cobalt electrolytic powders, filters, filter elements, nickel-cadmium batteries, oil-free screw compressors, generators electrochemical fuel cell.

#### Key Events of 2012:

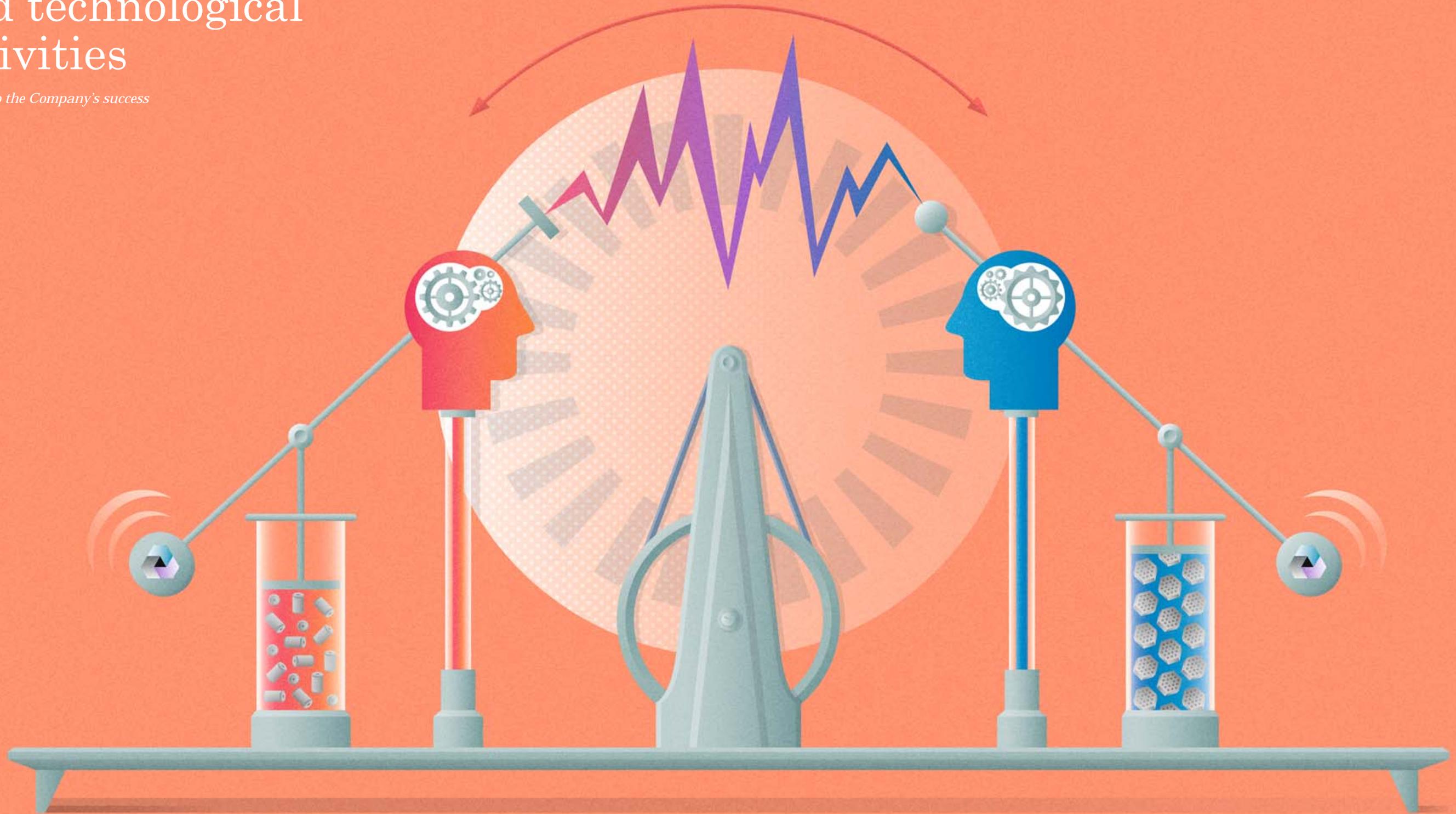
- new products from titanium alloy (JSC CMP) under the contract with ValMetEngineering (India); the first batch of titanium bars;
- 3.5 superconducting wire for qualifying sets for magnetic resonance imaging scanners (JSC CMP);
- A pilot batch of cathode material (JSC NNCP) for transfer to Liotech LLC and assembly of LIA using this material followed by test of cathode material in the battery;
- production of nano-structured wires with high strength and electrical conductivity (JSC "VNIINM").

The implementation of the strategic initiative of TVEL FC "The development of a second core business"\* is carried out in two directions:

- the development of existing industries by increasing volume, expansion of product range and markets;
- creation of new industries related to innovation.\*\*

# Scientific and technological activities

*as a key to the Company's success*



## Chapter 4. Scientific and technological activities

**The main** purpose of scientific and technological activity of the Company is to ensure the competitiveness and security of production.

The main documents regulating scientific and technical activities of TVEL FC are:

- program for innovative development and technologic modernization of Rosatom State Atomic Energy Corporation for the period up to 2020 (in the public part);
- long-term program “Nuclear fuel and effective nuclear fuel cycles at Russian NPP for 2012–2016 and up to 2020”.

R&D composition is defined by the decisions of the management of Rosatom State Corporation and contractual obligations, and is reviewed annually at the meeting of the Scientific and Technical Council of TVEL JSC.

The main directions of scientific and technological activities of TVEL FC are the following:

- improving characteristics and technology of nuclear fuel production;
- design and technology development of separation-sublimation complex;
- innovation Activities in Non-Nuclear Industry.\*

Research and development complex of TVEL FC includes:

- Joint Stock Company “A. A. Bochvar High-Technology Research Institute of Inorganic Materials” carries out R&D to improve the characteristics of nuclear fuel recycling technologies and develop new high-tech non-nuclear products;\*\*
- “Centrotech-SPb”, “EDB-Nizhny Novgorod”, NRDC LLC, Uralpribor Ltd. design new types of gas centrifuges and accessories;
- Central Design Institute OJSC, an integrated company, consolidates design and construction units of the enterprises included in the TVEL FC.

\* Innovation Activities a set of scientific, technological, organizational, financial and commercial activities aimed at commercialization of knowledge and technology. The results of innovation are new products and services or products and services that have new properties.

\*\* Moreover, a part of R&D is carried out in central research laboratories at the enterprises of the FC.

It implements a pilot project on establishment of “ALVEL” R&D Center jointly with Alta Invest JSC in the Czech Republic.\* The task of the Center is to perform research and development. In addition, in 2012, the project to move to the zero-level failure of the nuclear fuel was launched.\*\*

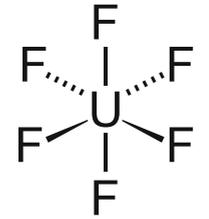
TVEL FC enterprises annually participate in international conferences, seminars and meetings organized by divisions of the Scientific and Technical Council of TVEL JSC (STC). In 2012, there were a number of meetings of the Scientific and Technical Council of TVEL JSC, including:

- joint meeting of Division 2 of STC of Rosatom State Corporation and Division 1 of STC of TVEL JSC on issue “Fuel with low-enriched uranium-235 for research reactors”. According to the results of the meeting, it was decided to conduct a feasibility study on introduction of fuel of reduced enrichment on Russian research reactors, and develop sectoral program to convert the reactors to LEU fuel;
- meeting of Division 2 on “Diversification of general industrial activity of TVEL JSC”. The meeting discussed the promising research areas for the development of non-nuclear businesses of TVEL FC in 2013;
- meeting of Division 3 on “Environmental, nuclear and radiation safety assurance” on the implementation of technical measures for the environment protection and choice of strategy for the facilities decommissioning and rehabilitation of areas at the FC enterprises\*\*\*;
- meeting of Division 4 “Development of industrial technology of uranium hexafluoride conversion and enrichment”. According to the results of the meeting, a consolidated list of R&D in SSC for 2013 was formed.

At a meeting of the STC of TVEL JSC, the authors of “Development of technologies and industrial production of superconductors for promising areas of science and technology” project were nominated for the award of the Government of the Russian Federation in 2012 in the field of science and technology. The project and authors won this prize.

In 2012, a scientific-technical conference of TVEL JSC “Nuclear fuel of a new generation: the results of development, operating experience, directions of development” (STC 2012) was held. The conference was attended by representatives of Rosatom State Corporation, representatives of all the enterprises of TVEL FC, companies of the industry and other businesses.

The experts of TVEL FC took part in international seminars held in Ukraine, Bulgaria and Finland with the participation of representatives of the operating organizations and regulatory authorities of the countries. The workshops discussed the experience in manufacturing and operation, as well as prospects for improving the fuel and fuel cycle of



Uranium hexafluoride is a uranium chemical compound and under certain conditions it can be in a gaseous state. It is used as a raw material for uranium enrichment.

\* R&D Center — Research & Development Center.

\*\* For more details see Section “Quality Management”.

\*\*\* For more details on meetings of Division 3 of STC see Section “Ecological, Nuclear and radiation safety”, “Chapter 6. Activities in the Field of Sustainable Development”.

NPPs with reactors VVER-440 and VVER-1000. A seminar-workshop on heat transfer enhancement in the fuel assembly of VVER-1000 and reactor facility AES-2006 was held in Obninsk.

R&D Complex of TVEL FC also trains and retrains highly qualified personnel in the field of radiation chemistry, physics of metals, general metallurgy and solid-state physics, fissionable and construction materials, metallurgy and technology of rare, trace and radioactive metals. Postgraduate studies in the field of “Metallurgy and heat treatment of metals and alloys”, “Nuclear power facilities, including design and decommissioning”, “Ferrous, non-ferrous and rare metals”, “Technology of rare, trace and radioactive elements” are established on the basis of JSC “VNIINM”. The Institute develops effective cooperation with leading educational institutions. JSC “VNIINM” is the basis for the branch of the 9<sup>th</sup> Department of National Research Nuclear University MEPhI and complex branch of the department of Mendeleev University of Chemical Technology of Russia. There are also cooperation agreements with leading universities. As part of these agreements, students undertake internship and training, and write theses on the promising areas of the institute activities.

The volume of investments in R&D of TVEL FC in 2012 amounted to RUB 3, 945 m (equivalent to 3.23% of the total revenue of the FC). All research and development activities have results.

Revenues from research activities of TVEL FC in total revenue in 2012 amounted to 3.53% (RUB 4, 301 m).

§26.

**INNOVATIVE  
ACTIVITIES  
IN NUCLEAR  
INDUSTRY**

**“Proryv” Project**

One of the points of the Cooperation Agreement between Rosatom State Corporation and Tomsk Region (signed in September 2012) was the decision to place experimental demonstration power complex within reactor “BREST-OD-300” with transformer nuclear fuel cycle at the site of JSC “SGChE”. Investment in the project will amount to about 68 billion roubles till 2022. JSC “VNIINM” also actively participates in the project; in particular, research work of the Institute includes:

- development of nitride mixed fuel which includes re-fabrication mode to provide the first load of reactor of BREST-OD-300-type;
- development of technical specifications for the project “Development of technology, engineering and design solutions for irradiated nuclear fuel processing module and treatment of radioactive waste from the processing module of pilot demonstration transformer nuclear fuel cycle”.

Vyacheslav Pershukov, Director for the Innovation Management Unit of Rosatom State Corporation says: “The importance of this project can’t be overemphasized because the whole world is thinking of closing the nuclear fuel cycle; this is the way to solve problems of fuel safety and economy, and transition to fast neutron reactors”.

According to estimates of Rosatom State Corporation, “Proryv” Project involves up to 40, 000 people across the country.

**The main** tasks of innovation activities of TVEL FC in nuclear industry are:

- improvement of characteristics and technology of performance of water-cooled nuclear fuel reactors of VVER and RBMK reactors in order to increase the depth of fuel burn up; increase the service life of fuel assemblies; increase the reliability of nuclear fuel; justify the fuel performance in mobile mode; justify the FA performance in high-power reactors;
- design and technological development of the separation-sublimation complex (creating a new generation of gas centrifuges and improving the separation of TVEL FC production).

**Improvement of Nuclear Fuel Characteristics and manufacturing process**

The aim of scientific and technological activities of TVEL FC in the production of nuclear fuel is to increase the competitiveness of Russian fuel through the development of new and improvement of the existing fuels providing improved fuel efficiency at NPP in different fuel cycles while ensuring the reliability and safety of operation.

The cost of R&D in the field of design and technological development of nuclear fuel in 2012 amounted to RUB 1, 779 m.

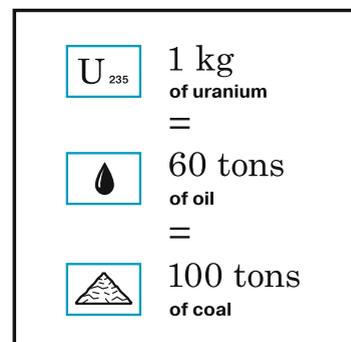
**The results of improvement of characteristics and technology of performance of nuclear fuel production in 2012:**

- the technical projects for FA of the fourth generation on the basis of TVS-2M and TVSA-PLUS and for core components (fuel assembly, tveg) VVER-1000. Due to the change in the fuel pellet structure, cladding of the fuel assembly, uranium dioxide weight in the fuel assembly increases from 525 kg to 568 kg which increases the duration of the fuel campaign by 8% or reduces make-up volume by 10% in 18-month fuel cycle;
- the technical projects for core elements — FA, tveg, absorber element, FAs for VVER-TOI (thermal capacity of 3, 300 MW) for fuel cycles 3 × 18 months and 5 × 12 months;
- the materials for the project of implementation of TVSA-12 in NPPs with VVER-1000 (V-320) were developed in cooperation with State Enterprise National Nuclear Energy Generating Company “Energoatom” (Ukraine). The goal is to promote effective 5-year fuel cycle (reduction of specific consumption of natural uranium from the current level of 4-year fuel cycle at Ukrainian NPPs — 199 g/MW to 187 g/MW, reduction of the volume of annual recharge of fuel assemblies from 42 to 36 pieces). The first delivery is planned in the make-up volume to the unit 4 Rivne nuclear power plant in 2014;
- the operation of nuclear fuel of Temelin NPP at the increased power



In 1926, a young scientist **Andrey Bochvar** theorized and proved by experiments that the temperature of the beginning of recrystallization of all pure metals amounts to a certain proportion of their melting point by Kelvin temperature scale. Eventually, this state has become to be known as the **Bochvar’s Rule**.

**Power consumption of a nuclear unit**



One kilogram of a low-enriched uranium (4% of uranium-235), that is used in nuclear fuel, at the full nuclear fission of uranium-235 releases the energy equivalent of burning about 100 tons of a high-quality coal or 60 tons of oil.

- of up to 104% Nnom was justified;
- the first fuel loading for the main unit of NPP-2006 project: fuel assemblies and core components were put into production (Power unit — 3,200 MW, the average burnup in the fuel assemblies — up to 70 MW d/kg). The active zone will be put to the unit 1 NV NPP-2.
- the physical project of translation of the third unit of Kolskaya NPP to the fuel of the second generation with the average fuel enrichment level of 4.87% was developed;
- the technical project for assemblies of the second generation with increased weight of uranium (with fuel pellets without a central hole) was developed. Compared to the fuel assemblies of the second-generation with the average fuel enrichment of 4.87% using the second generation of assemblies with increased weight of uranium will reduce the consumption of fresh fuel due to overloading by 10% at the power of 107% Nnom;
- the technical project for the improved active area 14-14-1 for RU KLT-40C started (with increased energy resource of up to 3 TW);
- the development of LEU fuel for research reactor VVR-K was completed and serial production of new products was launched.

**Key events of design and technological development of the separation and sublimation complex for nuclear fuel production in 2012:**

- the program “Nuclear fuel and effective nuclear fuel cycles in Russia for 2012–2016 and up to 2020” was approved. The program was developed with the participation of Rosenergoatom, ten companies of the industry and R&D Center “Kurchatov Institute”;
- justifying materials are developed; TVS-2M with FA covered with new zirconium alloys E110M, E635M and E125opt are produced. These assemblies in 18-month fuel cycle (3 × 18 months) were put into operation at unit 2 of Balakovo NPP;
- justifying materials are developed; working cartridges (12 pieces) are produced with mixing elements on the rim of the spacer grids providing an increase in the operating margin by the coolant temperature at the outlet of the cartridge if units work at the 1,500 MW; they were delivered to plant “Loviisa” (Finland);
- the technical project for FA-C with FA central fixing and enrichment by 2.8% in U-235 for the RBMK-1000;
- customer got the documents for NPPs with PWR-900 as part of the introduction of TVS-KVADRAT to justify installation of a pilot assembly at the NPP (delivery in 2014);
- the manufacturing technology of TVSA top nozzles and bottom nozzles was transferred to Ukraine. The production of FA top nozzle and bottom nozzles TVS was qualified at factory OP “Atomenergomash” of State Enterprise National Nuclear Energy Generating Company “Energoatom”;
- the technical documentation for the transfer of technology of TVS-

- 2M was sent to the Chinese fuel production plant;
- the trademarks of the Fuel Company are registered in Russia; certificates of the international registration of trademarks were received.

**Plans for development and improvement of the nuclear fuel in 2013:**

- to develop justifying materials for the introduction of TVS of the fourth generation VVER-1000 type. To consider technical projects of the FA at STC №2 of Rosatom State Corporation “The nuclear materials and technologies of the nuclear fuel”;
- to assist State Enterprise National Nuclear Energy Generating Company “Energoatom” in licensing of TVSA-12 at the supervisory authority of Ukraine. To launch new products. The delivery of the first batch of TVSA-12 in the amount of full recharge in 2014 to the 4<sup>th</sup> power unit of Rivne NPP;
- to decision on completion of trial operation and transition to commercial operation of fuel VVER-440 of the second generation of higher enrichment 4.87% in uranium-235;
- to qualify the production of component elements and TVS-KVADRAT.
- to develop and supply a layout of TVS-KVADRAT to the plant of the customer;
- to implement project “Zero-level of failure” in the memoranda between TVEL JSC and operating organizations in Russia, the Czech Republic, Ukraine and Bulgaria;
- to qualify OP “Atomenergomash” of State Enterprise National Nuclear Energy Generating Company “Energoatom” for the production of bottom nozzles TVSA with new anti-debris filters;
- to implement the project of Rosatom State Corporation “Identification and protection of key products and core technologies in the NEC” within the strategic initiative “Maintenance of Global Leadership at the NFC IS”.

**Design and Technological Development of SSC**

The main areas of design and technological development of SSC are creation of gas centrifuges (GC) of the new generation and improvement of separation production of TVEL FC. TVEL JSC costs on research and development of a new generation of centrifuges in 2012 amounted to RUB 1,615.6 m.

**Key events of 2012:**

- launch of serial production and commercial operation of GC of the 9<sup>th</sup> generation;

- Launch of the first industrial unit equipped with GC of the 9<sup>th</sup> generation at JSC “PA ECP”;
- Supporting equipment includes automatic process control system (PCS) for division and conversion industries, gas centrifuges power supply system, process control equipment and emergency protection;
- The plans announced for 2012 are implemented in full;
- in 2013, it is planned to improve the design of GC of 9<sup>th</sup> generation in order to reduce costs and improve the use of technology and operation, development of new generations of GCs with better technical and economic performance in comparison to commercially available model of the GC.

§27.  
**INNOVATIVE  
 ACTIVITIES  
 IN NON-NUCLEAR  
 INDUSTRY**

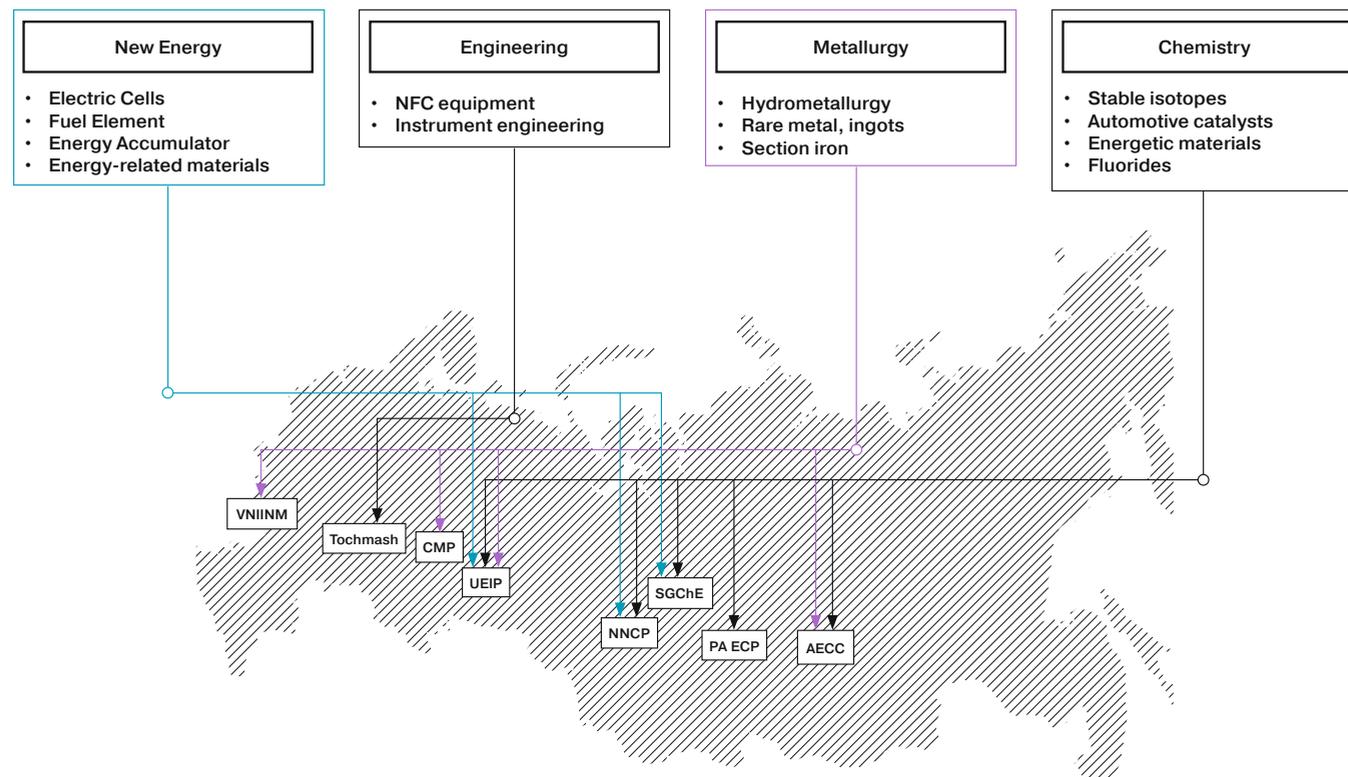
**In order** to create new and innovative non-nuclear industries aimed at the development of a second core business, there are projects on four programs of innovative development: “New Energy”, “Engineering”, “Metallurgy”, and “Chemistry”.

The Company’s enterprises are the basis for industrial centres created as points of growth of innovative non-nuclear production. The creation of new knowledge-based innovative industries at the enterprises of the FC will create more jobs and attract young professionals to form the business environment in the cities of presence of TVEL FC enterprises, improve living standards and attractiveness of the territories.

The basis for the development of new businesses at the enterprises of the FC is formed of:

1. Basic competence in each of the innovative development programs.
2. Availability of infrastructure to locate new production facilities — buildings, railways, power plants, sewage treatment plants, etc.
3. Availability of qualified staff.
4. GMP.

Fig. 14. Programs of innovation development of TVEL FC.

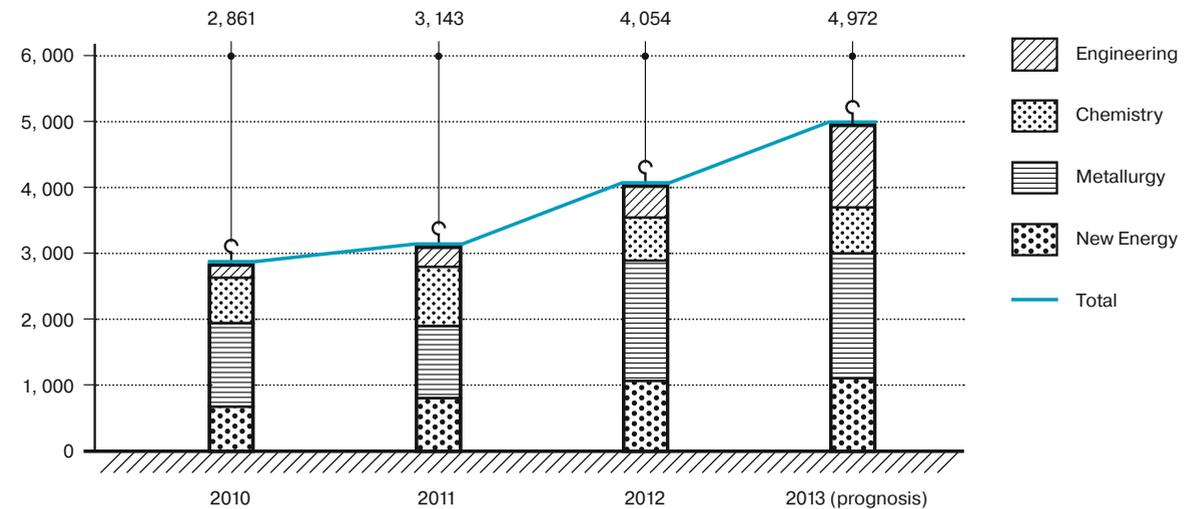


The total revenue from innovative projects in the field of non-nuclear production in 2012 amounted to RUB 4,054 m (excl. VAT) or 3.3% of total revenue of the FC.

In 2012, the FC invested RUB 2,618.3 m (excl. VAT) to the implementation of innovative projects in the field of non-nuclear production.

In 2012, the research and development of non-nuclear products cost TVEL FC RUB 49.2 m (excl. VAT).

Fig. 15. The revenue of the implementation of innovative projects in the field of non-nuclear production in 2010–2012 and the prognosis for 2013, m RUB.



A number of projects of Innovative Development Programs are planned for implementation in cooperation with RUSNANO JSC.

In 2010, TVEL JSC organized the Project Office on the basis of scientific and technical centre to work with the projects of Rosatom State Corporation and RUSNANO JSC. The Project Office selects new projects in the enterprises of Rosatom State Corporation, provides support for enrolment and corporate procedures fulfilment in Rosatom State Corporation and RUSNANO JSC, decision making before the inception of the project companies. According to the results of the full range of activities, there identified a number of promising areas for joint projects with RUSNANO OJSC. In 2012, 5 applications for future projects were filed.

On July 13, 2012, NANO-ELECTRO LLC, a joint venture of JSC “VNIINM” and RUSNANO OJSC launched serial production of nanostructured electrical wires combining high strength and conductivity (“Superwires”). By 2015, NANO-ELECTRO LLC will produce up to 50 tons of superwires per year. In the future, we plan to move to production of large series of this type of wire on the ground of JSC CMP.

Moreover, in 2012 NP-Atom CJSC, a joint venture of JSC “VNIINM”, Plakart CJSC and RUSNANO JSC, which was created to provide services (primarily for the nuclear industry) for applying thermal barrier, wear-resistant, corrosion-resistant, insulating and superconducting nano-structured coatings, began to establish a network of regional centres. The first of these centres will be opened in 2013 on the site of “KMP” OJSC.

### New Energy Program

The base enterprises to implement the program are JSC NNCP, JSC UEIP and JSC “SGChE”. The program is based on the core competencies available at the enterprises of the Fuel Company:

- production of lithium products, especially lithium salts;
- treatment of graphite materials;
- production of fluorine compounds;
- recycling of lithium and lithium-containing materials;
- production of electrode powders;
- assembly and testing of batteries;
- production of hydrogen fuel cells.

The program includes the development and implementation of innovative breakthrough technologies (technology for energy storage in lithium-ion batteries, hydrogen fuel cells). As part of the program, it is planned to establish production of energetic materials for lithium-ion batteries, electrochemical generators with hydrogen fuel cells, and ready-made energy storage systems.

### Engineering program

The base enterprises to implement the program are JSC “VPA “Tochmash”. The program is based on the core competencies available at the enterprise:

- machine-building: machining, milling, turning, drilling, laser cutting, water jet cutting, casting of non-ferrous and ferrous metals, plastics molding, electroplating;
- engineering: design and technology of design documentation.

As part of the program development, it is planned to develop and implement a number of projects in the engineering complex of TVEL FC aimed at production of high-quality components for nuclear power plants, products for storage of spent nuclear fuel, special equipment for the defence industry and smart meters.

### Metallurgy Program

In 2012, it was decided to create a branch centre of steel industry on the basis of JSC CMP. The program is based on the core competencies available at the enterprise:

- receiving (melting) metal (including zirconium, titanium, niobium, etc.);
- metal forming (extrusion, rolling, drawing, etc);
- rare-earth elements separation;
- production of goods out of section metal (extrusion, rolling, drawing, etc.);
- mechanical processing of materials;
- synthesis of stabilized zirconia powder;
- ceramic products using slip casting method, uniaxial compression, high-temperature annealing;
- calcium production using electrolysis;
- REE in the form of metals, high pure metals (electrolysis, metallothermy, recovery);
- production of alloys;
- manufacture of metal bands by powder metallurgy.

As part of the project, the company develops the following areas:

- various alloys for nuclear power, aviation, and defence industries and shipbuilding;
- special pipe milling;
- rare-earth elements and ceramics;
- superconducting materials and wires.

### Chemistry Program

The program provides for the creation of innovative commercially attractive projects to ensure the development of the chemical complex of TVEL FC in the general industrial activity, an increase in the level of production capacity utilization, diversification of the Company’s common industrial activities.

The base enterprises to implement the program are JSC UEIP, JSC NNCP, JSC AECC, JSC “PA ECP” and JSC “SGChE”. The program is based on the core competencies available at the enterprise:

- production of automotive catalysts;
- production of isotopes of various chemical elements;
- production of hydrogen fluoride;
- production of fluorides;
- production of zeolite catalysts for oil refining.

As part of the program, it is planned to expand production of catalysts and of isotopes, create production of catalytic equipment for oil refining, and fluoride technology production facilities.

§28.  
INTELLECTUAL  
PROPERTY  
OF TVEL FC

TVEL FC owns more than 1,140 items of intellectual property. Leaders in the number of intellectual property among companies of TVEL FC are the following:

- JSC “VNIINM” — 402 items of intellectual property;
- MSZ JSC — 180 items of intellectual property;
- JSC “PA ECP” — 143 items of intellectual property;
- JSC UEIP — 115 items of intellectual property;
- JSC CMP — 111 items of intellectual property.

The objects of legal protection are presented by inventions, useful models, production secrets (know-how), software, databases, trademarks, production prototypes.

System for identification and legal protection of intellectual property (IP) created by TVEL FC enterprises is implemented in accordance with the laws of the Russian Federation, Standard Industry Methodological Recommendations (Annex to the Order of Rosatom State Corporation dd. 29.12.2012 №1/1317-P) and local the Company’s regulations.

Function to identify and secure legal protection of IP created by the enterprises of the Fuel Company are assigned to the Department of Patent and Licensing Work of TVEL JSC, as well as technical departments, development design offices, groups for intellectual property protection, patent-information departments of TVEL FC enterprises.

Table 28. Number of registered inventions, utility models, production prototypes and production secrets (know-how).

Items of intellectual property	2010	2011	2012
Inventions: Russian/foreign, pcs	49/10	62/4	74/5
Useful models: Russian/foreign, pcs	7/-	14/-	11/2
Production prototypes: Russian/foreign, pcs	3/-	—	—
Production secrets (know-how), pcs	23	31	42

In 2012, TVEL FC improved performance indicators of 2011 in the number of registered intellectual property. TVEL FC enterprises obtained intellectual property rights to 134 objects: 79 inventions, 13 useful models, and 42 production secrets (know-how); they filed 72 applications for inventions, 11 applications for useful models, 2 applications for computer programs and data bases, and 30 applications on production secrets.

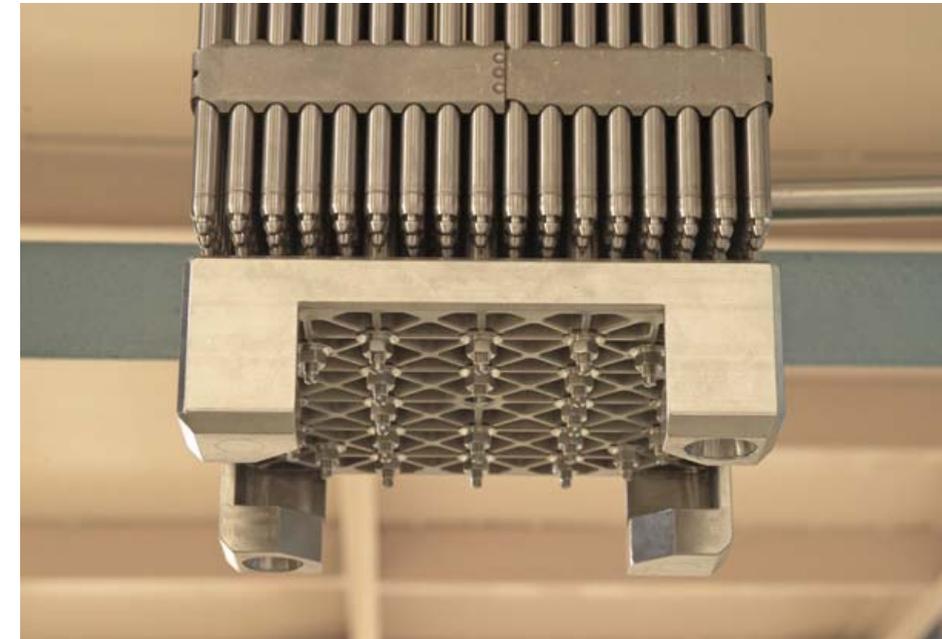


Figure 1. KVADRAT bottom nozzle.

Figure 2. JSC NNCP’s automation system, an automated line for ceramic fuel pellets - from pressing to baking.

1



2

Table 29. Number of items of intellectual property the rights on which were granted to TVEL FC organizations in 2012.

TVEL JSC organizations	Inventions, pcs		Useful models, pcs		Production secrets (know-how), pcs
	russian	foreign	russian	foreign	
TVEL JSC	1	1	—	—	7
JSC "VNIINM"	11	—	5	—	24
MSZ JSC	13	3	3	2	6
JSC "PA ECP"	14	—	—	—	—
JSC NNCP	4	—	1	—	—
JSC UEIP	6	—	1	—	—
JSC CMP	8	1	—	—	—
JSC "MZP"	2	—	—	—	2
JSC "SGChE"	12	—	—	—	1
"KMP" OJSC	1	—	1	—	—
NRDC LLC	1	—	—	—	2
"EDB-Nizhny Novgorod"	1	—	—	—	—
<b>Total:</b>	<b>74</b>	<b>5</b>	<b>11</b>	<b>2</b>	<b>42</b>

Table 30. Number of applications for inventions, useful models, computers, data bases and production secrets (know-how).

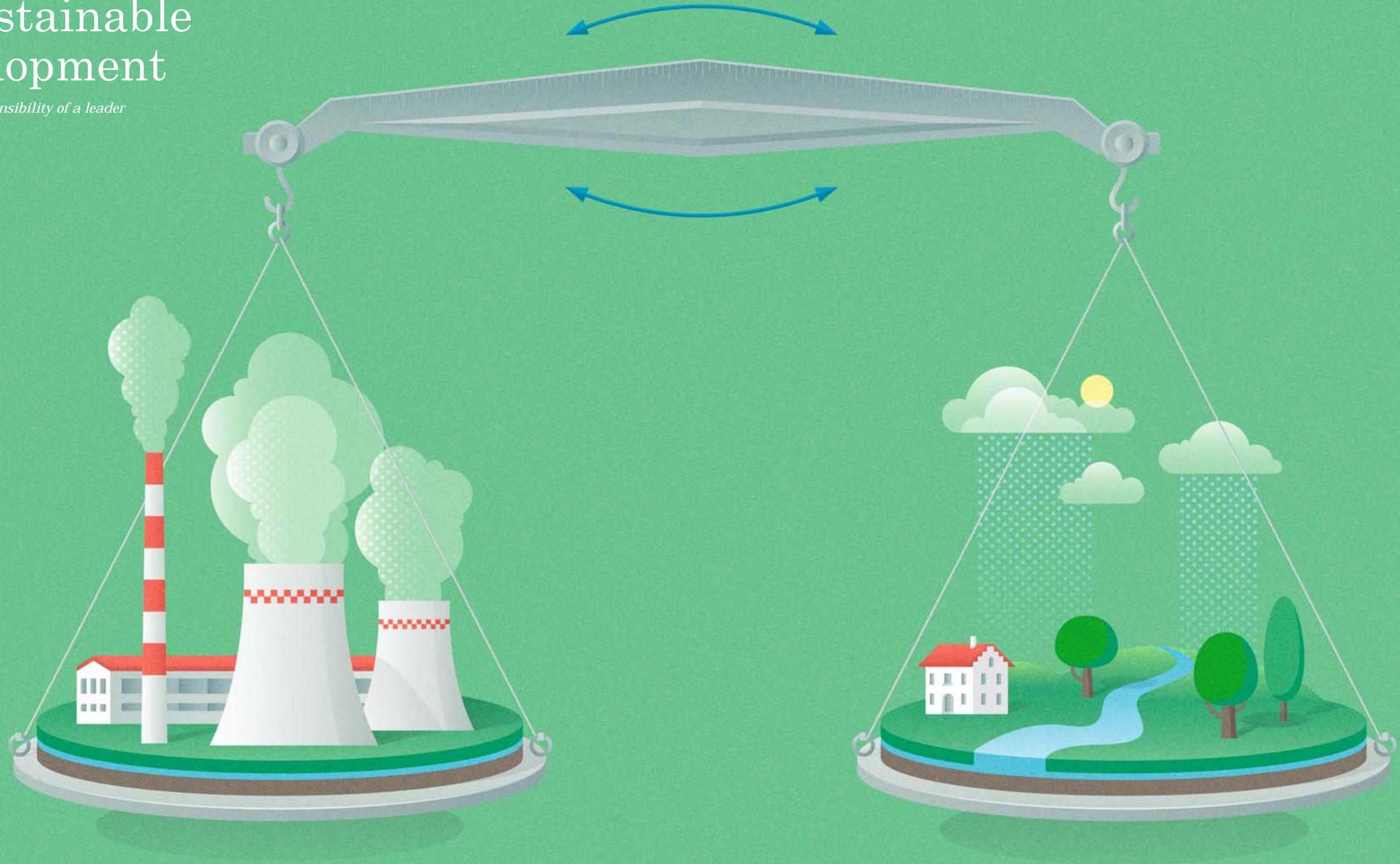
Type of application	2010	2011	2012
Applications for inventions: russian/foreign, pcs	98/5	51/-	72/-
Applications for useful models: russian/foreign, pcs	13/2	11/2	11/-
Applications for computers and data bases: russian/foreign, pcs	11/-	1/-	2/-
Applications for production secrets, pcs	17	31	30

Table 31. Number of applications of TVEL FC enterprises for inventions and useful models, useful models, computers, data bases and know-how.

TVEL JSC organizations	Applications for inventions (russian), pcs	Applications for useful models (russian), pcs	Applications for computers and data bases (russian), pcs	Applications for production secrets (know-how), pcs
TVEL JSC	6	2	1	—
JSC "VNIINM"	7	3	—	24
MSZ JSC	8	—	—	6
JSC "PA ECP"	5	—	—	—
JSC NNCP	3	—	—	—
JSC UEIP	8	2	—	—
JSC CMP	9	—	—	—
JSC "SGChE"	10	—	1	—
JSC AECC	—	2	—	—
JSC "VPA "Tochmash"	1	—	—	—
"Centrotech-SPb"	7	—	—	—
"EDB-Nizhny Novgorod"	5	—	—	—
NRDC LLC	3	2	—	—
<b>Total:</b>	<b>72</b>	<b>11</b>	<b>2</b>	<b>30</b>

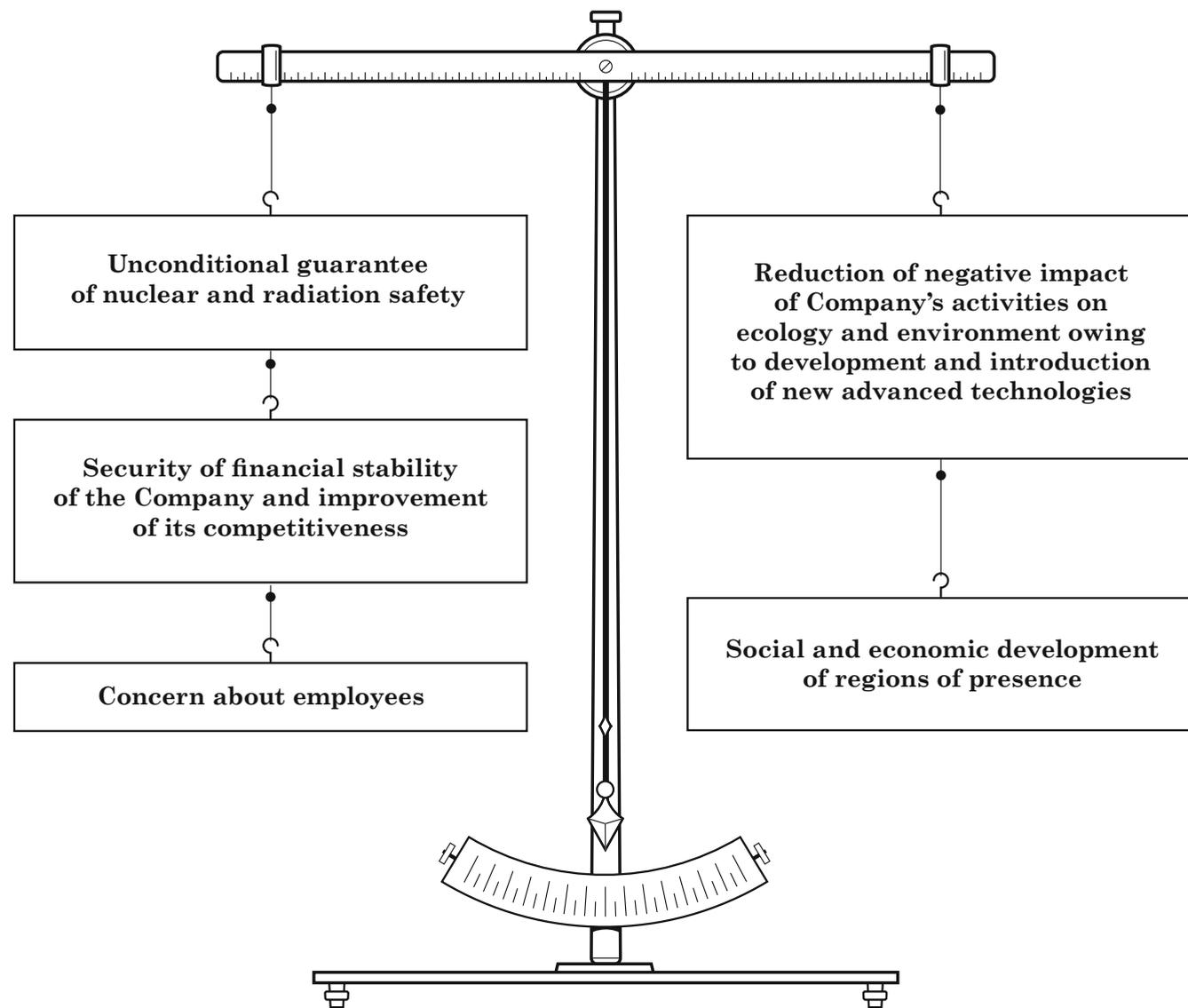
# Rules of sustainable development

*and social responsibility of a leader*



# Chapter 5. Rules of sustainable development

**Sustainable** development of TVEL FC means not only achievement of high financial and production performance indicators, but also widely recognized human values. The Fuel Company adheres to the following principles:



## §29. SOCIAL AND ECONOMIC INFLUENCE ON SURROUNDINGS

Summary information	
Generated, distributed and non-distributed direct economic value in 2012, * m RUB	
<b>Direct generated economic value</b>	<b>137,913.8</b>
<b>Distributed economic value</b>	
including:	
Operation expenditures	63,875.2
Salary and other payments and incentives for employees	24,727.3
Payments to suppliers of capital	20,054.2
Investments to communities and charitable activity	560.5
Gross tax payments**	15,554.8
<b>Non-distributed economic value</b>	<b>13,141.8</b>
Quantity of created jobsites in 2012	1,884 pcs
Volume of financing the social and charitable projects in 2012	RUB 532.7 m

### Development of regions of presence

A lack of social harmony and failure to fulfill the requirements of ecological acceptability threaten the achievement of proper strategic goals by TVEL FC.

Thus, in its turn, social tension in the regions may cause irreparable harm to the Fuel Company's reputation at the global market, as far as reliable supplies are concerned, and therefore, it may lead to a reorientation of foreign clients for work with the Company's competitors.

Thereupon, during determination of strategic priorities of development, the TVEL JSC managing company took into account possible social and economic consequences of the adopted decisions, as well as of the projects worked out for development of the regions of presence and for provision of their social stability in order to establish the strategic goals for development.

\* Data of statements by the Fuel Company prepared according to the Russian Standards of Book Accounting (RSBA) are used for calculations.

\*\* The sum of main tax deductions charged for payment to the budgets of various levels during the reported period, including:

- taxes included to expenditures;
- contributions to off-budget funds;
- profit tax of organizations.

With the aim of implementing the projects for development of the regions of presence TVEL FC carries out continuous complex interaction with all interested parties, such as bodies of state power and local government which play an important role.

Trilateral commissions were set up in the Closed Administrative-Territorial Entities (CATE) and Angarsk for solution of problems of the social character — Coordination Councils comprising: heads of companies, heads of CATE Administrations and heads of interested Trade Unions.

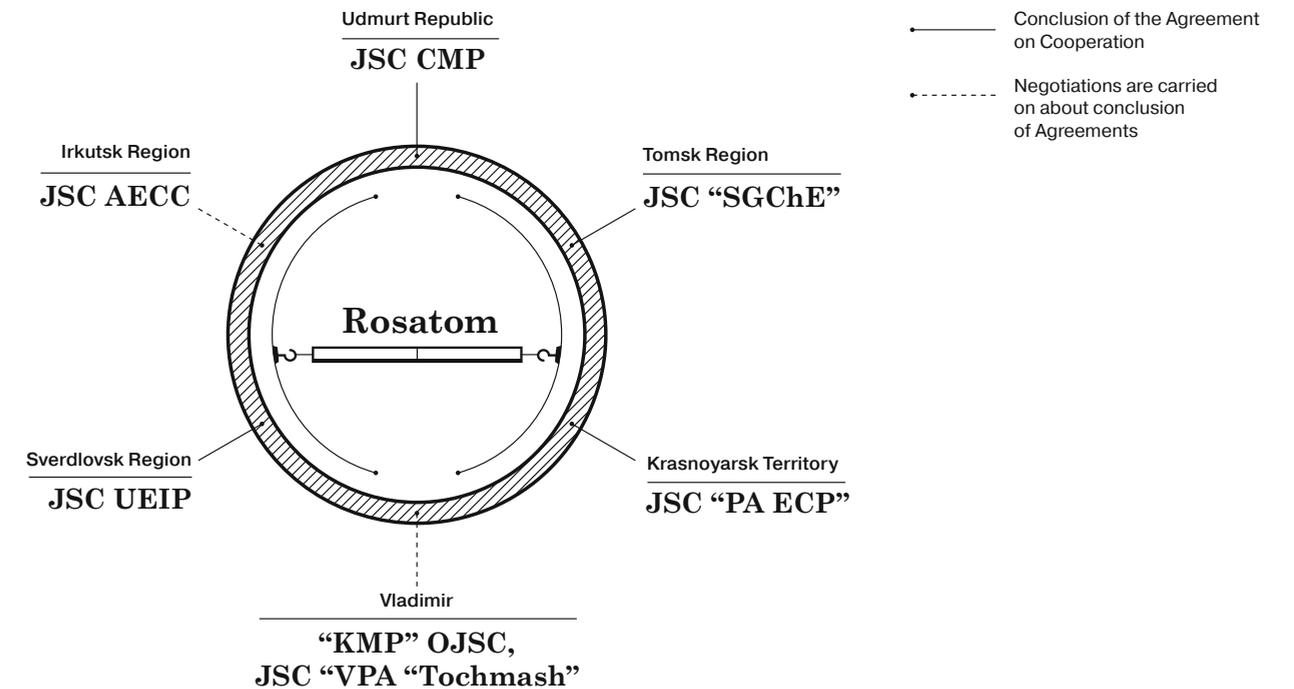
Tasks of FC activities in the cities of presence of TVEL FC enterprises:

- assistance to the city administration and TVEL FC enterprise in solution of problems related to non-admission of drastic growth of unemployment during the period of reforms;
- solution of problems related to provision of social stability in CATE;
- assistance in implementation of measures within the frameworks of agreements on cooperation signed in February 2012 between Rosatom State Corporation and the Governors of Tomsk, Sverdlovsk regions and Krasnoyarsk Territory;
- participation in preparation by taking into account interests of TVEL FC, proposals to projects of purpose-oriented programs (plans of events) of social and economic development of CATE and assistance in implementation of these purpose-oriented programs (plans of events).

Rosatom State Corporation became the initiator of development and signing of Agreements on Cooperation with state power bodies of subjects of the Russian Federation. These agreements represent a mechanism of effective interaction with state power bodies and they stipulate implementation of the whole complex of events aimed at social and economic development of cities of presence of the Fuel Company, in particular, determination of:

- mechanisms of redistribution of tax payments for the benefit of the republican and local budgets of the territories of presence;
- conditions of co-financing the funds of support and development of business undertakings;
- conditions of joint participation in implementation of Programs of Jobs Creation;
- and others.

Fig. 16. List of Agreements on cooperation.



On November 16, 2012 the Federal Tax Service of Russia registered a contract on establishment of a consolidated group of tax payers since 2013.

The consolidated group of tax payers comprised 34 organizations of the nuclear industry, including 10 enterprises of the Fuel Company.

Establishment of the consolidated group of tax payers (hereinafter referred to as CGTP) in the nuclear industry will make it possible to increase deductions by the profit tax to regional budgets, as well as to minimize tax risks due to application of a new chapter of the Taxation Code of RF about taxation of transfer pricing.

In 2013 as compared with the year 2012 growth of tax deductions to regional budgets are expected, including at the expense of CGTP.

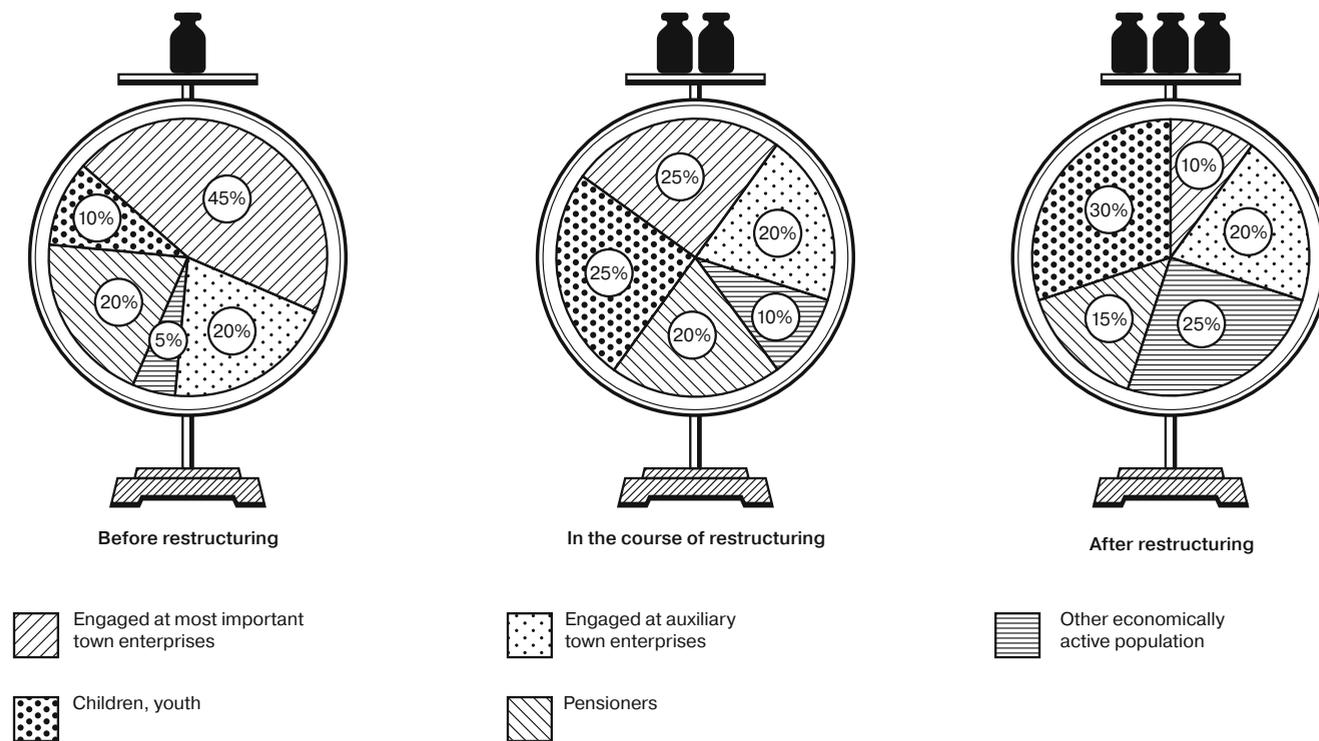
TVEL FC enterprises are located in different regions of the Russian Federation.\* However, the Company's activity exerts essential influence on social and economic situation in CATE and mono-towns.

\* Section "Geography of activity", Chapter 1.

Amended balance of labour resources in CATE and mono-towns due to fulfilled restructuring\* in TVEL FC gives rise to possible risks for Company's activities in future, including:

- lack of qualified human resources in the long term for development of new businesses as the consequence of outflow of specialists and young people;
- deficit of new jobsites and, hence, growth of social tension;
- low investing attractiveness of cities and towns;
- growth of loading on economically active population and social responsibility of TVEL FC enterprises;
- formation of a significant group of economically active population not engaged at town-planning enterprise and in the budgetary sphere (self-employment, work in adjacent cities and towns, work in a business with a low added value);
- reduction of donations from the federal budget of the Russian Federation;
- absence of alternative “anchor” enterprises in CATE.

Fig. 17. Impact of restructuring on balance of labour resources of CATE TVEL FC.



\* More details about results of restructuring see in the Annual Statement of TVEL JSC for 2011, section 9.2 “Results of restructuring of enterprises”.

### CATE Zelenogorsk

Regional center	Krasnoyarsk (165 km)
Number of population	65,363 persons
Able-bodied population	38,134 persons
Share of employees of JSC “PA ECP”	7.8% population (2,959 persons — 2012)
Number of service divisions	1,279 persons
Budget	RUB 2.29 bn
Share of JSC “PA ECP”	5.7%

#### Education:

Profiled educational basis is missing

#### Demography:

Growth of number of pensioners. Problem of retaining the qualified young people

#### Taxes:

Rates of budget growth do not exceed rates of inflation. Share of tax incomes decreases

#### Economy:

Low diversification. Main investments — Rosatom State Corporation. Lack of ideas of perspective city (town) development

### CATE Seversk

Regional center	Tomsk (12 km)
Number of population	116,300 persons
Able-bodied population	70,445 persons
Share of employees of JSC “SGChE”	8.2% population (5,785 persons — 2012)
Number of service divisions	3,982 persons
Budget	RUB 3.067 bn
Share of JSC “SGChE”	7.7%

#### Education:

High level, quality and duration of education is retained

#### Demography:

Growth of number of pensioners. Problem of retaining the qualified young people

#### Taxes:

Rates of budget growth do not exceed rates of inflation. Share of tax incomes is moderately growing

#### Economy:

Moderate diversification. Main investments — Rosatom State Corporation. A problem — public perception of location of nuclear projects

### CATE Novouralsk

Regional center	Yekaterinburg (67 km)
Number of population	86,450 persons
Able-bodied population	57,600 persons
Share of employees of JSC UEIP	6.4% population (3,690 persons — 2012)
Number of service divisions	3,004 persons
Budget	RUB 3.01 bn
Share of JSC UEIP	9%

#### Education:

High level, quality and duration of education is retained

#### Demography:

Growth of number of pensioners. Problem of retaining the qualified young people. High level of labour pendular migration

#### Taxes:

Rates of budget growth do not exceed rates of inflation. Share of tax incomes is not growing

#### Economy:

Low diversification. Main investments — Rosatom State Corporation. A problem — development of transport infrastructure, accessibility of regional and industrial centres

## Mono-town Glazov

Regional center	Izhevsk (180 km)
Number of population	95,400 persons
Able-bodied population	57,581 persons
Share of employees of JSC CMP	7.4% population (4,074 persons — 2012)
Number of service divisions	2,746 persons
Budget	RUB 2.05 bn
Share of JSC CMP	4.9%

### Education:

High level, quality and duration of education is retained

### Demography:

Growth of number of pensioners. Problem of retaining the qualified young people

### Taxes:

Rates of budget growth do not exceed rates of inflation.

Share of tax incomes is moderately decreasing

### Economy:

Moderate diversification.

Main investments — Rosatom State Corporation.

Lack of ideas of perspective development of the town

TVEL FC works out and takes actions for solution of emerged problems, in particular, aimed at:

- development of the business environment in cities and towns of presence;
- attraction of big investors and creation of anchor businesses;
- further development of the educational block, infrastructural solutions;
- creation of relevant job sites for qualified young people;
- speeding up of taking the decisions concerning the projects of development of cities, towns and territories in interaction with Rosatom Corp. and regional bodies of state power and municipalities;
- increased tax deductions to local budgets, including due to creation of high-paid job sites.

### Plans for 2013 and medium-term perspective

Elaboration of a sectoral program of strategic development of nuclear industry CATE, including:

- key decisions concerning the purpose-oriented directions of CATE development in Rosatom State Corporation;
- elaboration of the standing of Rosatom State Corporation concerning the issue of relocation of innovation and/or technologically complex productions priority for the state (including branch ones) to CATE sites;
- provision of designs for industrial parks in Yekaterinburg, Tomsk and Seversk by reprofiling the territories and removal of highly technological productions to special sites along with respective infrastructure and human resources;
- elaboration of the standing of Rosatom State Corporation concerning the issue of development and synergy in transportation, social and engineering infrastructure of Tomsk–Seversk agglomeration, Yekaterinburg agglomeration;

- determination of positions for liberalization of CATE modes;
- development of problems at the regional level.

## Charitable activity and support of external social programs

Charitable activity and social projects represent an important trend of development of the social and economic environment of regions of presence of TVEL FC.

In 2012 TVEL FC fulfilled a number of charitable and social projects, and the total volume of their financing was equal to RUB 532.7 m.

In March 2012 the Council of Charitable Activity of TVEL JSC was formed. The main functions of the Council are:

- determination of goals and priority directions of charitable activity of the Fuel Company;
- elaboration of proposals during planning of charitable activity of TVEL FC;
- approval of the budget and measures for carrying out the charitable activity of the Fuel Company;
- assessment of efficiency of charitable activity of TVEL FC;

Charitable activity of the Company is built on the following principles:

- support of charitable designs and programs in the regions of presence of TVEL FC enterprises;
- support of general values (stirring up the business environment, creation of job sites, progress in health care, sports, culture);
- co-financing (parity co-financing) of charitable programs of local self-management bodies (LSMB), federation subjects and TVEL FC (or TVEL FC in the person of a town-forming enterprise).

Top priority directions for the Fuel Company include measures for creation of job sites and stirring up the business environment in cities and towns of location of enterprises, establishment and development of physical and mathematical lyceums with the aim of training the future qualified specialists for the nuclear industry.

Most important project in 2012 included:

1. The project of school education improvement in disciplines of the physical and mathematical profile (participation in establishment and development of physical and mathematical lyceums in the following towns: Glazov, Novouralsk, Seversk, Zelenogorsk).

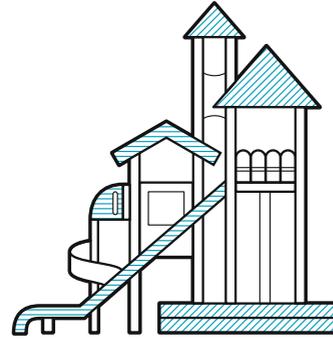
The project is aimed at attraction of young and talented specialists to the industry, establishment of a new educational environment for future employees of TVEL FC enterprises, higher educational level of young people and training of qualified human resources for enterprises of the town.

2. The project aimed at support and development of small undertakings



МАРИС ЛИЕПА  
ФОНД

Evenings with Andris Marisovich Liepa, a Russian ballet star, dedicated to the 50<sup>th</sup> anniversary of the People's Artist of Russia, were held in three cities of TVEL FC presence — Seversk, Novouralsk and Zelenogorsk. This meeting was held with the financial support of the TVEL Fuel Company.



In 2012, TVEL JSC placed children's playgrounds in 9 yards of the city of Vladimir:

- Belokonskoy st., 15A;
- Vasilisina st., 5;
- Dobroselskaya st., 167;
- Komissarova st., 18;
- Lenin Avenue, 24;
- Pochaevskaya st., 2A, 2B and 2V;
- Severnaya st., 15A, 32 and 34;
- Sudogodskoye shosse, 7 and 9A.

in the following towns: Glazov, Novouralsk, Seversk, Zelenogorsk, and Angarsk.

The project is aimed at: creation of new job sites, promotion of innovation and entrepreneurial activity of small and middle business subjects in the towns of presence of TVEL FC enterprises.

Also, on the annual basis the Fuel Company takes part in organization and performance of concourses in the city "Entrepreneur of the Year".

3. The project "My yard. My home. My family" for installation of children's playing complexes in 8 towns of presence by TVEL FC enterprises (119 pieces). This project was started in 2011, but due to a widespread public response a decision was taken to continue it in 2012.
4. Support of the International Children's Creative Project "Nuclear Kids" and the Youth Innovation Forum "Afterburning-2012".
5. Individual projects in the towns of presence by TVEL FC:
  - 8-storeyed house has been built for pedagogues and health care workers in CATE Zelenogorsk;
  - a gerontological department has been repaired and opened at Central Medical and Sanitary Department -31 in CATE Novouralsk;
  - participation in construction of a monument for Chernobyl NPP liquidators in Novosibirsk;
  - support of establishments of education and health care in Angarsk;
  - participation in construction of a church in Electrostal and Glazov;
  - support and development of sports in Glazov.

Table 32. Charitable initiatives and external social programs of TVEL FC in 2012.

Ref. №	Measures (Projects)	Financing, RUB m
1	Charitable initiative for improvement of school education quality by disciplines of the physical and mathematical profile (provision of share holding in establishment of physical and mathematical lyceums in the towns: Glazov, Novouralsk, Seversk, Zelenogorsk)	117.0
2	Shared participation in organizational, technical and competitive measures for support and development of small undertakings (towns: Glazov, Novouralsk, Seversk, Zelenogorsk, Angarsk)	110.0
3	Assistance for improvement of living conditions for key specialists of the social sphere of towns (pedagogical and medical workers) in Zelenogorsk	24.6
4	Shared participation in construction of a church in Glazov, Electrostal	20.0
5	Support and development of junior sports and children's folk art in Electrostal of Moscow Region	10.0
6	Participation in organization and performance of the annual town concourse "Entrepreneur of the Year" in the following towns: Glazov, Novouralsk, Seversk, Zelenogorsk, Angarsk, Kovrov, Electrostal	2.0

Ref. №	Measures (Projects)	Financing, RUB m
7	Purpose-oriented financing for support and development of mass and amateur sports in Glazov	10.0
8	Purpose-oriented free-of-charge contribution to higher quality of medical service in Novouralsk, Angarsk	12.0
9	Support of international public and ecological initiatives on territories of presence	4.50
10	Support of informational and enlightener activity of informational centers for nuclear power on territories of presence of TVEL JSC enterprises	9.50
11	Support of congregations of the Russian Orthodox Church on territories of presence of TVEL FC enterprises	15.00
12	Opening and accompaniment of nuclear classes in towns of presence of TVEL FC enterprises	7.00
13	Support of informational and enlightener projects of Autonomous Non-commercial Organization "Information Center of Nuclear Industry" in Ukraine	5.10
14	Support of the International Children's Artistic Project "Nuclear Kids"	12.70
15	Support of mass and amateur sports in the regions of presence of TVEL FC enterprises	3.29
16	Support of branch Innovation Forum of Young People "Afterburning-2012"	6.89
17	Support of social and cultural initiatives in the regions of presence of TVEL FC enterprises	26.02
18	Assistance to charitable funds for conductance of statutory activities	1.10
19	Other projects of TVEL JSC and TVEL FC enterprises	136.0
<b>Total:</b>		<b>532.7</b>

The manpower policy of TVEL FC is pursued in accordance with the Strategy of development of the Fuel Division and it is intended for provision of the rational use of the manpower potential contributing to achievement of strategic goals of the Company.

The manpower policy of TVEL FC shall provide effective use of the manpower potential for successful implementation of the strategy of fuel division development by 2030.

§30.  
MANAGEMENT  
OF THE PERSONNEL

Main long-term aims of the manpower policy of TVEL FC include:

- achievement of a higher level of personnel involvement for provision of stable development of the organization;
- continuous growth of labour productivity;
- development of general corporative values of the personnel of the Company;
- enhancement of the development level of strategically important competences and qualification of the personnel up to compliance with the requirements to the personnel of international global companies;
- provision of social acceptability of performed changes;
- formation and support of positive social and political moods in the towns of presence of the Fuel Company.

All directions of activities for management of the personnel carried out for provision of the manpower stability of the Fuel Company and satisfaction of the interested parties.

### Personnel involvement

In 2012 TVEL FC enterprises took on 2,206 employees, including — 90 employees comprising 18 persons transferred from the Fuel Company, 5 persons — from Rosatom State Atomic Energy Corporation.

Involvement of perspective young people is one of top priority trends of the manpower policy. Owing to employment of young specialists in future the Company hopes to strengthen its positions in the field of science and advanced technologies. For this purpose excursions are organized for students of profiled higher educational institutions on the regular basis, and doing the production and prediploma practical work is proposed at TVEL FC enterprises.

In 2012 835 students of higher educational institutions did their practical work at TVEL FC enterprises, and 61 persons of them were taken on. In 2013 by 900 students of higher educational institutions will do their practical work at enterprises of the Company.

Within the frameworks of the work with students a summary plan of taking on the graduates of higher educational institutions was prepared by 2015, as well as agreements with profiled higher educational institutions were signed for purpose oriented training of the manpower:

- an agreement about cooperation in the field of education, science and training of manpower between MSZ JSC and MEFHI NIYAU;
- an agreement about cooperation in the field of education, science and training of manpower between TVEL JSC and MEFHI NIYAU;
- an agreement about cooperation between TVEL JSC and the scientific educational complex of Tomsk Region for R&D fulfillment and involvement of qualified research personnel for TVEL FC enterprises.

Table 33. Plan of employment of graduates of higher educational institutions to TVEL FC enterprises by 2015, persons.

2013	2014	2015
199	227	214

### Higher level of personnel involvement

Personnel involvement, i.e. interestedness of employees in business and success of the Company is directly reflected in indicators of business efficiency.

By the results of study in 2012 the level of involvement of employees of the Fuel Company grew on average by 3% (2011 — 58%, 2012 — 61%), in compliance with the purpose oriented intention.

Fig. 18. Involvement in appointment to TVEL FC enterprises.

	On average by the company	TVEL JSC	JSC AECC	JSC NNCP	JSC "PA ECP"	JSC "SGChE"	JSC CMP	MSZ JSC	JSC "VNIINM"	«KMP» OJSC	JSC UEIP	JSC "VPA "Tochmash"	UGCMP Ltd.
Involvement	61%	69%	75%	58%	72%	64%	58%	59%	37%	72%	57%	48%	34%
Satisfaction	62%	68%	76%	59%	73%	65%	55%	67%	40%	67%	60%	48%	37%

The company performs an active work for increasing the level of personnel involvement. Most significant events in the field of personnel involvement level enhancement during the reported year should include:

1. Formation of small groups in industry (100% coverage of workers) within the framework of introduction of Rosatom program — the system based on broader authorities and higher degree of participation of employees in the Company's activity:\*

- efficiency indicators and plans of development of small groups — the tool of participation by every employee in implementation of the Company's strategy;
- 100% training of leaders of small groups — single principles of control of production processes and production personnel, new components of corporative culture (motivation of employees via communication, persuasion, commanding character, etc).

\* Details see in section "Control of efficiency of production activity" of Chapter 2.

2. Performance of the pool of communication measures with participation of heads of companies with the aim of informing the employees about key aspects of division/enterprise development (quarterly “Information Days”, meetings of collectives, “Tea with the Director”, “Meeting without a Ties”, personal presentation of awards/bonuses by the Director General to employees of all levels, regular interpretation of “small businesses”, interaction via internal portals “Question — Answer”, extended application of the system of non-material motivation, description of achievements of employees in mass media of the enterprise).
3. Introduction of the systems for controlling the initiatives of employees concerning the issues of improvement of working processes, labour conditions, etc. Formation of plans for better involvement of employees’ opinion, systematic control and informing the employees about implementation of measures stipulated in plans (at each enterprise and in TVEL FC in general).

Motivation and labour remuneration have stimulating influence on the involvement level of the personnel, in particular:

- salary growth in TVEL FC (2012/2013 — by 19%);
- harmonization of the Unified System of Labour Remuneration (USLR), RECORD evaluation improvement, introduction of assessment of job sites — transparent and fair assessment of every employee and its influence on the level of incomes.

In 2013 growth of the involvement level by the personnel of the Fuel Company is planned for at least by 3%.

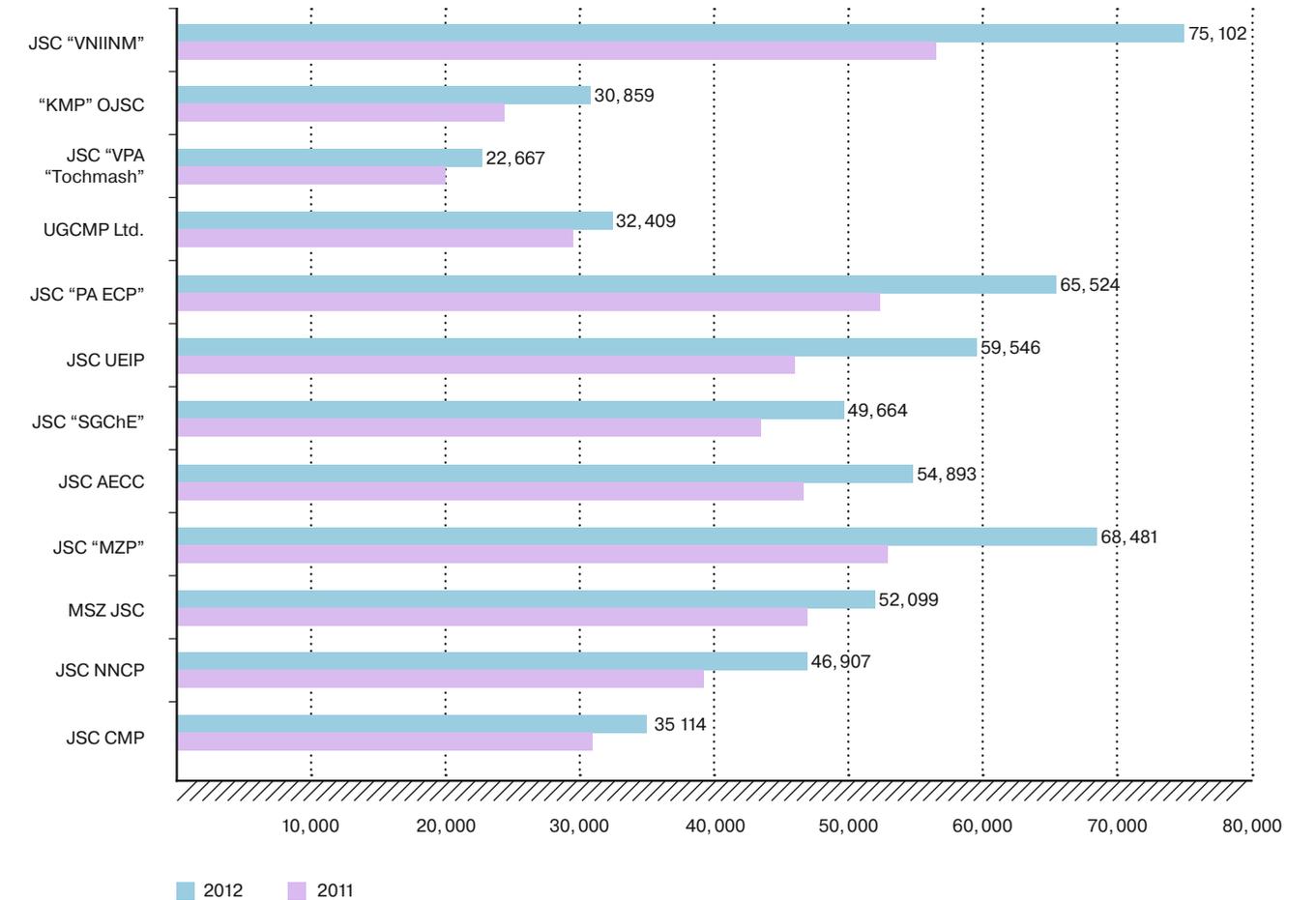
#### *Motivation and labour remuneration*

In 2012 the first stage of the branch project “USLR Harmonization” was implemented, its goals being as follows:

- bringing the integrated stimulating bonus (ISB) for employees in compliance with the real level of the professional status;
- annual assessment of activity efficiency by at least 90% of TVEL FC employees;
- unification of salary structure and labour remuneration types by taking into account requirements of branch methodical documents and the Industrial Agreement: change of target amount of annual premium of a number of enterprises with the aim of approaching to better practices of the Company, correlation of permanent and variable parts of salary by at least 70/30.

In 2012 salaries at enterprises of the Fuel Company increased on the whole by 19% as compared with the level of the previous year as the result of the measures of personnel involvement and “USLR Harmonization” project.

Fig. 19. Average salary of TVEL FC enterprises, RUB.



In 2012 the average salary level in TVEL FC without TVEL JSC was equal to RUB 49,060 (including scientific institutions — RUB 66,858), i. e. by 15% (19.4%) higher than in the previous year.

The Company respects the principle of equality and non-discrimination by sexual characteristics — correlation of salaries of men and women working in the Company — 1/1 for all categories of employees.

Table 34. Correlation between standard salary of the initial level and the established minimum salary in essential regions of company's activity, including differentiated by sexual characteristics.

Sex	Year	Moscow	Moscow Region	Vladimir Region	Udmurt Republic	Novosibirsk Region	Sverdlovsk Region	Tomsk Region	Krasnoyarsk Territory	Irkutsk Region
Women	2010	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
	2011	1.3	1.43	1.3	1.43	1.43	1.3	1.43	1.43	1.43
	2012	1.6	1.6	1.52	1.6	1.6	1.6	1.6	1.6	1.6
Men	2010	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
	2011	1.573	1.43	1.3	1.43	1.43	1.43	1.43	1.43	1.43
	2012	1.6	1.6	1.52	1.6	1.6	1.6	1.6	1.6	1.6

Table 35. Average salary level in relation to the average level at the labour market.

Year	Moscow	Moscow Region	Vladimir Region	Udmurt Republic	Novosibirsk Region	Sverdlovsk Region	Tomsk Region	Krasnoyarsk territory	Irkutsk Region
2010	1.98	1.70	1.20	2.04	1.85	1.79	1.48	1.58	1.71
2011	2.35	1.75	1.46	2.08	2.04	2.07	1.91	2.15	2.16
2012	3.04	1.94	1.79	2.27	2.39	2.54	2.18	2.74	2.53

Table 36. Relation of the average salary between 10% of less payable employees and 10% most payable employees of companies.

Year	Moscow	Moscow Region	Vladimir Region	Udmurt Republic	Novosibirsk Region	Sverdlovsk Region	Tomsk Region	Krasnoyarsk territory	Irkutsk Region
2010	6.1	4.8	4.9	3.7	5.2	5.4	4.0	3.8	4.2
2011	7.3	4.3	5	4.5	5.8	5.4	4.2	4.1	4.4
2012	6.4	3.6	4	4.7	5.4	5.4	4.1	3.6	4.7

In order to ensure fair setting-up of the salary level in 2012 a corporative system of personnel efficiency assessment was worked up and introduced at 4 enterprises:

- RECORD assessment (managers, specialists, employees);
- corporative assessment system of workers;
- assessment by professions.

Table 37. Coverage of annual RECORD assessment procedure.

Indicator	2010	2011	2012	2013 (план)
Passed RECORD assessment, men	3,728	3,819	7,386	5,197
Passed RECORD assessment, men, %	12%	16%	39%	36%
Passed RECORD assessment, women	2,759	2,911	4,304	3,029
Passed RECORD assessment, women, %	15%	22%	38%	36%

In 2012 the aforesaid assessment systems covered up to 90.2% payroll number of employees of the Fuel Company, and being so, 38% of employees were assessed according to the RECORD system.

By the results of personnel assessment the individual stimulating bonus (ISB) was revised. The share of the personnel with ISB in accordance with the real level of the professional status grew from 58.8% to 74.4%.

An important motivating factor includes social programs implemented at TVEL FC enterprises. The social policy is unified at all enterprises and it complies the branch one.

The main corporative social programs implemented at TVEL FC include:

- medical provision;
- non-state provision of pensions;
- health-resort treatment;
- residential program;
- organization of meals;
- cultural and sports events;
- support of veterans and pensioners;
- material aid.

Totally, RUB 2,215 m were directed in 2012 for implementation of TVEL FC policy.

According to surveys up to 49% of employees are satisfied with the received social aid.

#### *Development and training of the personnel*

Traditionally, development and training of the personnel is in the focus of attention and is one of top priority directions of the manpower policy of the Fuel Company.

Educational programs aimed at enhancement of competences of managers and ordinary employees are regularly undertaken at TVEL FC enterprises within the frameworks of the Provision on development and training of the personnel.

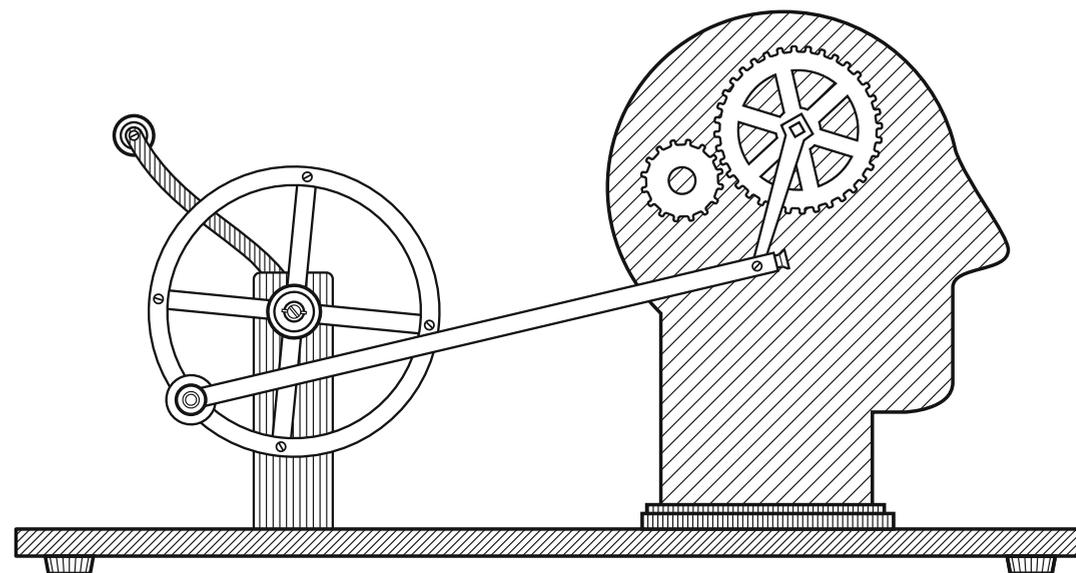
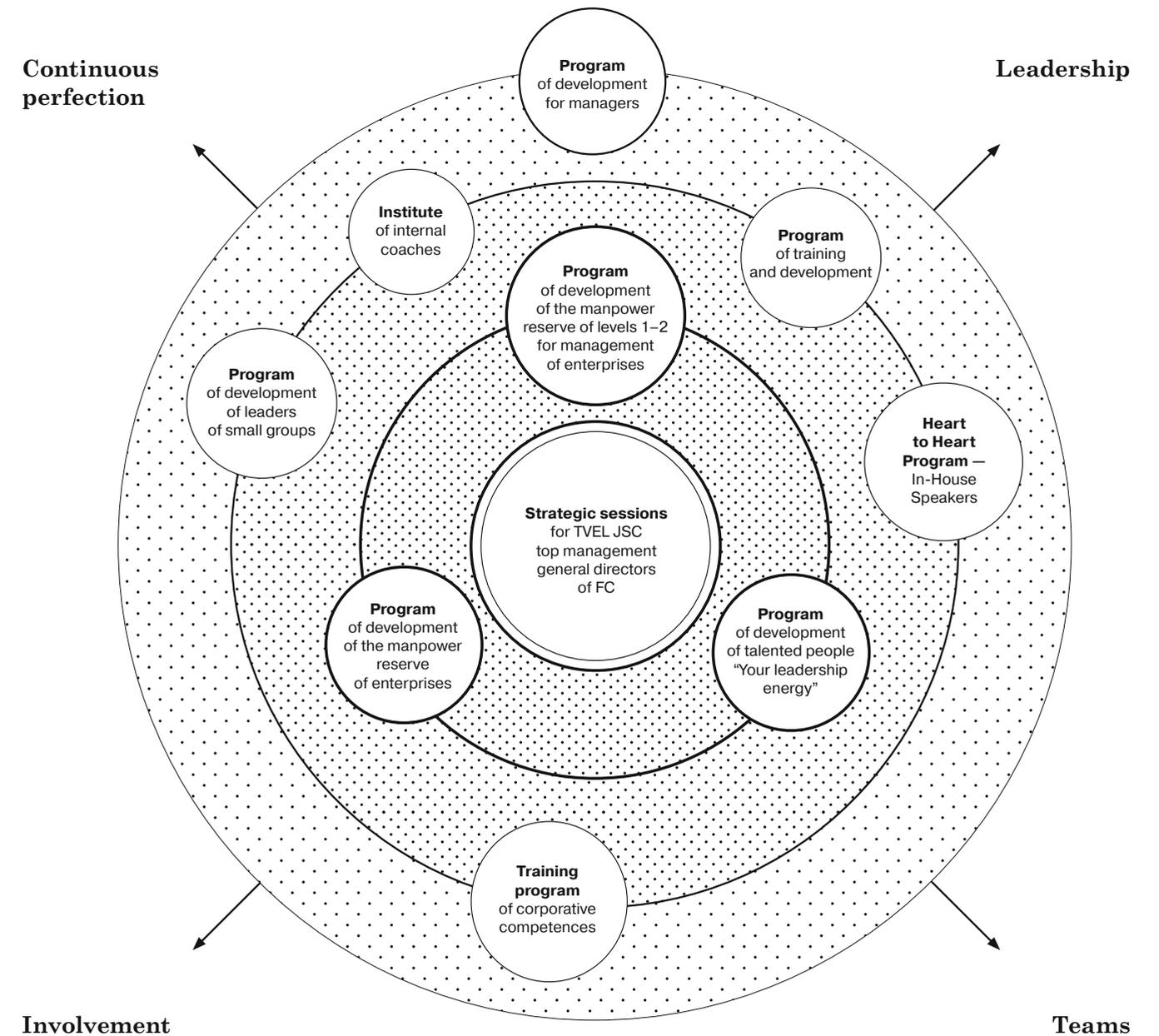


Fig. 20. Scheme of development and training of the TVEL FC personnel.



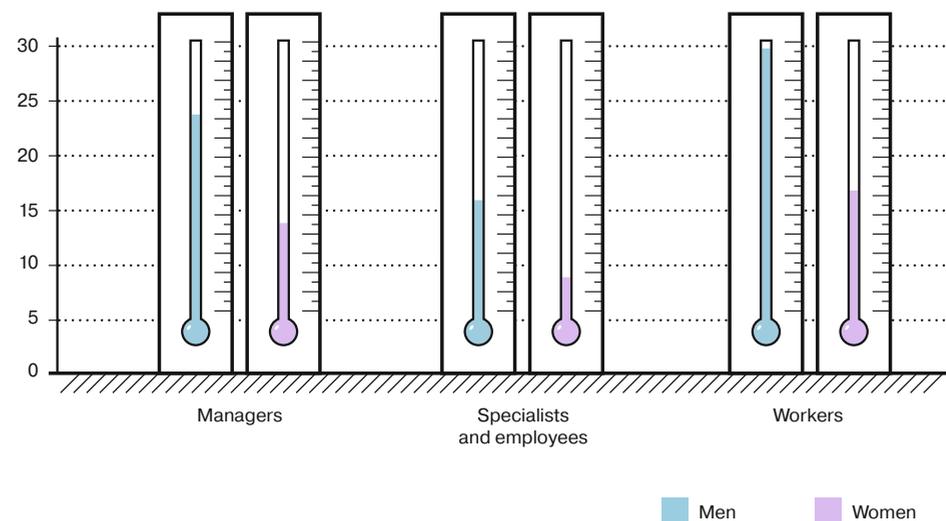
Totally, in 2012 29,872 employees were trained at TVEL FC enterprise, including according to programs for development of professional knowledge and competence.

The average number of training hours per one employee of TVEL FC in 2012 was equal to 33.4 hours.

Table 38. Average number of hours of training per one employee per annum by categories of employees.

Category of employees	2010	2011	2012
Managers	30.5	31	38
Specialists and employees	19.2	41	25
Workers	4.9	47	47

Fig. 21. Average number of hours of training per one employee in 2012 by sexual characteristics.



The total duration of employees training in policies and procedures related to human rights aspects takes 3 hours by including the acquaintance of the employee with the following documents:

- rules of internal work schedule;
- provision on the testing procedure in case of hiring;
- order “Organization and procedure of medical inspection of employees”;
- provision on labour remuneration and stimulation of employees;
- provision on voluntary medical insurance of employees;
- program of introductory instructions for labour protection.

This training is mandatory for all employees, share of trained employees — 100%.

Developmental measures contributing to qualification improvement of employees are implemented both with the use of resources of internal coaches of the company and along with attraction of external providers.

In 2012 the Institute of Internal Coaches was further developed.

Within the framework of project accompaniment for transformation of production relations 47 internal coaches of the Fuel Company’s enterprises were trained according to the modular training of coaches, which includes both development of competences of coaches themselves and program transfer for subsequent cascade training of employees of enterprises.

Big attention is paid to improvement of management skills by managers of the Company. A strategic training session for 50 managers of subsidiary companies was conducted with the aim of forming the effective second business core and supporting businesses of TVEL FC in order to continue the development program for managers of distinguished subsidiary companies (formation of a network of highly efficient suppliers) implemented in 2011. The key issues of the 3-days-long session included the principles of forming the strategies of sales and marketing, introduction of S&OP-approach\* to work, as well as expansion of competence in the field of decomposition of key goals.

Apart from a higher level of business training key managers of TVEL FC enterprises, having successfully undergone the assessment of competences within the frameworks of the TOP-1000 design in the industry, participated in the program of reserve development “Rosatom Property” launched in 2012.

“Rosatom Property” is a complex 2-year single branch program managerial reserve development in the industry, in 2012 the first module “Leadership and Effective Management” was implemented. The training module assumed not only study of the training module, but also profound preliminary training, as well as subsequent intermodular operation.

In 2012 21 managers studied the module “Leadership and Effective Management” including from:

- |                            |                   |
|----------------------------|-------------------|
| TVEL JSC — 2 persons;      | JSC NNCP — 5;     |
| “EDB-Nizhny Novgorod” — 1; | JSC “PA ECP” — 1; |
| JSC AECC — 2;              | JSC “SGChE” — 2;  |
| JSC “VPA “Tochmash” — 2;   | JSC CMP — 3;      |
| “KMP” OJSC — 2;            | UGCMP Ltd. — 1.   |

Also, in 2012 an integrated program was completed for development of strategic manpower reserve with participation of 45 key managers of the Fuel Division. Concluding modules of the program, which took place in 2012, were focused the topics of “Territorial development and social capital” and “Leadership”.

\* S&OP-approach (Planning of sales and transactions) is a process of taking any decisions which ensures compliance of tactical plans of every business sphere with the general business plan of the company.

*Training of employees of TVEL FC enterprises to principles and tools of the Rosatom production system*

Effective introduction of Rosatom production system at TVEL FC enterprises (see Table 39) is impossible without involvement of the personnel in the process of transformations. Therefore, training of employees to principles and tools of the Rosatom production system was organized at enterprises of the Company.

Table 39. Number of trained employees of TVEL FC companies to principles and tools of the Rosatom production system in 2012.

Name of the enterprise	Number of employees
JSC CMP	2,619
JSC NNCP	1,456
MSZ JSC	2,310
JSC "MZP"	89
JSC AECC	1,320
JSC "SGChE"	2,167
JSC UEIP	2,603
JSC "PA ECP"	2,638
UGCMP Ltd.	672
Uralpribor Ltd.	597
JSC "VPA "Tochmash"	1,660
"KMP" OJSC	368
JSC NRDC	146
"Centrotech-SPb"	56
"EDB-Nizhniy Novgorod"	61
JSC "VNIINM"	761
<b>Total:</b>	<b>19,523</b>

With the aim of the further development of education system within the framework of the Rosatom production system in 2013 the following is planned:

- training of linear production managers according to the corporative Program;
- certification of the Standardized Work of Leaders of Small Groups and members of working groups of the TPO project;
- training of employees of the Fuel Company "under request".

*Formation and development of manpower reserve*

The program for forming the manpower reserve is implemented at TVEL FC enterprises. In 2012 235 employees included to the manpower reserve moved to higher positions.

Table 40. Number of employees included to the manpower reserve having passed to a higher position.

TVEL FC enterprises	Number of employees
TVEL JSC	16
MSZ JSC	5
JSC NNCP	3
JSC CMP	26
JSC "MZP"	2
JSC "VNIINM"	9
JSC AECC	15
JSC UEIP	54
JSC "SGChE"	42
JSC "PA ECP"	12
JSC "VPA "Tochmash"	38
UGCMP Ltd.	9
"KMP" OJSC	7
<b>Total:</b>	<b>238</b>

Special attention is paid to work with manpower reserve of the first and second levels (directors general and deputies) with participation of about 450 persons in 2012.

*Program for young people development “Your Leadership Energy”*

The program is aimed at formation of the command of effective leaders for attraction to TVEL FC projects and subsequent consideration of program participants as the candidates for occupying the key managerial posts.

In December 2011 the first training module “Management of projects” was completed with participation of 51 persons. 14 design ideas were presented by participants by the training results.

In July 2012 the second training module was completed within the frameworks of “Afterburning-2012” forum with participation of 33 persons. Main topics of training included: managerial skills, Rosatom production system, the strategy of Rosatom State Corporation, innovation, power efficiency, safety.

Program participants took part in implementation of a number of projects in TVEL JSC and at Fuel Company enterprises with the following trends:

- management of the personnel and social consent;
- production technologies;
- creation of new production capacities.

Totals of 2012:

- 11 persons who had successfully implemented the projects: were included to the manpower reserve “Talents” (3 persons); to the manpower reserve “Capital” (5 persons), were appointed to a higher post (3 persons);
- rest program participants (48 persons)\* are working at the stage of implementation of projects.

**Number and manpower composition of the personnel**

At TVEL FC employees were taken on in strict compliance with the requirements of the Labour Code of RF. As for the higher managers, the policy of appointment is applied of the number of participants of the manpower reserve. Composition of the higher managers of enterprises of the Company is shown in the following way (see Table 41).

**Main indicators**

Payroll number of FC employees, persons	30,964
Share of employees who have worked in FC more than 5 years	16%
Share of employees in the age by 35 years	29%
Number of candidates and doctors of sciences among employees	257 Candidates of sciences, 33 Doctors of sciences

\* Change of the number of participants (51 persons on the beginning of the year) is due to refusal of some employees by their own initiative from participation in the program, as well as dismissal of employees from FC enterprises.

Table 41. Composition of higher management of TVEL FC enterprises in 2012.

Region	Total, persons	2013 plan	Rotated from other regions of the industry, persons	Local population, persons	Local population, %	Rotated from other regions of the industry, %
Moscow	28	28	0	28	100	0
Moscow Region	13	13	1	12	92	8
Vladimir Region	20	20	1	19	95	5
Udmurt Republic	11	11	5	6	54	46
Novosibirsk Region	12	12	1	11	91	9
Sverdlovsk Region	17	17	2	15	88	12
Tomsk Region	10	10	0	10	100	0
Krasnoyarsk territory	12	12	1	11	91	9
Irkutsk Region	9	9	0	9	100	0

Fig. 22. Composition of the higher management of TVEL FC enterprises at their places of residence in 2012.

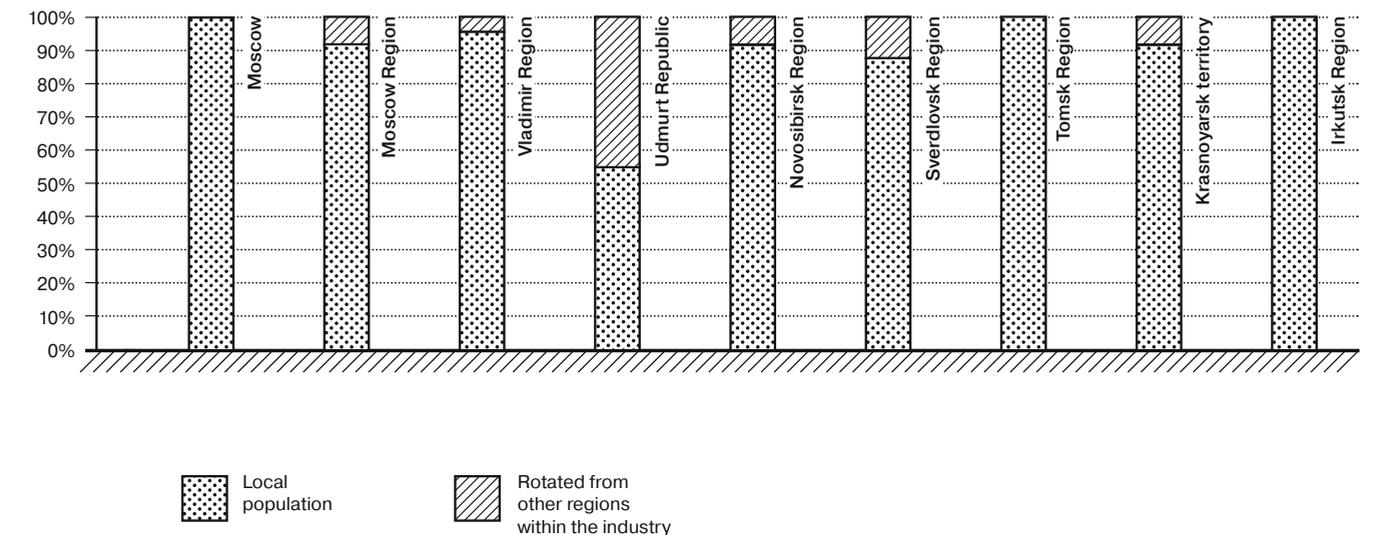


Fig. 23. Composition of higher management of TVEL FC enterprises by sex and age in 2012.

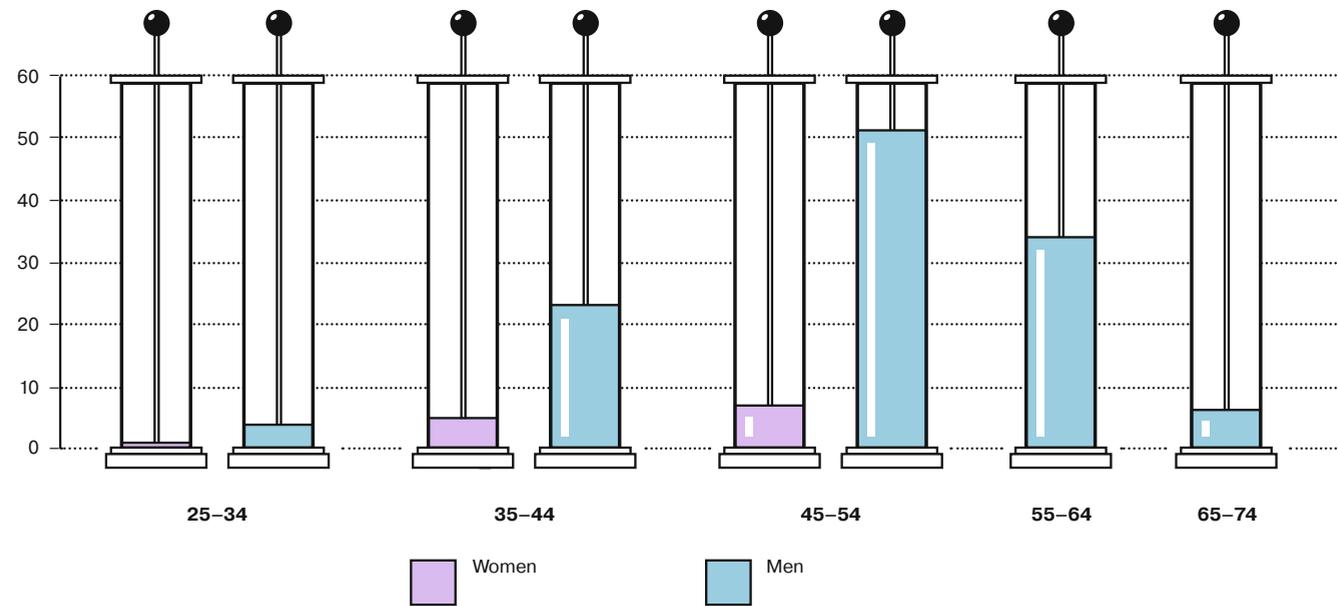
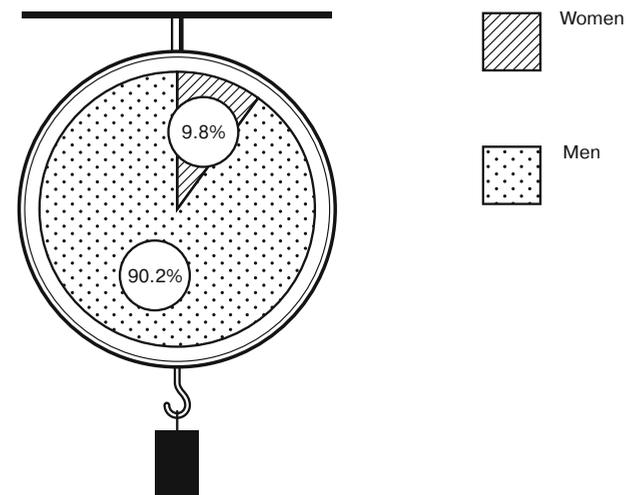


Figure 24. Relative composition of higher management of TVEL FC enterprises by sex.



Payroll number of the TVEL FC personnel as on *December 31, 202* was equal to 30,964 persons. Men constitute majority among employees (63.2%, 19,558 persons).

Table 42. Total number of employees by categories.

Category of employees	2011	2012	2013 (plan)
By consolidation contour (total), persons	36,922	30,964	29,200
including:			
main workers	13,553	11,716	11,180
auxiliary workers	9,062	6,961	6,462
managers	4,600	3,520	3,052
specialists	9,024	8,256	8,132
employees	466	395	264
Non-industrial group	217	116	110

Reduction of the personnel number in 2012 as compared with the previous year is related with the results of Company's restructuring.

The absolute majority of employees of the company is working in accordance with open-end labour contracts. In 2012 the share of open-end labour contracts made up about 98%.

Table 43. Average payroll\* number of the personnel by hire contract type.

Indicator	2010	2011	2012	2013 (plan)
Average payroll number of the personnel (open-end employment contracts)	56,610	41,857	33,408	30,393
	98.5% (of the average payroll number)	98.3% (of the average payroll number)	98.0% (of the average payroll number)	98.1% (of the average payroll number)
Average payroll number of the personnel (fixed-term employment contracts)	862	724	680	590
	1.5% (of the average payroll number)	1.7% (of the average payroll number)	2.0% (of the average payroll number)	1.9% (of the average payroll number)

\* When the average payroll number was calculated, employees by civil contracts, external dual jobholders, women on maternity leaves were not taken into account.

Fig. 25. Data about the total number of employees by sex and age (payroll number), the year 2012.

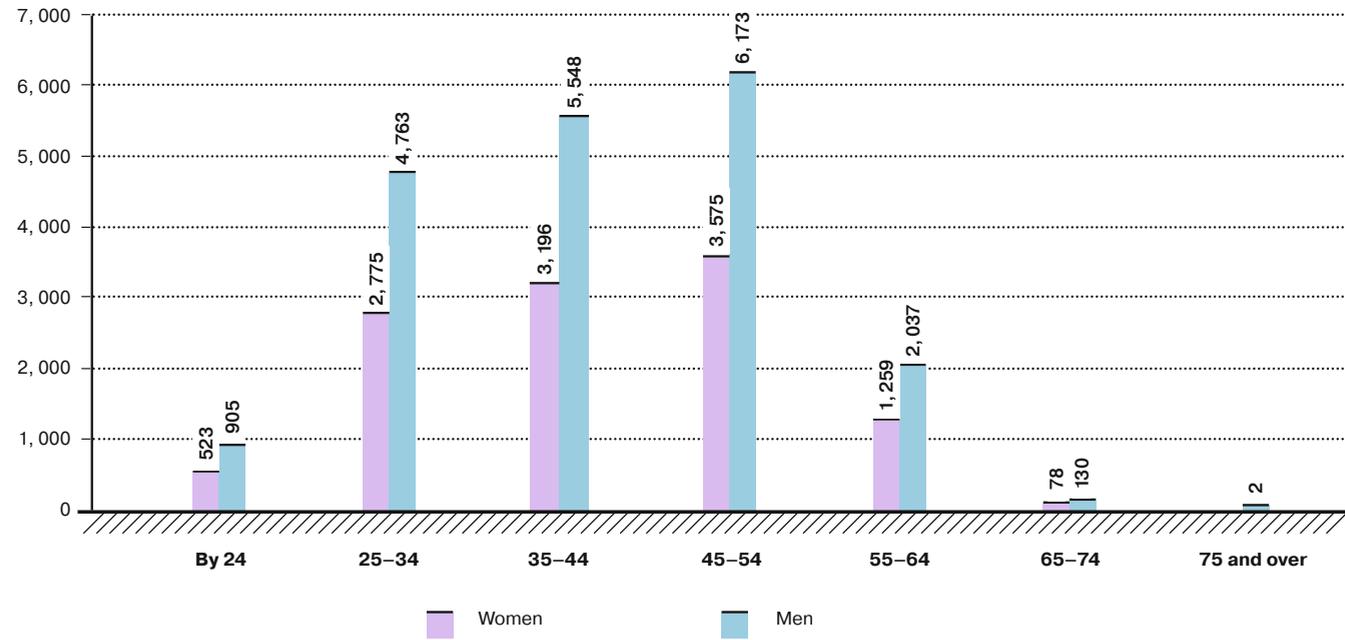


Table 44. Data about the total number of permanent employees by employment type.

Number of employees by employment type	2010	2011	2012
Average payroll number of employees engaged during the full working hours, persons	57,369	42,537	34,050
Average payroll number of employees transferred to the mode of incomplete working hours, persons	104	43	38
Share of the total number	0.18	0.10	0.11

Table 45. Working force number by categories and regions, the year 2012.

Category of employees	Moscow	Moscow Region	Vladimir Region	Udmurt republic	Novosibirsk Region	Sverdlovsk Region	Tomsk Region	Krasnoyarsk territory	Irkutsk Region
Payroll number	1,840	4,080	3,847	4,074	2,147	4,720	5,785	2,959	1,512

Category of employees	Moscow	Moscow Region	Vladimir Region	Udmurt republic	Novosibirsk Region	Sverdlovsk Region	Tomsk Region	Krasnoyarsk territory	Irkutsk Region
including:									
Main workers	338	1,322	1,646	1,805	587	1,902	2,338	1,104	674
Auxiliary workers	472	1,137	898	1,006	638	922	1,344	496	48
Managers	296	498	381	439	298	495	623	345	145
Specialists	708	1,114	883	796	602	1,246	1,411	898	598
Employees	16	9	27	28	22	121	67	64	41
Non-industrial group	10	0	12	0	0	34	2	52	6

Table 46. Average age of employees by categories, years, 2012.

Category of employees	Average age
On the whole in TVEL FC	42.9
including:	
main workers	41.4
auxiliary workers	43.9
managers	46.1
specialists	42.6
employees	43.9
Non-industrial group	44.3

The share of specialists by 35 years old is equal to 29.0%.

Fig. 26. Distribution of TVEL FC employees by age, 2012, persons.

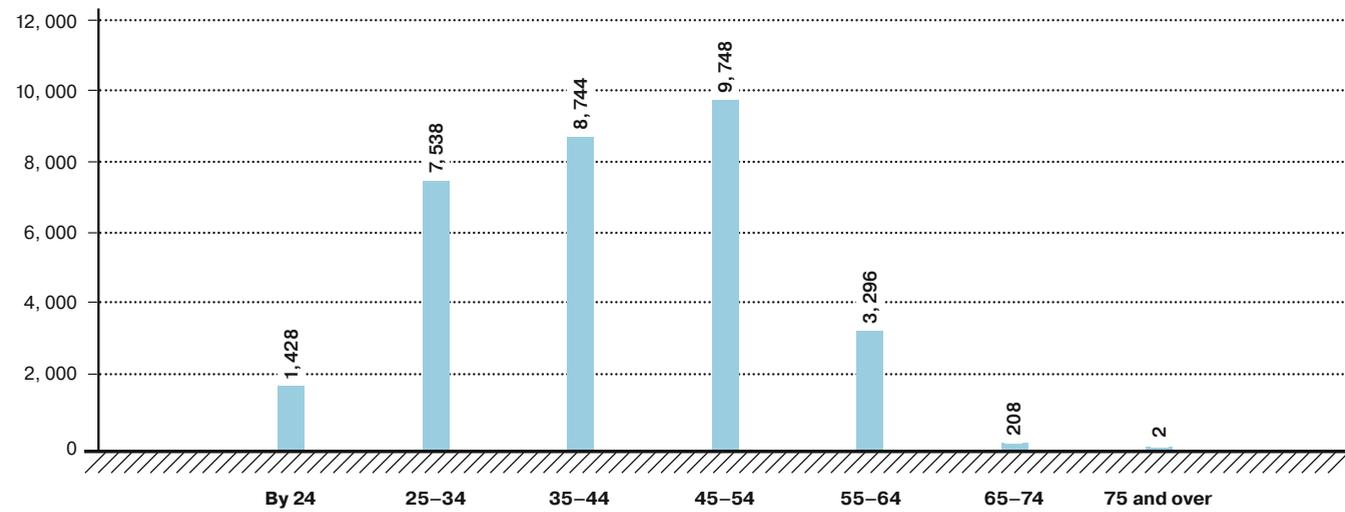


Table 47. Turnover of staff by regions, the year 2012.

Indicator	Moscow	Moscow Region	Vladimir Region	Udmurt Republic	Novosibirsk Region	Sverdlovsk Region	Tomsk Region	Krasnoyarsk Territory	Irkutsk Region
Number of employees who left the company	443	536	779	609	269	1,626	1,862	767	826
Number of employees who were taken on to the company, including	289	332	412	631	132	190	144	46	30
Persons who left the company during the reported period	38	38	6	13	16	15	11	6	16
Turnover coefficient	5.10%	1.50%	3.50%	0.70%	1.80%	1.80%	1.00%	0.80%	0.90%

Table 48. Turnover of staff by ages, in 2012.

Indicator	by 24	25-34	35-44	45-54	55-64	65-74	75 and over
Number of employees who left the company	436	1,332	1,356	2,513	1,937	120	23
Number of employees who were taken on to the company, including	382	686	697	268	120	53	0
Persons who left the company during the reported period	17	10	15	53	43	21	0
Turnover coefficient	4%	1%	3%	1%	0%	0%	0%

Table 49. Turnover of staff by sex, in 2012.

Indicator	Men	Women
Number of employees who left the company	5,005	2,712
Number of employees who were taken on to the company, including	1,043	680
Persons who left the company during the reported period	101	58
Turnover coefficient	2%	2%

Table 50. Number of employees who returned to work after the maternity leave and share of persons who remained in the company after the end of the maternity leave.

Indicator	TVEL JSC	MSZ JSC	JSC NNCP	JSC CMP	JSC "MZP"	JSC "VNIIM"	JSC AECC	JSC UEIP	JSC "SGCHE"	JSC "PA ECP"	JSC "VPA "Tochmash"	"KMP" OJSC	UGCMP Ltd.	FC without TVEL JSC	FC with TVEL JSC
<b>Number of employees who returned to work after the maternity leave</b>															
2009	4	19	15	13	2	3	20	45	23	31	46	9	2	228	232
2010	3	14	21	9	4	5	19	33	17	35	101	18	4	280	283
2011	2	23	13	22	1	14	16	95	35	39	57	11	3	329	331
2012	2	31	16	32	1	16	24	61	49	36	47	33	14	360	362

Indicator	TVEL JSC	MSZ JSC	JSC NNCP	JSC CMP	JSC "MZP"	JSC "VNIIM"	JSC AECC	JSC UEIP	JSC "SGChE"	JSC "PA ECP"	JSC "VPA "Tochmash"	"KMP" OJSC	UGCMP Ltd.	FC without TVEL JSC	FC with TVEL JSC
<b>Persons who remained in the company (share of the total average payroll number)</b>															
2009	4	16	13	10	2	3	20	42	20	30	46	9	2	213	217
2010	2	14	20	8	4	5	18	30	17	28	92	16	4	256	258
2011	2	22	13	21	1	14	14	82	32	36	56	10	3	304	306
2012	2	28	15	32	1	16	23	58	47	35	44	30	14	345	347
<b>Share of the persons who remained in the company (of the number of those who returned)</b>															
2009	100%	84.2%	86.7%	76.9%	100%	100%	100%	93.3%	87.0%	96.8%	100%	100%	100%	93.4%	93.5%
2010	66.7%	100%	95.2%	88.9%	100%	100%	94.7%	90.9%	100%	80.0%	91.1%	88.9%	100%	91.4%	91.2%
2011	100%	95.7%	100%	95.5%	100%	100%	87.5%	86.3%	91.4%	92.3%	98.2%	90.9%	100%	92.4%	92.4%
2012	100%	93.6%	93.7%	100%	100%	100%	95.8%	95.1%	95.9%	97.2%	93.6%	90.9%	100%	95.8%	95.8%

### Implementation of social programs

Apart from mandatory social guarantees set up in labour legislation, compensations and incentives, TVEL FC has worked out corporative social programs for the following directions:

- non-state pension provision;
- voluntary medical provision;
- residential program;
- sanitary and resort treatment and rest of employees and their children;
- organization of meals for employees;
- support of veterans and pensioners of the branch;
- organization of cultural and sporting events.

The total amount of expenditures for social events of TVEL JSC in 2012 was equal to RUB 2.2 bn, the average value of social expenditures per 1 employee — 62.6 thousand RUB.

### Pension programs

The program of non-state pension provision for employees of TVEL FC enterprises is implemented in accordance with the industry corporative standard of Rosatom State Corporation. The program is based on 2 pension schemes of financing the pension accumulations:

- on the basis of the state program of co-financing the accumulating part of the pension with the participation of: the Fuel Company, and employee and the state;
- joint financing of non-state pension provision by an employee and the Fuel Company.

According to these programs the employer and the employee shall bear joint responsibility for formation of pension funds required for charge and payment of the non-state corporative pension for employees. The Fuel Company will pay pension fees in the established ratio to personal contributions of an employee.

Pension accumulations are formed on individual pension accounts of employees. The non-state pension is calculated by proceeding from the funds accumulated on individual pension accounts.

The number of non-state pension program participants in 2012 was equal to 22.7 thousand persons.

In 2012 expenditures for non-state pension constituted RUB 205 m, according to plans of 2013 they will constitute RUB 230 m.

### Residential programs

A corporative social policy of aid rendering for employees in improvement of residential conditions is implemented at TVEL FC enterprises.

Possible types of aid for employees: a purpose-oriented loan for the initial contribution by the credit; compensation of a part of percentage expenditures by the credit.

Employees of the company may participate in the program who are found requiring the improvement of residential conditions, and who are referred to the following categories: young specialists, highly professional and critical specialists, relocated employees.

In 2012 expenditures for residential programs constituted RUB 39 m, according to plans of 2013 they will constitute RUB 80.5 m (more than two-fold increase).

### *Medical service and sanatorium and resort treatment*

The main purpose of the voluntary medical insurance of employees (VMI) includes complement, widening of the spectrum of services rendered to employees by the mandatory medical insurance (MMI) and receiving the high-quality medical services aimed at health upkeep and improvement and preventive measures against diseases of companies' employees.

Expenditures for the voluntary medical insurance in 2012 were equal to RUB 222 m. The cost of a VMI policy as compared with 2011 grew on average by 5.3%.

VMI policies have been provided for all employees of the company. Programs are differentiated by categories depending on the duty and regions.

VMI programs differ in the level of the medical and preventive establishments, and they include the basic set of medical services: outpatient and polyclinic service, including the aid at home; diagnostic surveys; first and urgent medical aid; stationary services; dental health service; rehabilitating and restoring treatment after a disease or a trauma according to medical indications; urgent medical aid during business trips on the territory of RF.

About RUB 200 m were planned in the budget of social expenditures for the VMI program of 2013.

Within the frameworks of the program of extra insurance protection of employees from accidents (the risk of radiation impact, temporary and stable loss of professional ability to work, death) and diseases in 2012 expenditures of the Fuel Company were equal to

RUB 15.6 m. Policies of voluntary insurance from accidents and diseases are provided to all employees of companies.

Annually, preferential tickets for sanatorium and resort treatment and rehabilitation of TVEL FC employees are issued for health improvement of the personnel. In accordance with the single social standard of purchase of tickets at least 100 tickets are issued per 1,000 employees working under harmful and hazardous labour conditions and at least 35 tickets per 1,000 employees in normal conditions. In 2012 expenditures for purchase of tickets to sanatorium and resort establishments constituted over RUB 200 m. Almost 16% of the total number of employees may receive tickets in 2012 to sanatorium, resort and rehabilitation establishments, including 75% of employees working in harmful and hazardous labour conditions.

Expenditures in the amount of RUB 202 m were planned for the year 2013.

### *Supporting programs for TVEL FC veterans*

In accordance with the corporative social policy the Fuel Company enterprises are working for rendering the social support for veterans and pensioners. More than 40 thousand retired pensioners are enlisted in veteran and trade union TVEL FC organizations.

Within the frameworks of social programs pensioners receive material aid in hard living situations regular payments are additionally made to the state pensions, tickets are provided to sanatorium, resort and rehabilitation establishments. On the Victory Day all veterans of the Great Patriotic War rear labourers and residents of the blockade Leningrad get presents and greetings.

In 2012 the amount of 788 thousand RUB was spent for support of retired pensioners.

Members of Veterans' Councils participate in discussion of vital problems of activities of enterprises and trade union organizations, pensioners take active participation in preparation and performance of various corporative events. There are regular meetings between veterans and heads of enterprises, youth, school students and pupils of children's gardens.

For the long fruitful service and great contribution to the development of nuclear power industry, the Medals "Veterans of Nuclear Energy & Industry" were awarded to 800 people in 2010, more than 1,000 people in 2011, and more than 1,700 people in 2012.

### *Organization of cultural and sports events*

The corporative social program of organization of sports and cultural events is aimed at enhancement of the cultural and educational level of employees, improvement of health of employees, propaganda of the healthy mode of life, strengthening of the feeling of belonging to the Company and the branch.

Expenditures for organization and performance of corporative, sports, cultural and mass events constituted RUB 185 m in 2012.

### **Ecological policy**

**Provision** of ecological, nuclear and radiation safety of activities is the main goal of TVEL FC in the field of environment protection.

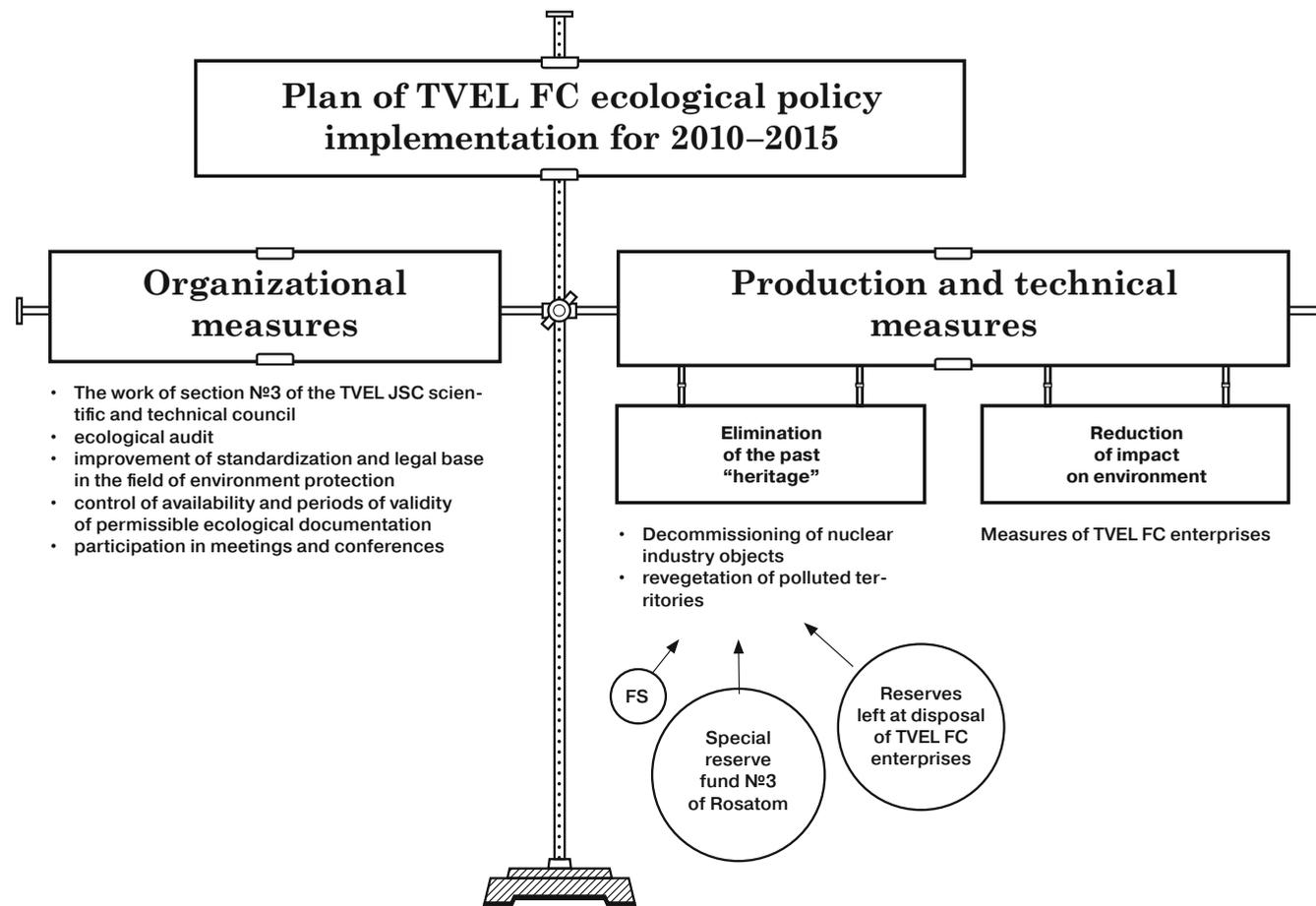
With the aim of improvement of efficiency of ecological safety management divisions were organized in all TVEL FC enterprises which were responsible for fulfillment of works in the field of environment protection. Totally, 142 persons are engaged in environment protection in TVEL FC.

### §31. **ECOLOGICAL, NUCLEAR AND RADIATION SAFETY**

Ecologically important TVEL FC enterprises\* annually publish public reports on ecological safety which are intended for notifying the interested parties, partners, public and citizens, local self-management and they are placed at Web-sites of ecologically important enterprises and at the Web-site of the Public Council of Rosatom State Corporation.\*\*

“Ecological policy of TVEL FC” is the basic corporative document regulating the activity of TVEL FC in the field of environment protection and ecological safety provision, which determines the principles of Company’s activity in the ecological sphere, as well as the Plan of implementing the ecological policy for the years 2010–2015 worked out in 2010, which includes organizational, production and technical measures as far as the environment protection is concerned. In 2012 the ecological policy of TVEL JSC has been actualized by taking into account the recommendations of Rosatom State Corporation and it was approved at the TVEL JSC Coordination Council meeting no 14, dated 17.09.2012.

Fig. 27. TVEL FC ecological policy implementation scheme in 2012.



\* Ecologically important TVEL FC enterprises include: JSC AECC, JSC “SGChE”, JSC “PA ECP”, JSC UEIP, JSC NNCP, JSC CMP, MSZ JSC.

\*\* [http://rosatom.ru/library/eco\\_rep/](http://rosatom.ru/library/eco_rep/)

In 2012 TVEL FC enterprises carried out complexes of organizational, production and technical measures.

*Organizational measures* include the measures of environment protection control system.

Table 51. Main directions of organizational measures in 2012.

Task	Measures
The work of section №3 of TVEL JSC STC	A meeting of the STC section for the issue of implementation of technical measures in the field of environment protection. A meeting of the STC section for the issue of decommissioning of objects and revegetation of territories at TVEL FC enterprises
Ecological audit	In October 2012 an extended repeated audit of the integrated management system (IMS) of TVEL FC was performed along with inclusion of “KMP” OJSC, JSC “SGChE” enterprises to the IMS. The said enterprises were certified ahead of the established deadlines
Improvement of standardization and legal base in the field of environment protection	Due to changes in the procedure of licensing the activity in the field of handling the production and consumption wastes, as well as by taking into account the analysis of the basic reasons of remarks by the inspectorate, as far as handling the production and consumption wastes is concerned, Methodical Recommendations have been prepared for the enterprises included to the contour of Fuel Company management.  Proposals for the following documents were considered and introduced during the year concerning the problems of environment protection: <ul style="list-style-type: none"> <li>• “Methodical guidelines for elaboration of materials of assessment of impact on environment as a part of design and other documents for fulfillment of activity types in the field of nuclear energy use” (sent to Rosatom State Corporation, dated 13.02.2012 №/07-15/2046);</li> <li>• “Directives for development of industrial methods of calculation of risks and assessment of consequences of climatic changes for the purposes of formation of industrial, branch, regional and territorial plans of adaptation to climate changes” (sent to Rosatom State Corporation, dated 20.01.2012 №4/07-15/760);</li> <li>• the draft order by the Government of RF “On approval of the List of violations of the legislation of the Russian Federation in the field of environment protection which are threatening of causing a harm to environment (sent to Rosatom State Corporation, dated 17.02.2012 №4/07-15/2466), additionally, the draft order was sent to TVEL FC enterprises for the analysis of activities and check of compliance with the nature saving legislation (dated 20.02.2012 No 4/07-15/2472);</li> <li>• the draft Ecological Policy of Rosatom Corporation (along with TVEL FC enterprises), proposals were worked out and sent to Rosatom Corporation, №4/07-15/11275, dated 03.08.2012</li> </ul>
Control of availability and periods of validity of the permissible ecological documentation	Inquiry of information from enterprises about availability and period of validity of the permissible ecological documentation №07-15/16908, dated 14.11.2012. The summary information was collected and sent to Rosatom Corporation №07-15/17413, dated 23.11.2012, along with remarks and proposals for solution of problems in the field of receiving the permissions. In 2012 the permissible documentation was received by the following enterprises: JSC CMP — in the field of handling the wastes, JSC AECC, JSC “PA ECP”, JSC “SGChE” — for discharges of pollutants

Task	Measures
Participation in meetings and conferences	<p>In 2012 TVEL FC participated in conferences, seminars and round tables dedicated to the issues of ecology, nuclear and radiation safety:</p> <ul style="list-style-type: none"> <li>• an annual branch meeting with the heads of environment protection services of nuclear industry organizations;</li> <li>• meetings of the heads of labour protection, industrial safety and environment protection safety services of the enterprises included to the contour of TVEL FC management;</li> <li>• international conference: "Ecological safety: problems and ways of solution" (organized by UkrNIIEP, Ukraine). Within the frameworks of the conference the following public reports were presented for the participants: the Annual Report for Safety by Rosatom State Corporation, Reports for ecological safety of the enterprises included to the contour of Fuel Company management. The activity of Rosatom State Corporation and TVEL JSC in the field of notifying the public in the field of safety securing was positively assessed in the course of the event;</li> <li>• the working meeting of the group INSAF (International Network for Safety Assurance of Fuel Manufacturers (nuclear safety)), devoted to the analysis of events at "Fukushima" NPP and issues of safety improvement during nuclear fuel production;</li> <li>• a seminar of the international working group for safety during production, storage and transportation of uranium hexafluoride (UF<sub>6</sub> Safety Group);</li> <li>• "AtomEco-2012" conference of 2012 with the discussion of a wide spectrum of development aspects of purpose-oriented programs in the field of handling the radioactive wastes and nuclear technological wastes;</li> <li>• round tables devoted to the problems of nuclear and radiation safety within the frameworks of "AtomExpo-2012" international conference</li> </ul>

In 2012 all planned organizational events were fulfilled, 7 measures are at the stage of fulfillment, the work continuation is stipulated in the adjusted Plan of ecological policy implementation for the year 2013.

Plans for the year 2013:

- execution of the statement for implementation of "Ecological Policy of TVEL JSC and coordination of execution of statements by the Company's enterprises;
- actualization of the Plan of ecological policy implementation of TVEL JSC and coordination of actualization of the Plan by Company's enterprises;
- coordination of activity after submission of statements for ecological policy implementation of TVEL FC having the status of ecologically important ones;
- performance of internal audits of the Corporative Ecological Management System and the Corporative Management System for Health Protection and Labour Safety in TVEL JSC structural divisions and at enterprises of the Fuel Company;
- establishment of the integrated system of quality management, health protection and labour safety on the basis of international standards ISO 9001, ISO 14001, OHSAS 18001 with involvement of TVEL FC enterprises: JSC AECC, JSC "PA ECP", JSC UEIP, JSC "SGChE", UGCMP Ltd., "KMP" OJSC, Uralpribor Ltd., "EDB-Nizhni Novgorod", NRDC LLC, "Centrotech-SPb", JSC "VPA "Tochmash";



- interaction with TVEL FC enterprises for the issues of receiving the permissible documentation in the field of environment protection;
- complex and purpose oriented checks of TVEL FC enterprises, including the issues of environment protection;
- organization and participation in meetings of the heads of labour protection services and environment protection of TVEL FC enterprises;

Production and technical measures in the sphere of environment protection are implemented by two directions stipulated in the branch specifics:

- elimination of the past "heritage", occurred as the result of fulfillment of defense state programs during the nuclear industry formation period. This block is characterized by big volumes of work for decommissioning of nuclear industry objects and rehabilitation of polluted territories;
- reduction of impact of enterprises on surrounding natural environment, accompanying the current production activity of enterprises. This trend is characterized by development of environment control systems at enterprises, the use of modern resource saving production technologies, organization of monitoring of environment components, implementation of nature saving measures.

The works within the frameworks of the first trend at sites of the Fuel Company enterprises are undertaken at the expense of the following funds:

- the Federal Budget within the frameworks of the Federal purpose-oriented program "Provision of nuclear and radiation safety for the year 2008 and for the period by the year 2015" (FPOP);
- resources of special reserve fund №3 "Decommissioning and R&D" of Rosatom State Corporation;
- branch reserves at the disposal of TVEL FC enterprises.

In 2012 7 FPOP measures were implemented for the total amount RUB 1,369.5 m, including at the expense of the federal budget funds — for the amount RUB 876 m (RUB 888 m in 2011, planned for 2013 — RUB 1,146.4 m)

Table 52. Implementation of FPOP measures "Provision of nuclear and radiation safety for 2008 and for the period by 2015" at sites of the Fuel Company enterprises from the Federal Budget funds in 2012 and plans for 2013.

FPOP clause №	Description of measure	Financing volume, m RUB		
		2012 (plan)	2012 (actually)	2013 (plan)
	<b>In JSC "SGChE", including:</b>	<b>818.2</b>	<b>818.2</b>	<b>958.10</b>
32	Reconstruction of 18 and 18a due to operation period extension for deep storages of liquid radioactive wastes	25	25	7.3

FPOP clause №	Description of measure	Financing volume, m RUB		
		2012 (plan)	2012 (actually)	2013 (plan)
65	Decommissioning of industrial uranium and graphite reactors ADE-3, ADE-4, ADE-5, I-1, EI-2 and sites 2 and 11 of the reactor plant	346.9	346.9	668.7
66	B-1 basin preservation	215	215	180
67	B-2 basin preservation	5	5	0
69	Reconstruction of protecting and hydrotechnical structures of storage pools VH-1, VH-3, VH-4	0	0	10
72	Site 13 reconstruction (radiochemical plant)	226.3	226.3	92.1
	<b>In JSC CMP, including:</b>	<b>27.8</b>	<b>27.8</b>	<b>11.1</b>
217	Reconstruction (strengthening) of the existing tailing pits №2 and №3 for safe storage of radioactive wastes	27.8	27.8	0.1
218	Establishment of the rehabilitation system for waters of upper horizons polluted with radioactive wastes accumulated in tailing pits №2 and №3	0	0	11
	<b>In JSC NNCP, including:</b>	<b>30</b>	<b>30</b>	<b>27.2</b>
110	Disposal of materials and liquid radioactive wastes contaminated with radio nuclides	30	30	27.2
	<b>In JSC "VNIINM", including:</b>	<b>0</b>	<b>0</b>	<b>150</b>
190	Decommissioning and preservation of research entity "B"	0	0	150
<b>Total on sites of TVEL FC:</b>		<b>876</b>	<b>876</b>	<b>1, 146.4</b>

Table 53. Fulfillment of FPOIP indicators "Provision of nuclear and radiation safety for 2008 and by 2015" for the year 2012.

Purpose-oriented indicators	Plan	Actually
Liquidation of nuclear and radiation hazardous objects, pcs	7	7
RAO activity shifted to ecologically safe state, 10 <sup>18</sup> Bq	1.04	1.04

33 measures were implemented by TVEL FC enterprises in 2012 for the total amount RUB 1,157.1 m at the expense of special reserve fund №3 "Decommissioning and R&D" of Rosatom State Corporation, including the following works:

- decommissioning of the research entity "B" of JSC "VNIINM" in the amount of RUB 104.2 m;
- preservation of exhaust tailing dip №1 of JSC CMP in the amount of RUB 75.0 m.

Besides, in 2012 more than 120 measures were implemented for provision of nuclear and radiation safety from branch reserves owned by TVEL FC enterprises.

In 2013 and in subsequent years decommissioning works in objects of the past defense activities will be continued.

Within the frameworks of reduction of impact of enterprises on the surrounding natural environment which accompanies the current production activity the following main works were carried out in 2012 at TVEL FC enterprises:

- MSZ JSC — works were continued for organization of instrumental accounting of waste waters in outlets №1, 2, 3, 4 of the household sewerage — civil works were completed, as well as electric installation works for connection of flow meters, adjusting and commissioning works are conducted;
- JSC "SGChE" — works were conducted for control of underground waters in accordance with regulating documents and the program of object monitoring of the state of the bowels of earth;
- JSC AECC — works were continued for installation of accounting instruments in hot water input units and household and industrial water pipelines — objects were surveyed, places of installation of power resources accounting instruments were determined, units were designed with their possible further uniting to a single automated system. 19 accounting instruments were installed in hot water input units;
- JSC UEIP — works were conducted for development of the systems for control and monitoring of pollutants discharges — equipment (a gas analyzer) was procured;
- JSC "PA ECP" — works were continued for modernization of refrigerating equipment. 1 unit was modernized in 2012. The said measure makes it possible to reduce discharges of ozone-depleting CFCs.

*The measures of reduction of impact on environment by enterprises planned for 2013:*

- JSC AECC — the works will be continued for reconstruction of a refrigerating station along with installation of 8 new refrigerating units;
- JSC UEIP — design of a sampling system for discharges from the chemical and metallurgical shop equipped with gas counters;
- JSC "PA ECP" — the works will be continued for modernization of refrigerating equipment, modernization 1 refrigerating unit is planned. The said measure will make it possible to reduce discharges of ozone-depleting CFCs.

All planned production and technical measures in 2012 were fulfilled during the established periods, except for the measures at the stage of fulfillment with the necessity of their adjustment and account in the plan

for the year 2013, as well as two events excluded from the FPOP. It was required to shift the dates due to the undertaken reconstruction of enterprises and necessity of adjusting the plans and volumes of works.

*Design initiatives of TVEL FC in the sphere of control of the radiation and chemical situation and production and ecological monitoring*

In 2012 works were continued for introduction of the radiation situation automated control system (RSACS) and the automated measuring system of production and ecological monitoring (AMSPEM) for control over radiation and chemical situation at some TVEL FC enterprises:

- in JSC “PA ECP” equipment was supplied for the AMSPEM system, and adjusting and commissioning works were conducted, as well as a contract was concluded for 2013 for supply of the automated system of the emergency reacting mobile complex (ASERMC);
- in MSZ JSC adjusting and commissioning works were completed for the informational and measuring system of control over the radiation and chemical situation;
- in JSC AECC a design was worked out and agreed for modernization of the automated system of radiation situation control (ASRSC).

**Impact on environment**

*Use and procession of materials*

The production program determines the quantity of the required materials for manufacture of products at TVEL FC enterprises.

Enterprises of the dividing and sublimate complex are using uranium and synthetic materials for manufacture of products. Enterprises of the fabrication block are using the raw materials in the form of enriched uranium product obtained at the enterprises of the dividing and sublimate complex. Synthetic materials, ferrous and non-ferrous metals are basically used at manufacture of gas centrifuges.

All mass of raw materials used at TVEL FC enterprises is procurable. Renewed materials are not used in production. Examples of the used materials are shown in the table (see Table 54).

Table 54. Examples of the use of materials for the main production at TVEL JSC enterprises, tons.

Material	2010	2011	2012	Enterprises
Sulfuric acid	2,700.00	2,150.0	1,604.0	JSC AECC
Nitric acid	2,854.2	1,856.0	1,308.0	MSZ JSC, JSC NNCP
Hydrochloric acid	591.0	326.0	360.0	JSC NNCP
Ferrous metals	2,309.5	1,082.0	1,535.5	Uralpribor Ltd., UGCMP Ltd., “EDB-Nizhniy Novgorod”, “Centrotech-SPb”
Non-ferrous metals	425.3	747.8	728.2	

5.2 thousand tons materials were used in 2012, which were presented in the form of processed or repeatedly used wastes. 36 thousands tons were given to other companies for their use.

Fig. 28. Quantity of processed or repeatedly used wastes by TVEL FC, as well as the wastes given to other companies, thousand tons.

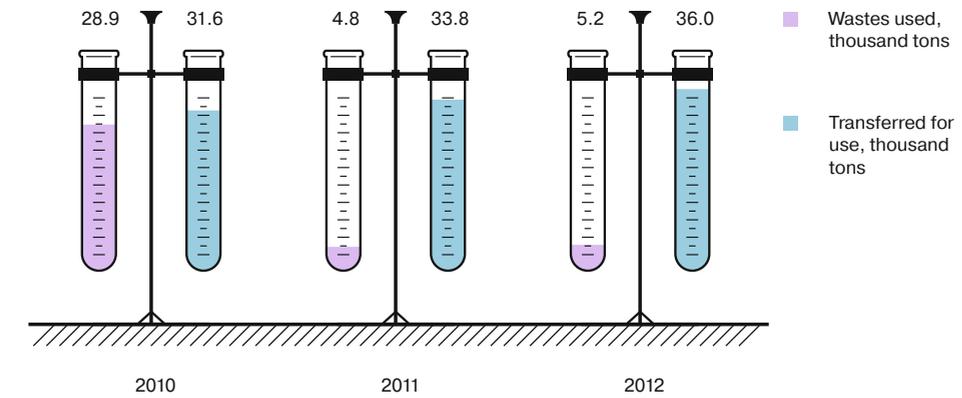


Table 55. Volume of formation and use of wastes at TVEL FC enterprises in 2010–2012.

Enterprise	Volume of used wastes, tons			Volume of formed wastes, tons		
	2010	2011	2012	2010	2011	2012
JSC “SGChE”	58.5	62.3	18.0	329,135.5	310,337.3	296,677.9
JSC “PA ECP”	8,953.5	28.2	2.0	16,526.3	4,798.6	15,949.8
JSC CMP	3,095.3	3,394.0	2,739.3	26,618.7	20,732.6	10,634.9
JSC AECC	206.9	52.0	188.1	14,405.8	12,394.0	10,012.9
JSC UEIP	8,050.3	311.2	556.8	21,044.0	8,249.1	5,401.5
MSZ JSC	2,269.9	848.5	1,640.9	6,648.5	5,588.3	5,139.2
“KMP” OJSC	0.5	0.0	0.0	5,065.7	4,644.6	3,867.0
JSC “VPA “Tochmash”	148.7	137.8	83.2	4,135.2	3,471.1	2,732.6
<b>Total:</b>	<b>22,783.6</b>	<b>4,834.0</b>	<b>5,228.3</b>	<b>423,579.7</b>	<b>370,215.6</b>	<b>350,415.8</b>

Wastes were mainly used at MSZ JSC, JSC CMP and JSC UEIP which used in 2012 in production 31.9%, 25.8% and 10.3% of their wastes, respectively.

In 2012 the volume of formed wastes at TVEL FC enterprises dropped by 4.9% as compared with the year 2011, mainly owing to introduction of new technologies rather than owing to production reduction.

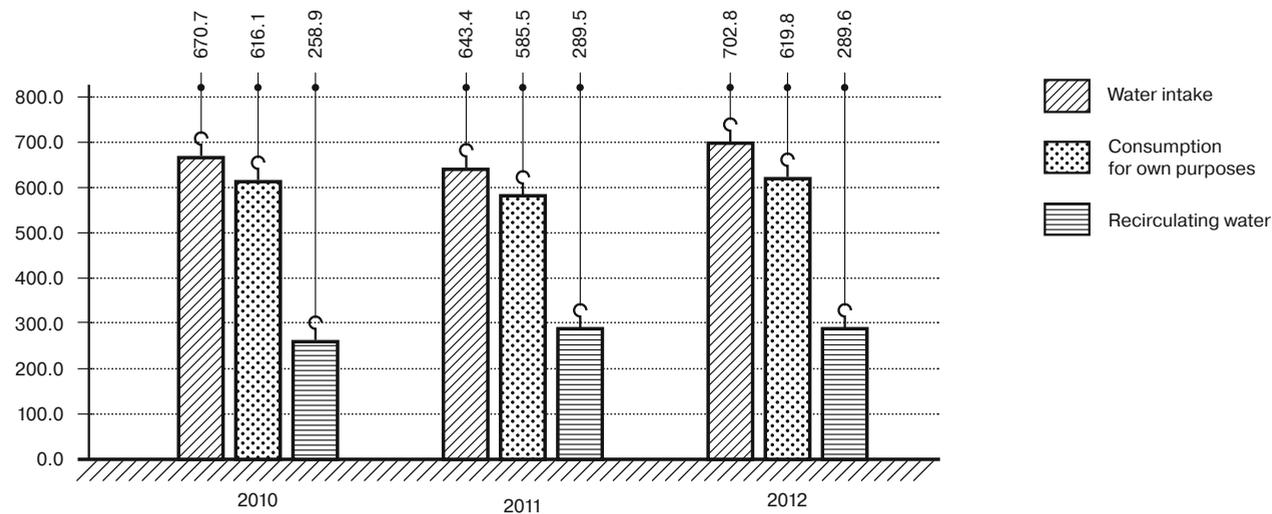
## Water consumption and water allocation

Table 56. Expenditures for water environment protection in 2012.

Indicator	Value
Expenditures for water environment protection, m RUB	444.8
Share of expenditures for water environment protection from total expenditures environment protection, %	20

In 2012 water intake by TVEL FC enterprises constituted 702.8 million m<sup>3</sup>. Natural sources are the main source of water intake — 668.1 million m<sup>3</sup> were taken out of them, and 16.7 million m<sup>3</sup> were taken out of communal and other systems.

Fig. 29. Water consumption in 2010–2012, million m<sup>3</sup>.



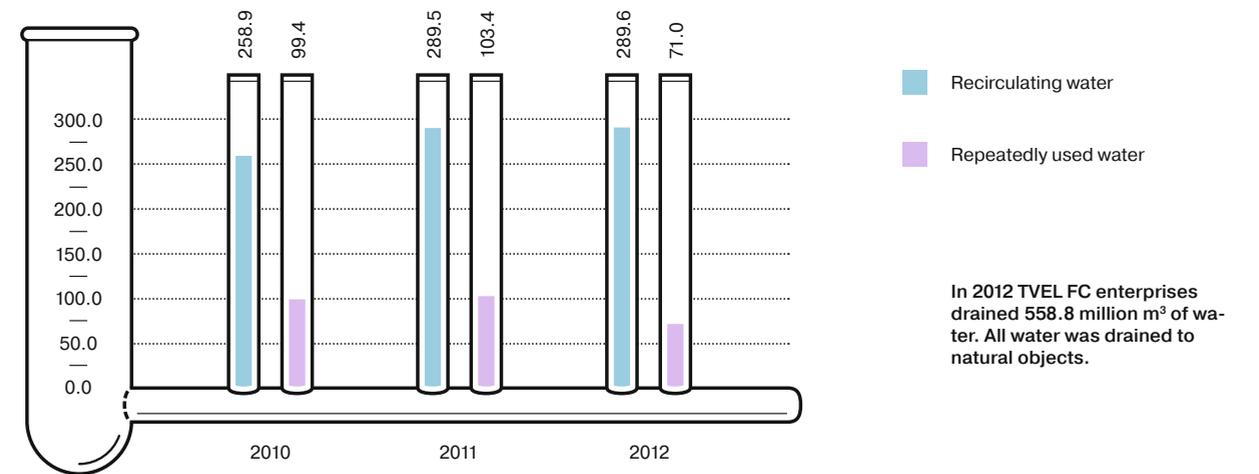
Increased water intake and water consumption in 2012 is explained by increased output of JSC AECC and JSC CMP. Water intake in JSC AECC grew by 32 million m<sup>3</sup> due to growing consumption of technical water by the consumer of JSC AECC, i. e. TPP-9 of “Irkutskenergo” OJSC. Also, water intake grew in JSC CMP due to changes in the operation mode of the TPP of JSC CMP, i.e. increase of electric power output by turbogenerators. The standard of water intake in 2012 was determined on the level of 781.9 million m<sup>3</sup>. The intake share in 2012 constituted 89.88% of the established standard.

Basically, water is used by TVEL FC enterprises for equipment cooling systems — about 98% of consumed water.

The recirculating water volume in 2012 was equal to 289.6 million m<sup>3</sup>. The share of the recirculating water constituted 41.2% of the total quantity of taken water, the share of repeatedly used water to the total volume of the taken water is equal to 10.1%.

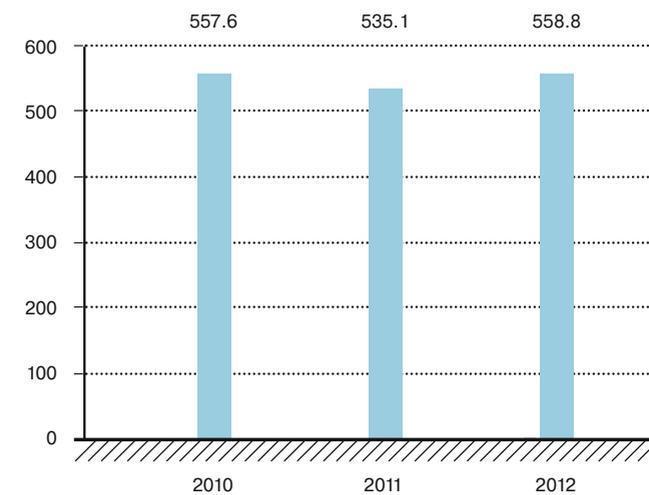
Water consumption in recirculating water supply systems at TVEL FC enterprises had slight fluctuations during a number of recent years.

Fig. 30. Volume of repeatedly and iteratively used water, million m<sup>3</sup>.



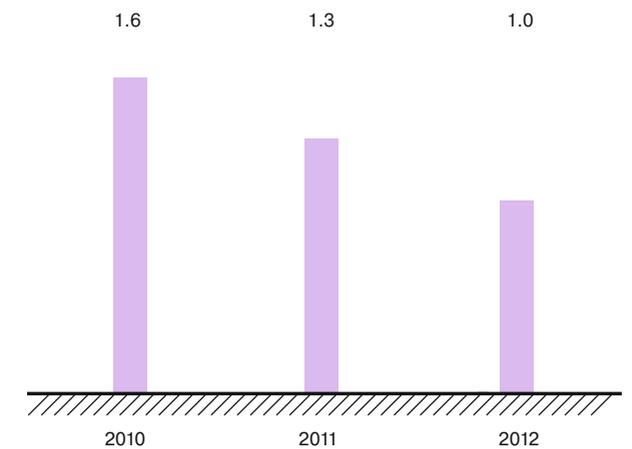
In 2012 TVEL FC enterprises drained 558.8 million m<sup>3</sup> of water. All water was drained to natural objects.

Fig. 31. Water drainage by TVEL FC enterprises, million m<sup>3</sup>.



The total drained water volume directly depends on water consumption and it has been stable over last three years.

Fig. 32. Drainage of polluted waste waters by TVEL FC enterprises, million m<sup>3</sup>.



Measures are taken at enterprises for improvement of water resources accounting, this allows to track more precisely the parameters of environmental impact and more accurately plan measures for protection of water objects. Measures for protection of water resources, including renewal and reconstruction of water cleaning facilities, organization of water circulation and repeated use of water resources led to reduction of the volume of polluted waste waters by 23% in 2012, as compared with the year 2011.

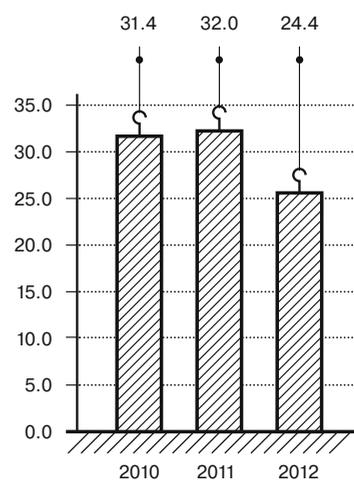
## Discharges of contaminants

Table 57. Expenditures for protection of atmospheric air in 2012.

Indicator	Value
Expenditures for measures for atmospheric air protection, m RUB	209.1
Share of expenditures for atmospheric air protection from the total expenditures for environment protection, %	9

The total discharges of contaminants to atmosphere by TVEL FC enterprises in 2012 constituted 24.4 thousand tons (30% of the norm established by TVEL FC for 2012), what gives 1,6% as compared with the total discharges of contaminants to atmosphere from TPPs on the territories of TVEL FC presence.\*

Fig. 33. Total discharges of contaminants, m tons.



Emissions of contaminants were mainly formed by the enterprises wherein big TPPs are functioning, in particular, of JSC "SGChE" (86.1% in the volume of emissions) and JSC CMP (8.1%).

Difference between the established standards and actual emissions is explained by the fact that the main volume of permitted discharges has been worked out for TPPs considering their operation with the use of solid fuel (coal) during the whole heating period and for energy generation. In order to minimize negative impact TVEL FC resorts to the use of natural gas. However, the use of gas is limited by the established annual quotas for its consumption.

In 2012 the amount of emissions was reduced by 24% as compared with the previous year both owing to the use of natural gas at the TPPs of JSC "SGChE" and JSC CMP and owing to the works fulfilled at the TPP of JSC "SGChE" for modernization of gas cleaning equipment what caused increased average annual level of cleaning of TPP ash traps.\*\* Reduction of emissions from JSC AECC and JSC "PA ECP" was related to the measures for achievement of the established purpose-oriented indicators of the program "New Aspect", i. e. restructuring the production, introduction of amendments to the organizational structure and withdrawal of a number of departments.

\* <http://www.fedstat.ru/indicator/data.do> The indicator "Contaminants discharged to atmosphere during the reported year due to fuel combustion (for generation of electricity and heat)".

\*\* More details see in site JSC "SGChE" ([www.atomsib.ru](http://www.atomsib.ru)).

Table 58. Total emissions of contaminants by TVEL FC enterprises, thousand tons.

Enterprises	2010	2011	2012
JSC "SGChE"	26,538.1	27,288.8	21,001.9
JSC CMP	2,968.6	3,060.8	1,982.9
JSC UEIP	1,125.2	1,034.9	1,015.8
JSC "VPA "Tochmash"	225.7	221.6	165.4
JSC NNCP	73.8	66.6	66.6
JSC "PA ECP"	90.1	40.8	32.7
JSC AECC	83.9	74.8	22.6
"KMP" OJSC	18.6	16.6	17.5
MSZ JSC	182.5	206.5	15.0
JSC "VNIINM"	16.3	15.8	14.2
JSC "MZP"	2.8	3.1	6.8
Others	18.5	17.0	107.0
<b>Total:</b>	<b>31,344.1</b>	<b>32,047.0</b>	<b>24,448.4</b>

Emissions of ozone-depleting substances in 2012 at TVEL FC enterprises were equal to 42.1 tons.

In JSC "PA ECP" the work was continued for modernization of refrigerating equipment. In 2012 1 unit was modernized. The said measure makes it possible to reduce emissions of ozone-depleting CDCs.

Table 59. Emissions of ozone-depleting substances distributed by TVEL FC enterprises and types of substances, tons.

Substance description	2010	2011	2012	Company
Freon-113	0.23	0.08	0.044	JSC AECC
	0.52	0.75	0.80	JSC "SGChE"
	6.90	6.90	6.90	JSC UEIP
	0.16	—	—	JSC "PA ECP"
Freon-12	6.60	6.60	6.60	JSC "SGChE"
	4	3.5	2.70	JSC "PA ECP"
Freon-22	2.47	0.888	2.57	JSC AECC
	4.35	4.32	4.32	JSC "SGChE"
	17.62	17.62	17.62	JSC UEIP
	0.95	0.31	0.53	JSC "PA ECP"
	0.05	0.05	—	MSZ JSC
<b>Total:</b>	<b>43.84</b>	<b>41.00</b>	<b>42.06</b>	

Fig. 34. Emissions of ozone-depleting substances, tons.

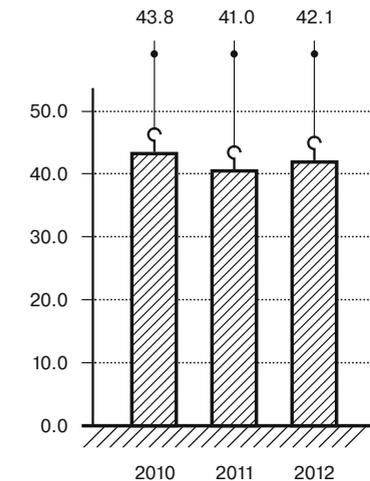
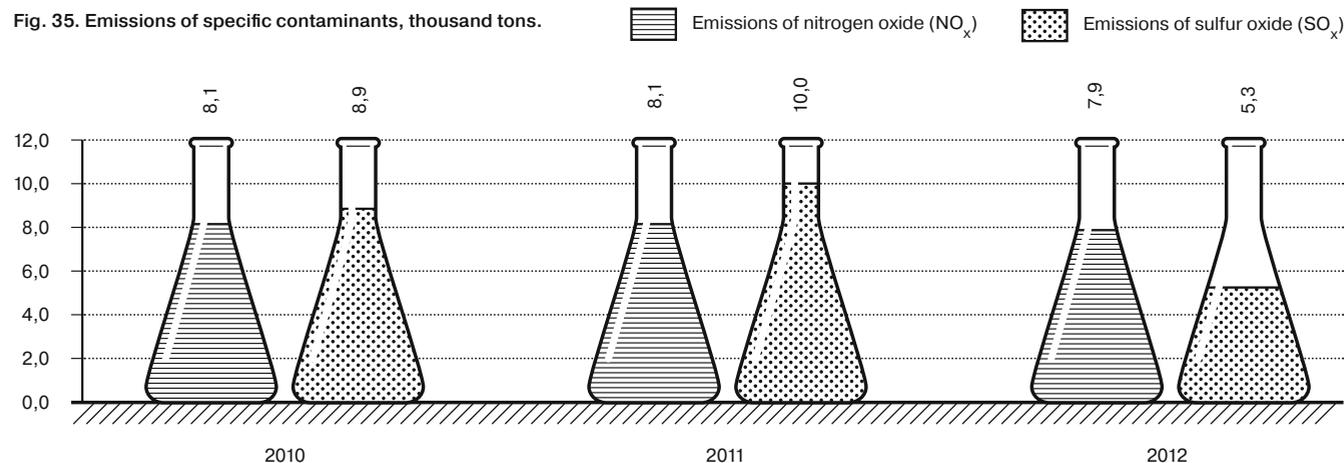


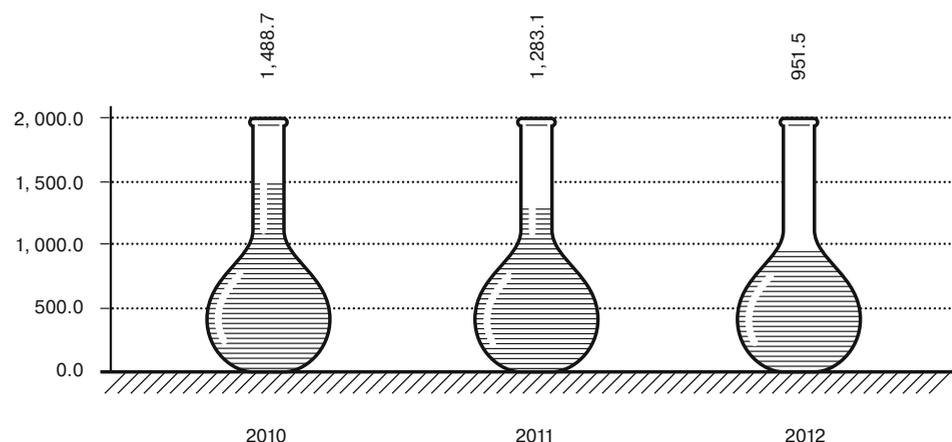
Fig. 35. Emissions of specific contaminants, thousand tons.



Sulfur dioxide is emitted in big quantities during burning of solid fuel by taking into account reduction of the use of solid fuel at TPPs of Fuel Company enterprises, as well as high quality of the used solid fuel (use of coals with low sulfur contents). In 2012 reduction of emissions was observed.

In order to determine emissions of greenhouse gases carbon oxide (CO) emissions were taken into account because carbon monoxide passed to atmosphere from technical sources is oxidized to carbonic acid. In 2012 carbon oxide emissions by TVEL FC companies were equal to 606 tons, what corresponds to 951.5 tons of carbonic acid by recalculating in accordance with molecular mass.

Fig. 36. Emissions of carbon dioxide, tons.



Reduction of carbon oxide emissions is explained by nature saving measures. The main share of emissions of greenhouse gases is caused by emissions of power engineering projects (TPPs, boiler houses) and transport.

There are no essential impacts on environment of transportations related to the activities of TVEL FC enterprises and transportations of the labour force.

Transportation of hazardous cargoes and special cargoes is carried out by vehicles of enterprises or other organizations on the basis of licenses and by taking into account observance of requirements of organization of transportations.

In order to reduce hazardous impact on environment measures are taken to replace morally and physically obsolete vehicles with modern ones which comply with the standards of toxicity of exhaust gases, as well as replacement of vehicles with petrol fuelled engines for diesel ones.

During operation of the rolled stock travel routes and operation modes are constantly adjusted and optimized, mileage and payroll composition of transport facilities are reduced, what results in reduction of mileages and respectively to reduction of the total consumption of fuel and negative impact on environment.

### Handling the production and consumption wastes

In 2012 the total quantity of production and consumption wastes at TVEL FC enterprises was reduced by 4.2% and became equal to 368.1 thousand tons.

The main part of wastes (89.2%) was formed by means of wastes of the 5<sup>th</sup> hazard class (practically not hazardous) and it was represented with ash slag after solid fuel burning at TPPs.

The biggest share of wastes of the 5<sup>th</sup> hazard class at TVEL FC belongs to JSC "SGChE" (29.55%).

The total reduction of the quantity of production and consumption wastes, as well as emissions is caused by reduction of the volume of using the solid fuel at TPPs of TVEL FC enterprises due to increase of the quota of natural gas use in 2012.

Fig. 37. Production and consumption wastes, thousand tons.

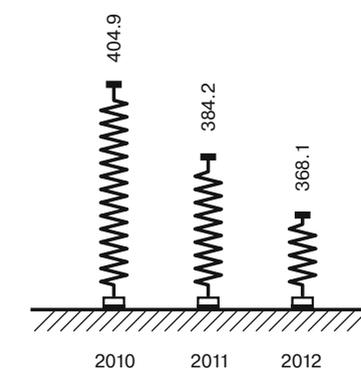


Table 60. Formation of wastes at TVEL FC enterprises subdivided by hazard classes, thousand tons.

Description	2010	2011	2012
<b>Total wastes, including:</b>	451.2	384.2	368.1
Hazard class I	0.2	0.1	0.1
Hazard class II	12.9	8.0	8.7
Hazard class III	7.6	1.3	0.9
Hazard class IV	45.2	31.8	30.2
Hazard class V	385.3	342.9	328.3

In 2012 the volume of formation of most hazardous substances for environment and population at TVEL FC enterprises was at the level of 2011.

*Relative impact of Fuel Company enterprises on environment in the regions of presence*

The enterprises included to the contour of TVEL FC management are situated on the lands owned by the Russian Federation and used according to the tenant right. Industrial sites of enterprises and adjacent territories are not the territories having the high value of biological variety, animals and plants entered to the Red Book of the International Union of Nature Protection and the national list of protected types do not inhabit this territory. In accordance with the Russian nature saving legislation standards of the allowed impact on environment are established for TVEL FC enterprises, when quality standards of environment are fulfilled. Enterprises, in their turn, observe standards of the permissible impact on environment and so, they do not threaten to existence of animals and plants which live on the territory adjacent to Fuel Company enterprises.

Impact of TVEL FC enterprises on environment of the regions of their location on the whole does not exceed 5% of the general impact of the industry on ecology of respective impacts. The data of JSC AECC (3.9% of emissions in Irkutsk Region) are close to the aforesaid impact. The 5% level is exceeded in JSC "SGChE" (26.6% of emissions, 89.5% of emissions in Tomsk Region), in JSC "PA ECP" (5.9% of emissions), in JSC CMP (5.2% of emissions). The share of impact of the rest TVEL FC enterprises in the general impact of economic activity on environment is insignificant in the regions of location.

By taking into account big attention paid to environment protection on territories of presence TVEL FC performs active work with local authorities and public organizations concerning the issues of environment protection.\*

TVEL FC enterprises do not essentially cause impact on water intake objects. Water objects which are the sources of water supply of Fuel Company enterprises are not considered especially vulnerable, and they are not included to the Ramsar list.

There is a variable ichthiofauna in Tom-river at the section of water use by JSC "SGChE": salmon, sturgeon, white-fish, carp, perch and the following specimens entered to the Red Book of Tomsk Region: salmon trout, spotted bullhead, Siberian bullhead. The Tomsk branch of FGU "Verkhneobrybvod" conferred the highest category of fishery use to JSC "SGChE", and in avoidance of negative impact in accordance with the legislative and standardization base a limit of water intake from the given object is determined for an enterprise. So, water intake of JSC "SGChE" from Tom-river is limited and it does not cause any essential impact on the given surface water object.

JSC AECC, which is located on the Baikal natural territory and in the

\* See section "Interaction with the interested parties" of Chapter 6

area of atmospheric impact on the lake Baikal, and by comprehending its responsibility for maintenance of the surrounding natural environment within the frameworks of production and ecological control. No exceeded controlled parameters have been fixed during the reported year within the borders of the sanitary protecting area and outside it.

*Expenditures of TVEL FC related to impact on environment*

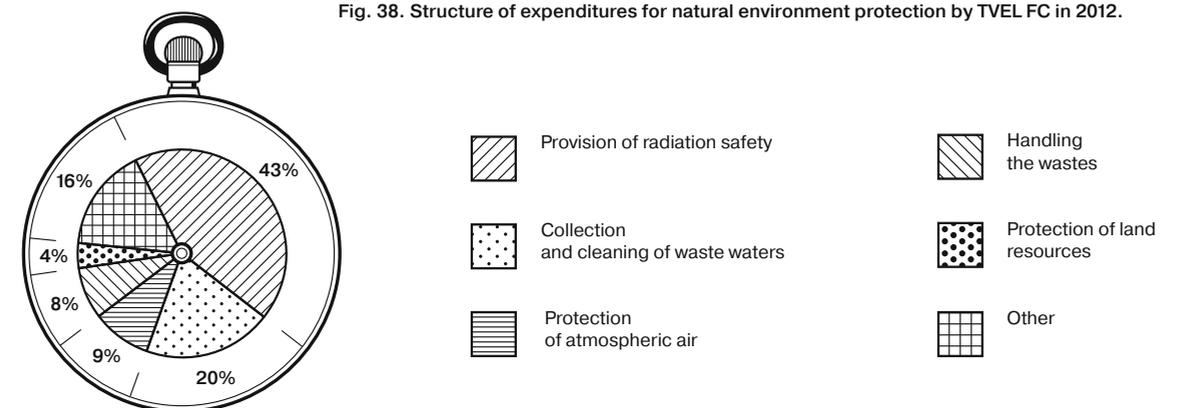
In 2012 the current expenditures on environment protection by TVEL JSC enterprises were equal to RUB 2,261.4 m.

Table 61. Expenditures of TVEL FC related to environment protection, m RUB.

Directions of expenditures	2010	2011	2012
Protection of water resources	1,085.8	1,313.8	444.8
Protection of atmospheric air	251.7	342.9	209.1
Protection of land resources	76.0	12.5	83.2
Others	373.8	542.6	1,486.4
<b>Total:</b>	<b>1,787.3</b>	<b>2,211.8</b>	<b>2,223.5</b>

The main share of expenditures is related to performance of measures for provision of radiation safety of environment (RUB 973.1 m).\* Considerable expenditures are also related to protection and rational use of water resources (RUB 444.8 m) and protection of atmospheric air (RUB 209.1 m).

The main share of expenditures by TVEL FC for environment protection belongs to JSC UEIP, JSC CMP, JSC "SGChE", JSC NNCP.



\* Change of the structure of expenditures on environment protection in 2012 as compared with previous years is caused by introduction of new methodology.

Fig. 39. Structure of payments for negative impact on environment in 2012.

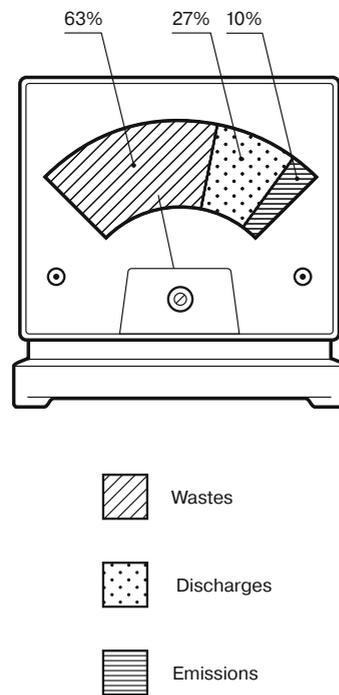


Table 62. Expenditures by TVEL FC enterprises related to environment protection, m RUB.

TVEL JSC enterprises	2010	2011	2012
JSC UEIP	683.5	739	751.7
JSC "SGChE"	240.3	634.7	665.5
JSC CMP	229.2	199.4	205.4
JSC NNCP	122.8	81.6	204.6
JSC "PA ECP"	40	89.2	136.8
MSZ JSC	156.1	174.8	123.8
JSC "VNIINM"	95	4.9	7.3
JSC AECC	148	228.1	55.9
JSC "VPA "Tochmash"	34.5	27.1	24.5
"KMP" OJSC	14.1	14.5	23
Uralpribor Ltd.	18.1	12.8	15.3
JSC "MZP"	1.8	1	4.5
UGCMP Ltd.	1	0.7	1.3
NRDC LLC	0.1	0.1	0.1
"EDB-Nizhny Novgorod"	0.5	0.6	0
Others	2.1	3.1	3.8
<b>Total:</b>	<b>1,787.1</b>	<b>2,211.6</b>	<b>2,223.5</b>

The total amount of payments for negative impact on environment in 2012 was equal to RUB 27.67 m.

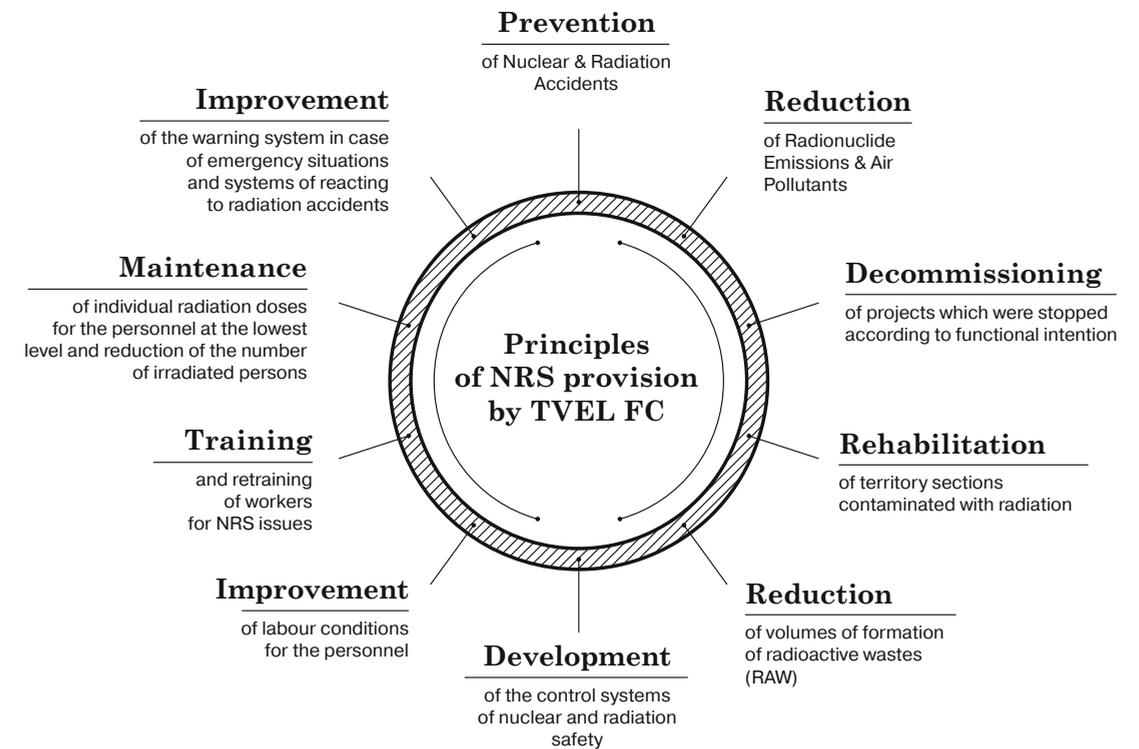
### Nuclear and radiation safety

Adoption of the Federal Law, dated 11.07.2013, №190-F3 "On handling the radioactive wastes and introduction of amendments to individual legislative acts of the Russian Federation determined establishment of a single state system of handling the radioactive wastes, according to which all radioactive wastes shall safely

be buried. Radioactive wastes formed after Federal Law №190 became effective are owned by the enterprises wherein they are formed, and the enterprises bear all responsibility for safe handling the radioactive wastes.

Provision of nuclear and radiation safety (NRS) for projects of the Fuel Company enterprises, prevention and avoidance of possibility of inadmissible radiation impact on the personnel, population and environment is one of the top priorities of TVEL FC activities.

TVEL FC enterprises perform systematic work for prevention and non-admission of radiation accidents, improvement of stability of hazardous production projects, try-out of actions by the personnel and special divisions in cases of accidents and extraordinary situations.



Activities of TVEL JSC and Fuel Company enterprises shall be carried out in accordance with the legislation of the Russian Federation in the field of the use of nuclear power with the account of requirements of IAEA documents. The Federal purpose-oriented program "Provision of nuclear and radiation safety for the year 2008 and for a period by the year 2015" is the main program document stipulating the implementation of measures in the field of NRS.\*

If radiation accidents occur, preventive measures consist of permanent control of fulfillment of requirements of standards, rules, instructions, observance of technological discipline.

General guidance of the work for provision of NRS at TVEL FC enterprises, responsibility for fulfillment of federal laws, requirements of standardization documents, instructions of the Russian Technical Supervising Committee concerning the NRS issues is imposed on technical directors (chief engineers).

\* More details see in section "Ecological policy" of Chapter 5.



The dose of external gamma radiation 1 kg of fresh nuclear fuel from the VVER-1000 reactor at a distance of 1 m amounts to 0.29 mcSv/h, which does not exceed the maximum values of the external radiation background in Moscow.

Directors of the NRS Department of Rosatom State Corporation worked out and approved the lists of nuclear hazardous sections for all nuclear hazardous projects. The design documentation and conclusions for nuclear safety of the Department of Nuclear Safety of FGUP "GNC RF FEI" are available for all nuclear hazardous sections. All nuclear hazardous sections are equipped with emergency alarm systems about occurrence of self-supporting chain division reaction.

Radiation safety at TVEL FC enterprises is provided by regulating the requirements of radiation safety, development of the required documentation about radiation safety of the fulfilled activity, training of the personnel, control of observance of rules, standards, instructions concerning the issues of radiation safety and performance of radiation control in subdivisions, a sanitary protecting area and the area of professional responsibility of enterprises.

Subdivisions of the enterprises wherein procession, storage, manufacture of products with the use of nuclear materials and radioactive substances, handling the radioactive wastes, have got sanitary and epidemiological conclusions about compliance of working conditions with sanitary rules when the radiation sources are used.

Totally, in 2012 the Russian Technical Supervising Committee carried out 132 planned inspections, including 92 inspections in the field of NRS. It was noted in conclusions of the Russian Technical Supervising Committee that radiation and nuclear safety at Company's enterprises on the whole complies with the requirements of rules and standards in the field of the use of nuclear power.

### Physical protection of nuclear projects

The activity of prevention and preclusion of possible non-sanctioned actions (thefts and sabotages) in relation to nuclear materials and vulnerable places of nuclear units is the main activity of safety services at TVEL FC nuclear projects in accordance with the requirements of standardization and legal acts.

Safety services of TVEL FC organized the work for substantiation of the purposes of investing and programs were developed for improvement of F3 systems by the year 2017.

Inspections and checks for assessment of the physical protection state performed by supervising bodies represent an important task for maintenance of physical protection on the proper level. In 2012 34 inspections were conducted by commissions of the Russian Technical Supervising Commission, the Defense Ministry of RF, the Prosecuting Service and Rosatom State Corporation. By the results of inspections plans of compensating measures were worked out. Elimination of the detected remarks and drawbacks is regularly controlled. Presently, all planned measures are fulfilled, in accordance with the results of inspection positive assessments were given to the state of protection of projects as ones which comply with the requirements of standards and rules.

Safety services of TVEL FC nuclear projects performed 1, 147 inspections of the projects during the year.

7 joint trainings were carried out together with the bodies of the Federal Safety Service of RF, the Ministry of Internal Affairs of RF and the Ministry of Extraordinary Situations

According to the results of the year 2012 RUB 1,279.3 m were spent for improvement and modernization of technical means of physical protection, including the international aid funds. RUB 1,098 m were spent for maintenance of safety and branch protection services.

Efficiency of measures used at TVEL FC for NRS confirm: absence of violations which may be related to the category of accidents and incidents according to the INES scale: non-excess of main limits of doses set up in NRB-99/2009;\* radiation impact reduction on environment.

In 2012 there were no contaminations of new territories with radio nuclides as the result of TVEL FC enterprises. All detected contaminated territories represent the consequence of activities of enterprises for improvement of defense capacity of the country during establishment of the nuclear shield.

Measures for liquidation of "the nuclear heritage" are fulfilled both in the frameworks of the Federal purpose-oriented program "Provision of nuclear and radiation safety for the year 2008 and for a period by the year 2015"\*\*\* and by the initiative of TVEL FC.

Table 63. Contamination of environment with radio nuclides.

Indicator	2010	2011	2012	Note
Emissions of alpha-active radio nuclides to atmosphere, Bq	$9.66 \times 10^9$	$8.32 \times 10^9$	$4.68 \times 10^9$	
Availability of territories contaminated with radio nuclides, thousand m <sup>2</sup>	13,085.0	13,205.4	13,601.4	As compared with 2011 this increase is caused by newly detected territories contaminated with radio nuclides during establishment of the first nuclear project, as well as with additional KIRO of the formerly detected territories
Discharge of wasted waters containing radio nuclides, Bq	$5.23 \times 10^9$	$5.64 \times 10^9$	$4.78 \times 10^9$	PH contents in wasted waters did not exceed interference levels established in NRB 99/2009

The territories contaminated with radio nuclides are located in the area of professional responsibility of enterprises MSZ JSC, JSC NNCP, JSC CMP and JSC "SGChE". Industrial activity is not fulfilled on the said territories, access is strictly limited.

\* Radiation safety standards.

\*\* More details about measures of the Federal Program "Provision of nuclear and radiation safety for the year 2008 and by the year 2015" on sites of the Fuel Company see in the section "Ecological policy" of Chapter 5.

Table 64. Environment contamination with radio nuclides on the end of 2012, by TVEL FC enterprises, thousand m<sup>2</sup>.

Enterprise	Volume of areas contaminated with radio nuclides, thousand m <sup>2</sup>			
	Total	including:		
		Sanitary and protecting area	Area of professional responsibility	Industrial site
MSZ JSC	1,375.0	—	1,235.5	139.5
JSC NNCP	419.7	—	127.5	292.1
JSC CMP	1,413.8	—	—	1,413.8
JSC "SGChE"	10,393.0	300.0	—	10,093.0
<b>Total:</b>	<b>13,601.4</b>	<b>300.0</b>	<b>1,363.0</b>	<b>11,938.4</b>

The total area of the territory contaminated with radio nuclides subject to rehabilitation on the territory of TVEL FC by the end of 2012 is equal to 13,601.4 thousand m<sup>2</sup>.

Table 65. Change of the volume of contaminated areas in 2012, thousand m<sup>2</sup>.

Enterprise	New detected contaminations	Rehabilitated territories
MSZ JSC	970.20	0.04
JSC NNCP	4.60	5.58
<b>Total:</b>	<b>974.80</b>	<b>5.62</b>

In 2012, totally, 5,619 thousand m<sup>2</sup> of territories contaminated with radio nuclides were rehabilitated by exceeding the level of the previous year by 86% (in 2011 — 3.025 thousand m<sup>2</sup>).

Main measures for solution of problems of nuclear heritage in 2012:

- auxiliary systems and a part of process equipment of the industrial uranium and graphite reactor EI-2 were disassembled at the reactor plant JSC "SGChE" within the frameworks of the program for decommissioning of industrial uranium and graphite reactors of JSC "SGChE". The works were conducted for the total amount of RUB 346.9 m from the federal budget funds;

- site №13 (a radio chemical plant) was reconstructed in JSC "SGChE". Works were conducted for the amount RUB 226.3 m.
- preservation of B-2 water pool of JSC "SGChE" was completed, RUB 64.1 m were spent in 2012 for fulfillment of the measure, including RUB 5 m from the federal budget funds;
- works were fulfilled for construction of a protecting layer for the anti-filtration screen of map №1 within the frameworks of the disposed tail yard №1 of JSC CMP for the total amount of RUB 75.0 m. (from the funds of SRF №3 of Rosatom State Corporation of the year 2012).

#### RAW handling at Fuel Company enterprises

After adoption of the Federal Law, dated 11.07.2011 №190-FZ "On handling the radioactive wastes and introduction of amendments to individual legislative acts of the Russian Federation" its implementation was started at TVEL FC companies:

- RAW accumulations assessment was carried out;
- RAW formation prognosis was prepared for a long term by the year 2025;
- systematic work is continued for reduction of RAW formation volumes and increase of their procession volumes.

RAW storage at Fuel Company enterprises is carried out along with observance of all safety requirements. Safety of RAW handling at TVEL FC enterprises is confirmed in the course of safety expertise and licenses of the Russian Technical Supervising Committee for this activity.

In 2012 15.1 thousand m<sup>3</sup> of liquid and solid radioactive wastes (LRAW and SRAW) were formed, and 0.6 thousand m<sup>3</sup> of FRAW were buried.

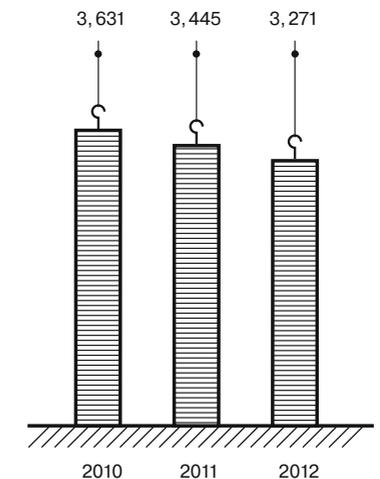
A technology was worked out in JSC "SGChE" and pilot operations were conducted for installation of extra safety barriers of land based RAW storages, the works are continued for monitoring and safety increase for the deep pumping ground for liquid radioactive wastes.

A W-ECP unit unique for the Russian nuclear industry in JSC "PA ECP" is capable of transferring the depleted uranium hexafluoride (DUHF) to the stable chemical form — uranium protoxide-oxide suitable for safe long storage. Presently, the unit makes it possible to process formerly accumulated volumes.

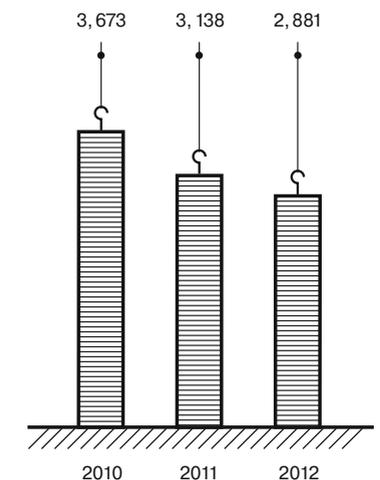
#### Power saving and power efficiency improvement

The project for power consumption reduction and power efficiency improvement of industrial enterprises is one of the main ones during solution of the goals of higher competitiveness of the output products. Enterprises of the Fuel Companies for Rosatom State Corporation are pilot in the process of organization and methodology introduction and power saving account for the industry on the whole, starting from power surveys, formation of long-term programs and specific measures.

Volume of electric power consumption by FC enterprises, m kWh.



Volume of thermal energy by FC enterprises, thousand Gcal.



Power consumption reduction is not related to reduction of the volume of the production program of TVEL FC.

In 2012 electric power consumption at TVEL FC enterprises was reduced by 16% (622 m kWh), thermal energy — by 29.7% (1,214 thousand Gcal) in relation to the basic year 2009 under comparable conditions. Reduction of consumption of power resources (under the conditions comparable to the year 2009) in the cost expression was equal to 20.5% (RUB 1,638 m) with the purpose oriented indicator equaling to 14.5%.

Power consumption reduction was achieved owing to implementation of the measures within the frameworks of the Program “Power Saving and Power Efficiency Improvement” existing at TVEL FC enterprises.  
Volume of financing aimed at Program implementation in 2012 was equal to RUB 3, 719.5 m (with the planned volume RUB 3, 581.64 m).

The main measures undertaken by TVEL FC enterprises which made it possible to fulfill the purpose-oriented indicator for reduction of consumption of power resources in 2012:

- creation of automated systems of commercial and technical account of various power carriers;
- installation of frequency regulated actuators of various systems;
- modernization of lighting systems with transition to power saving equipment;
- replacement and modernization of power consuming process and power engineering equipment;
- compressor fleet decentralization.

Additional measures implemented during the years 2011–2012 which made it possible to considerably reduce consumption of power resources:

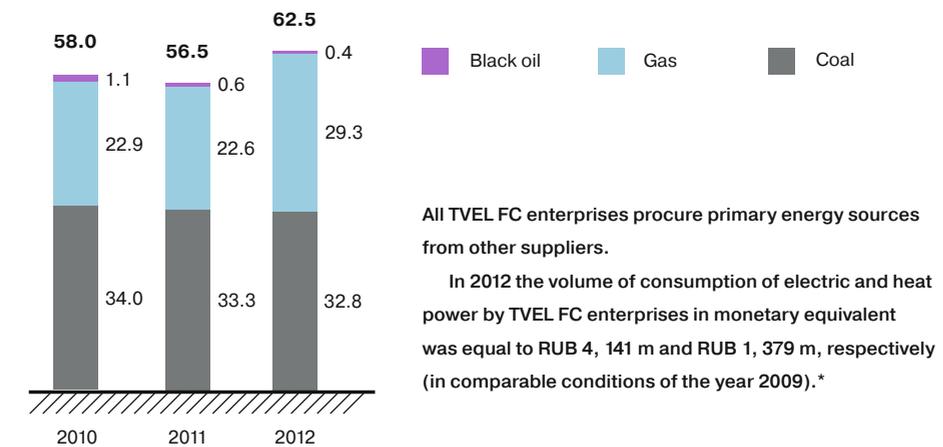
- installation of transistor frequency converters SPCS-180-380T in 44 sections of gas centrifuges of JSC UEIP made it possible to reduce losses of electric power consumption of the dividing production of section by 10%;
- modernization of refrigerating machines by transition to another coolant type (Freon-134) made it possible to reduce power consumption by 15% of the dividing production of JSC “PA ECP”;
- replacement of insulation of main pipelines of thermal circuits of the Seversk TPP made it possible to reduce losses of thermal power by 10–12%.

In 2012 a pilot project of Rosatom State Corporation was implemented for introduction the automated system of power efficiency control at TVEL JSC enterprises (MSZ JSC, JSC CMP, “KMP” OJSC) which makes

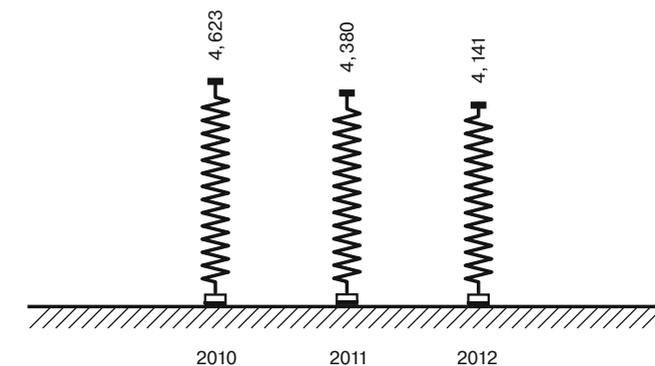
it possible to solve a number of most important problems in achievement for reaching the real economic indicators for reduction of losses for power resources and increase of efficiency in the middle-term perspective.

Totally, in 2012 TVEL FC enterprises used 62.5 m GJ primary power sources, including: natural gas — 29.3 m GJ; coal — 32.8 m GJ; black oil — 0.4 m GJ.

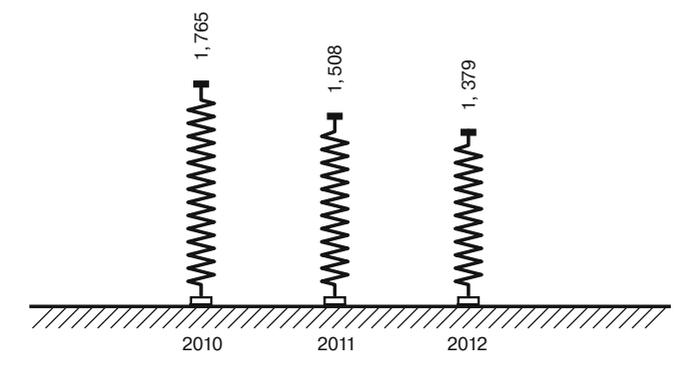
Volume of using the primary energy by sources, GJ.



Volume of electric power consumption by TVEL FC enterprises in monetary expression, m RUB\*\*.



Volume of thermal power consumption by TVEL FC enterprises in monetary expression, m RUB\*\*.

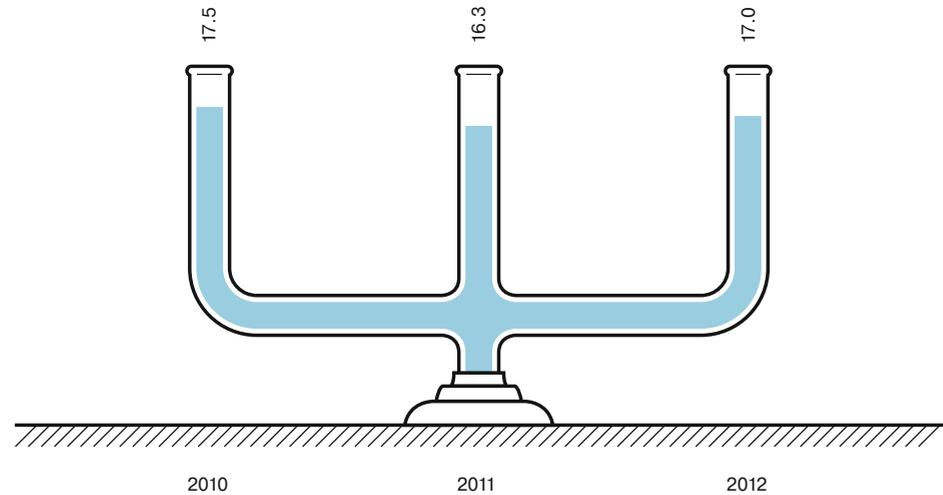


Indirect use of energy at TVEL FC enterprises was equal to 17 million GJ.

\* The Fuel Company does not account energy consumption in the monetary equivalent by primary sources.

\*\* In comparable conditions of the year 2009.

Fig. 40. Indirect consumption of energy by TVEL FC enterprises, million GJ.



In 2013 within the frameworks of activities of improvement of power efficiency the following is planned:

- reduction of consumption of power resources by TVEL JSC (in comparable conditions to the year 2009) by 20%;
- continuation of implementation of the Program "Power Saving and Improvement of Power Efficiency" at TVEL FC enterprises.

The planned volume of financing for implementation of the Program "Power Saving and Improvement of Power Efficiency" for the year 2013 — RUB 3, 599.92 m.

§32. LABOUR PROTECTION AND INDUSTRIAL SAFETY

The Fuel Company comprehends its responsibility for upkeep of lives and health of its employees. One of the main tasks of the Directorate for nuclear, radiation and industrial safety is performance of preventive work aimed at reduction of the quantity of accidents in production and professional diseases, as well as the analysis of the production traumatism at TVEL FC enterprises.

In order to provide operation control of the state of labour protection within the frameworks of "The System of 3-Stage Administrative and Public Control" schedules were worked out at enterprises for control of the state of labour protection:

- schedules of inspections by services of chief experts of observance of labour protection requirements, radiation, industrial and fire safety;
- schedules of conductance of meetings for performance of meetings for checking the state of labour protection, radiation, industrial and fire safety, commissions of chief experts;
- schedules of inspections of divisions for labour protections.

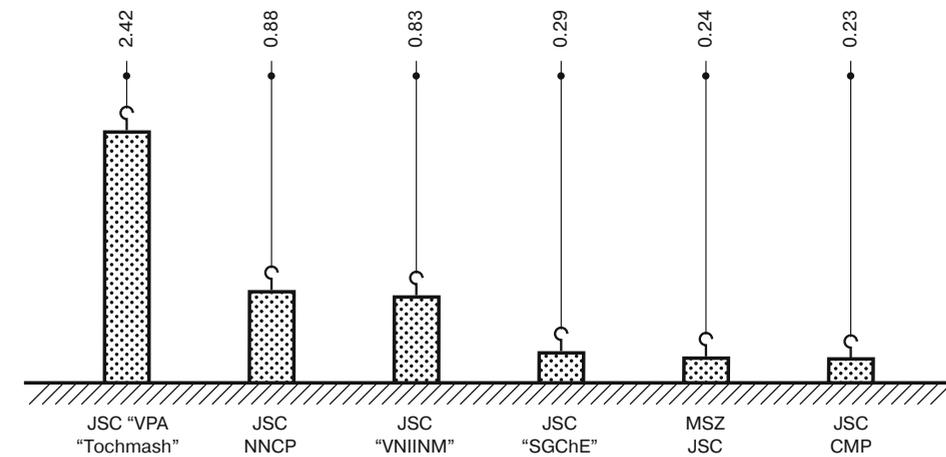
In 2012 Fuel Company enterprises fulfilled a complex of works for bringing the existing guiding documents for radiation safety in organizations with the requirements of "the Main Sanitary Rules of Radiation Safety Provision".

Owing to the performed preventive work for labour protection in 2012 the tendency of reduction of the production traumatism could be retained.

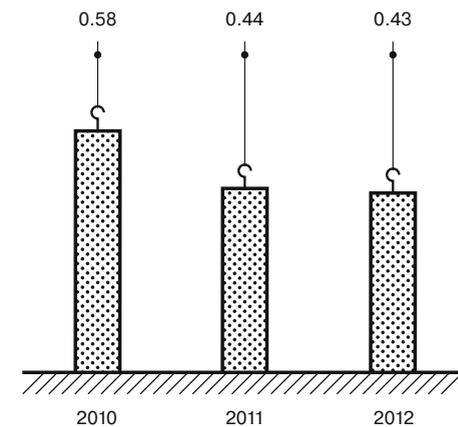
The number of employees who had production traumas was reduced by 21% as compared with the year 2011.

In 2012 at 17 enterprises of TVEL FC totally 20 accidents occurred in production, including 7 hard ones. There were no accidents at hazardous production projects, group accidents and accidents with fatal outcomes.

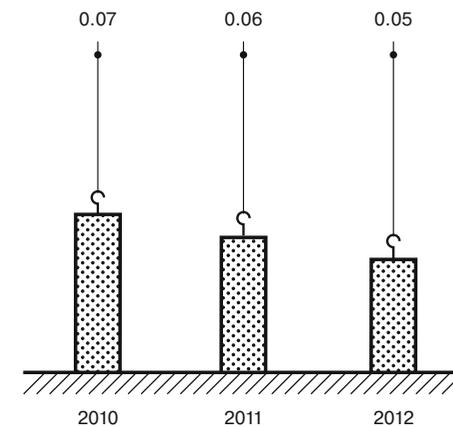
Production traumatism frequency factor (PTFF) at TVEL FC enterprises in 2012\*.



Production traumatism frequency factor on average in TVEL FC.



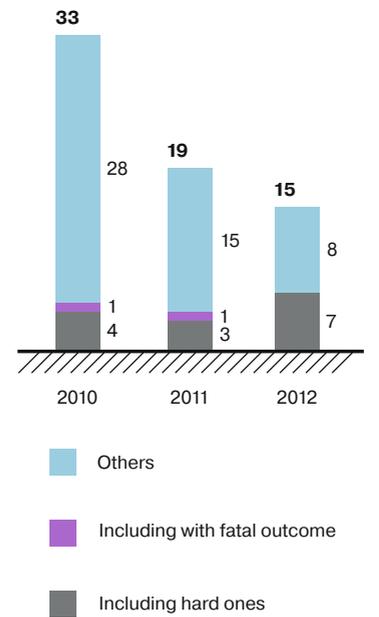
Production traumatism factor (PTF) on average in TVEL FC\*\*.



\* PTFF determines the number of accidents per 1,000 employees per annum.

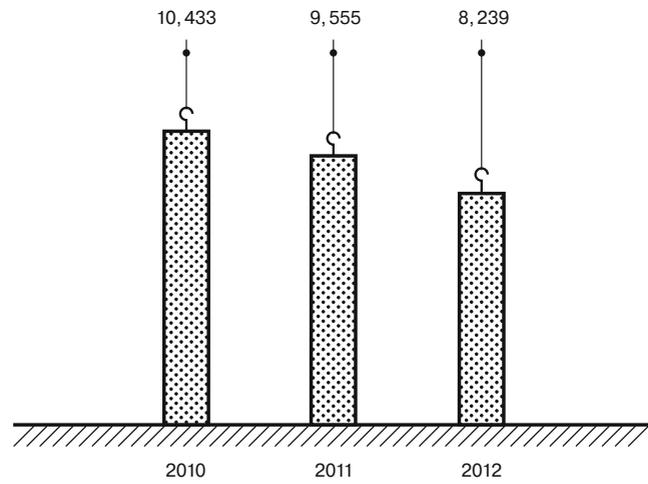
\*\* Total number of traumas / total number of worked out hours) x200,000.

Fig. 41. Production traumatism at TVEL FC enterprises.



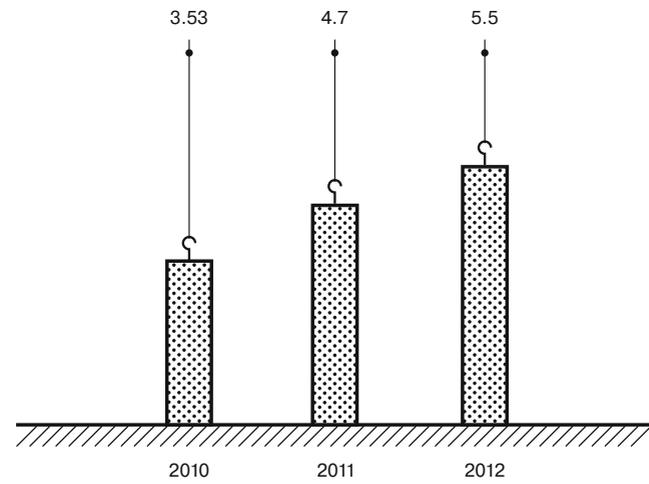
The main reason of production accidents is the organizational character, i. e. failure to fulfill duties of labour protection by heads and specialists, as well as violation of labour and production discipline, standards and rules of labour protection by the suffered persons.

Factor of absence at working place (FA) on average in TVEL FC\*.



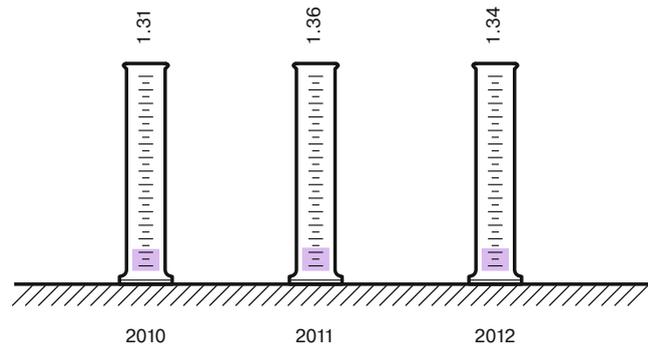
In 2012 Company's enterprises had no exceeded safe parameters and basic limit doses established in standardization documents for nuclear and radiation safety, as well as violations which may be referred to the category of accidents by the INES scale.

Factor of lost days (FLD) on average in TVEL FC\*\*.

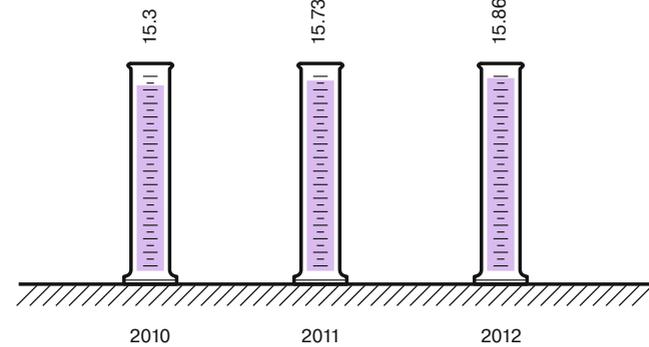


Maximum effective radiation doses for the personnel were not exceeded at production enterprises, and the personnel of group A is absent having received the effective dose 100 mSv and over during any consecutive 5 years.\*\*\*

Average annual effective radiation dose of the TVEL FC personnel, mSv.



Maximum effective radiation dose of the TVEL FC personnel, mSv.



\* FA=(the total number of missed days (absence due to any incapacity)/Total number of worked days during the same period ×200,000.

\*\* FLD=(the total number of missed days as the result of traumas / Total number of worked days during the same period ×200,000.

\*\*\* In accordance with the Radiation Safety Standards -99/2009 the following limited doses of radiation were established: for the personnel — 20 mSv per annum on average for any consecutive 5 years, but not exceeding 50 mSv per annum; for the population — 1 mSv for any consecutive 5 years, but not exceeding 5 mSv per annum.

Table 66. Distribution of the personnel of group A by individual irradiation doses in 2012, %.

Indicator	2010	2011	2012
Distribution of the personnel of group A by individual irradiation doses, %			
Less than 1 mSv	60.20	58.10	58.60
1–2 mSv	19.80	25.20	25.25
2–5 mSv	14.60	12.65	12.24
5–20 mSv	5.40	4.05	3.91

In 2012 the Directorate of NRPOR along with the Inspection for control of safety of nuclear and radiation hazardous objects carried out 39 inspections, including 21 unplanned inspections according to orders of management of TVEL JSC. It was found as the result of taking the control measures that 32% of violations were related to the labour protection issues; 25% — with the industrial safety; 17% — with the radiation safety; 9% — with the ecological safety; 10% — with the fire safety; 5% — with the nuclear safety and 2% — with other violations.

For prevention and reduction of impact of hazardous and harmful production factors at works with hazardous and harmful labour conditions the employees receive free of charge mandatorily certified special clothing, footwear and individual protection means. On average in 2012 expenditures for individual protection means per one employee in hazardous and harmful conditions constituted 9 thousand RUB.

In accordance with the requirements of the Federal legislation a periodical medical examination was organized for TVEL FC employees engaged in works with hazardous and harmful production factors. In 2012 no professional diseases were detected among employees of the company.

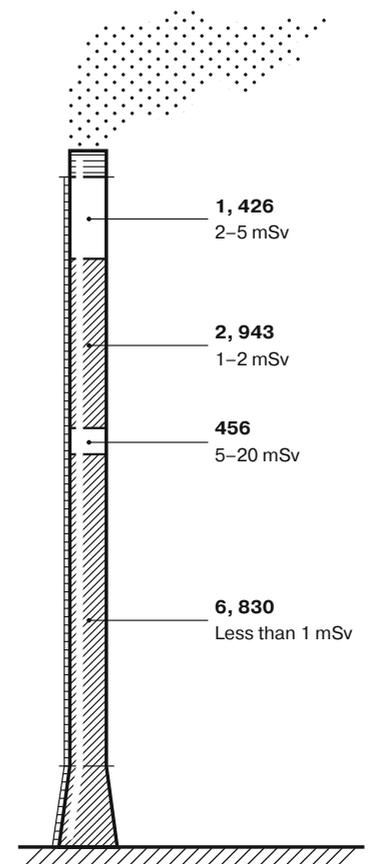
Voluntary medical insurance of all employees of TVEL FC enterprises is carried out at the expense of the employer. The main share of the cost of sanatorium and resort treatment is financed from the budget of companies.\*

Incentives and compensations are provided for the work in hazardous conditions to employees in accordance with the legislation of RF and with the “List of professions and duties of workers and employees entitled for the state pension and incentives ahead of the schedule which are provided for unfavourable labour conditions”. Such incentives and compensations include medical and preventive meals, compensating payments, extra leaves, etc.

On industrial sites of Company enterprises regular control of harmful chemical substances is carried out in waste waters, exhausts of ventilation systems, as well as control of radiation and chemical situation, organization and conductance of all supervision types in accordance with the production control program.

\* The detailed information about the programs of social support is shown in the section “Management of the personnel. Implementation of the main programs of support of the personnel”.

Fig. 42. Distribution of the personnel of group A by individual irradiation doses in 2012.



Certification of working places is fulfilled for assessment of the state of labour conditions and safety, determining the degree of deviation of parameters of production environment and labour process at TVEL FC enterprises, and their results serve the basis of elaboration of plans of measures for improvement of labour conditions.

Employees of all enterprises are regularly trained for the topic of "labour protection" in accordance with GOST 12.0.004-90 and fire

safety in accordance with the Federal Law №69-FZ "On Fire Safety", as well as all types of instructions and check of knowledge in the said fields. Preventive work is being done for avoidance of production traumatism and professional diseases.

The average number of training hours per one employee of TVEL FC connected with functioning and maintenance of nuclear and radiation hazardous projects was equal to 46 hours in 2012.

Table 67. Information about training of employees in connection with functioning and maintenance of nuclear and radiation hazardous projects, standards in the sphere of provision of the nuclear and radiation safety at TVEL FC enterprises in 2012.

Company	Total quantity of training hours	Average quantity of training hours per one employee
TVEL JSC	1,368	72
JSC "VNIINM"	2,016	72
"KMP" OJSC	576	72
JSC "SGChE"	6,431	71
JSC NNCP	1,176	69
JSC CMP	1,576	69
JSC "PA ECP"	2,124	69
MSZ JSC	1,720	33
NRDC LLC	72	24
"Centrotech-SPb"	552	22
JSC AECC	568	15
JSC UEIP	2,420	12
Uralpribor Ltd.	126	4
<b>Total for TVEL JSC:</b>	<b>20,725</b>	<b>46</b>

The total expenditures of the Company for labour protection measures in 2012 constituted RUB 2.3 bn or RUB 66.7 thousand per 1 employee.

**Plans for the year 2013:**

- meetings of technical directors of enterprises and heads of services of labour protection, nuclear, radiation, industrial safety and ecology on the basis of JSC "VPA "Tochmash" concerning the is-

sues of labour protection, nuclear, radiation, industrial safety and ecology;

- reregistration of hazardous production projects in accordance with the guiding documents of RosatomState Corporation;
- complex inspections of safety provision by the Directorate of nuclear, radiation, industrial safety and ecology and participation in inspections performed by the Inspection for safety control of nuclear and radiation hazardous projects of TVEL JSC.



Figure 1. 4-tube container for safe transportation of FA and RK VVER-440 to the nuclear power station.  
Figure 2. Technical monitoring at JSC CMP.

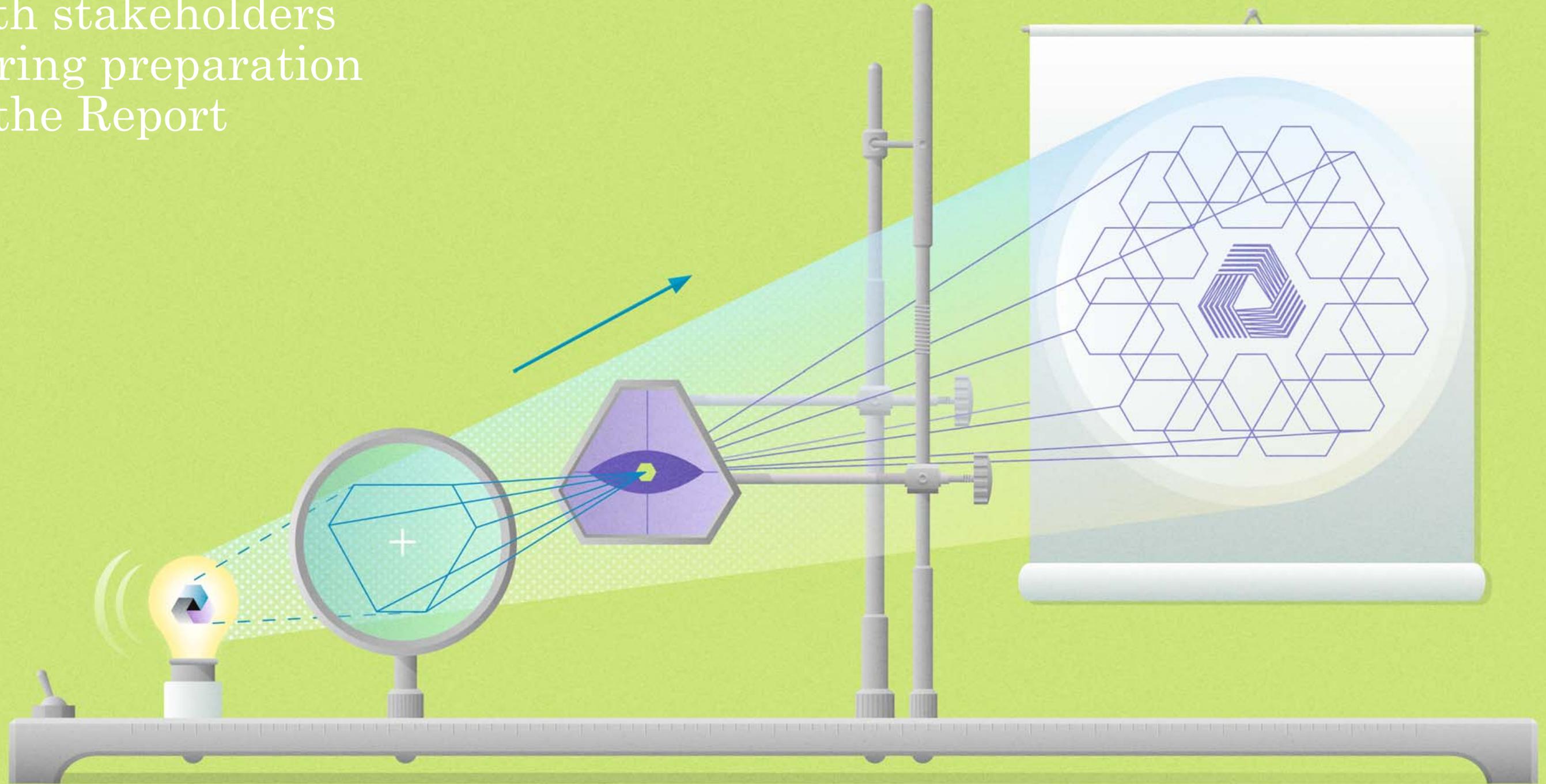
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*How it works:*

public reporting system  
and interaction  
with stakeholders  
during preparation  
of the Report



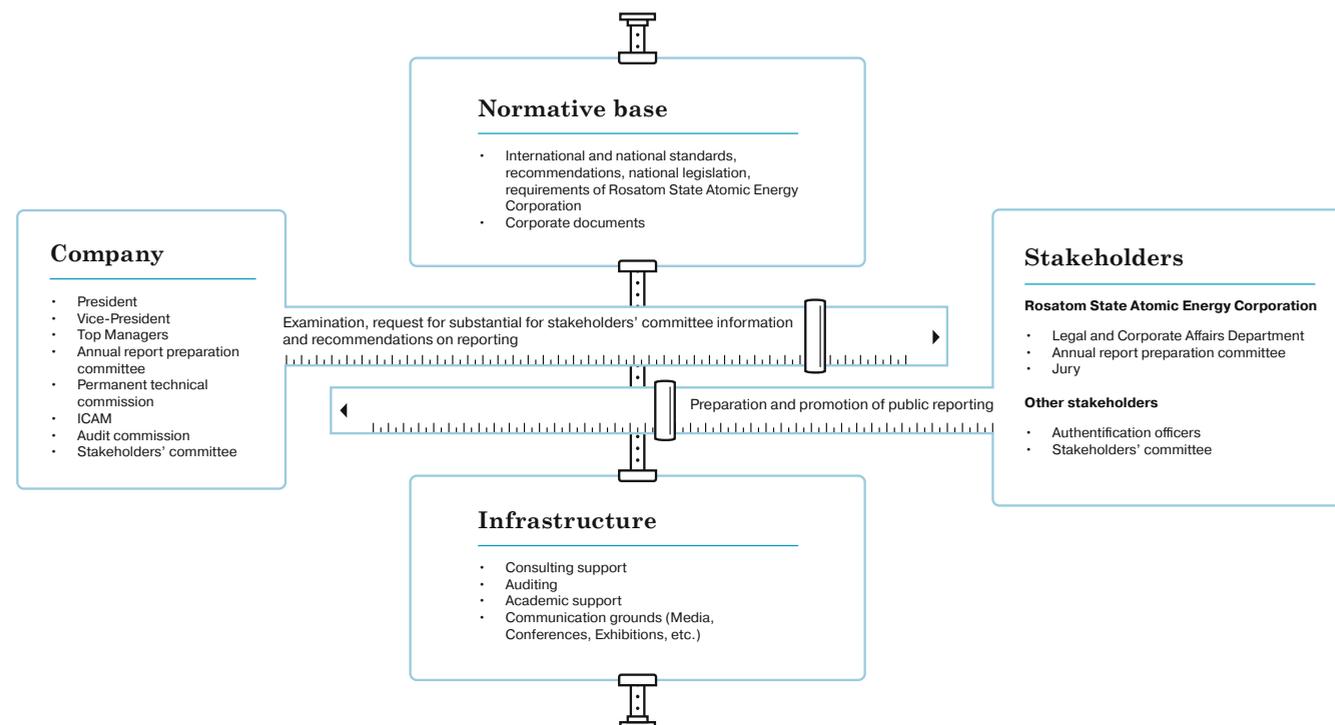
## Chapter 6. Public reporting system and interaction with stakeholders during preparation of the Report

### §33. PUBLIC REPORTING SYSTEM OF TVEL FC

**Due** to specific character and scope of its activity, TVEL FC is within the range of interest of a very large number of the related parties, and is always influenced by and provides a certain impact thereon. The success of the Company's business depends on the development of constructive trust relationships both within the Company and between business and society. TVEL FC developed its public position in the field of sustainable development to ensure transparency of the Fuel Company in 2011 (see Annual Report 2011 for details).

TVEL FC established a reporting system, which is a set of elements, processes and interrelations therebetween to ensure the activity of public reporting, its reproduction and development.

Fig. 43. Public reporting system.



The basic elements of public reporting, specified by the Policy of Rosatom State Atomic Energy Corporation, include: the functional center responsible for public reporting of the TVEL FC, normative base, representatives of the stakeholders (involved in reporting) as well as infrastructure support (consulting support, auditing, academic support, etc.).

#### Normative base

In 2012, the following documents governing public reporting were changed to develop public reporting system:

1. The Standard for TVEL JSC public annual reporting.
2. The Regulation of public annual reporting.
3. The Regulation on stakeholders' committee of TVEL JSC.
4. The Regulation on the public annual reporting committee of TVEL JSC.

The Standard for TVEL JSC public annual reporting was changed in connection with the participation of Rosatom State Corporation in the pilot program of the International Council for Integrated Reporting. The Regulation of TVEL JSC public annual reporting specifies issues of responsibility allocation for the people involved in public reporting processes, increase in control over the execution of obligations, enforcement of the law. The Regulation on stakeholders' committee of TVEL JSC was supplemented by requirements on the approval of candidates by the heads of relevant stakeholder organizations before including in the committee; the functions of the commission members were also enhanced.

TVEL FC has a unique experience in organizing and managing the process of preparing public annual reports by the enterprises that are part of the Company. Since 2010, eight companies of TVEL FC prepared individual annual reports, and, if in 2010, only five reports had integrated reporting format, in 2011 — 7, and since 2012, all of them use the integrated reporting format.

In 2012, the activities related to the public annual reports preparation were distributed among the main enterprises of TVEL FC: JSC "SGChE", JSC CMP, JSC UEIP, MSZ JSC, JSC "PA ECP", JSC NNCP, JSC AECC, and «KMP» OJSC. In 2012, due to the need to monitor the preparation of the annual reports by the subsidiaries, the Regulation on the public annual reporting of TVEL JSC was supplemented by the rules of examination of TVEL JSC subsidiary reports.

#### Functional Responsibility Center

The functioning of the TVEL JSC public reporting system is based on the work of many departments. The main functions are distributed among the TVEL JSC Vice-President, TVEL JSC Public annual reporting Committee, Public relations management (*See Report for 2011*).

To disseminate information on the Company's annual reports, TVEL FC participates in federal, industry and other competitions; and "Winning places in the federal competitions" is an indicator in the KPI-map of the Head of the Directorate for Public Relations.

§34.  
**INTERACTION  
WITH STAKEHOLDERS**

**TVEL FC** is always guided by the principle of openness and is constantly cooperating with stakeholders. It organizes, analyses and takes into account their demands. Such approach allows a prompt correcting of the company's activities and reducing the level of non-financial risks.

A rank-map of the stakeholders reflecting relationship between them and the Company is kept up to date on the basis of interviews with the senior managers.

Fig. 44. Rank-map of TVEL JSC.

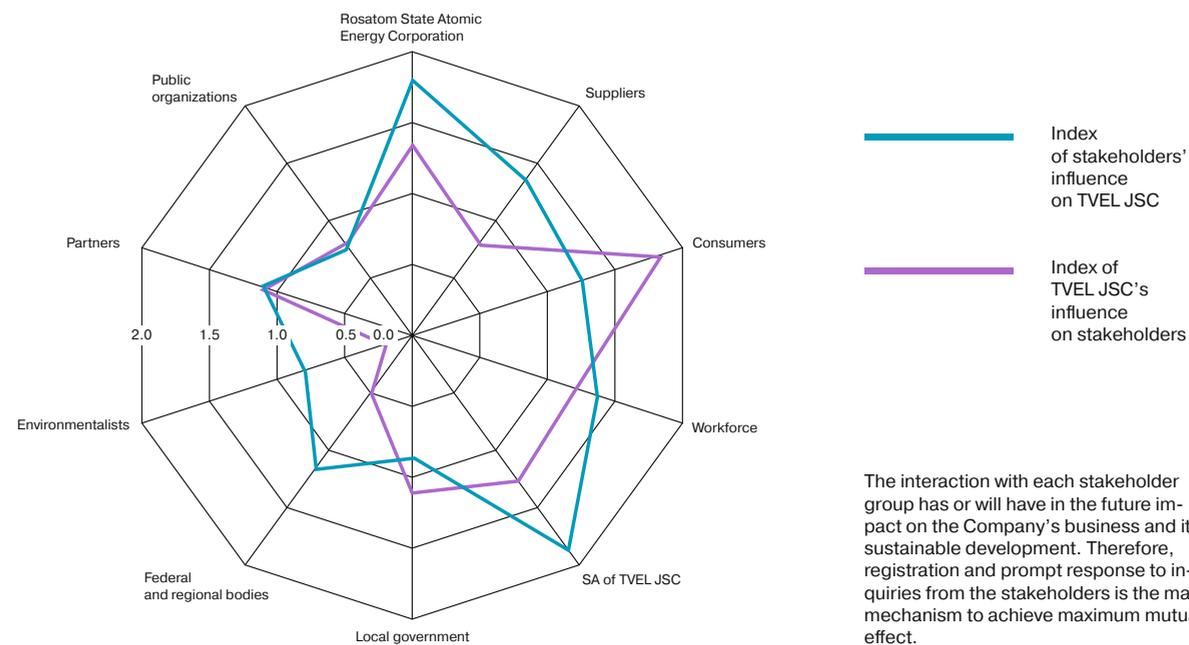


Table 68. Map of interaction with the key stakeholders.

Target group of stakeholders	Key interests	Indicator	Institutions and system relationships	Programs and measures	
Stakeholders	TVEL FC				
<b>Rosatom State Atomic Energy Corporation</b>	<ul style="list-style-type: none"> <li>Manageability upgrading</li> <li>efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Access to advanced management technologies</li> <li>efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Development of labour productivity</li> <li>saving in material resources consumption</li> <li>profit mark-up</li> </ul>	<ul style="list-style-type: none"> <li>Rosatom Production System</li> <li>workforce management system</li> <li>the program of rearrangement of FEB and IT of Rosatom SC</li> </ul>	<ul style="list-style-type: none"> <li>Plans for the introduction of RPS</li> <li>training and development of RPS</li> <li>development program for leaders of small groups</li> <li>duplication of IT-solutions for all FC enterprises</li> </ul>
<b>Consumers</b>	Stability, price, quality and reliability of deliveries, customer appeal of the products	<ul style="list-style-type: none"> <li>Stability of deliveries</li> <li>market development</li> <li>growth of income</li> </ul>	Rise of income	<ul style="list-style-type: none"> <li>Long-term contract</li> <li>satisfaction measurement</li> </ul>	<ul style="list-style-type: none"> <li>Customer feedback system</li> <li>quality evaluation</li> <li>analysis of expectations</li> </ul>
<b>SA</b>	Maintenance of the existing businesses and development of new ones	<ul style="list-style-type: none"> <li>Management efficiency</li> <li>profit mark-up</li> </ul>	Dividend growth	<ul style="list-style-type: none"> <li>Centralized control</li> <li>decomposition of the business processes and IT-solutions</li> </ul>	<ul style="list-style-type: none"> <li>Procedures</li> <li>feedback system</li> <li>internal communications</li> </ul>
<b>Staff and trade union organization</b>	<ul style="list-style-type: none"> <li>Sustainable employment and payment</li> <li>socially responsible employer</li> <li>professional growth</li> </ul>	<ul style="list-style-type: none"> <li>Effective work</li> <li>competent personnel</li> <li>employee loyalty</li> </ul>	<ul style="list-style-type: none"> <li>Development of labour productivity</li> <li>reduced staff turnover</li> <li>profit mark-up</li> <li>salary increase</li> </ul>	<ul style="list-style-type: none"> <li>Collective bargain agreement</li> <li>personnel policy</li> </ul>	<ul style="list-style-type: none"> <li>Staff development program</li> <li>evaluation of involvement</li> <li>informing days</li> <li>social programs</li> </ul>
<b>Partners</b>	<ul style="list-style-type: none"> <li>Mutually beneficial cooperation</li> <li>competitive growth</li> </ul>		<ul style="list-style-type: none"> <li>Growth of income</li> <li>expansion of the client and resource base</li> </ul>	<ul style="list-style-type: none"> <li>Joint ventures</li> <li>joint projects and contracts</li> </ul>	<ul style="list-style-type: none"> <li>ALVEL JV</li> <li>TSOU</li> <li>Plant for the production of nuclear fuel in Ukraine</li> <li>International Uranium Enrichment Center</li> <li>ITER</li> </ul>
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>Procurement system transparency</li> <li>financial solvency</li> <li>stability of deliveries</li> </ul>	<ul style="list-style-type: none"> <li>Quality, stability, and reliability of deliveries</li> <li>favorable price</li> </ul>	Cost saving	Unified industry procurement standard	<ul style="list-style-type: none"> <li>Online procurement portal with a feedback system</li> <li>monitoring of compliance with the procurement standard</li> </ul>

Target group of stakeholders	Key interests	Indicator	Institutions and system relationships	Programs and measures
	<b>Stakeholders</b>	<b>TVEL FC</b>		
<b>Local government, regional authorities, environmental and public organizations</b>	<ul style="list-style-type: none"> <li>Socio-economic development of regions</li> <li>employment of population</li> <li>ecology</li> </ul>	<ul style="list-style-type: none"> <li>Stability in the regions of presence</li> <li>personnel availability</li> </ul>	<ul style="list-style-type: none"> <li>Level of unemployment</li> <li>average salary</li> <li>tax liabilities</li> <li>environmental situation</li> </ul>	<ul style="list-style-type: none"> <li>Agreements with regional authorities</li> <li>the agreement on the establishment of a consolidated group of taxpayers</li> </ul>
	<ul style="list-style-type: none"> <li>Attracting new investors</li> <li>creating a business environment</li> </ul>	<ul style="list-style-type: none"> <li>Creating new jobs</li> <li>additional income to the local budget</li> </ul>	In the long term: the branch program of strategic development of the CATE nuclear industry	Creation of industrial park projects
<b>Federal authorities</b>	<ul style="list-style-type: none"> <li>Taxes</li> <li>ecology</li> <li>safety</li> </ul>	<ul style="list-style-type: none"> <li>Funding</li> <li>legal framework improvement</li> </ul>	<ul style="list-style-type: none"> <li>The volume of funding received</li> <li>gross tax deductions</li> <li>meeting the targets of the FTP</li> <li>considered suggestions to improve the legislative framework</li> </ul>	<ul style="list-style-type: none"> <li>Federal target programs</li> <li>intergovernmental agreement</li> <li>laws and regulations</li> </ul>
				<ul style="list-style-type: none"> <li>FTP measures</li> <li>fulfillment of intergovernmental agreements</li> <li>participation of Rosatom State Corporation in legislative initiatives</li> </ul>

- Interaction is conducted on the system level. The Company's management regularly participates in Rosatom State Atomic Energy Corporation conferences. There is a balanced system of TVEL FC reporting for Rosatom State Atomic Energy Corporation, regulated by industry-specific regulatory documents;
- in order to improve the quality of products, TVEL FC undertakes an annual assessment of customer satisfaction with the survey, followed by an analysis of the results;\*
- the discussion about the collective agreements regulating the social and labour relations takes place at the regular meetings of the TVEL FC staff at enterprises.

The Company has decided to praise the achievements of its employees. In 2011 about three thousands employees and veterans of TVEL FC were awarded with prizes and bonuses from Rosatom State Atomic Energy Corporation and TVEL JSC.

In order to establish direct communication employee-director position within the TVEL JSC, all enterprises have the "mailboxes", through which any employee can confidentially address TVEL FC management. The feedback is mandatory: there is a record of each request and each response.

\* Questionnaire results are detailed in Section "Quality Management", Chapter 2.

TVEL FC permanently cooperates with local government and regional authorities to implement projects for the development of the regions of presence;\*

In 2012, the company actively cooperated with various social, environmental and environmental organizations.\*\*

Key results of public events attended by TVEL FC in 2012:

- Financial Service of TVEL JSC became a laureate of the main all-Russian award "Financial and Economic Olympus" established by the Interregional financial and economic union (MFES);
- TVEL JSC was declared the winner of the VIII All-Russian contest "Leader of Environmental Protection in Russia-2012", and was awarded an honorary diploma "For excellence and innovative solutions in the field of environmental security" and medal "For Ecological Security";
- Legal Department of Joint Stock Company "MASHINOSTROITEL'NY ZAVOD" was recognized the best in "Engineering" in the international competition "Best Legal Departments-2012";
- the annual report of TVEL JSC was the winner in "Best Integrated Report" at the XV Annual Report Competition organized by Moscow Stock Exchange OJSC upon the results of Company's operation in 2011;
- TVEL FC won the 2<sup>nd</sup> place among 65 companies participating in the competition for public reporting among companies of Rosatom State Corporation; in addition, two companies of the Fuel Company were winners in the following categories: "Best Information Disclosure on nuclear facilities safety" — JSC "SGChE" (2<sup>nd</sup> place); "Best Newcomer" — JSC UEIP (3<sup>rd</sup> place). The final rating of top 20 industry reports included six companies from the control loop of TVEL FC.

During 2012, TVEL FC took part in the following international events:\*\*\*

- International Forum "AtomExpo-Belarus" (Belarus);
- International Exhibition of Nuclear Energy and Industry "KazAtom-Expo" (Kazakhstan);
- International specialized exhibition "Metrology-2012";
- International Forum "Atomexpo-2012";
- International Trade Fair and Congress "Power Gen Europe 2012" (Germany);
- Exhibition and International Congress on Advances in Nuclear Power Plants "ICAPP 2012" (USA);
- World Energy Congress and Exhibition of Power Equipment, Tech-

\* Section "Social-economic impact on the environment", Chapter 5.

\*\* Sections "Social-economic impact on the environment", "Ecological policy", Chapter 5.

\*\*\* For details about the projects of international cooperation of TVEL JSC see Section "Place of TVEL FC in the world market of NFC IS", Chapter 1.

- nology and Services within the 56<sup>th</sup> IAEA General Conference (Austria);
- 37<sup>th</sup> Annual Symposium of the World Nuclear Association (UK);
  - International Forum “Fuel and Energy Complex of Ukraine: Present and Future-2012” (Ukraine);
  - Nuclear Industry Suppliers Forum Atomex-Europe (Czech Republic);
  - International Conference and Exhibition AtomEco;
  - Exhibition within the 5<sup>th</sup> International Forum on Nanotechnology-2012;
  - The European Nuclear Conference ENC-2012 (UK);
  - 2<sup>nd</sup> International Exhibition and Conference on Innovation in Energy NewGen-2012.

Analysis of the key events, main financial and operating results, and performance results in the field of sustainable development has shown that social capital (i.e., the system of relationships with stakeholders) has and will have a significant impact on business of TVEL FC.

All commitments made by the Company to its stakeholders in the reporting year, as well as the information on the implementation of the commitments for the previous years are reflected in Appendix 3 of this Report.

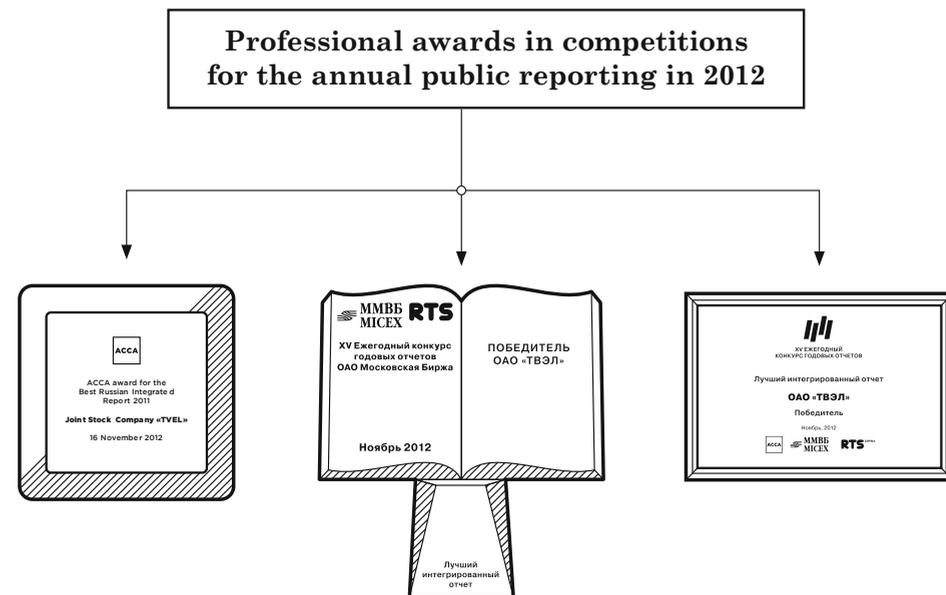


Figure 1. World Energy Congress and exhibition of power equipment, technology and services at the 56<sup>th</sup> IAEA General Conference (Austria).  
Figure 2. International forum Atomexpo-2012.

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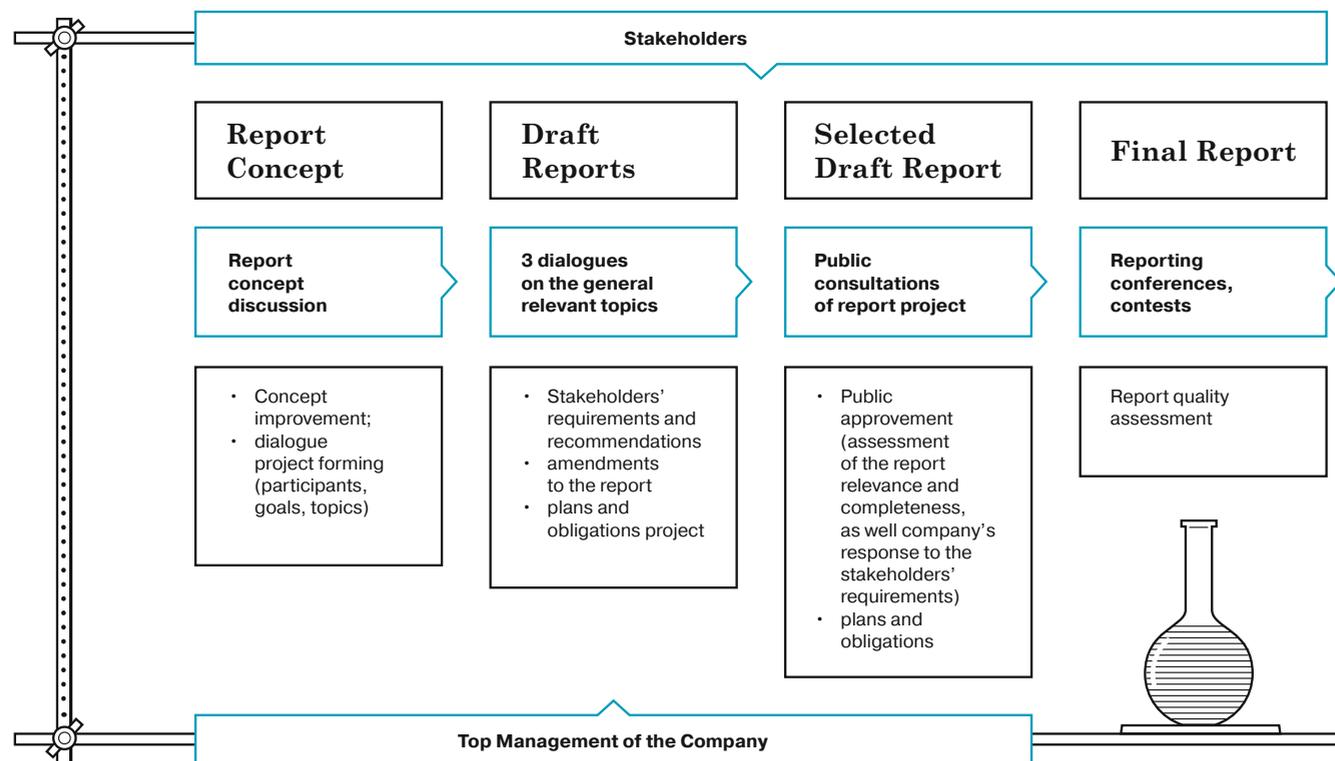


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§35.  
EVENTS  
FOR INTERACTION  
WITH  
THE STAKEHOLDERS  
DURING  
PREPARATION  
OF THE REPORT  
FOR THE YEAR 2012

In the TVEL JSC Report preparation, the Standard of interaction with the stakeholders AA1000SES, which requires ensuring the conformity of the published information to the stakeholders' needs, was totally observed. To implement this principle, interaction with the Company's stakeholders within the process of Report preparation was organized. In particular, while preparing the Report for 2012, TVEL FC held four dialogues devoted to the topics related to TVEL FC and its stakeholders.

Fig. 45. Interaction with stakeholders during 2012 Report preparation.



The representatives of Rosatom State Atomic Energy Corporation, industry-specific partner organizations, affiliates, environmental, public and labour union organizations, HEIs, local government, media, consultants and auditors participated in these dialogues.

**Dialogue №1 “Concept of the TVEL FC Annual Report for 2012”**

On *January 24, 2013*, the dialogue on the concept of the TVEL FC Annual Report for 2012 was held.

In the course of the dialogue the stakeholders were presented the Report concept developed by the Company. After that the stakeholders were proposed to make recommendations on the priority topics of the Report and on the dialogue topics with the stakeholders.

This event allowed refining and clarifying the concept of the Report. In particular, recommendations of the stakeholders were taken into account when choosing the priority topics.

**The dialogues on the following priority issues of the Report were held on March 22, 2013:**

- social capital in the business model of TVEL FC;
- business orientation of TVEL FC and efficiency improvement in the competitive environment.

As part of the first issue, the top managers of TVEL JSC made the following presentations:

- *“The development of relations with the authorities in the regions of presence and their impact on social harmony”;*
- *“Ensuring the development of the business environment in the regions of presence”.*

These presentations focused on interaction with subsidiaries and affiliates, development of relations with local authorities in the regions of presence, impact on the communities, and influence of social well-being on increase in the loyalty of foreign partners. The prospects of small business associations and their role in social and economic welfare in regions were discussed in details.

In 2012, the law enforcement authorities launched a criminal investigation into JSC “SGChE” on suspicion of corruption. The investigation is on-going; and the final conclusions haven't been made yet. However, the management of TVEL JSC considered it necessary to inform the stakeholders on the measures taken and their results, as well as on the Company's actions to prevent corruption. This information was announced in the report:

- *“Anti-corruption measures taken as a result of the events at JSC “SGChE”.*

The following presentations were made as a part of the second issue:

- *“Improving production efficiency as a result of the RPS introduction”* on the goals and purposes of the system implementation and the main trends, costs, results, and future plans;
- *“TVEL FC International Business Development”* on the key events and projects related to the development of international markets, problems and solution methods, prospects for TVEL FC international activities expansion.

As a result of the dialogue about 20 proposals from stakeholders' were collected for information disclosure in the Report 2012 on the issues of to improve business efficiency and competitiveness of the Company.

### Public consultations on the annual report project

TVEL JSC considered all the stakeholders' comments made in the course of the dialogues during the public consultations and presented its Annual Report on *April 26, 2013*. The participants of the Public consultations meeting represented the main Company's stakeholders. On behalf of the Company, the performance results 2012 and the set aims were presented by K.K. Sokolov, Vice-President of TVEL JSC, Head of the Public Reporting Committee. During the TVEL JSC annual report presentation, the analysis of the results of the Company was presented to the participants of the Public consultations; the basic features of the Report and future plans and prospects of the Company were disclosed. The report "The interaction of TVEL JSC with the stakeholders" made by D. V. Ozerov, Executive Director of the Directorate for Public Relations of TVEL JSC. The report highlighted the issues of interaction with the stakeholders both in the preparation of the Report and the Company's current operations.

As a result of the event the stakeholders have given significant recommendations for the Report text and interaction process improvement. All the suggestions were recorded.

Dialogues and public consultations protocols are available on the corporate web-site at [www.tvel.ru](http://www.tvel.ru)

The verification of the factual data in the Report is not a matter of public certification.

The results of our work are finalized in the form of Conclusion about Public certification, where the opinions of our general consent are presented. We express our opinions as individual members of society and not as representatives of organizations in which we are engaged. We did not receive compensation from the Company for the time spent on this job.

### Estimates, comments and recommendations

We are united in a positive evaluation of the Report. TVEL FC has prepared an informative and well-structured document meeting our expectations. It sums up the results for 2012 and shows the dynamics for a three-year period. The apparent advantage of the report is the detailed description of the business model, resources used, sources and impacts, strategies of the Fuel Company for the future. In our opinion, the issues recognized by the company's management and stakeholders as a priority ("Social capital in the business model of TVEL FC" and "Business orientation of TVEL FC and efficiency improvement in the competitive environment") are fully disclosed.

Another obvious advantage of the Report is the disclosure of all the main indicators of reporting in the sustainable development GRI (3.1), public reporting indicators of Rosatom State Corporation, as well as the implementation of IIRC recommendations on integrated reporting. We consider it necessary to emphasize the constructive nature of interaction with the stakeholders shown by the Company's management both during the preparation of the Report and dialogues and consultations, as well as the high level of organization of these events.

### Relevance of information

In our opinion, the report covers all the essential topics for the stakeholders, both in core business, and social, environmental and economic aspects of sustainable development. The most significant information for understanding of TVEL FC prospects is contained in sections of the Report relating to the disclosure of the development strategy, management systems of TVEL FC, impact of the Company's presence in the territory. Section "Scientific and technological activities" should be mentioned in particular; it covers information on innovation activities in both nuclear and non-nuclear sector which demonstrates all the important directions and priorities for the future development of the Company.

### Completeness of information

In our opinion, the information contained in the Report is presented with the maximum fullness that provides an understanding of the current state and development prospects of the Company to the stakeholders.

### Introductory information

TVEL JSC management (the main society of the FC Rosatom State Atomic Energy Corporation, hereinafter TVEL FC) suggested us to assess the annual report for 2011 (hereinafter the Report) from the point of view of completeness and the relevance of the information disclosed in it, as well as to assess the management activity in terms of response to recommendations and remarks of the stakeholders. For this purpose, we together with our representatives were given the opportunity to participate in the dialogue and public consultations on the Draft Report (hereinafter — the Consultations) held in March–April 2012, and freely express our opinions on the discussed issues.

### Procedure of the Report assessment

Our conclusion is based on the study of two versions of the Report for 2012 (Draft Report for Consultation and the final version of the Report) and on the analysis of information obtained within the dialogues and consultations (presentations, procès-verbal, comments table).

**Company's response to the remarks and recommendations of the stakeholders**

The Company recorded the stakeholders' recommendation in the minutes of dialogues and consultations and conducted a thorough analysis and took them into account in preparing the final version of the Report. Based on the stakeholders' recommendations, the following sections of the Report were adjusted: "Socio-economic impact on the environment", "Environmental Impact", "Corruption management and settlement of conflicts of interest", "Scientific and technological activities", "Ecological policy". All of our suggestions and comments were recorded in the table for the stakeholders' suggestions (Appendix 3 of the Report).

Thus, TVEL FC demonstrated a responsible approach to the implementation of Rosatom State Corporation Policy in the field of public accounting, showed constructive attitude to the stakeholders' wishes and suggestions.

Noting traditionally high quality of TVEL FC interaction with the stakeholders, we hope that the experience gained in dialogues and consultations will be fully taken into account and used in the future.

Director of the Institute for Development of NRNU MEPhI

E. M. Glagovsky

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

A. I. Kislov

Executive Director of the Closed Administrative-Territorial Entity for Nuclear Industry

A. I. Makarenko

Secretary of the Russian Trade Union of Nuclear Industry and Power Generation Employees

A. G. Vanichkin

Deputy Director for Research and Development, Vice-President of the Russian Society for Non-Destructive Testing and Technical Diagnostics (RONKT)

N. R. Kuzeleev

Deputy Director of the NEC Rosatom State Atomic Energy Corporation

O. I. Linyaev

Deputy Head of the Kovrov city administration, Head of Department for Economy, Property and Land Matters

A. Yu. Arzumanov

Member of Rosatom State Corporation Public Council  
Member of the Board of the Center for Russian Ecological policy

V. F. Menshikov

Chairman of the All-Russian Public Children's Environmental Movement "Green Planet", a member of the Academy of Medical Sciences

M. D. Medvedeva

Head of the Center for Corporate Social Responsibility and non-financial reporting of Russian Union of Industrialists and Entrepreneurs

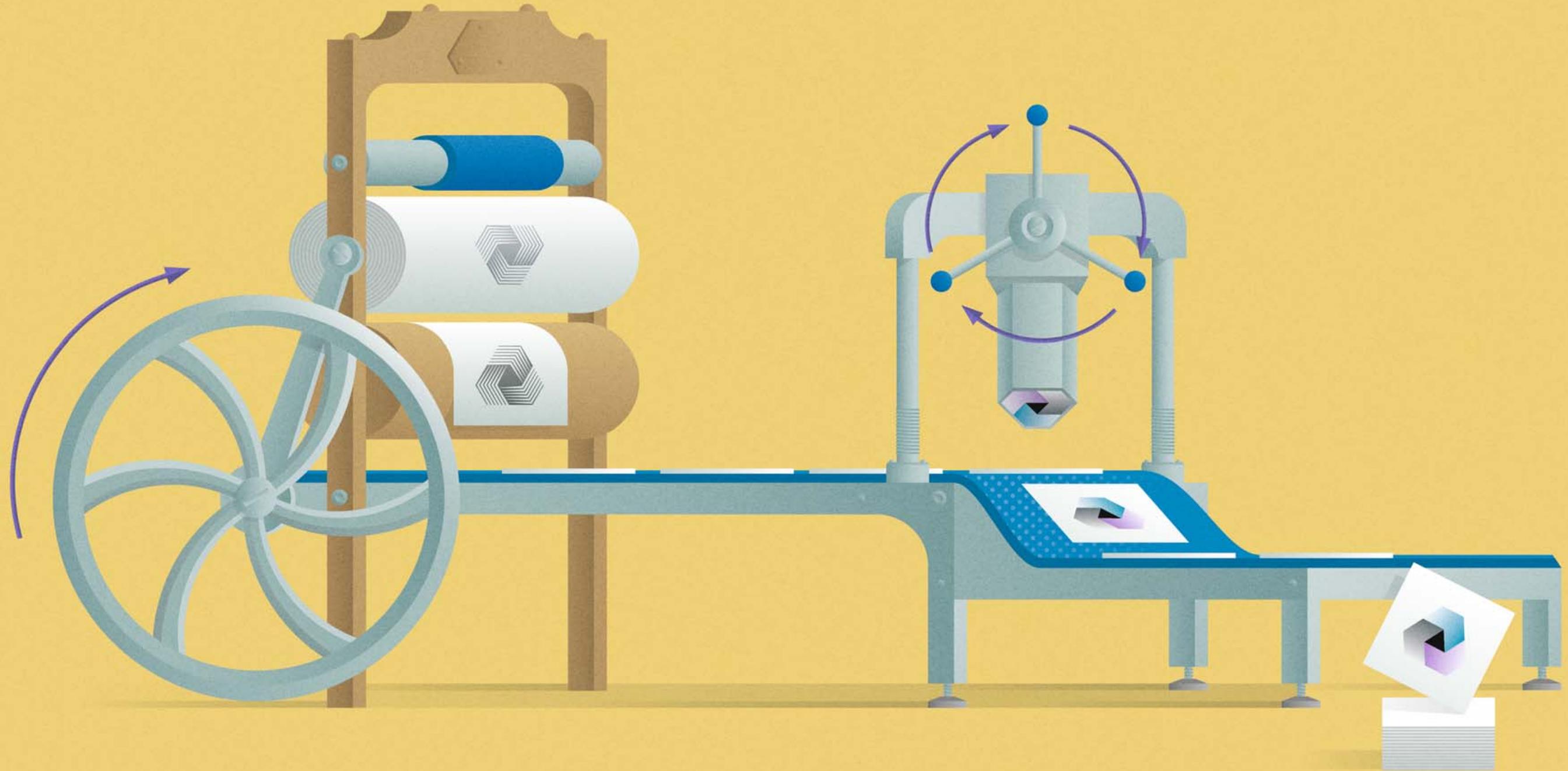
E. N. Feoktistova

Executive Director of International Public Ecological Organization "Greenlight"

O. V. Plyamina

# Appendixes:

*Tables, Reports & Conclusions*



APPENDIX 1.  
**USAGE OF PUBLIC  
 REPORT INDICATORS  
 OF ROSATOM STATE  
 ATOMIC ENERGY  
 CORPORATION**

Nº	Indicator	Disclosure	Disclosure completeness
<b>PART 1. THE PERFORMANCE IN THE CORE BUSINESS</b>			
<b>Meeting the demands of the energy networks</b>			
1	1.1.1. Meeting the demands of the country for electric energy using Russian nuclear fuel	TVEL FC is the sole supplier of nuclear fuel for the Russian nuclear power plants	Disclosed
<b>Economic performance</b>			
2	2.1.1. Financial efficiency	Schedule of key milestones (page 15). Financial Results of Activity of TVEL FC (page 87)	Disclosed
3	2.1.2. Productivity	Schedule of key milestones (page 15). Production and Economic Results (page 90)	Disclosed
4	2.1.3. Economical and financial efficiency	Schedule of key milestones (page 15). Financial Results of Activity of TVEL FC (page 87)	Disclosed
<b>Business continuity</b>			
5	2.2.1. Diversification of activity	Schedule of key milestones (page 15). Financial Results of Activity of TVEL FC (page 87)	Disclosed
6	2.2.2. Provision of orders	Schedule of key milestones (page 15). Financial Results of Activity of TVEL FC (page 87)	Disclosed
7	2.2.3. Dependence on suppliers and contractors	Procurement Activities (page 78). TVEL FC procures from suppliers/contractors occupying a monopoly position in the market. However, the analytical capabilities of the accounting system do not allow calculating their number	Partially disclosed
8	2.2.4. Risk management	Risk Management (page 69)	Disclosed
9	2.2.5. Development of production capacities	Investment Activity (page 64)	Disclosed
10	2.2.6. Financial stability	Schedule of key milestones (page 15). Financial Results of Activity of TVEL FC (page 87)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
<b>Place in the world markets</b>			
11	2.3.1. Market situation at the initial stage of nuclear fuel cycle	Place of TVEL FC in the world market of NFC IS (page 32)	Disclosed
12	2.3.2. Export volume	Financial Results of Activity of TVEL FC (page 87)	Disclosed
<b>International cooperation in the peaceful uses of atomic energy</b>			
13	2.4.1. International legal infrastructure for promotion of Russian companies on world markets of nuclear technologies and services	Place of TVEL FC in the world market of NFC IS (page 32)	Disclosed
14	2.4.2. Development of international cooperation	Place of TVEL FC in the world market of NFC IS (page 32)	Disclosed
15	2.4.3. Strengthening of nuclear non-proliferation regime	Place of TVEL FC in the world market of NFC IS (page 32)	Disclosed
<b>Equipment of the Armed Forces of the Russian Federation with nuclear warheads and special installations, maintaining their reliability in the operational phase and disposal after decommissioning</b>			
16	3.1.1. SDO fulfilment	Production and economic results (page 90)	Disclosed
<b>Nuclear and radiation safety systems management</b>			
17	4.1.1. Teaching the industry workers the nuclear and radiation safety norms	Labour protection and industrial safety (page 174)	Disclosed
18	4.1.2. Emergency response and emergency preparedness	Nuclear and radiation safety (page 166)	Disclosed
19	4.1.3. Physical protection of nuclear facilities	Nuclear and radiation safety (page 166)	Disclosed
20	4.1.4. Development of the technology of handling of radioactive waste and spent nuclear fuel	Nuclear and radiation safety (page 166)	Disclosed
<b>Compliance with the requirements of nuclear and radiation safety</b>			
21	4.2.1. Compliance with the license requirements related to nuclear and radiation safety	In 2012, there were no cases of deprivation of licenses in the field of nuclear energy in the FC	Disclosed
22	4.2.2. Violations during the handling of nuclear and radioactive materials	Nuclear and radiation safety (page 166)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
<b>Decommissioning of nuclear facilities</b>			
23	4.3.1. Decommissioning	Ecological policy (page 149). Nuclear and radiation safety (page 166)	Disclosed
<b>Radioactive waste and spent nuclear fuel treatment, rehabilitation of contaminated areas</b>			
24	4.4.1. Recovery of contaminated and polluted land	Nuclear and radiation safety (page 166)	Disclosed
25	4.4.2. Alteration of radioactive waste accumulation volume	Nuclear and radiation safety (page 166)	Disclosed
26	4.4.3. Processing of accumulated spent nuclear fuel	Nuclear and radiation safety (page 166)	Partially disclosed
<b>Intellectual capital</b>			
27	5.1.1. Inventive work	Intellectual property of TVEL FC (page 110)	Disclosed
28	5.1.2. Efficiency of contributions to R&D	Innovative activities in nuclear industry (page 102). Innovative activities in non-nuclear industry (page 106)	Disclosed
<b>Innovative activities</b>			
29	5.2.1. Efficiency of innovative activities	Innovative activities in nuclear industry (page 102). Innovative activities in non-nuclear industry (page 106)	Partially disclosed
30	5.2.2. Development of technologies related to the current producing platform	Innovative activities in nuclear industry (page 102). Innovative activities in non-nuclear industry (page 106)	Disclosed
31	5.2.3. Development work in related spheres	Innovative activities in nuclear industry (page 102). Innovative activities in non-nuclear industry (page 106)	Partially disclosed
<b>Innovative and technological potential development support</b>			
32	5.3.1. Development of infrastructure of scientific and technological complex	Scientific and technological activities (page 98)	Disclosed
33	5.3.2. Participation in implementation of innovative projects	Innovative activities in nuclear industry (page 102). Innovative activities in non-nuclear industry (page 106)	Disclosed
<b>Improvement of the controlling mechanism</b>			
34	6.1.1. Implementation of projects related to the development of management system	Development strategy (page 38). Place of TVEL FC in the world market of NFC IS (page 32). Productive efficiency management (page 56).	Disclosed
35	6.1.2. Implementation of projects related to efficiency upgrading	Energy saving and efficiency improvement (page 171). Procurement activities (page 78)	Disclosed
36	6.1.3. Reorganization of financial and economic management	Information technologies (page 80). Financial policy (page 86)	

Nº	Indicator	Disclosure	Disclosure completeness
37	6.1.4. Implementation of international management standards	Quality management (page 67)	Disclosed
38	6.1.5. Management of Procurement Activities	Procurement activities (page 78)	Disclosed
39	6.1.6. Development of internal communications	Information technologies (page 80). Corruption management and settlement of conflicts of interest (page 74)	Disclosed
40	6.1.7. Management informatization	Information technologies (page 80)	Disclosed
41	6.1.8. Management of financial and economic activities	Internal control of TVEL FC (page 75). Corruption management and settlement of Conflicts of interest (page 74)	Disclosed
<b>Disclosure improvement of the nuclear industry</b>			
42	7.1.1. Public reporting	Information about the Statement and preparation thereof (page 8)	Disclosed
43	7.1.2. Information resources of the branch	Charitable activity and support of external social programs (page 123)	Disclosed
<b>Public acceptance of construction projects of the Corporation and its institutions</b>			
44	7.2.1. Ecological examinations according to the legislation of the Russian Federation	The number of inspections in Section "Nuclear and radiation safety" (page 166)	Partially disclosed
45	7.2.2. Public discussions of the materials on EIA	The public discussion of the EIA was carried out in 2012. It is planned for 2013	Disclosed
<b>Regulatory framework improvement in the field of nuclear energy</b>			
46	8.1.1. Participation in development of regulatory framework	Legal scope of activity of TVEL FC (page 83).	Disclosed
<b>The implementation of certain functions of state administration in the specified sphere</b>			
47	8.2.1. State control of nuclear environment, handling of nuclear materials, radioactive materials and radioactive waste	Nuclear and radiation safety (page 166)	Disclosed
<b>Provision of qualified personnel</b>			
48	9.1.1. Provision of qualified personnel	Management of the personnel (page 125)	Disclosed
49	9.1.2. Training of the personnel	Management of the personnel (page 125)	Disclosed
50	9.1.3. Organization and use of personnel reserve	Management of the personnel (page 125)	Disclosed

**PART 2. PERFORMANCE IN THE FIELD OF SUSTAINABLE DEVELOPMENT**

Nº	Indicator	Disclosure	Disclosure completeness
<b>Economic performance</b>			
51	10.1.1. Created and distributed direct economic value, including profits, operating costs, salaries, contributions and other investments to the companies, undistributed profits, payments to investors and countries	Social and economic influence on surroundings (page 117)	Disclosed
52	10.1.2. Considerable financial aid from public authorities	Ecological policy (page 149). Nuclear and radiation safety (page 166)	
53	10.1.3. Financial aspects and other risks and possibilities, related to the alteration of climate	Climatic effect attributed to the enterprises managed by TVEL FC is insignificant compared to the enterprises related to extractive industries and thermal power companies. That's why the management board has not evaluated financial aspects and other risks related to the alteration of the climate. Climate change has no impact on business operations of TVEL FC and its employees	Disclosed
<b>Market presence</b>			
54	10.2.1. Policy, practical approach to purchases from local suppliers and the share of such purchases at important regions	Procurement activities (page 78)	Disclosed
<b>Indirect economic impact</b>			
55	10.3.1. Development and influences of investments on the infrastructure and services provided primarily for the public good (not directly related to the production activities) by means of commercial, natural or beneficent participation	Social and economic influence on surroundings (page 117)	Disclosed
56	10.3.2. Understanding and description of important indirect economic impacts including the impact areas	Social and economic influence on surroundings (page 117)	Disclosed
<b>Environmental impact management</b>			
57	11.1.1. Energy saved after the measures focused on energy saving and increasing of energy efficiency	Energy saving and efficiency improvement (page 171)	Disclosed
58	11.1.2. Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives	Energy saving and efficiency improvement (page 171)	Disclosed
59	11.1.3. Initiatives to reduce indirect energy consumption and reductions achieved	Currently, the Company has not developed a policy on management of other indirect energy consumption	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
60	11.1.4. Measures for reduction of emission of hazardous substances to the atmosphere, the amount of reduction	Environmental impact (page 156)	Disclosed
61	11.1.5. Measures for reduction of emission of hazardous substances to the water, the amount of reduction	Environmental impact (page 156)	Disclosed
62	11.1.6. Strategies, current actions and future plans for managing impacts on biodiversity	Enterprises of TVEL FC do not affect areas of high biodiversity value, and, hence, they do not have a strategy of impact management	Disclosed
63	11.1.7. Measures for reduction of emission of greenhouse gases and the amount of reduction	Environmental impact (page 156)	Disclosed
64	11.1.8. Measures for reduction of influence of products and services on the environment and the amount of reduction	Ecological policy (page 149). Environmental impact (page 156)	Disclosed
65	11.1.9. Share of sold products and its packaging materials returned to the producer for recycling with subdivision into categories	The peculiarities of TVEL FC's production operations make it impossible to reclaim products and materials for recycling	Disclosed
66	11.1.10. General expenses and investments for environmental protection with subdivision into categories	Environmental impact (page 156)	Disclosed
67	11.1.11. Implementation of environmental management system to the organizations of the Corporation	Ecological policy (page 149).	Disclosed
68	11.1.12. Share of recycled waste	Environmental impact (page 156). Data on the percentage of used recycled materials in the total number of used materials are not available	Partially disclosed
69	11.1.13. Share and volume of reusable and recycled water	Environmental impact (page 156)	Disclosed
<b>Use of materials, energy, and water</b>			
70	11.2.1. Used materials with the indication of weight and volume	Environmental impact (page 156)	Disclosed
71	11.2.2. Direct energy consumption by primary energy source	Energy saving and efficiency improvement (page 171)	Disclosed
72	11.2.3. Indirect energy consumption by primary source	Energy saving and efficiency improvement (page 171)	Disclosed
73	11.2.4. Total water intake with the indication of sources	Environmental impact (page 156)	Disclosed
74	11.2.5. Auxiliary water intake	Environmental impact (page 156)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
75	11.2.6. Location and area of land plots owned, rented or managed by the organization, land plots, located on conservation areas and areas with appreciated biological diversity beyond their boundaries, or adjoined areas	The enterprises of the Fuel Company are located on the lands owned by the enterprises and on lands belonging to the Russian Federation and are used on a leasehold basis. Industrial sites of the enterprises of the Fuel Company and surrounding areas are not territories of high biodiversity value	Disclosed
<b>Environmental impact management</b>			
76	11.3.1. Water sources significantly affected by enterprise's water withdrawal	Water withdrawal of has no significant effect on natural water sources	Disclosed
77	11.3.2. Description of significant impacts of activity, production and services on biological diversity of conservation areas and areas with appreciated biological diversity beyond their boundaries	Considering the fact that industrial sites of the enterprises included into control loop of TVEL FC do not affect the areas with biological diversity of high value, the activity, production and services do not influence rare and valuable species	Disclosed
78	11.3.3. Protected or restored habit areas	Environmental impact (page 156)	Disclosed
79	11.3.4. The number of species in the IUCN Red List and national conservation list of protected species in habit areas affected by operations broken down by level of extinction risk	Environmental impact (page 156)	Disclosed
80	11.3.5. Full direct and indirect emissions of greenhouse gases with the indication of weight	Environmental impact (page 156)	Disclosed
81	11.3.6. Other relevant indirect greenhouse gas emissions by weight	Legislative acts regulating the interaction of the enterprises of the Fuel Company with counterparties do not include the need for interrelation between the choice of contractor and its environmental performance. Indirect greenhouse gas emissions by plants of TVEL FC are not taken into account	Disclosed
82	11.3.7. Full direct and indirect emissions of greenhouse gases with the indication of weight	Environmental impact (page 156)	Disclosed
83	11.3.8. Atmospheric emissions of NO <sub>x</sub> , SO <sub>x</sub> and other significant contaminants with the indication of type and weight	Environmental impact (page 156)	Disclosed
84	11.3.9. Total water discharge by quality and destination	Environmental impact (page 156). There is no information on total planned and unplanned discharges of waste water and sewage quality	Partially disclosed
85	11.3.10. Total weight of waste divided by type and method of use	Environmental impact (page 156)	Disclosed
86	11.3.11. Total amount and volume of significant spills	In 2012, there were no incidents and extraordinary situations related to the environmental impact	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
87	11.3.12. The weight of transported, imported, exported, or treated waste deemed to be "hazardous" under Annexes I, II, III, and VIII to the Basel Convention, and percentage of transported waste shipped internationally	TVEL FC is not engaged in transboundary movement of hazardous waste	Disclosed
88	11.3.13. Identity, size, protection status, and value in terms of biodiversity of water bodies and related habit areas suffering a significant impact of discharges of organization and runoff of its facilities	Environmental impact (page 156)	Disclosed
89	11.3.14. Significant environmental impact of transporting products and other goods and materials used for the organization's operations and transporting the workforce	There is no significant Environmental impact of transporting related to the organization's operations and transporting the workforce	Disclosed
90	11.3.15. Payments for emission of contaminants into the atmosphere by stationary and moving sources, discharge of contaminants into surface and subsurface water, dumping of production and consumption waste	Environmental impact (page 156)	Disclosed
<b>Compliance with environmental legislation</b>			
91	11.4.1. Monetary value of large fines and total number of non-financial sanctions imposed for non-compliance with environmental law and regulatory requirements	In 2012, there were no fines and penalties related to compensation of damage for environmental impact of the enterprises included into control loop of TVEL FC	Disclosed
<b>Radiation environmental impact</b>			
92	11.5.1. Emission of radionuclides into the atmosphere	Environmental impact (page 156)	Disclosed
93	11.5.2. Discharge of waste water with radionuclides	Environmental impact (page 156)	Disclosed
94	11.5.3. Pollution of territory with radionuclides	Environmental impact (page 156)	Disclosed
95	11.5.4. Financial support of radiation exposure mitigation measures	Environmental impact (page 156)	Disclosed
<b>Employment</b>			
96	12.1.1. Total amount of man power according to employment patterns, work contract and region	Management of the personnel (page 125)	Disclosed
97	12.1.2. Total number and turnover of employees according to age, gender and region	Management of the personnel (page 125)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
98	12.1.3. Composition of executive board and employees of the organization according to gender and age, representatives of minorities and other variety indexes	Management of the personnel (page 125)	Disclosed
99	12.1.4. Share of specialists up to 35 years	Management of the personnel (page 125)	Disclosed
100	12.1.5. Average age of the employees (according to the categories)	Management of the personnel (page 125)	Disclosed
101	12.1.6. Correlation of basic salary of men and women according to the category of the employees (at important regions)	Management of the personnel (page 125)	Disclosed
102	12.1.7. Correlation range of basic salary of the initial level and established minimum wage at important regions (according to gender)	Management of the personnel (page 125)	Disclosed
103	12.1.8. Average salary in ratio to average level of the labour market	Management of the personnel (page 125)	Disclosed
104	12.1.9. Number of new working places (per year)	Social and economic influence on surroundings (page 117)	Disclosed
<b>Relations between workers and management</b>			
105	12.2.1. Share of employees bound by Collective bargaining agreements	Collective bargaining agreements of the TVEL FC enterprises are signed with 100% of the employees	Disclosed
106	12.2.2. Minimal notification periods related to considerable changes in the work of the organization and their presence in collective arrangement	In case of considerable changes in the work of the organization the employees shall be notified not later than 2 months before. This norm is registered in the collective arrangement of every enterprise	Disclosed
107	12.2.3. Correlation of average salary between 10% of employees with lowest salary and 10% of employees with highest salary	Management of the personnel (page 125)	Disclosed
<b>Welfare protection of the employees</b>			
108	12.3.1. Payments and benefits provided to full-time employees which are not available to temporary or part-time employees, by major operations	Payments and benefits to employees of the enterprises of TVEL FC are carried out in accordance with and on the basis of the Labour Code, collective labour agreements of enterprises, and local regulations on social support of employees, developed on the principles and approaches of corporate social policy. Collective bargaining agreement applies to all employees	Disclosed
109	12.3.2. Securing of obligations of the organization, related to pension scheme with fixed benefit	Management of the personnel (page 125). There is no information on the share of wages deposited by employees or the employer	Partially disclosed

Nº	Indicator	Disclosure	Disclosure completeness
110	12.3.3. Number of employees, who returned after the maternity leave and the share of employees, who stayed at the organization after the maternity leave according to the gender	Management of the personnel (page 125)	Disclosed
111	12.3.4. Non-state pension coverage	Management of the personnel (page 125)	Disclosed
112	12.3.5. Total costs related to personnel	Management of the personnel (page 125)	Disclosed
113	12.3.6. Costs related to social programs for employees	Management of the personnel (page 125)	Disclosed
<b>Health and safety in the workplace</b>			
114	12.4.1. Percentage of total workforce represented in formal joint health and safety committees with the participation of representatives of management and its employees involved in the monitoring and advice on programs on health and safety in the workplace	—	Not disclosed
115	12.4.2. Level of occupational traumatism, level of occupational diseases, ratio of missed days and absence, as well as total number of work-related fatal cases according to region	Labour protection and industrial safety (page 174)	Disclosed
116	12.4.3. Share of employees bound by Collective bargaining agreements	The employees of TVEL FC are provided with: <ul style="list-style-type: none"> <li>introductory and periodic instructions, health safety and environmental training, and consultations;</li> <li>health resort treatment, medicinal and prophylactic nourishment, periodic medical examinations;</li> <li>treatment programs upon availability of medical assessment report.</li> </ul> There are no medical programs for serious diseases not related to the activities of the Fuel Company's enterprises	Disclosed
117	12.4.4. Health and safety topics covered in formal agreements with trade unions	The responsibility of the FC enterprises for health and safety of their personnel is covered by collective bargaining agreements	Disclosed
118	12.4.5. Staff radiation exposure management	Labour protection and industrial safety (page 174)	Disclosed
119	12.4.6. Costs related to health and safety of the employees	Labour protection and industrial safety (page 174)	Disclosed
<b>Training and Education</b>			
120	12.5.1. Lifelong skills development and education programs supporting continued employability of employees and assisting in managing career endings	Management of the personnel (page 125). There is no information on programs facilitating the transition of retired or dismissed employees	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
<b>The impact on the social situation in the regions of presence</b>			
121	13.1.1. Share of operations with the participation of local public, impact assessment and availability of development programs	Social and economic influence on surroundings (page 117)	Disclosed
122	13.1.2. Employment procedure and the share of top managers from local population in important regions	Management of the personnel (page 125). TVEL FC mainly hires employees among local population of the enterprise's territory of presence; it engages specialists from other regions in case of absence candidates with required qualifications in the local labor market	Disclosed
123	13.1.3. Activity of the company with potential or real major negative impact on the local community	Environmental impact (page 156). Nuclear and radiation safety (page 166)	Disclosed
124	13.1.4. Prevention or mitigation of potential or real major negative impact on the local communities	Environmental impact (page 156). Nuclear and radiation safety (page 166)	Disclosed
<b>Interaction with stakeholders in the field of socially important tasks of socio-economic development of the regions of presence</b>			
125	13.2.1. Making of development programs for Closed Administrative Territorial Entities	Social and economic influence on surroundings (page 117)	Disclosed
126	13.2.2. Joint projects with non-commercial and non-state organizations related to socially important tasks	Social and economic influence on surroundings (page 117)	Disclosed
<b>Charitable activity</b>			
127	13.3.1. Charitable project and amount of finance spent on these projects	Charitable activity and support of external social programs (page 123)	Disclosed
<b>Corruption management</b>			
128	14.1.1. Percentage and total number of business units audited for risks related to the corruption	Anti-illegal actions structural subdivisions of TVEL FC continuously monitor movement of the assets, analyse factors and conditions contributing to internal and external threats (risks) to assets and economic interests of TVEL JSC and SA, and implement preventive measures, counteractions and actions to neutralize negative effects. In 2012, all business units of TVEL FC were analysed	Disclosed
129	14.1.2. Percentage of employees trained in organization's anti-corruption policies and procedures	All employees of TVEL FC are required to study the provisions and regulations on combating fraud and corruption. Information coverage is 100% of the staff. In addition, the staff of the responsible units has specialized training on topical issues in the field of anti-corruption policy from external providers. Also TVEL FC has a joint industry initiative to combat theft and fraud, under which a hot line is created for maximally prompt solution of issues. The program also involves financial compensation and personnel protection for workers involved in the program	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
130	14.1.3. Actions taken in response to incidents of corruption	Corruption management and settlement of conflicts of interest (page 74). There is no information on the number of layoffs and non-renewal of contracts with business partners due to violations related to corruption, as well as to the relevant legal acts	Partially disclosed
<b>Compliance with the requirements</b>			
131	14.2.1. Total number of decisions (legal actions) related to prevention of antitrust offense prevention and prosecution for such violations in respect of reporting organization, practical approaches for exclusion of monopolistic practices and results of such approaches	In 2012 there were no such cases	Disclosed
132	14.2.2. Monetary value of significant fines and total number of non-financial penalties imposed for violation of legislation and regulatory requirements	In 2012 there were no such penalties	Disclosed
133	14.2.3. Total number of violations of regulatory requirements and voluntary laws related to marketing communications, including publicity, product promotion and sponsorship according to the type of consequences	In 2012 there were no such cases	Disclosed
134	14.2.4. Total number of validated complaints related to violation of privacy right and the loss of customer data	The indicator is not applicable due to the specific nature of products and services of the enterprises of TVEL FC	Disclosed
<b>Product liability</b>			
135	14.3.1. Life-cycle stages on which the impact on health and safety of products and services is evaluated for revelation of improvement opportunities and the share of important products and services entitled to such opportunities	Quality management (page 67)	Disclosed
136	14.3.2. Total number of violations of regulatory requirements and voluntary certification related to impact of products and services on health and safety according to the type of consequences	Nuclear and radiation safety (page 139)	Disclosed
137	14.3.3. Forms of information on properties of products and services, which are required by the procedures and the share of important products and services with such requirements as to information	The indicator is not applicable due to the specific nature of products and services of the enterprises of TVEL FC	Disclosed
138	14.3.4. Total number of violations of regulatory requirements related to information and marking of the products and services according to the type of consequences	The indicator is not applicable due to the specific nature of products and services of the enterprises of TVEL FC	Disclosed
139	14.3.5. Practices related to consumer satisfaction including the results of consumer satisfaction degree surveys	Quality management (page 67)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
140	14.3.6. Programs related to the provision of correspondence to the legislation, standards, requirements of voluntary certification related to marketing communications, including publicity, product promotion and sponsorship	Due to special nature of the activities of TVEL FC, there are no programs related to the provision of correspondence to the legislation, standards, requirements of voluntary certification related to marketing communications, including publicity, product promotion and sponsorship	Disclosed
141	14.3.7. Monetary value of significant fines imposed for violation of legislation and regulatory requirements relates to the provision of products and services	In 2012 there were no such penalties	Disclosed
142	14.3.8. The number of claims and complaints from consumers	There are no complaints and claims	Disclosed
<b>Corruption management</b>			
143	14.4.1. Institutionalisation of ethical practice	Corporate governance (page 46)	Disclosed
144	14.4.2. Ratio and total number of major investment agreements that include human rights provisions or that have passed the evaluation in the context of human rights	All investment agreements undergo evaluation for conformance with the Russian legislation related to human rights. All investment agreements are in conformance with the Russian legislation	Disclosed
145	14.4.3. Share of important suppliers and contractors that have passed the evaluation in the context of human rights and measures taken	Suppliers and contractors undergo evaluation in the context of human rights	Disclosed
146	14.4.4. Total duration (hours) of seminars related to the policies and procedures connected with the aspects of human rights that are important to the work of the organization including the share of trained employees	Management of the personnel (page 125)	Disclosed
147	14.4.5. Number of discrimination cases and measures taken	There were no such cases in 2012. In the case of discrimination, every employee of TVEL FC may appeal directly to the CEO of the enterprises or the President of TVEL JSC via e-mail or the boxes of appeals	Disclosed
148	14.4.6. Activities that may violate the freedom of association and the right for collective negotiations, as well as the measures taken to support these rights	Every employee has the right to join the trade union that will represent his/her interests during the collective negotiations. This right is supported by the top management of Rosatom State Atomic Energy Corporation and TVEL FC	Disclosed
149	14.4.7. Activities with the risk of employment of children and measures taken to prevent employment of children	We do not employ children. The employees should have at least post-secondary education, so there is no question of employment of children	Disclosed
150	14.4.8. Activities with substantial risk of use of compulsory labour and measures taken to prevent such situations	TVEL FC carries out its activities in accordance with the legislation of the Russian Federation under which forced labour is prohibited. In 2012, there were no cases of forced labour in TVEL FC. In 2012, the analysis of suppliers in respect of this indicator wasn't performed	Disclosed
151	14.4.9. Percentage of security personnel trained on policies and procedures concerning aspects of human rights relevant to operations	TVEL JSC didn't train the security personnel on policies or procedures concerning aspects of human rights in 2012. There are no requirements for conducting such training in contracting companies providing safety personnel	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
152	14.4.10. Cases of violation of rights of indigenous and small-numbered peoples, and actions taken	There are no such cases	Disclosed
153	14.4.11. The share and total number of transactions evaluated in the context of human rights or transactions evaluated for impact on human rights	TVEL FC doesn't carry out such evaluation, because all rights that are important for all concerned parties are included into the collective labour agreement. TVEL FC provides reports regarding the observance of collective labour agreement on an annual basis and the trade union organization monitors this process	Disclosed
154	14.4.12. The number of complaints related to human rights that were considered and handled by means of formal complaints procedure	Formal complaints procedure is represented by e-mails or messages sent to the Director General of TVEL JSC. All complaints are considered and all letters are answered. In 2012 there were no complaints regarding the actions of the employer connected with the violation of the Labour Code of the Russian Federation	Disclosed

**APPENDIX 2.  
DISCLOSURE  
OF STANDARD  
ELEMENTS  
AND INDICATORS  
OF THE GRI  
MANUAL (G3.1)**

Nº	Indicator	Disclosure	Disclosure completeness
<b>Corruption management</b>			
1	1.1. Statement of senior officer who makes decisions in the organization (e.g. CEO, chairman of the board or equivalent position), publishes the Report regarding the importance of sustainable development for the organization and its strategy	Messages of chief executives (page 12)	Disclosed
2	1.2. Characteristics of key influences, risks and possibilities	Development strategy (page 38). Risk management (page 69). Place of TVEL FC in the world market of NFC IS (page 32). Social and economic influence on surroundings (page 117)	Disclosed
<b>Characteristics of the organization</b>			
3	2.1. Name of the reporting organization	General data (page 16)	Disclosed
4	2.2. Main brands, products and/or services	General data (page 16)	Disclosed
5	2.3. Functional structure including main business units, operating companies, affiliated companies and joint ventures	Corporate governance (page 46)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
6	2.4. Location of headquarters	General data (page 16)	Disclosed
7	2.5. Number of countries, where the company operates and the countries where core activities are carried out or the countries that are important for sustainable development covered by the Report	Geographic reach (page 32). Place of TVEL FC in the world market of NFC IS (page 32). Social and economic influence on surroundings (page 117)	Disclosed
8	2.6. Ownership type and legal form	General data (page 16). Corporate governance (page 46)	Disclosed
9	2.7. Markets on which the organization operates (according to location, market segments, category of clients and beneficiaries)	Place of TVEL FC in the world market of NFC IS (page 32)	Disclosed
10	2.8. Size of the organization including: <ul style="list-style-type: none"> <li>number of employees;</li> <li>net sales (private organizations) or net profit (state organizations);</li> <li>total capitalization with subdivision into credit capital and owned capital (private organizations);</li> <li>quantitative characteristics of products or services</li> </ul>	Schedule of key milestones (page 15). Management of the personnel (page 125). Financial results of activity of TVEL FC (page 87). Production and economic results (page 90). Basic characteristics (page 20)	Disclosed
11	2.9. Major change of scale, structure or ownership during the reporting period	Corporate governance (page 46)	Disclosed
12	2.10. Awards received during the reporting period	Interaction with stakeholders (page 184)	Disclosed
<b>Report parameters</b>			
13	3.1. Reporting period (e. g. financial/ calendar year) relating to the represented information	Information about the Statement and preparation thereof (page 8)	Disclosed
14	3.2. Publishing date of the previous report (if any)	Information about the Statement and preparation thereof (page 8)	Disclosed
15	3.3. Reporting cycle (annual, biennial, etc.)	Information about the Statement and preparation thereof (page 8)	Disclosed
16	3.4. Contact information for questions regarding the Report and its contents	Contact information (page 270)	Disclosed
17	3.5 Report contents definition process, including: <ul style="list-style-type: none"> <li>relevance definition;</li> <li>prioritization of topics;</li> <li>definition of concerned parties regarded as potential users of the report</li> </ul>	Information about the Statement and preparation thereof (page 8). Public reporting system and Interaction with stakeholders (page 180)	Disclosed
18	3.6. Limits of the report (e. g. countries, business units, affiliated companies, leased facilities, joint ventures, suppliers)	Information about the Statement and preparation thereof (page 8)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
19	3.7. Report restrictions	Information about the Statement and preparation thereof (page 8)	Disclosed
20	3.8. Basis for inclusion the information on joint ventures, affiliated companies, lease of enterprises, transfer of certain functions to external contractors and other business units, who may have significant influence on comparability with previous reports and/or other organizations	Information about the Statement and preparation thereof (page 8)	Disclosed
21	3.9. Methods of evaluation of data and calculations including assumption and methods used for evaluation of other indicators and data included in the Report	Information about the Statement and preparation thereof (page 8)	Disclosed
22	3.10. Description of meaning of any alterations of the information from previous reports and the reasons for such alterations (e. g. mergers and acquisitions, alteration of reporting periods, business, evaluation methods)	There is no reformulation	Disclosed
23	3.11. Substantial alterations with regard to previous reporting periods as pertaining to range, boundaries and evaluation methods used in the Report	Information about the Statement and preparation thereof (page 8)	Disclosed
24	3.12. Table that shows the place of standard elements in the Report	Appendix 2 to the Annual Report (page 211)	Disclosed
25	3.13. Policy and approaches related to the external confirmation of the Report	Information about the Statement and preparation thereof (page 8)	Disclosed
<b>Management, obligations and interaction with stakeholders</b>			
26	4.1. Management structure organization, including all main committees of top executive board responsible for specific objective, e. g. strategy generation or general supervision over the activities of the organization	Corporate governance (page 46). Organizational structure of TVEL JSC (page 54)	Disclosed
27	4.2. Indicate if the chairman of top executive board is the CEO of the company (If yes, what is role in management of the organization and why?)	Corporate governance (page 46)	Disclosed
28	4.3. For the organizations with unitary Board of Directors — specify the number of independent members of top executive board and/or members, who are not included to the executive management of the company (by gender)	Corporate governance (page 46)	Disclosed
29	4.4. Mechanisms that may be used by the shareholders to direct the top executive board or to give it recommendations	Interaction with stakeholders during preparation of the Report (page 180)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
30	4.5. Relation of salary of the members of top executive board and senior managers (including retirement benefits) to the performance of the organization (including social and ecological results)	Corporate governance (page 46)	Disclosed
31	4.6. Measures used for prevention of conflict of interests within the top executive board	Corporate governance (page 46). The issue of conflict of interest within the top executive board of TVEL JSC is under control of Rosatom State Corporation	Disclosed
32	4.7. Methods used for evaluation of qualification and competence of the top executive board members to direct the strategy of the organization, including economical, ecological and social efficiency	The sole shareholder, Atomenergoprom JSC, evaluates qualification and competence of the top executive board members of TVEL JSC	Disclosed
33	4.8. Mission of the organization, its values, Codes of Corporate Conduct and principles, important from the point of view of economical, ecological and social efficiency, as well as the extent of their implementation	Mission, goal and values (page 31). Corporate governance (page 46). Public position of TVEL FC related to sustainable development	Disclosed
34	4.9. Procedures used by the top executive boards for monitoring and control of economical, ecological and social efficiency of the organization, including risks and possibilities, as well as observance and compliance with international standards, Codes of Corporate Conduct and principles	Development strategy (page 38). Corporate governance (page 46). Quality management (page 67). Public position of TVEL FC related to sustainable development. Risk Management (page 69). Social and economic influence on surroundings (page 117)	Disclosed
35	4.10. Evaluation of its own efficiency by the top executive board, especially in the context of economical, ecological and social efficiency of the organization	Messages by the chief executives (page 12). Corporate governance (page 46). Financial Results of Activity of TVEL FC (page 87)	Disclosed
36	4.11. Explain if the organization uses precautionary principle and in which manner	The company that uses precautionary principle tries to avoid supposed damage to the environment even if there is no scientific evidence that certain activity inflicts this damage	Disclosed
37	4.12. Voluntary economical, ecological and social charters, principles or other initiatives developed by external parties and used or supported by the organization	Reporting manual GRI G3.1. Recommendations (prototype) of the International Council for Integrated Reporting. In view of participation of Rosatom State Corporation in the pilot program of the International Council for Integrated Reporting, the management of TVEL JSC decided to expand the list of regulations and guidelines for the preparation of a public annual statement and include Recommendations (prototype) of the International Council for Integrated Reporting	Disclosed
38	4.13. Membership in associations (e.g. industry associations) and/or national and international organizations related to the protection of interests where the organization: <ul style="list-style-type: none"> <li>is the part of regulatory body;</li> <li>participates in projects or committees;</li> <li>provides substantial financing above the membership fee;</li> <li>or considers its membership as a strategic move</li> </ul>	TVEL JSC is the member of the Union of Employers of Nuclear Power Industry and Science of Russia	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
39	4.14. List of stakeholders that collaborated with the organization	Interaction with stakeholders during preparation of the Report (page 180)	Disclosed
40	4.15. Reasons for identification and selection of stakeholders for further collaboration	Interaction with stakeholders during preparation of the Report (page 180)	Disclosed
41	4.16. Approaches of collaboration with stakeholders including the frequency of collaboration according to forms and concerned groups	Interaction with stakeholders during preparation of the Report (page 180)	Disclosed
42	4.17. Key topics and interests that were discussed or discovered during the collaboration with stakeholders and the opinion of the organization regarding these topics expressed by, e.g. the reports	Appendix 3 (page 223)	Disclosed
<b>Information on management approaches and performance indicators</b>			
43	Information on management approaches	Production and efficiency management (page 56). Quality management (page 67). Social and economic influence on surroundings (page 117). Ecologic, nuclear and radiation safety (page 149). Labour protection and industrial safety (page 174). Public position of TVEL FC related to sustainable development	Disclosed
<b>Performance indicators – Economic</b>			
1	EC1. Created and distributed direct economic value, including profits, operating costs, salaries, contributions and other investments to the companies, undistributed profits, payments to investors and countries	Social and economic influence on surroundings (page 117)	Disclosed
2	EC2. Financial aspects and other risks and possibilities, related to the alteration of climate	Climatic effect attributed to the enterprises managed by the Fuel Company is insignificant compared to the enterprises related to extractive industries and thermal power companies. That's why the management board has not evaluated financial aspects and other risks related to the alteration of the climate. Climate change has no impact on business operations of TVEL FC and its employees	Disclosed
3	EC3. Securing of obligations of the organization, related to pension scheme with fixed benefit	Management of the personnel (page 125). There is no information on the share of wages deposited by employees or the employer	Partially disclosed
4	EC4. Considerable financial aid from public authorities	Ecological policy (page 149). Nuclear and Radiation Safety (page 166)	Disclosed
5	EC5. Correlation range of basic salary of the initial level and established minimum wage at important regions by gender	Management of the personnel (page 125)	Disclosed
6	EC6. Policy, practical approach to purchases from local suppliers and the share of such purchases at important regions	Procurement activities (page 78)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
7	EC7. Employment procedure and the share of top managers from local population in important regions	Management of the personnel (page 125). TVEL FC mainly hires employees among local population of the enterprise's territory of presence; it engages specialists from other regions in case of absence candidates with required qualifications in the local labour market	Disclosed
8	EC8. Development and influence of investments on infrastructure of services rendered primarily for the public good by means of commercial, natural or charitable participation	Social and economic influence on surroundings (page 117)	Disclosed
9	EC9. Understanding and description of important indirect economic impacts including the impact areas	Social and economic influence on surroundings (page 117)	Disclosed
<b>Performance indicators – Environmental</b>			
10	EN1. Materials used by weight or volume	Environmental impact (page 156)	Disclosed
11	EN2. Percentage of materials used that are recycled input materials	Environmental impact (page 156). Data on the percentage of used recycled materials in the total number of used materials are not available	Partially disclosed
12	EN3. Direct energy consumption by primary energy source	Energy saving and efficiency improvement (page 171). TVEL FC's enterprises do not use energy from renewable sources	Disclosed
13	EN4. Indirect energy consumption by primary source	Energy saving and efficiency improvement (page 178). Currently, the Company has not developed a policy on management of other indirect energy consumption.	Disclosed
14	EN5. Energy saved due to conservation and efficiency improvements	Energy saving and efficiency improvement (page 171)	Disclosed
15	EN6. Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	Energy saving and efficiency improvement (page 171)	Disclosed
16	EN7. Initiatives to reduce indirect energy consumption and reductions achieved	Currently, the Company has not developed a policy on management of other indirect energy consumption	Disclosed
17	EN8. Total water withdrawal by source	Environmental impact (page 156)	Disclosed
18	EN9. Water sources significantly affected by enterprise's water withdrawal	Water withdrawal has no significant effect on natural water sources	Disclosed
19	EN10. Percentage and total volume of water recycled and reused	Environmental impact (page 156)	Disclosed
20	EN11. Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas, or adjacent to such areas	The enterprises of the Fuel Company are located on the lands owned by the enterprises and on lands belonging to the Russian Federation and are used on a leasehold basis. Industrial sites of the enterprises of the Fuel Company and surrounding areas are not territories of high biodiversity value and are not protected	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
21	EN12. Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	Taking into account that the industrial sites of the enterprises included in the management perimeter of TVEL Fuel Company do not affect any areas of high biodiversity value, there are no impacts of activities, products, and services on rare or valuable species	Disclosed
22	EN13. Habitats protected or restored	Environmental impact (page 156)	Disclosed
23	EN14. Strategies, current actions and future plans for managing impacts on biodiversity	Enterprises of TVEL FC do not affect areas of high biodiversity value, and, hence, they do not have a strategy of impact management	Disclosed
24	EN15. The number of species in the IUCN Red List and national conservation list of protected species in habit areas affected by operations broken down by level of extinction risk	Environmental impact (page 156)	Disclosed
25	EN16. Total direct and indirect greenhouse gas emissions by weight	CO emissions were taken into account to determine the emission of greenhouse gases, as carbon monoxide released to the atmosphere from technology-related sources is oxidized to carbon dioxide. CO emissions of the Fuel Company's enterprises amounted to 606 tons (in 2011 — 817.3 tons). When converted by molecular weight carbon dioxide in the atmosphere is 951.5 tons (2011 — 1, 238.1 tons). TVEL FC's enterprises don't take into account indirect greenhouse gas emissions	Disclosed
26	EN17. Other relevant indirect greenhouse gas emissions by weight	Legislative acts regulating the interaction of the enterprises of the Fuel Company with counterparties do not include the need for interrelation between the choice of contractor and its environmental performance. Indirect greenhouse gas emissions by plants of TVEL FC are not taken into account	Disclosed
27	EN18. Initiatives to reduce greenhouse gas emissions and reductions achieved	Environmental impact (page 156)	Disclosed
28	EN19. Emissions of ozone-depleting substances by weight	Environmental impact (page 156)	Disclosed
29	EN20. NO <sub>x</sub> , SO <sub>x</sub> , and other significant air emissions by type and weight	Environmental impact (page 156)	Disclosed
30	EN21. Total water discharge by quality and destination	Environmental impact (page 156). There is no information on total planned and unplanned discharges of waste water and sewage quality	Partially disclosed
31	EN22. Total weight of waste by type and disposal method	Environmental impact (page 156)	Disclosed
32	EN23. Total number and volume of significant spills	No incident or emergency connected with any environmental impact occurred during period under review	Disclosed
33	EN24. The weight of transported, imported, exported, or treated waste deemed to be "hazardous" under Annexes I, II, III, and VIII to the Basel Convention, and percentage of transported waste shipped internationally	TVEL FC doesn't transport the waste transboundary	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
34	EN25. Identity, size, protection status, and value in terms of biodiversity of water bodies and related habit areas suffering a significant impact of discharges of organization and runoff of its facilities	Environmental impact (page 156)	Disclosed
35	EN26. Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	Ecological policy (page 149). Environmental impact (page 156)	Disclosed
36	EN27. Percentage of products sold and their packaging materials that are reclaimed by category	The peculiarities of TVEL FC's production operations make it impossible to reclaim products and materials for recycling	Disclosed
37	EN28. Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	In 2012, no fines or sanctions to compensate damage resulting from environmental impact have been imposed in on any enterprises included in the management perimeter of TVEL FC, environmental damage wasn't inflicted	Disclosed
38	EN29. Significant environmental impact of transporting products and other goods and materials used for the organization's operations and transporting the workforce	There is no significant Environmental impact of transporting related to the organization's operations and transporting the workforce	Disclosed
39	EN30. Total environmental protection expenditures and investments by type	Environmental impact (page 156)	Disclosed

**Performance Indicators – Social, labour practices and decent work**

40	LA1. Total workforce by employment type, employment contract, region and gender	Management of the personnel (page 125)	Disclosed
41	LA2. Total number and percentage of new employee hires and employee turnover by age group, gender, and region	Management of the personnel (page 125)	Disclosed
42	LA3. Payments and benefits provided to full-time employees which are not available to temporary or part-time employees, by major operations	Payments and benefits to employees of the enterprises of TVEL FC are carried out in accordance with and on the basis of the Labour Code, collective labour agreements of enterprises, and local regulations on social support of employees, developed on the principles and approaches of corporate social policy. Collective bargaining agreement applies to all employees	Disclosed
43	LA4. Percentage of employees covered by collective bargaining agreements	Collective bargaining agreements of the TVEL FC enterprises cover 100% of their employees	Disclosed
44	LA5. Minimum notice period(s) regarding operational changes, including whether it is specified in Collective bargaining agreements	In case of any significant operational changes employees are notified thereof with at least 2-month prior notice. Such provision is included in the collective bargaining agreement of every enterprise	Disclosed
45	LA6. Percentage of total workforce represented in formal joint health and safety committees with the participation of representatives of management and its employees involved in the monitoring and advice on programs on health and safety in the workplace	In 2012, an analysis of this indicator wasn't performed	Not disclosed

Nº	Indicator	Disclosure	Disclosure completeness
46	LA7. Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region and gender	Labour protection and industrial safety (page 174)	Disclosed
47	LA8. Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious disease	The employees of TVEL FC are provided with: <ul style="list-style-type: none"> <li>• introductory and periodic instructions, health safety and environmental training, and consultations;</li> <li>• health resort treatment, medicinal and prophylactic nourishment, periodic medical examinations;</li> <li>• treatment programs upon availability of medical assessment report.</li> </ul> <p>There are no medical programs for serious diseases not related to the activities of the Fuel Company's enterprises</p>	Disclosed
48	LA9. Health and safety topics covered in formal agreements with trade unions	The responsibility of the FC enterprises for health and safety of their personnel is covered by collective bargaining agreements. All employees of TVEL FC are included in the collective bargaining agreements system of the enterprises under which the employers and trade union organizations cooperate in the implementation of state policy on protection, safety and working conditions improvement	Disclosed
49	LA10. Average hours of training per year per employee by employee category and gender	Management of the personnel (page 125)	Disclosed
50	LA11. Lifelong skills development and education programs supporting continued employability of employees and assisting in managing career endings	Management of the personnel (page 125). There is no information on programs facilitating the transition of retired or dismissed employees	Partially disclosed
51	LA12. Percentage of employees receiving regular performance and career development reviews (broken down by gender)	Management of the personnel (page 125)	Disclosed
52	LA13. Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity	Management of the personnel (page 125)	Disclosed
53	LA14. Ratio of basic salary of men to women by employee category and significant operation regions of the company	Management of the personnel (page 125)	Disclosed
54	LA15. (GRI 3.1). Return to work and retention rates after parental leave, by gender	Management of the personnel (page 125)	Disclosed

**Performance Indicators – Society**

55	SO1. Percentage of operations with the participation of the local community, the impact and program development assessment	Social and economic influence on surroundings (page 117)	Disclosed
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Nº	Indicator	Disclosure	Disclosure completeness
56	SO2. Percentage and total number of business units audited for risks related to the corruption	Anti-illegal actions structural subdivisions of TVEL FC continuously monitor movement of the assets, analyse factors and conditions contributing to internal and external threats (risks) to assets and economic interests of TVEL FC and SA, and implement preventive measures, counteractions and actions to neutralize negative effects. In 2012, all business units of TVEL FC were analysed	Disclosed
57	SO3. Percentage of employees trained in organization's anti-corruption policies and procedures	All employees of TVEL FC are required to study the provisions and regulations on combating fraud and corruption. Information coverage is 100% of the staff. In addition, the staff of the responsible units has specialized training on topical issues in the field of anti-corruption policy from external providers. Also TVEL FC has a joint industry initiative to combat theft and fraud, under which a hot line is created for maximally prompt solution of issues. The program also involves financial compensation and personnel protection for workers involved in the program	Disclosed
58	SO4. Actions taken in response to incidents of corruption	Corruption management and settlement of conflicts of interest (page 74). There is no information on the number of layoffs and non-renewal of contracts with business partners due to violations related to corruption, as well as to the relevant legal acts	Disclosed
59	SO5. Public policy positions and participation in public policy development and lobbying	TVEL FC does not participate in public policy development and lobbying	Disclosed
60	SO6. Total value of financial and in-kind contributions to political parties, politicians, and related institutions by countries	TVEL FC doesn't make financial and in-kind contributions to political parties, politicians, and related institutions	Disclosed
61	SO7. Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	There were no such cases in 2012	Disclosed
62	SO8. Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	No fines were imposed in 2012	Disclosed
63	SO9 (GRI 3.1). Operations with significant potential or actual negative impacts on local communities	Environmental impact (page 156). Nuclear and radiation safety (page 166)	Disclosed
64	SO10 (GRI 3.1). Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities	Environmental impact (page 156). Nuclear and radiation safety (page 166)	Disclosed
<b>Performance Indicators – Product responsibility</b>			
65	PR1. Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures	Quality management (page 67)	Disclosed

Nº	Indicator	Disclosure	Disclosure completeness
66	PR2. Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes	Nuclear and radiation safety (page 166)	Disclosed
67	PR3. Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements	The indicator is not applicable due to the specific nature of products and services of the enterprises of TVEL FC	Disclosed
68	PR4. Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements	The indicator is not applicable due to the specific nature of products and services of the enterprises of TVEL FC	Disclosed
69	PR5. Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	Quality management (page 67)	Disclosed
70	PR6. Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship	Due to the peculiarities of TVEL FC's operations, there are no programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship	Disclosed
71	PR7. Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes	No such incidents were identified	Disclosed
72	PR8. Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	The indicator is not applicable due to the specific nature of products and services of the enterprises of TVEL FC	Disclosed
73	PR9. Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No fines were imposed in 2012	Disclosed
<b>Performance Indicators – Human rights</b>			
74	HR1. Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening	All investment agreements are subject to assessment for compliance with Russian legislation concerning aspects of human rights. All investment agreements comply with the requirements of Russian legislation	Disclosed
75	HR2. Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken	Suppliers and contractors do not undergo human rights screening	Disclosed

APPENDIX 3.  
TABLE RECORDING  
THE OFFERS EXPRESSED  
BY THE STAKEHOLDERS  
REGARDING  
THE IMPROVEMENT  
OF THE ANNUAL  
REPORT 2012

Nº	Indicator	Disclosure	Disclosure completeness
76	HR3. Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	Employee training on policies and procedures concerning aspects of human rights lasts for 3 hours and includes employee familiarization with the following documents: <ul style="list-style-type: none"> <li>• Internal work regulations;</li> <li>• Probation regulations;</li> <li>• Order on employee medical examination;</li> <li>• Labour remuneration and employee incentives regulations;</li> <li>• Employee voluntary medical insurance regulations;</li> <li>• Induction safety training program.</li> </ul> <p>This training is mandatory for all employees, with 100% of employees trained</p>	Disclosed
77	HR4. Total number of incidents of discrimination and corrective actions taken	No incidents of discrimination were identified in 2012. For incidents of discrimination to be identified, every employee of TVEL FC may report directly to the general director of the enterprise concerned or to the president of Fuel Company, using e-mail or through letter boxes	Disclosed
78	HR5. Actions taken in response to incidents of corruption	Every employee of Fuel Company enterprises has the right to join the trade union that represents the employees' interests during collective bargaining. The management of Rosatom State Corporation and TVEL FC encourages employees to join the trade union. In 2012, the analysis of suppliers in respect of this indicator wasn't performed	Disclosed
79	HR6. Operations of the Company and its leading suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour	No child labour is used. The technical complexity of the company's operations requires at least secondary professional education and excludes the use of child labour. In 2012, the analysis of suppliers in respect of this indicator wasn't performed	Disclosed
80	HR7. Operations of the Company and its leading suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour	TVEL FC carries out its activities in accordance with the legislation of the Russian Federation under which forced labour is prohibited. In 2012, there were no cases of forced labour in TVEL FC. In 2012, the analysis of suppliers in respect of this indicator wasn't performed	Disclosed
81	HR8. Percentage of security personnel trained on policies and procedures concerning aspects of human rights relevant to operations	TVEL FC didn't train the security personnel on policies or procedures concerning aspects of human rights in 2012. There are no requirements for conducting such training in contracting companies providing safety personnel	Disclosed
82	HR9. Cases of violation of rights of indigenous and small-numbered peoples, and actions taken	There are no such cases	Disclosed
83	HR10 (GRI 3.1). Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments	TVEL FC's processes are not subject to human rights reviews, since all rights that are material for the parties are laid down in the collective bargaining agreement. TVEL FC provides reports on compliance of the provision of its collective bargaining agreement. The fulfilment of the collective bargaining agreement is controlled by the trade union	Disclosed
84	HR11 (GRI 3.1). Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms	Letters received in 2012 contained no grievances regarding any actions of TVEL FC in relation to its employees	Disclosed

The offers expressed by the stakeholders regarding the improvement of the Annual Report (Appendix 2 AR 2011)

Nº	Offers description	Reflection in the Report/ fulfilment of obligations
1	To specify the way, the results of the report year influence the effectiveness of business in the summary parts of sections on management, in particular human resources management and social and economic impact on the regions of presence. (2 dialogue. Notes to the AS for 2011)	Information on the impact of the results of the reporting year on business performance of TVEL FC is provided in Section "Financial Results of activity" (page 87)
2	While describing charitable activities of the Company it is necessary to disclose not only the financing of the programs, but also the very approach of the Company to charity. (2 dialogue. Notes to the AS for 2011)	Charitable activity and support of external social programs (page 123)
3	To add the information about natural areas of special protection, affected by the Company's enterprises. (2 dialogue. Notes to the AS for 2011)	Environmental impact (page 156)
4	TVEL FC participation in conferences and meetings dedicated to environment protection should be more explicitly disclosed in the Report. (2 dialogue. Notes to the AS for 2011)	Ecological policy (page 149)
5	To reflect not only the financial support but also the events and programs, carried out within the framework of work with veterans in the Section "TVEL FC Programs for Veterans Support". (General consultations. Notes to the AS for 2011)	Management of the personnel (page 125)
6	To add the control element to the Section "Cooperation with environmental organizations". In particular, plans on cooperation with environmental organizations in 2012. (General consultations. Notes to the AS for 2011)	Ecological policy (page 149). Nuclear and Radiation Safety (page 166). Labour protection and industrial safety (page 174)
7	To have a dialog in one of the regions of presence of TVEL FC, in particular in Seversk, where, on the one hand, the processes of JSC "SGChE" reorganization is taking place and, on the other hand, plans regarding new production and innovation projects are made	The Committee for Public Annual Reporting of TVEL JSC offered the management of JSC "SGChE" to increase the number of representatives of Rosatom State Corporation and TVEL FC, involved in dialogues during the discussion of the Annual Report of JSC "SGChE"
8	To try to reflect in the Report the reaction of consumers of social "care", rendered to the presence territory population by the Company	In 2013, it is planned to develop a system for receiving feedback from consumers of social "care"
9	To show the number of workplaces created by TVEL FC	Social and economic influence on surroundings (page 117)

Nº	Offers description	Reflection in the Report/ fulfilment of obligations
10	While describing the TVEL FC business model it is not enough to rely on the process flow. This will not allow making the business model unique and distinct. One cannot rely on the most significant single factor while establishing a business model. It is needed to present the smallest factors in order to make it unique. (4 dialogue. Notes to the AS for 2011)	The offer is included. Business model (page 21)
11	Taking into account the fact that IIRC understands the company's value not only in terms of money but also as its value, the output from the personnel sphere and other outputs should be added to the resource output in the form of main product	The business model of TVEL FC is described made in accordance to the Recommendations (prototype) of the International Council for Integrated Reporting
12	To provide more detailed information on key forecasts and indicators in the Report. In particular, things that form the basis for these forecasts	The report provides detailed information on the development plans of TVEL FC. Forecasts are based on the approved strategy and development plans of TVEL FC
13	By the end of 2011, the Company will approve the personnel policy in the field of RPS (Rosatom Production System) development. The information will be presented in the Annual Report for 2011	At present the Concept of this personnel policy is being formed. By the end of 2013, the Company will adopt the personnel policies of the RPS

**Implementation of plans and commitments regarding sustainable development issues adopted for 2011–2012**

14	By the end of 2011, the Company will develop the Program of workplaces creation in the regions of presence of the Fuel Company enterprises, the reorganization of which bear the greatest impact on the local social and economic environment, and will post it on the corporate website	In progress
15	By the end of 2011, the Company will create the consolidated plan of measures and projects on the development of social and economic environment of the regions of presence and create the updateable chapter reporting on the plan implementation on the corporate website	In progress
16	By the end of 2011, the Company will form the principles of interaction with the interested parties, regarding the social and cultural environment and the infrastructure development in the regions of presence under the unified regional policy of Rosatom State Atomic Energy Corporation and post them on the corporate website	In progress
17	By the end of 2011, TVEL FC will develop the R&D plan for 2012 on improving the fuel products and will submit it for consideration and approval by the interested parties at the scientific and technical Council of TVEL FC	The obligation has been fulfilled
18	In 2012, the Company will continue to use the international reporting recommendations and standards in the field of sustainable development (GRI, AA1000) during the preparation of the public annual Report. The company seeks to increase the level of compliance of the future annual Reports to the level A+ (GRI)	The obligation has been fulfilled
19	To carry out the assessment, with the reporting depth of 10 years, of environmental impact of environmentally significant enterprises that are the part of the TVEL FC management framework till the end of 2012	The activities have been carried out:  1. Estimation of dynamics of water use for production; the volume of use in 2011 amounted to 573.7 million cubic meters, which is by 15.2% less than in 2002; and water use in the circulating water supply systems in 2011 amounted to 385.6 million m <sup>3</sup> , which is by 81.3% less than in 2002

Nº	Offers description	Reflection in the Report/ fulfilment of obligations
		2. Estimation of dynamics of wastewater discharge into surface waters: <ul style="list-style-type: none"> <li>effluents treated to standard quality (in 2011 — 20.8 million m<sup>3</sup> which is by 26.2% less than in 2002);</li> <li>polluted (in 2011 — 1.4 million m<sup>3</sup> which is by 97.9% less than in 2002);</li> <li>partially clean water (in 2011 — 483.8 million m<sup>3</sup> which is by 13.6% less than in 2002).</li> </ul>
		3. Estimation of emissions: <ul style="list-style-type: none"> <li>from fuel combustion (in 2011 — 29,209 million tons which is by 3.2% less than in 2002);</li> <li>from technology process (in 2011 — 1.928 thousand tons which is by 35.2% more than in 2002);</li> <li>from harmful chemical substances (in 2011 — 31,773 million tons which is by 0.68% less than in 2002).</li> </ul>
		4. Estimation of dynamics of waste production and consumption (Total waste in 2011 — 376.1 thousand tons which is by 0.84% less than in 2002; waste of 1–3 class of hazard in 2011 — 13.9 tons which is by 70% less than in 2003); and the dynamics of accumulation of production and consumption waste (in 2001 — 5.6 thousand tons which is by 70.3% less than in 2002).
		5. Evaluation of land reclamation dynamics at JSC NNCP, JSC "PA ECP" and TVEL JSC's enterprises.
		6. Comparison of the volume of current expenditure on environmental protection. The volume of current expenditures increased 5.7 fold in 2011 compared to 2002, including for the protection of ambient air 6-fold, for protection the environment from waste production and consumption 5.4 fold, for the remediation 6.2 fold. The greatest amount of current expenditures was observed in 2006.
		7. A comparison of environmental pollution payments in 2002 and 2011. In 2011, the total environmental payments for discharges, emissions and waste disposal increased by RUB 4 m at the enterprises of the Fuel Company in comparison with 2002.
		8. A comparison of investment in fixed assets. In 2011, the investments amounted to RUB 74.9 m which is RUB 76.6 m less than in 2002; the largest investment was made in 2005–2009, the main part of it was aimed at the protection and use of water resources and air quality
20	Till the end of 2012 the Company will develop and publish on the corporate website the Program of job creation in the regions of presence of the TVEL FC enterprises, the reorganization of which will bear the greatest impact on the local social and economic environment. (Outstanding commitment)	In progress
21	In 2012, the Company will continue the policy of strict compliance with its contractual obligations to supply nuclear fuel. Before the end of the 1 <sup>st</sup> quarter of 2013, the Company will make the assessment of customer's satisfaction in 2012, and present the results in consolidated form in the annual Report of the Company for the year 2012	The activities have been carried out. Results of customer's satisfaction assessment are provided in Section "Quality management" (page 67)
22	By the end of 2012, TVEL FC will develop the R&D plan for 2013 on improving the fuel products and will submit it for consideration and approval by the interested parties at the scientific and technical Council of TVEL FC. Information on R&D plan implementation in 2012 will be presented in the annual Report for 2012	The activities have been carried out Information on R&D plan implementation in 2012 is provided in Section "Innovative activities in the nuclear field", Chapter 4 "Scientific and technological activities" (page 98)

Nº	Offers description	Reflection in the Report/ fulfilment of obligations
23	To afforce the TVEL FC Committee of the stakeholders by means of involving more representatives of public organizations by the end of 2012	The activities have been carried out
24	To create the chapter on the website dedicated to interaction with the interested parties by the end of 2012	In progress
<b>Planning of environmental protection activities</b>		
25	As a part of the Scientific and Technical Council section's work of TVEL JSC — to consider the issues related to the decommissioning and rehabilitation of the contaminated areas and to discuss measures and technologies aimed to reduce the negative environmental impact	The activities have been performed. Information on the Scientific and Technical Council section's work of TVEL JSC is provided in Section "Ecological, Nuclear and radiation safety" (page 149)
26	As part of solving the topical issues in the field of legal support for environmental protection — to take part in the examination of normative and legal acts prepared by the Ministry of Natural Resources of Russia in cooperation with the federal authorities and Rosatom State Corporation	Information on regulatory and legal base improvement in the field of environmental protection is provided in Section "Ecological policy" (page 149)
27	As part of the audit of the enterprises activities compliance to environmental legislation — to control the availability and validity of environmental documentation at the TVEL FC enterprises	The activities have been carried out. Information is provided in Section "Ecological policy" (page 149)
28	To check the Ecological Management System (at MSZ JSC, JSC CMP, JSC NNCP, JSC "MZP", KC OJSC) and to carry on implementation of the corporate and integrated environmental management system in order to improve the environmental management system	In October 2012, there was held an extended re-audit of the integrated management system (IMS) of TVEL JSC including ISM enterprises "KMP" OJSC, JSC "SGChE". These companies were certified in advance of ahead of the schedule date. In 2013, it is planned to create IMS based on international standards ISO 9001, ISO 14001, OHSAS 18001 with the inclusion of enterprises TVEL FC: JSC AECC, JSC "PA ECP", JSC UEIP, JSC "SGChE", UGCMP Ltd., "KMP" OJSC, Uralpribor Ltd., "EDB-Nizhniy Novgorod", NRDC LLC, "Centrotech-SPb", JSC "VPA "Tochmash"
29	To participate in meetings and conferences on the environmental issues, including the sectoral meetings with the Heads of the Environmental Protection departments conducted by the State Corporation Rosatom and in corporate meeting with representatives of all the TVEL FC companies to be held at NJSC "SGChE"	The activities have been carried out. Information on the participation of TVEL FC in meetings and conferences on ecology, nuclear and radiation safety is provided in Section "Ecological policy" (page 149)
30	To continue working on decommissioning the former defense activity facilities (under the Federal target program and Rosatom SC reserve funds). In accordance with the guideline documents and projects, work in this area will be carried out by the following enterprises: JSC NNCP, MSZ JSC, JSC CMP, JSC "SGChE", JSC AECC and JSC "VNIINM"	The activities have been carried out. Information on decommissioning the former defense activity facilities is provided in Sections "Ecological policy" (page 149). "Nuclear and radiation safety" (page 166)
31	To implement production and technical activities by the enterprises in accordance with the TVEL FC Ecological policy Implementation Plan for 2010–2015	In 2012, 72 production and technical activities are planned; 28 measures are carried out in a timely manner; 34 measures are in progress without failure to meet time constraints, and the work continues on 8 measures with the need to adjust and take into account the plan for 2013; 2 events are excluded of the federal program
32	Adjustment of the Facilities Subsurface Conditions Monitoring programs in accordance with the Methodology instructions prepared by FGUGP "Gidrospetsgeologiya" (Rosnedra)	Programs were adjusted (JSC AECC, JSC "VNIINM", MSZ JSC, JSC NNCP, JSC CMP). Final coordination of Programs for OM JSC "SGChE", JSC UEIP was postponed to 2013. In 2012, the object monitoring of subsoil at JSC UEIP and JSC "SGChE" was carried out in full

Nº	Offers description	Reflection in the Report/ fulfilment of obligations	
33	Installation of energy resourses metering devices with the possibility of their further consolidation into a single automated system (continued)	The action is taken	
34	Designing the system that samples emissions of of OJSC "Khimiko-metallurgichesky zavod" and equipment with gas meters at JSC UEIP	The action is taken	
35	Optimizing the heating systems operation at the enterprise facilities of JSC "PA ECP" by installing the devices for temperature and water flow rate adjustment	The action is taken. The scope of work planned for 2012 has been executed; the completion of works is scheduled for the III quarter of 2013, which is taken into account in the Plan for the implementation of the environmental policy of TVEL JSC for 2013	
36	Rehabilitation project development for the JSC NNCP sites contaminated with mercury (continued)	The action is taken. Rehabilitation project №0468-П-000 Rehabilitation of for the JSC NNCP sites contaminated with mercury was developed on 22.11.2012	
37	Upgrading 2 refrigerating machines at JSC "PA ECP" and switching them to a less environmentally hazardous collant (continued)	JSC "PA ECP" — Upgrading of refrigerating machines continued; in 2012, one machine was upgraded. This measure reduces emissions of ozone-depleting CFCs. Modernization of 1 refrigerating machines is transferred to 2013	
<b>Recording the offers expressed by the stakeholders in 2012</b>			
Nº	Offers description	Measures	Reflection in the report
1	To include a section on research and development in the Report of TVEL JSC	Dialogue 1	A new section is introduced: "Scientific and technological activities" (page 98)
2	To disclose the information on the achievement of objectives and goals stated in the Report for 2011	Dialogue 1	Appendix 3 (page 223)
3	To clarify the wording of the content disclosure of section "Economic Impact" in the Concept	Dialogue 1	Social and economic influence on surroundings (page 117)
4	To reflect interrelation of participation of the enterprises and territories of presence themselves in disclosing the information on the socio-economic development of regions in the report	Dialogue 1	Section "Social and economic influence on surroundings" (page 117) provides information on policies, approaches of TVEL FC on interaction with local communities, and results of such an interaction. The information on the interrelation of TVEL FC's enterprises with local communities is provided in the annual reports of companies
5	To disclose the problems faced by JSC "SGChE" in general terms in the Statement of TVEL JSC, and also show the selected ways of solutions	Dialogue 1	The information is provided in the Annual report of JSC "SGChE" for 2012
6	To disclose the approaches of legacy problems solving, and dynamics of solutions of this issue in the Report of TVEL JSC	Dialogue 1	Ecological policy (page 149). Nuclear and Radiation Safety (page 166)
7	To show the interim results of the Federal Target Program on Nuclear and Radiation Safety in the Report of TVEL FC	Dialogue 1	Ecological policy (page 149)

Nº	Offers description	Measures	Reflection in the report
8	To develop and approve a uniform structure for annual reports of all subsidiaries preparing non-financial/integrated reports	Dialogue 1	In 2012, the Regulation on annual public reporting of TVEL JSC was supplemented by the rules on report examination of TVEL JSC's subsidiaries. In 2012, the main companies of TVEL FC: JSC "SGChE", JSC CMP, JSC UEIP, MSZ JSC, JSC "PA ECP", JSC NNCP, JSC AECC, "KMP" OJSC prepared annual reporting
9	To provide the information on the participation of TVEL FC in the regulation development (such as requirements for fuel) in describing the scientific activities of TVEL FC	Dialogue 1	Legal scope of activity of TVEL FC (page 83). Scientific and technological activities (page 98)
10	To analyze the policies and practices of Russian companies, as described in reports of anti-corruption activities	Dialogue 1	The policies and practices of Russian companies were analyzed as described in reports of anti-corruption activities. Section "Corruption management and settlement of conflicts of interest" of the Report was formed on the basis of the studied information (page 74)
11	To disclose the policies and approaches of TVEL FC in addressing corruption in the Report	Dialogue 1	Corruption management and settlement of conflicts of interest (page 74)
12	To highlight section "Ensuring Nuclear and Radiation Safety" in the Report	Dialogue 1	Nuclear and radiation safety (page 166)
13	To provide the information on the activities for the development of substitute industries implemented in the territory of JSC "VPA "Tochmash" in the Report of the TVEL JSC	Dialogue 1	The information is provided in the Annual report of JSC "VPA "Tochmash" for 2012
14	To include a section on the management of such functional areas as commerce and marketing in the Report	Dialogue 1	Place of TVEL FC in the world market of NFC IS (page 32). Development strategy (page 38)
15	To include the information on the leadership of TVEL FC in the regions and the world, especially in solving the problems of radiation safety and ecology	Dialogue 1	General data (page 16). Place of TVEL FC in the world market of NFC IS (page 32)
16	To translate verbal information into numerical and quantitative one	Dialogue 1	The offer is included
17	To disclose conceptual approaches of TVEL FC, results of legacy problem-solving and radioactive waste treatment. To disclose the problems in this area to be solved by 2030	Dialogue 1	The approaches of TVEL FC, results of legacy problem-solving and radioactive waste treatment are disclosed in sections "Ecological policy" page 149 and "Nuclear and radiation safety" (page 166). Activities on the nuclear legacy problem solution are implemented in accordance with the federal target programs "Nuclear and Radiation Safety 2008–2015" and "Nuclear and Radiation Safety 2016–2025"
18	To extend the strategic goal and mission of TVEL FC and ensure nuclear legacy elimination. To describe the procedures and plans for cooperation with Rosatom State Corporation, companies and organizations of Rosatom State Corporation on radioactive waste management	Dialogue 1	The proposal will be submitted for consideration in 2013 as part of mainstream development strategies of the Fuel Division of Rosatom State Corporation
19	To disclose the information on the decommissioning activities for the Report of TVEL JSC	Dialogue 1	Ecological policy (page 149). Nuclear and Radiation Safety (page 166)

Nº	Offers description	Measures	Reflection in the report
20	The proposal for joint work of TVEL FC with the analytical and strategic services of Techsnabexport JSC on the section World Market NFC IS of the Report	Dialogue 1	The offer is included. The analytical services of TVEL JSC together with Techsnabexport JSC prepared information for Section "Place of TVEL FC in the world market of NFC IS" (page 32)
21	To improve and create a global standards system to work with industry veterans	Dialogue 1	TVEL FC follows the requirements of the Standard to work with veterans of Rosatom State Corporation. In 2013, TVEL FC plans to improve the mechanism of interaction with industry veterans
22	To use professional experience of veterans not only from Russia, but also from the former Soviet Union	Dialogue 1	The proposal for cooperation will be considered in the practice of TVEL FC
23	To make reference to statements of the subsidiaries and affiliates in the Report, as 8 subsidiaries of TVEL JSC independently prepare annual non-financial/integrated reporting; the most important information in them should get reflection in the Report of TVEL JSC	Dialogue 1	The offer is included
24	To include the information on the results of interaction with the local government, not only in the CATE, but also in monotowns and other areas of presence in the Report	Dialogues 2, 3	Development of the regions of presence (page 117)
25	To reflect the information on activities to support the reduction due to the restructuring of the staff in the Report	Dialogues 2, 3	Social and economic influence on surroundings (page 117). Procurement activities (page 78)
26	To pay attention in the Report to the disclosure of information on innovation in the traditional business of TVEL FC — the production of nuclear fuel and the development of non-nuclear businesses	Dialogues 2, 3	Scientific and technological activities (page 98). Innovative activities in nuclear industry (page 102). Innovative activities in non-nuclear industry (page 106)
27	To disclose the information on the anti-corruption work in the Annual Report	Dialogues 2, 3	Corruption management and settlement of conflicts of interest (page 74)
28	To reflect in the Annual Report not only the information on the process of implementation of the RPS, but also on the results and effects of this implementation	Dialogues 2, 3	Production and efficiency management (page 56)
29	To reflect in details the results of the RPS implementation to demonstrate the importance of the process in the Report, to motivate employees and increase their involvement in the process	Dialogues 2, 3	Production and efficiency management (page 56)
30	Include the information on the structural changes of personnel, plans to attract and reduce workers of TVEL FC's enterprises, and plans to create new workspaces in the Annual Report	Dialogues 2, 3	Production and efficiency management (page 56)
31	To highlight the socio-economic and environmental impact of TVEL FC's enterprises in all regions of presence, not only in the CATE	Dialogues 2, 3	Social and economic influence on surroundings (page 117). Environmental impact (page 156)
32	To reflect the prospects of development of non-nuclear technologies, manufacture of non-nuclear products, creation of new workspaces through business diversification in the Report of TVEL JSC	Dialogues 2, 3	Innovative activities in non-nuclear industry (page 106)

APPENDIX 4.  
REPORT  
ON PERFORMANCE  
OF PROVISIONS  
OF THE CODE  
OF CORPORATE  
GOVERNANCE

Nº	Offers description	Measures	Reflection in the report
33	To reflect the information on the number awarded persons in the reporting year	Dialogues 2, 3	Management of the personnel (page 125)
34	To reflected the plans of the Fuel Company to develop non-nuclear businesses	Dialogues 2, 3	Innovative activities in non-nuclear Industry (page 106)
35	To focus on the reflection of the relationship between the activities of the Management of the Fuel Company and the practice of risk management (risks and parry)	Dialogues 2, 3	Risk management (page 69)
36	To give a clear definition of new concepts (such as “social capital”)	Dialogues 2, 3	The offer is included. Information about the Statement and preparation thereof (page 8)
37	To disclose the information on the intellectual potential of TVEL FC to create new innovative industries	Dialogues 2, 3	Scientific and technological activities (page 98)
38	To define the problems and barriers for the development of the Fuel Company and reflect the ways of solution and perspectives of development, “points of growth”	Dialogues 2, 3	The offer is included. Each section of the report contains the information not only on the results of the current year, but on the plans for the future
39	To establish work with industry veterans, make the best use of their professional experience which is especially important in view of the demographic decline of 90° the effects of which are felt at present	Dialogues 2, 3	The offer is included. TVEL FC is working to create a unified standard system to work with industry veterans. The information on support programs for veterans of TVEL FC is reflected in section “Management of the personnel” (page 125)
40	To expand issue “Corporate Science” in the Report of TVEL JSC for 2013	Dialogue 4	The offer will be taken into account during preparation of the next Report of TVEL JSC
41	To disclose in details social and economic impact of TVEL FC on the territory of presence in each Report of TVEL JSC	Dialogue 4	The offer will be taken into account during preparation of the next Report of TVEL JSC
42	To show key indicators of the priority issues of the Report	Dialogue 4	The offer is included. Information about the Statement and preparation thereof (page 8)
43	To define a conclusion on how the social capital of TVEL FC affects the value of the Company	Dialogue 4	The offer is included. Interaction with stakeholders during preparation of the Report (page 180)
44	To complement Section “Information on the Report” with: information on the auditor carrying out the certification of the report, data on the change of the disclosed indicators of public reporting in Rosatom State Corporation and GRI performance indicators in the Report for 2012 compared to the Report for 2011	Dialogue 4	The offer is included. Information about the Statement and preparation thereof (page 8)
45	In the preparation of the next report, not to define “Sustainable development” as a separate chapter, and integrate these activities into the main sections of the report	Dialogue 4	The offer will be taken into account during preparation of the next Report of TVEL JSC
46	To give specific instructions on implementation of Recommendations (prototype) of the International Council for Integrated Reporting	Dialogue 4	The offer is included. Information about the Statement and preparation there of (page 8)

Nº	Provision of the Code of corporate governance	Observed or not observed
<b>General meeting of shareholders</b>		
1	Notification of shareholders of holding of a general meeting at least 30 days before the date of its holding despite the issues in its agenda, if the legislation does not stipulate a longer term	Not used, as the Company has the sole shareholder
2	Availability to the shareholders of a possibility to study the list of persons entitled to participate in the general meeting of shareholders, starting from the day of notification on its holding and up to the ending of such meeting in person, and in case of an extra-mural general meeting of shareholders — up to the date of termination of voting bulletins acceptance term	Not used, as the Company has the sole shareholder
3	Availability to the shareholders of a possibility to study the information (materials) subject to presentation in the process of preparation of the general meeting of shareholders, using electronic means of communications, including the Internet	Observed
4	Availability to a shareholders of a possibility to introduce an issue to the agenda of a general meeting of shareholders or demand convocation of a general meeting of shareholders without presentation of an extract from the register of shareholders, in case registration of his rights to the shares is performed in the system of keeping of the register of shareholders, and if his rights to the shares are accounted at the deposit account — an extract from the deposit account for exercising of the mentioned rights	Not used, as the Company has the sole shareholder
5	Availability in the Articles or internal documents of the joint-stock company of a requirement on compulsory attendance of a general meeting of shareholders by the general director, members of the executive board, board directors, members of the Internal Audit Commission and auditor of the joint-stock company	Not used, as the Company has the sole shareholder
6	Compulsory attendance by candidates during consideration at a general meeting of shareholders of issues on election of the board directors, the general director, members of the board, members of the Internal Audit Commission and approval of the auditor of the joint-stock company	Not used, as the Company has the sole shareholder
7	Availability in the internal documents of the joint-stock company of a procedure of registration of members of the general meeting of shareholders	Not used, as the Company has the sole shareholder
<b>The Board of Directors</b>		
8	Availability in the Articles of the joint-stock company of a power of the board of directors on annual approval of the financial and economic plan of the joint-stock company	Observed
9	Availability of the approved by the board of directors procedure of risk management in the joint-stock company	Observed

№	Provision of the Code of corporate governance	Observed or not observed
10	Availability in the Articles of the joint-stock company of the board of directors right to make a decision on suspension of powers of the general director, appointed by the general meeting of shareholders	Observed
11	Availability in the Articles of the joint-stock company of the board of directors right to establish requirements to qualification and amount of remuneration of the general manager, members of the board, managers of the main structural divisions of the joint-stock company	Observed
12	Availability in the Articles of the joint-stock company of the board of directors having the right to approve conditions of contracts with the general director and members of the executive board	Observed
13	Availability in the Articles or internal documents of the joint-stock company of a requirement that in the processes of approval of conditions of contracts with the general director (managing organization, manager) and members of the executive board the votes of those members of the board of directors, who are the general director and members of the board, are not taken into account	Observed
14	Presence in the board of directors of the Joint-Stock company of not less than 3 independent directors, who meet the requirements of the Code of corporate governance	Observed
15	Absence in the board of Director of the joint-stock company of persons who have been found guilty in commission of crime in the field of economic activities or crimes against state power, interests of state service and service in bodies of local government administration, or those against whom administrative penalties have been enforced for malefactions in the field of entrepreneurship or in the field of finance, taxation or securities market	Observed
16	Absence in the board of Director of the joint-stock company of persons who are participants, general director (managers), member of a management board or an employee of a legal entity, which is a competitor to the joint-stock company	Observed
17	Availability in the Articles of the joint-stock company of a requirement on election of the board of directors with the help of cumulative voting	Not used, as the Company has the only shareholder
18	Availability in the internal documents of the joint-stock company of an obligation of members of the board of directors to refrain from those actions which may result in a conflict between their interests and the interests of the joint-stock company, and in case of such a conflict — an obligation to disclose to the board of director information on such conflict	Observed
19	Availability in the internal documents of the joint-stock company of an obligation of members of the board of directors to inform the board of the directors in writing on their intention to close a transaction with securities of the joint-stock company to which they are members of the board of directors, or its affiliated (dependant) companies, as well as to disclose information on their closed transactions with such securities	Observed
20	Availability in the internal documents of the joint-stock company of a requirement on holding of meeting of the board of directors at least once in six weeks	Observed
21	Holding of the joint-stock company's board of directors meetings throughout the year for which the annual statement of the joint-stock company is made with the periodicity of at least once in six weeks	Observed

№	Provision of the Code of corporate governance	Observed or not observed
22	Availability in the internal documents of the Joint-Stock company of the manner of holding of meeting of the board of directors	Observed
23	Availability in the internal documents of the Joint-Stock company of a provision on necessity of approval by the board of directors of transactions of the Joint-Stock company for the amount exceeding 10% of the amount of the company's assets, except for transactions, closed in the process of normal economic activities	Observed
24	Availability in the internal documents of the Joint-Stock company of a right of members of the board of directors to receive from executive bodies and the managers of the main organisation departments of the Joint-Stock company of information, necessary for performance of their functions, as well as responsibility for non-provision of such information	Observed
25	Availability of a committee of the board of directors for strategic planning or assigning of functions of said committee to another committee (except for the committee for audit and committee for human resources and remunerations)	The functions of the sole shareholder of TVEL JSC performs Rosatom State Atomic Energy Corporation, the Professional composition of the board of directors is formed by the sole shareholder with the account of his capability of dealing with the tasks assigned to him. The board of directors in general consists of external directors, who are not employees of the Company, professionals widely experienced in the field and deeply understanding the specific nature of the nuclear industry and the Company's activities. The functions of the board of directors committee are performed by specialized functional departments of Rosatom State Atomic Energy Corporation
26	Availability of a committee of the board of directors (committee for audit) which recommends to the board of directors an auditor of the Joint-Stock company and interacts with him and the Audit Commission of the Joint-Stock Company	
27	Presence in the committee for audit of only independent and non-executive directors	
28	Management of the committee for audit by an independent director	
29	Availability in the internal documents of the Joint-Stock company of a right of access by all members of the committee for audit to any documents of the Joint-Stock company under the condition of non-disclosure by them of confidential information	
30	Creation of a committee of the board of directors (committee for human resources and remunerations), the function of which is determination of the criteria of selection of candidates to members of the board of directors and formulation of policy of the Joint-Stock company in the field of remuneration	
31	Management of the committee for human resources and remunerations by an independent director	
32	Absence in the committee for human resources and remunerations of the Joint-Stock company's officers	
33	Creation of a committee of the board of directors for risk management or assigning of functions of the said committee to another committee (except for the committee for audit and committee for human resources and remunerations)	
34	Creation of a committee of the board of directors for arrangement of corporate conflicts or assigning of functions of said committee to another committee (except for the committee for audit and committee for human resources and remunerations)	
35	Absence in the committee for arrangement of corporate conflicts of the Joint-Stock company's officers	

№	Provision of the Code of corporate governance	Observed or not observed
36	Management of the committee for arrangement of corporate conflicts by an independent director	
37	Availability of approved by the board of directors of the internal documents of the joint-stock company, providing the manner of creation and operation of the committees of the board of directors	
38	Availability in the Articles of the joint-stock company of the manner of determination of the board of directors' quorum, securing obligatory participation of independent directors in meetings of the board of directors	
<b>Executive bodies</b>		
39	Availability of a collegial executive body (executive board) of the joint-stock company	A collegial executive body is not provided by the company's Articles
40	Availability in the Articles or internal documents of the joint-stock company of a provision on a necessity of approval by the executive board of real estate transactions, receipt of credits by the joint-stock company, if the said transactions do not refer to large transactions and their conclusion does not refer to normal economic activities of the joint-stock company	
41	Availability in the internal documents of the joint-stock company of a procedure for coordination of operation which exceed the limits of the financial and economic plan of the joint-stock company	Observed
42	Absence in the composition of executive bodies of persons who are participants, general director (manager), member of a management board or an employee of a legal entity, which is a competitor to the joint-stock company	Observed
43	Absence in the composition of executive bodies of persons who have been found guilty in commission of crimes in the field of economic activities or crimes against state power, interests of state service and service in bodies of local government administration, or those against whom administrative penalties have been enforced for malefactions in the field of entrepreneurship or in the field of finance, taxation or securities market. If the functions of the sole executive body are performed by a managing organization or manager — correspondence of the general director and members of the executive board of the managing organization or manager to the requirements, imposed on the general director and members of executive board of the joint-stock company	Observed
44	Availability in the Articles or internal documents of the joint-stock company of a prohibition for the managing organization (manager) to perform the same functions in a competing body, as well as to be in property relations with the joint-stock company, except for rendering of services to the managing organization (manager)	The functions of the sole shareholder of TVEL JSC performs Rosatom State Atomic Energy Corporation. Assigning of functions of the executive body to a managing organization (manager) is not provided
45	Availability in the internal documents of the joint-stock company an obligation of the executive bodies to refrain from those actions which may result or potentially may result in a conflict between their interests and the interests of the joint-stock company, and in case of such a conflict — an obligation to notify the board of directors on such conflict	A collegial executive body is not provided by the company's Articles
46	Availability in the Articles or internal documents of the joint-stock company of the criteria of selection of the managing organization (manager)	The functions of the sole shareholder of TVEL JSC performs Rosatom State Atomic Energy Corporation. Assigning of functions of the executive body to a managing organization (manager) is not provided

№	Provision of the Code of corporate governance	Observed or not observed
47	Presentation by the executive bodies of the joint-stock company of monthly reports on their performance to the board of directors	Observed
48	Establishment in contracts concluded by the joint-stock company with the general director (managing organization, manager) and members of the executive board of responsibility for violation of provisions on the use of confidential and insider information	Observed
<b>The Company's secretary</b>		
49	Availability in the joint-stock company of a special officer (secretary of the company), the function of which is security of observance by the bodies and officers of the joint-stock company of procedural requirements, which guarantee exercising of rights and legal interests of the joint-stock company	The functions of the corporate secretary in the company are performed by the secretary of the board of directors
50	Availability in the Articles or internal documents of the joint-stock company of the manner of appointment (election) of the company's secretary and determination of his/her functions	Observed
51	Availability in the Articles of the joint-stock company of the requirements to the candidacy of the company's secretary	Observed
<b>Relevant corporate actions</b>		
52	Availability in the Articles or internal documents of the joint-stock company of requirements on approval of a large transaction before its conclusion	Observed
53	Obligatory engagement of an independent evaluator for estimation of the market value of the property, which is subject of a large transaction	Observed
54	Availability in the Articles of the joint-stock company of a prohibition in case of purchase of a large parcel of shares (take-over) of the joint-stock company to take actions which are oriented at protection of the interests of the executive bodies (members of such bodies) and members of the joint-stock company's board of directors, as well as aggravating the situation in comparison to the existing one (in particular, a prohibition to make before termination of the existing term of shares acquisition of a decision on emission of additional shares, securities that can be converted into shares or securities which grant a right for acquisition of the company's shares, even if the right to make such a decision is granted by the Articles)	The Company's Articles do not provide prohibitions for taking in case of acquisition of large parcels of the Company's shares (take-over) of any actions, oriented at protection of the interests of the executive bodies (members of such bodies) and members of the joint-stock company's board of directors, as well as aggravating the situation in comparison to the existing one
55	Availability in the Articles of the joint-stock company of a requirement on obligatory engagement of an independent evaluator for estimation of the current market value of the shares and possible changes of their market value in the result of a take-over	The Company's Articles do not stipulate requirements on obligatory engagement of an independent evaluator for estimation of the current market value of the shares and possible changes of their market value in the result of a take-over
56	Absence in the Articles of the joint-stock company of relief of an acquirer from his obligation to offer the shareholders to sell the joint-stock company's ordinary shares owned by them (equity securities, converted into ordinary shares) in case of a take-over	Observed
57	Availability in the Articles or internal documents of the joint-stock company of a requirement on obligatory engagement of an independent evaluator for determination of the shares conversion ratio in case of reorganization	The Company's Articles and internal documents of the Company do not stipulate requirements on obligatory engagement of an independent evaluator for determination of the shares conversion ratio in case of reorganization

№	Provision of the Code of corporate governance	Observed or not observed
<b>Disclosure of information</b>		
58	Availability of the approved by the board of directors internal document, determining the rules and approaches of the joint-stock company to disclose information (Provisions on information policy)	Observed
59	Availability in the internal documents of the joint-stock company of a requirement on disclosure of information on the purpose of allocation of shares, persons who intend to acquire the allocated shares, including a large parcel of shares, as well as on the fact whether high officials of the joint-stock company are going to participate in acquisition of the company's allocated shares or not	The company's internal documents do not contain requirements for disclosure of information on the purpose of allocation of shares, persons who intend to acquire the allocated shares, including a large parcel of shares, as well as on the fact whether high officials of the joint-stock company are going to participate in acquisition of the company's allocated shares
60	Availability in the internal documents of the joint-stock company of a list of information, documents and materials which shall be presented to the shareholders for finding solutions to the issues included to the agenda of a general meeting of shareholders	The functions of the sole shareholder of TVEL JSC performs Rosatom State Atomic Energy Corporation. In accordance with the Interaction regulations the Company provides Rosatom State Atomic Energy Corporation with information not limited by the volume, stipulated by the Federal Law "On joint-stock companies"
61	Availability in the joint-stock company of a web-site in the Internet and regular disclosure of information on the joint-stock company at this web-site	Observed
62	Availability in the internal documents of the joint-stock company of a requirement on disclosure of information on transactions of the joint-stock company with the persons who have been high officials of the joint-stock company, as well as on transactions of the joint-stock company with organizations, in which the joint-stock company's high officials possess 20 or more per cent of the authorized capital or on which such persons can have a significant influence	Not used, as the Company has the sole shareholder
63	Availability in the internal documents of the joint-stock company of a requirement on disclosure of information on all transactions which may have influence on the market value of the joint-stock company's shares	Not used as the Company's shares are not at the securities market
64	Availability of the approved by the board of directors internal document on the use of significant information on the activities of the joint-stock company, shares and other securities, transactions with them, which is not public and disclosure of which can have a significant influence on the market value of the shares and other securities of the joint-stock company	Not used as the Company's shares are not at the securities market
<b>Control of the financial and economic activities</b>		
65	Availability of the approved by the board of directors' procedures of internal control of the joint-stock company's financial and economic activities	Observed
66	Availability of a special department of the joint-stock company which secures observance of the internal control procedures (supervision and auditing service)	Observed
67	Availability in the internal documents of the joint-stock company of a requirement on determination of the structure and composition of the supervision and auditing service of the joint-stock company by the board of directors	Observed
68	Absence in the composition of the supervision and auditing service of persons, who have been found guilty in commission of crimes in the field of economic activities or crimes against state power, interests of state service and service in bodies of local government administration, or those against whom administrative penalties have been enforced for malefactions in the field of entrepreneurship or in the field of finance, taxation or securities market	Observed

№	Provision of the Code of corporate governance	Observed or not observed
69	Absence in the composition of the supervision and auditing service of persons, who are members of the joint-stock company's executive bodies, as well as persons who are participants, general director (manager), member of a management board or an employee of a legal entity, which is a competitor to the joint-stock company	Observed
70	Availability in the internal documents of the joint-stock company of the term of presentation to the supervision and auditing service of documents and materials for evaluation of the performed financial and economic operation, as well as responsibility of officials and employees of the joint-stock company for non-provision in time	Observed
71	Availability in the internal documents of the joint-stock company of an obligation of the supervision and auditing service to inform on the found violations to the committee for audit, and if there is no such committee — to the board of directors of the joint-stock company	Observed
72	Availability in the Articles of the joint-stock company of a requirement on preliminary estimation by the supervision and auditing service of advisability of closing of transactions, not provided by the financial and economic plan of the joint-stock company (substandard transactions)	The Company's Articles do not contain a requirement on preliminary estimation by the supervision and auditing service of advisability of closing of transactions, not provided by the financial and economic plan of the joint-stock company (substandard transactions). The indicated requirements are established by the provision on contractual labour, existing in the Company
73	Availability in the internal documents of the Joint-Stock company of the manner of coordination of a substandard transaction with the board of directors	Observed
74	Availability of the approved by the board of directors internal document, establishing the manner of performance of inspection of the financial and economic activities of the joint-stock company by the supervision and auditing service	Observed
75	Performance by the committee for audit of estimation of an audit statement before its presentation to the shareholders at the general meeting of shareholders	The functions of the sole shareholder of TVEL JSC performs Rosatom State Atomic Energy Corporation. The Professional composition of the board of directors is formed by the sole shareholder with the account of the capability of solution of the tasks assigned to him. The board of directors in general consists of external directors, who are not employees of the Company, professionals widely experienced in the field and deeply understanding the specific nature of the nuclear industry and the Company's activities. The functions of the board of directors committee are performed by specialized functional departments of Rosatom State Atomic Energy Corporation
<b>Dividends</b>		
76	Availability of the approved by the board of directors' internal document, which is used by the board of directors during making of recommendations on the amount of dividends (Provisions on dividend policy)	The Company's dividend policy is determined by Rosatom State Atomic Energy Corporation on the basis of the results of the Company's and industry investment plans
77	Availability in the Provision on dividend policy of the manner of determination of the minimal share of the joint-stock company's net profit, assigned to payment of dividends, and conditions, under which no dividends are paid or incompletely paid to preferred shares, the amount of the dividends to which is determined in the joint-stock company's Articles	
78	Publication of information on the dividend policy of the joint-stock company and changes into it in the periodic title, provided by the joint-stock company's Articles for informing on holding of general meetings of shareholders, as well as publishing of the mentioned information at joint-stock company's the web-site in the Internet	

APPENDIX 5.  
FINANCIAL  
STATEMENTS  
OVER 2012

Balance sheet as of December 31, 2011		Codes
	Form №1 of OKUD	0710001
	Date (day, month, year)	31   12   2011
Company: TVEL JSC	According to OKPO	45046040
Taxpayer Identification Number	TIN	7706123550
Type of activity: Industry (nuclear fuel processing)	According to OKVED	23.30
Legal form/form of ownership: Joint Stock Company	According to OKOPF/OKFS	47   16
Measure unit: thousand RUB	According to OKEI	384
Address: Bolshaya Ordynka str., building 24, 119017, Moscow		

Notes	Item	Line code	As of December 31, 2012	As of December 31, 2011	As of December 31, 2010
<b>ASSETS</b>					
<b>I. Non-current assets</b>					
6.1, 6.8	Intangible assets	1110	418,026	28,685	8,749
6.2, 6.8	Research and development results	1120	1,768.853	1,227.845	272,899
6.3	Fixed assets	1150	264,814	299,510	1,930.421
	Buildings, cars, equipment, and other fixed assets	1151	213,382	285,025	1,880.103
	Incomplete capital investments	1152	1,092	11,752	41,621
6.8	Advances to suppliers of fixed assets	1153	50,340	2,733	8,697
6.3, 6.8	Income-bearing investments into tangible assets	1160	2,823.171	3,194.114	4,354.455
6.6	Financial investments	1170	227,731.322	223,288.158	215,404.134
6.17	Deferred tax assets	1180	—	79,459	193,835
6.4	Other non-current assets	1190	1,879.439	1,366.983	730,798
	Total Section I	1100	234,885.625	229,484.754	222,895.291

Notes	Item	Line code	As of December 31, 2012	As of December 31, 2011	As of December 31, 2010
<b>II. Current assets</b>					
6.5	Inventories	1210	70,010.415	55,523.371	54,567.150
	Raw materials, materials and other similar assets	1211	8,913.840	4,709.306	4,689.806
	Animals being raised and fattened	1212	49,505.259	37,840.454	35,759.481
	Finished goods and goods for sale	1213	11,418.279	12,973.611	13,198.841
	Goods delivered	1214	173,037	—	919,022
	Pre-paid expenses	1215	—	—	—
	Not invoiced gross revenue	1216	—	—	—
	Other inventories and expenses	1217	—	—	—
	VAT on acquired values	1220	9,059.577	7,701.108	7,734.415
6.8	Accounts receivable	1230	16,784.840	12,085.098	10,940.323
	Total long-term receivables	1231	262,814	361,113	310,216
	Purchasers and customers	1232	76,178	107,932	208,088
	Advance payments	1233	—	—	—
	Other receivables	1234	186,636	253,181	102,128
	Total short-term receivables	1235	16,522.026	11,723.985	10,630.107
	Purchasers and customers	1236	11,067.812	6,528.734	3,788.855
	Advance payments	1237	2,455.638	2,931.694	3,220.432
	Other receivables	1238	2,988.576	2,263.557	3,620.820
6.6	Financial investments	1240	3,454.314	2,844.650	1,329.000
6.7	Cash	1250	4,382.332	4,747.646	3,694.610
	Other current assets	1260	1,101.254	918,068	1,277.769
	Total Section II	1200	104,792.732	83,819.941	79,543.267
	<b>Balance</b>	<b>1600</b>	<b>339,678.357</b>	<b>313,304.695</b>	<b>302,438.558</b>
<b>LIABILITIES</b>					
<b>III. Equity and reserves</b>					
	Equity capital (share capital, charter fund, co-partners' investments)	1310	22,962	22,962	22,962
	Reacquired stock	1320	(—)	(—)	(—)
	Non-current assets re-evaluation	1340	—	—	—

Notes	Item	Line code	As of December 31, 2012	As of December 31, 2011	As of December 31, 2010
	Additional capital (excl. of re-evaluation)	1350	181,735.153	181,735.316	181,735.316
6.15	Reserve fund	1360	26,798	25,538	170,493
	Reserve funds established in accordance with the laws	1361	25,650	24,390	169,546
	Reserve funds established in accordance with the constitutive documents	1362	1,148	1,148	947
	Retained earnings (uncovered loss)	1370	91,676.694	92,083.860	75,597.407
	Total Section III	1300	273,461.607	273,867.676	257,526.178

#### IV. Long-term liabilities

	Loans and Borrowings	1410	3,735.233	—	7,691.118
	Deferred tax liabilities	1420	174,975	—	—
	Estimated liabilities	1430	—	—	—
	Other liabilities	1450	586,912	—	—
	Total Section IV	1400	4,497.120	—	7,691.118

#### V. Short-term liabilities

6.14	Borrowings	1510	27,910.479	11,956.933	10,870.169
6.11	Accounts payable	1520	32,519.968	26,802.408	24,768.707
	Purchasers and customers	1521	14,441.780	8,055.076	7,351.853
	Advances received	1522	17,820.789	18,702.484	15,547.004
	Payables to employees	1523	611	275	24
	Payables to state non-budget funds	1524	—	—	—
	Taxes payable	1525	70,901	16,572	19,038
	Other creditors	1526	185,887	28,001	1,850.788
6.10	Deferred income	1530	8,592	16,997	629,119
6.16	Estimated liabilities	1540	1,224.600	644,847	555,390
	Other liabilities	1550	55,991	15,834	397,877
	Total Section V	1500	61,719.630	39,437.019	37,221.262
	<b>Balance</b>	<b>1700</b>	<b>339,678.357</b>	<b>313,304.695</b>	<b>302,438.558</b>

Vice-President  
for finance  
and economy  
(illegible)

(signature)

S. A. Migalin  
(full name)



Accounting  
manager



M. N. Guseva  
(full name)

February 20, 2013

#### Profit and loss account for 12 month of 2012

Notes	Item	Line code	For 12 months of 2012	For 12 months of 2011
6.18	Income	2110	102,758.386	104,796.667
6.18	Cost of sales	2120	(70,515.682)	(76,909.047)
	Gross income (loss)	2100	32,242.704	27,887.620
6.18	Business expenses	2210	(1,405.774)	(1,342.564)
6.18	Management expenses	2220	(5,228.577)	(5,201.549)
	Sales profit(loss)	2200	25,608.353	21,343.507
6.19	Participation capital	2310	515,740	3,204.818
6.19	Interest receivable	2320	326,448	197,923
6.14; 6.19	Interest payable	2330	(979,779)	(641,361)
6.19	Other income	2340	3,769,534	3,848.029
6.19	Other expenses	2350	(5,111.530)	(4,533.533)
	Pre-tax profit (loss)	2300	24,128.766	23,419.383
	Current income tax	2410	(4,794.844)	(3,818.304)
6.17	Incl. Deferred tax liabilities (assets)	2421	(326,016)	112,068
6.17	Adjustment of deferred tax liabilities	2430	(126,612)	(210,525)
6.17	Adjustment of deferred tax assets	2450	(127,822)	96,149
	Other	2460	—	(50)
	Net profit/loss	2400	19,079.488	19,486.653

Notes	Item	Line code	For 12 months of 2012	For 12 months of 2011
	Result of the non-current assets re-evaluation not included in the net profit (loss) for the period	2510		
	Result of other operations with the non-current assets not included in the net profit (loss) for the period	2520	(162)	

#### For reference only

	Result of the non-current assets re-evaluation not included in the net profit (loss) for the period	2510		
	Result of other operations with the non-current assets not included in the net profit (loss) for the period	2520	(162)	

Notes	Item	Line code	For 12 months of 2012	For 12 months of 2011
	Total profit or loss for the period	2500	19,079.326	19,486.653
6.20	Basic earnings (losses) per share	2900	1	1
	Diluted earnings (losses) per share	2910		

Vice-President for finance and economy (illegible)	 (signature)	 S. A. Migalin (full name)	Accounting manager	 M. N. Guseva (full name)
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February 20, 2013

**Statement of changes in equity for 2012**

	Codes
<b>Form №1 of OKUD</b>	0710003
<b>Date (day, month, year)</b>	31   12   2012
<b>Company: TVEL JSC</b>	<b>According to OKPO</b> 45046040
Taxpayer Identification Number	<b>TIN</b> 7706123550
Type of activity: <b>Industry (nuclear fuel processing)</b>	<b>According to OKVED</b> 23.30
Legal form/form of ownership: <b>Joint Stock Company</b>	<b>According to OKOPF/OKFS</b> 47   16
Measure unit: thousand RUB	<b>According to OKEI</b> 384
Address: <b>Bolshaya Ordynka str., building 24, 119017, Moscow</b>	

**I. Capital flow**

Description	Code	Authorized capital	Additional fund	Reserve capital	Retained profit (losses)	Total
Balance as of December 31, 2010	3100	22,962	181,735.316	170,493	75,597.408	257,526.178
For 2011						
Total income, incl.	3210			2,257.459	19,486.654	21,744.113
Net profit	3211				19,486.654	19,486.654
Results of revaluation of fixed assets	3212					
Income directly related to the capital increase	3213			2,257.459		2,257.459
Decrease in capital value, Total:	3220			(2,402.413)	(3,000.202)	(5,402.615)
Losses	3221					
Revaluation of assets	3222					

Description	Code	Authorized capital	Additional fund	Reserve capital	Retained profit (losses)	Total
Expenditures directly related to the capital decrease	3223			(2,402.413)	(202)	(2,402.615)
Dividends	3227				(3,000.000)	(3,000.000)
Changes in Additional funds	3230					
Changes in reserve capital	3240			(144,955)	( )	(144,955)
Balance as of December 31, 2011	3200	22,962	181,735.316	25,538	92,083.860	273,867.676
For 2012						

Total income, incl.	3310		705	2,075.673	19,079.488	21,155.866
Net profit	3311				19,079.488	19,079.488
Results of revaluation of fixed assets	3312					
Income directly related to the capital increase	3313		705	2,075.673		2,076.378
Decrease in capital value, Total:	3320		(868)	(2,074.413)	(19,486.654)	(21,561.935)
Expenditures directly related to the capital decrease	3323		(868)	(2,074.413)		(2,075.281)
Decrease in par value	3324					
Decrease in number of shares	3325					
Reorganization of the legal entity	3326					
Dividends	3327				(19,486.654)	(19,486.654)
Changes in Additional funds	3330					
Changes in reserve capital	3340					
Balance as of December 31, 2011	3300	22,962	181,735.153	26,798	91,676.694	273,461.607

**II. Adjustments due to changes in accounting policies and corrections of errors**

Item	As of December 31, 2010	Changes in capital in 2011		As of December 31, 2011
		from net profit (loss)	due to other factors	
<b>Capital – total</b>				
Before adjustments	257,526.178	16,486.453	(144,955)	273,867.676
Adjustment due to:				
changes in accounting policies	—			
correction of error				
After adjustments	257,526.178	16,486.453	(144,955)	273,867.676

Item	As of December 31, 2010	Changes in capital in 2011		As of December 31, 2011
		from net profit (loss)	due to other factors	
Including				
retained profit (uncovered loss)				
Before adjustments	68,320.256			
Adjustment due to:				
changes in accounting policies	7,277.152			
correction of error				
After adjustments	75,597.408			
Other equity items				
<b>Additional fund</b>				
Before adjustments	189,012.468			
Adjustment due to:				
changes in accounting policies	(7,277.152)			
correction of error				
After adjustments	181,735.316			
<b>Reserve capital</b>				
Before adjustments				
Adjustment due to:				
changes in accounting policies				
correction of error				
After adjustments				
<b>III. Net assets</b>				

Item	Code	As of December 31, 2012	As of December 31, 2011	As of December 31, 2010
Net assets	3600	273,470.199	273,884.673	258,155.297

Vice-President  
for finance  
and economy  
(illegible)

(signature)

S. A. Migalin  
(full name)



Accounting  
manager

(signature)



M. N. Guseva  
(full name)

February 20, 2013

**Cash flow statements  
for 12 month of 2012**

Company: **TVEL JSC**

Taxpayer Identification Number

Type of activity: **Industry (nuclear fuel processing)**

Legal form/form of ownership: **Joint Stock Company**

Measure unit: thousand RUB / m RUB (underline)

Address: **Bolshaya Ordynka str., building 24, 119017, Moscow**

Codes

Form №1 of OKUD 0710004

Date (day, month, year) 31 | 12 | 2012

According to OKPO 45046040

TIN 7706123550

According to OKVED 23.30

According to OKOPF/OKFS 47 | 16

According to OKEI 384

Description	Code	For 12 month of 2012	For 12 month of 2011
<b>Operating cash flow</b>			
Cash received — total	4110	101,611.222	108,804.534
proceeds from goods, products, works and services sale	4111	98,212.987	106,159.036
proceeds from lease rents, licence payments, royalty duty	4112	49,492	83,933
proceeds from resale of investments	4113		
other income	4119	3,348.743	2,561.565
Cash allocated — total	4120	(93,117.115)	(90,092.275)
to pay for acquisition of goods, works, services, raw materials	4121	(80,370.719)	(81,026.335)
for remuneration of labour	4122	(1,374.567)	(1,193.954)
for dividends distribution	4123	(922,066)	(632,507)
for corporate profits tax	4124	(4,576.032)	(3,924.129)
other expenses	4129	(5,873.731)	(3,315.350)
Net operating cash flow	4100	8,494.107	18,712.259

**Cash flow from investing activities**

Cash received — total, incl.	4210	9,532.236	13,232.577
Proceeds from sale of fixed assets (except for investments)	4211	88,588	2,252.007
Proceeds from sale of securities and other financial investments of other companies	4212	95,334	
Proceeds from redemption of loans	4213	8,562.630	7,581.000
Dividends and Interest received	4214	758,222	3,371.403
Other incomings	4219	27,462	28,167
Payments — total	4220	(19,229.335)	(21,344.121)

Description	Code	For 12 month of 2012	For 12 month of 2011
Cash allocated — total, incl.			
in connection with the acquisition, construction, modernization	4221	( 4,030.995 )	( 2,834.761 )
in connection with acquisition of securities and other financial investments	4222	( 5,991.798 )	( 9,683.436 )
in connection with acquisition of debt securities	4223	( 9,170.982 )	( 8,769.530 )
Interest on debt	4224	( )	( )
Other payments	4229	( 35,560 )	( 56,394 )
Net cash flow from investment operations	4200	( 9,697.099 )	( 8,111.544 )
<b>Cash flow from financial activities</b>			
Cash received — total	4310	46,950.074	25,799.112
Access to credit and loans	4311	46,950.074	25,799.112
Monetary contributions of owners	4312		
Proceeds from shares issue and other equity securities	4313		
Proceeds from issue of bonds, long drafts and debt securities	4314		
budgetary allocation and other special purpose funding	4315		
Other proceeds	4319		
Payments — total	4320	( 45,954.648 )	( 35,583.536 )
To owners in connection with the repurchase of their shares	4321	( )	( )
Payment of dividends and other payments on the distribution	4322	( 19,486.653 )	( 3,000.000 )
Due to the maturity (redemption) of bills and other debt	4323	( 26,467.995 )	( 32,583.536 )
Other payments, allocations	4329	( )	( )
Net cash from financial activities	4300	995,426	( 9,784.424 )
Net increase (decrease) of cash and its equivalents	4400	( 207,566 )	816,291
Cash balance as at the beginning reporting period	4450	4,747.646	3,694.610
Cash balance as of the end of the reporting period	4500	4,382.333	4,747.646
Effect of exchange rate changes with regard to rouble	4490	( 157,747 )	236,745

Vice-President  
for finance  
and economy  
(illegible)

(signature)

S. A. Migalin  
(full name)



Accounting  
manager

(signature)

M. N. Guseva  
(full name)

February 20, 2013

## Auditors' Report on Financial (Accounting) Statements

From January 1, 2012 through December 31, 2012

### Auditors' Report

To the Shareholder of TVEL  
Joint Stock Company TVEL

### Audited entity

Name:

Joint Stock Company TVEL (hereinafter referred to as TVEL JSC).

Location:

24 Bolshaya Ordynka Street, Moscow, 119017.

State Registration:

Registered by Moscow Registration Chamber on *September 12, 1996*, Certificate №061,775. Entered into the Uniform State Register of Legal Entities on *August 22, 2002* under Primary State Number 1027739121475.

### Auditor

Name:

Financial and Accounting Consultants Limited Liability Company (FBK LLC).

Location:

44/1 Myasnitskaya Street, Building 2AB, Moscow, 101990.

State Registration:

Registered by Moscow Registration Chamber on *November 15, 1993*, Certificate Series IO3 3 №484,583 ПИ. Entered into the Uniform State Register of Legal Entities on *24 July 2002* under Primary State Number 1027700058286.

Membership in the self-regulatory auditors' organization:

Not-for-Profit Partnership "Auditing Chamber of Russia".

Number in the register for auditing entities of the self-regulatory auditors' organization:

Certificate of Membership in the Not-for-Profit Partnership "Auditing Chamber of Russia" №5353, ORNZ — 10201039470.

We have audited the accompanying accounting statements of TVEL JSC, which comprise the balance sheet as at *31 December 2011*, the profit and loss statement, statement of changes in equity, cash flow statement for 2011 and the explanatory note.

### Audited Entity's Responsibility for the Accounting Statements

Management of the audited entity is responsible for the preparation and reliability of the said accounting statements in accordance with the Russian accounting reporting rules and for the system of internal control required to prepare accounting statements that are free from material misstatement, whether due to fraud or error.

### Auditors' Responsibility

Our responsibility is to express an opinion about the reliability of the accounting statements based on the results of our audit. We conducted our audit in accordance with the federal standards on auditing. Those standards require that we comply with the applicable ethical requirements and plan and perform the audit to obtain reasonable assurance whether the accounting statements are free from material misstatement.

The audit involved performing audit procedures aimed to obtain the audit evidence confirming the amounts in the accounting statements and disclosure of information therein. The audit procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement, whether due to fraud or error. In making these risk assessments we have considered the system of internal control relevant to the preparation and reliability of the accounting statements in order to select the appropriate audit procedures, but not for the purpose of expressing an opinion on the effectiveness of the system of internal control. The audit also included evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management of the audited entity, as well as evaluating the overall presentation of the accounting statements.

We believe that the audit evidence we have obtained during the audit is sufficient to provide a basis for expressing the opinion about the reliability of the accounting statements.

### Opinion

In our opinion, the accounting statements present fairly, in all material respects, the financial position of TVEL JSC as at *31 December 2011*,

its financial and economic performance and its cash flows for 2011 in accordance with the established rules for preparation of accounting statements.

Vice-President of LLC FBK



A. V. Tikhonovskiy  
(pursuant to the power  
of attorney)

Date of Auditors' Report:  
February 27, 2013

### Report of the Audit Committee on the results of the examination of the financial and economic activity and annual accounting (financial) statements of TVEL JSC of 2012

Moscow

March 29, 2013

The Audit Committee of TVEL JSC (hereinafter — the Company) guided by the authority provided to it by the Federal law "On joint-stock companies", the Company's Charter, the Statement on the Audit Committee of the Company, performed the examination of the financial and economic activity of the Company from *01.01.2012* through *31.12.2012*. The examination was held from *26* through *29 of April, 2013*.

The Audit Committee was chosen by the decision of the single stockholder of the Company, record of *June 29, 2012*, №18. It consisted of:

- the Chairman of the Audit Committee — *Oleg Ivanovich Linyaev* — deputy director of the Department of coordination and development of the nuclear fuel cycle (NFC), the Head of the Division of the balanced NFC development management of Rosatom State Corporation;
- member of the Audit Committee — *Galina Ivanovna Bobrova* — the Executive director of the internal control and audit department of TVEL JSC;
- member of the Audit Committee — *Dmitriy Vitalyevich Khomaza* — the Head of the Department of Economy and Controlling of Rosatom State Corporation.

The Audit Committee did not receive any demands of executing unplanned examinations and revisions from the single stockholder or Board of directors throughout the year.

During the examination the Audit Committee studied the founding documents selectively, as well as accounting records, accounting (financial) statements, analytical materials, matters concerning compliance

### APPENDIX 7. REPORT OF THE AUDIT COMMITTEE BASED ON THE INSPECTION RESULTS OF FINANCIAL AND ECONOMIC ACTIVITY FOR THE YEAR 2012

with corporate procedures and other documents, presented to the Audit Committee, which demonstrate important sides of the Company's activities.

The result of the Audit Committee's examination is based, among other things, on the report of the Company's Auditor (Financial and Accounting Consultants LLC) of *February 27, 2013*.

As the result of the examination, the Audit Committee confirms the Data, presented in the Company's Annual Report:

1. The financial results of the Company's activities in 2012 are reliable.
2. Accounting statements with the balance value 339,678.357 thousand RUB reliably demonstrate the assets and obligations as on *31.12.2012* and the financial results of the Company's activities in 2012.
3. The net profit available for distribution for the examined period amounted to 19,079.488 thousand RUB.

Chairman of the Audit Committee:  
Oleg Ivanovich Linyaev

Members of the Committee:  
Galina Ivanovna Bobrova

Dmitri Vitalyevich Khomaza

APPENDIX 8.  
**THE CONCLUSION  
OF THE INTERNAL  
CONTROL AND AUDIT  
DEPARTMENT  
OF TVEL JSC  
ON THE ACCURACY  
OF THE  
INFORMATION  
IN THE ANNUAL  
REPORT**

**The Conclusion of the Internal Control and Audit Department  
of TVEL JSC on the accuracy of the information  
in the annual report**

**The inner** audit of the process of forming a public annual report of TVEL JSC (hereinafter the Company) of the year 2012 was held in accordance with the "Order of planning and executing of inner audits of business processes at TVEL JSC and the companies that form part of the control circle of the Fuel Company", affirmed by the order the President of TVEL JSC of *14.12.2011* №271 in accordance with the politics of Rosatom State Corporation in the sphere of public reporting, affirmed by the CEO of Rosatom State Corporation on *13.05.2011* №1/403-II, the Standard of annual public reporting of TVEL JSC, affirmed by the order of the President of TVEL JSC of *15.02.2011* №28, the basic statements of the Guide to reporting on sustainable development of GRI (G3.1 version), the series of international standards AA1000, the recommendations of the Russian Union of Industrialists and Entrepreneurs on the usage in practice of the control and corporate non-financial report.

The purpose of the audit was to form the opinion about the effectiveness of the system of inner control of the process of forming public annual report and about the appropriateness of the order of forming public annual report to the demands of the current legislation, inner normative documents, the standards of Rosatom State Corporation and the Society of public accounting.

The audit included:

- analysis of the appropriateness of the order of forming the public annual report to the demands of the current legislation, the politics of Rosatom State Corporation, the standards of the Society of public accounting;
- evaluation of the appropriateness of the interaction of interested parties to the demands of international standards of the AA1000 series and the politics of Rosatom State Corporation on public accounting;
- classification and evaluation of the main risks that happen during the process of forming public annual report;
- evaluation of regulation and formalization of key processes that are part of the stage of planning and preparing public annual report (key controlling procedures were analysed to identify the adequacy of their design and operating effectiveness);
- development of recommendations directed on the growth of and improvement of effectiveness of the system of inner control of the process of forming public annual account.

In accordance with the order of the President of the Company №4/23-П dd. 05.02.2013, S. A. Migalin, Vice-President for Finance and Economics, is designated as responsible for the report preparation; K. K. Sokolov, Vice-President and Managing Director for fuel and energy resources, is designated as responsible for public events (dialogues, public hearings) with the stakeholders.

At the initial stage of Public Annual Reporting, the report concept was created and presented for discussion as part of the first dialogue with stakeholders. As a result of public discussion the final version of the concept is adopted which is intended to determine a meaningful image of the final product and account for all sub-processes and activities required to implement the process of Public Annual Reporting. The concept of Public Annual Reporting is approved by the Committee on Public Reporting of Rosatom State Corporation (Minutes №1 of the meeting of the Committee on Public Reporting of Rosatom State Corporation dd. 31.01.2013)

Dialogues with stakeholders (dialogues №1 dd. 24.01.2013, №2 and 3 dd. 22.03.2013) and a public hearing (26.04.2013) were held during the preparation of Public Annual Reporting. As part of public events, the major stakeholders assessed the completeness of information disclosure, its importance and the degree of response by the Company's management to the questions of the stakeholders.

The Internal Control and Audit Department did not register any facts of limiting the level of audit on behalf of the management and the employees of the Company.

The results of the audit provide a possibility to make certain conclusions on the effectiveness of the system of inner control of the process of forming public annual account and on the appropriateness of the order of public annual report forming by TVEL JSC to the current legislation, the politics of Rosatom State Corporation in the field of public reports and inner normative demands of TVEL JSC that regulate the process of forming public annual report.

The Head of the Internal Control  
and Audit Department

G. I. Bobrova

## Introduction

**The object** of the audit certification is a project of integrated public annual report of the TVEL JSC (hereinafter — the Report) for the period from *January 1 to December 31, 2012*.

This opinion is addressed to the working group on the preparation of a public annual report and the management of TVEL JSC.

## Liability of the Parties

The management of TVEL JSC is absolutely responsible for the preparation and accuracy of this Report.

We are liable for the results of the independent audit report certification only before TVEL JSC within the agreed assignment and do not accept any responsibility before any third party.

## Volume, Criteria and Level of Audit Certification

The object of audit certification is the Report TVEL JSC which includes information on key enterprises of TVEL FC within the reported consolidation loop. The report was estimated according to the following criteria:

- the nature and extent of Company's compliance with the principles of the standard AA1000 Accountability Principle Standard 2008 — inclusiveness (involvement), essentiality, and perceptivity;
- compliance of the Report with Level A+ (the Company's self-certification) according to Guidelines GRI G3.1;
- compliance of the Report with the Policy of Rosatom State Corporation in the field of public reporting and Typical Standard of public annual reporting of the major organizations of Rosatom State Corporation.

Our audit was planned and performed in accordance with Standard for audit certification AA1000 Assurance Standard 2008 and the International Standard ISAE 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information".

Audit certification complies with type 2 according to the definition of standard AA1000A8 2008 subject to the restrictions set forth in section "Audit certification limitation" of this opinion.

While providing services, we met the following requirements regarding the level of audit certification:

- moderate — according to Standard FF1000 AS 2008;
- limited according to Standard ISAE 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information".

Within the above levels of audit certification, we carried out selective verification of the information in the report which cannot claim to provide

a high level of assurance for the audit certification. The work on the audit certification was based on the supporting information provided by the Company's management and its employees, on the data from available sources and analytical methods of confirmation. With respect to the quantitative information in the Report, the work cannot be considered sufficient to identify all possible inaccuracies and distortions. However, we have collected sufficient confirmation to make our opinion in accordance with the above levels of audit certification.

## Audit Certification Methodology

The following procedures were performed as part of the audit certification:

- research and testing of systems and processes implemented by TVEL JSC on a sample basis to ensure and analyse the compliance of the activities to the principles of the AA1000 APS, and to manage performance in the field of sustainable development;
- questionnaire and interviews with the senior executive team of the Company, and representatives of the external stakeholders of TVEL JSC, subsidiaries JSC "SGChE", npocto JSC "VNIINM", MSZ JSC and JSC UEIP;
- evidence gathering to support the practical realization of system processes implementing the principles of the AA1000 APS;
- interviews with the personnel of TVEL JSC, subsidiaries JSC "SGChE", npocto JSC "VNIINM", MSZ JSC and JSC UEIP, the study of the documents and statements of the management in order to confirm compliance with the principles of the AA1000 APS;
- participation in the dialogues and public consultations of TVEL JSC, JSC "SGChE" and JSC UEIP with stakeholders;
- study of the opinion on the public audit certification of the Report;
- study of the information on the activities in the context of sustainable development available on the websites of TVEL JSC and subsidiaries;
- study of the published statements of third parties in relation to economic, environmental and social activities of TVEL JSC to verify the validity of the statements made in the Report;
- analysis of non-financial reporting of domestic and foreign companies working in the field of nuclear fuel fabrication, uranium conversion and enrichment for purposes of benchmarking;
- analysis of the current system of internal control and audit of TVEL JSC for the verification of compliance of procedures for establishing a public annual report with the current legal requirements, standards of Rosatom State Corporation, internal regulations of TVEL JSC in the field of public accounting;
- selective review of documents and data on the effectiveness of TVEL JSC's existing management systems of economic, environmental and social spheres of sustainable development;

- study of the existing processes for collection, processing, documentation, verification, analysis and selection of data to be included in the Report;
- verification of the adequacy of the statements, claims, and data included in the report;
- analysis of the information in the report on the compliance with the principles of Standard AA1000APS, Guidelines GRI G3.1. (Level A+), the Policy of Rosatom State Corporation in the field of public reporting and Typical Standard of public annual reporting of the major organizations of Rosatom State Corporation.

#### **Audit Certification Limitation**

Audit certification is limited to the time frame of the reporting period (01.01.–31.12.2012).

Evaluation of reliability of the information on the performance presented in the Report is made only in respect of compliance with the Guidelines GRI G3.1. for Level A +.

Audit certification of fidelity of the disclosed quantitative performance indicators in the statement is limited with assessment according to the audited financial statements and provided documents of external and internal reporting as related to production and economic, and environmental and social practices.

Audit certification is not applied to forward-looking statements, as well as statements expressing opinions, beliefs or intentions of TVEL JSC to take any action relating to the future.

Audit certification is not applied to statements made out of expert judgements listed in the Report.

Audit certification is only applied to the Russian version of the Report.

We had no chance to verify publication of the Report on the corporate website of TVEL JSC due to the fact that the date of signing this conclusion preceded the planned date of the Report publication on the Company's website.

#### **Conclusions**

The following conclusions are based on work carried out by us on audit certification performed within the scope and limits specified above.

1. The report adequately reflects the implemented control mechanisms and performance indicators of TVEL JSC activities on economic, social and environmental aspects of sustainable development.
2. As a result of and within the scope of our work, we found no significant distortions in the information contained in the Report that reveals the activity of TVEL JSC in the field of sustainable development and its results.

#### **The nature and degree of compliance with the principles of AA1000 APS**

##### *Involvement*

- TVEL JSC interacts with a wide range of stakeholders. During preparation of this Report, a map of stakeholders was made upon the questionnaire of the top managers; it was represented and agreed upon by the parties within social dialogue;
- during preparation of the Report, TVEL JSC conducted three dialogues with a wide range of stakeholders, as well as public consultation on the draft report;
- the company uses different ways to inform stakeholders, including reports, meetings of the Company's senior management with the personnel, and within the Days of information, information memoranda, press releases, interviews, conferences, forums, polls, the Company's web portal and website, publications in the media;
- our work brings us to the conclusion that TVEL JSC understands the composition of its stakeholders and has mechanisms to address their concerns and expectations in its activities.

##### *Essentiality*

- The report reflects key aspects of TVEL JSC's activities in the economic, social and environmental spheres which are significant to the stakeholders. The concept of the Report, including key issues and performance indicators, was presented during the first dialogue with the stakeholders and refined as a result of their comments;
- the current system of risk management in the Company indicates that the Company identifies risks essential to the achievement of the strategic goals and manages them successfully, as evidenced by the map of primary and residual risks.

##### *Perceptivity*

- The report demonstrates the commitment of TVEL JSC to take into account the interests of the stakeholders in its activities. The Company publicly announces a significant role of interaction with each stakeholder group for its sustainable development, and therefore the records and prompt response to inquiries from the stakeholders represent the basic mechanism to achieve the maximum mutual effect;
- the Company has taken into account the observations made in the course of interaction with the stakeholders during the preparation of the Report which is also confirmed by the conclusion on the public audit certification. In addition, the Report contains detailed information on the stakeholders' suggestions made as part of the public dialogues and consultations on the Reports for both the current and previous periods, and implemented in response to these events.

*Compliance of the Report with Level A+ according to Guidelines GRI G3.1*

For the purpose of opinion forming on this issue, we analysed compliance with the recommendations of the Report with GRI G3.1 on standard reporting elements for the stated application level.

**Principles determining the contents of the Statement**

*Essentiality*

- The information included in the Report covers issues and performance indicators that reflect significant impact of TVEL JSC on the economy, environment and society, or may significantly affect the estimates and decisions of the stakeholders;
- two priority issues of the Social capital in the business model of TVEL FC Report and "Business orientation of TVEL FC and efficiency improvement in increased competition" — were defined and agreed with stakeholders;
- the report discussed the main issues raised in the reports of foreign companies of similar profile.

*Coverage of the stakeholders*

In the Report, TVEL JSC presented information on the stakeholders and mechanisms for consideration of their interests in determining the contents of the Report.

*Sustainable development context*

The report presents the results of TVEL JSC in the broad context of sustainable development which takes into account various aspects of production and economic, social and environmental issues.

*Completeness*

- As part of the stated limits, the report covers the activities of TVEL JSC with a reasonable degree of completeness;
- the limits of the Report include the Company and its subsidiaries, and correspond to the perimeter of reporting consolidation of TVEL FC;
- some performance indicators are not fully disclosed in comparison with the recommendations contained in the system of protocols to the indicators GRI (see Section "Standard reporting elements", subsection "Performance Indicators").

**Guidelines for the Report Quality Assurance**

*Balance*

The report is balanced, reflecting both the performance results and the issues to be addressed.

*Comparability*

- The compatibility of the Report with the non-financial statements of other organizations is achieved by using Guidelines GRI G3.1 as a basis for the disclosure of any indicators of sustainable development;
- the financial information can't be compared with the statements of other companies to the full extent due to the application of the Russian legislation requirements in the field of financial statements (rather than International Financial Reporting Standards) for their disclosure;
- most digital indicators are presented in a three-year dynamics which allows analysing the trends of the Company.

*Accuracy*

- The accuracy of the factual information submission in the Report is sufficient to ensure that the stakeholders could assess the performance of TVEL JSC in the field of sustainable development;
- performance indicators calculation is based on the methods approved in the Guidelines GRI G3.1, Public Annual Reporting Standard of TVEL JSC, and methodology of Rosatom State Corporation.

*Timeliness*

The report was prepared for submission to the Annual General Meeting.

*Clarity*

- In general, the information is presented in the Report in clear and accessible form for different groups of the stakeholders;
- the report contains Appendix "Glossary and abbreviations" which facilitates understanding of the provided information by the users of the Report.

*Reliability*

- The information on the information impact presented in the Report is based on the internal reporting documents of TVEL FC and Rosatom State Atomic Energy Corporation, as well as the statements submitted to regulatory authorities;

- the issues of validation of controls and procedures for non-financial statements establishing are the responsibility of the Directorate for Internal Control and Audit. An appropriate Conclusion was made according to the audit of public annual reporting forming process was formed findings;
- we have not found evidence calling into question the reliability of the information contained in the Report.

### Standard Reporting Elements

#### *Strategy and characteristics*

The report provides information on the sustainable development which should be disclosed in accordance with the Guidelines GRI G3.1 on the determination of the content of the Report.

#### *Management Approach*

The report reflects management approaches to all significant aspects of the industrial, economic, social and environmental spheres; in particular, the strategic objectives are disclosed, and the mechanisms for their implementation are described, as well.

#### *Performance Indicators*

- All relevant parameters are described in the Report in accordance with protocols GRI G3.1, except for the performance indicators LA11, EC3, EN2, EN21, and SO4 which are not disclosed to the full extent due to the requirements of the protocols GRI G3.1 (partial disclosure) indicating the reasons for incomplete disclosure;
- the disclosure of the performance indicators meets the requirements of GRI G3.1 for level A+.

### **Compliance of the Report with the Policy of Rosatom State Atomic Energy Corporation in the field of public reporting and Typical Standard of public annual reporting of the major organizations of Rosatom State Atomic Energy Corporation**

The public reporting process, structure and content of the Report generally correspond to the requirements of the Policy of Rosatom State Corporation in the field of public reporting and Typical Standard of public annual reporting of the major organizations of Rosatom State Corporation.

#### *Recommendations*

1. It is appropriate to disclose GRI indicators in connection with the target values.
2. To increase the disclosure degree of indicators for which GRI protocols are not taken into account to the full extent (partial disclosure),

or to inform about the planned timing of full disclosure of them in the next report.

3. To take into account the comments contained in the sections of this conclusion above.

### Statement of Competence and Independence

NP Consult CJSC is an independent audit firm providing professional audit certification services. NP Consult CJSC is a member of a self-regulating organization of auditors Institute of Professional Auditors NPO and conducts its activities in accordance with the Code of Ethics for Professional Accountants IFAC. The company has an audit services quality control system, including the monitoring of compliance with ethical standards.

NP Consult CJSC officially declares that this conclusion represents an independent auditor's evaluation. NP Consult CJSC and its employees don't have any relations with TVEL JSC, its subsidiaries and affiliated organizations that could bring a conflict of interest when providing services on an independent audit certification of the report.

NP Consult CJSC is an organizational GRI stakeholder, licensed provider of services in audit certification in accordance with the requirements of AA1000AS.

The team providing services related to the reporting audit certification in the field of sustainable development includes experts of NP Consult CJSC with the necessary experience in providing audit services, reporting in accordance with the GRI G3.1, and training on the preparation of such statements. The leading experts have been trained to audit certification and reporting on sustainable development in the training centre Accountability.

Deputy General Director  
Closed Joint-Stock Company  
NP Consult:  
V. Yu. Skobarev




Moscow  
May 21, 2013

APPENDIX 10.  
GLOSSARY  
AND ABBREVIATIONS

Term	Definition
Nuclear power engineering	A sector of power engineering using nuclear energy for electrification and heat supply purposes
Becquerel (Bq)	Activity unit of the nuclide in the radioactive source which is equal to the activity of the nuclide in which one nucleus decays per second
Business model	A business model is a system of resources (capitals), commercial activities, products and results aimed at creating and maintaining the value in the short, medium and long term
Fast neutrons	Neutrons, the kinetic energy of which is higher than a certain definite value. In nuclear reactor physics, neutrons are commonly referred to fast if their energy is more than 0,1 MeV
VVER	Water-water energy reactor in which water is used both as decelerator and heat carrier. The most widespread type of Russian NPP reactors has two modifications — VVER-440 и VVER-1000
Radioactivity discharge	Radionuclide emission into the atmosphere as a result of nuclear facility operation
Decommissioning	Decommissioning of a reactor plant as well as subsequent actions for its safe dismantling, equipment disposal and future use of the site
Depletion of nuclear fuel	Impoverishment of any nuclide in nuclear fuel due to nuclear transformations of this nuclide during the reactor operation
Highly-enriched uranium	Uranium containing uranium-235 isotope with a mass of 20% or more
Gas centrifuge	Equipment designed for obtaining enriched uranium necessary for ensuring the operation of nuclear reactors of nuclear power plants
Gas diffusion technology	Gas diffusion technology of separation of uranium isotopes based on the molecular diffusion through the micropores of membranes (partitions)
Gate approach to investing	Planning and investment approach, in which the investment processes are broken down into phases; the achieved results, plans and risks of the further implementation of the project are reviewed in an integrated manner before each phase, and then the decision to move to the next phase of the project is made
Uranium hexafluoride	The chemical compound of uranium and fluorine (UF <sub>6</sub> ). It is the only highly volatile uranium compound (when heated to 53°C uranium hexafluoride goes over from solid to gas); it is used as a raw material for the separation of isotopes of uranium-238 and uranium-235 by gas diffusion technology or gas centrifuge technology and the production of enriched uranium
Global Reporting Initiative (GRI)	A reporting system on economic, environmental, social performance, which is accepted in the international practice and based on the Sustainability Reporting Guidelines, technical protocols and industry applications
Burnup fraction	Share of the initial quantity of number of nuclei of a certain type which have gone through nuclear transformation in the reactor at the neutron influence
Division	A business entity with which Rosatom State Corporation set the rules for interaction determining this company as a Division, managing business entities covered by the control loop of the Division
Radiation dose	A sum of individual radiation doses received or planned during the work on operation, maintenance, repair, replacement, or disassembly of a nuclear facility
Natural radiation background	Ionising radiation composed of space radiation and ionising radiation of naturally distributed natural radionuclides (on Earth surface, in the air, foodstuffs, water, human organism, etc.)

Term	Definition
Closed nuclear fuel cycle	A nuclear fuel cycle in which used nuclear fuel discharged from the reactor is recycled for extraction of uranium and plutonium for reproduction of nuclear fuel
Ash-and-slad	Wastes generated from burning solid fuel
Integrated report	An integrated report is a brief overview of how the strategy, management, performance and prospects of a company in the context of the environment lead to value creation over the short, medium and long-term periods
Research reactor	A nuclear reactor used as a research object to obtain data on the physics and technology of reactors required for the design and development of this type of reactors or components thereof
Conversion	A chemical technology process of converting uranium-bearing materials into uranium hexafluoride
Radiation control	Obtaining of information on the radiation situation in the organisation and environment and on the levels of radiation of humans (including dosimetric control and radiometric surveillance)
Indirect energy use	Use of energy produced outside the organisational limits of the organisation preparing the report
Production localisation	Production organisation outside of the Russian Federation
Neutron	Uncharged elementary particle present in the nucleus of each atom except hydrogen. Single mobile neutrons moving at different speeds arise because of the fission reaction. Slow (heat) neutrons, in their turn, can easily cause fission of nuclei of "fissionable" isotopes, e. g., U-235, Pu-239, U-233; fast neutrons can cause fission of nuclei of a "fertile" isotope, e. g. U-238. Sometimes atomic nuclei just capture neutrons
Low-enriched uranium	Uranium containing uranium-235 isotope with a mass of under 20%
Nuclide	Type of atom with a definite number of protons and neutrons in the nucleus characterised by an atomic mass and atomic (order) number
Depleted uranium	Uranium in which the content of uranium-235 isotope is lower than in natural uranium
Enrichment (by isotope)	a) particular isotope atom content in the mixture of isotopes of the same element, if it exceeds the proportion of the isotope in a mixture of naturally occurring (expressed in per cent) b) a process resulting in increased content of a particular isotope in a mixture of isotopes
Uranium ore enrichment	Totality of processes of treatment of mineral uranium-containing raw material for the purpose of separation of uranium from other minerals contained in the ore. Meanwhile, there is no change in the composition of minerals, but a mechanical separation of ore concentrate
Enriched nuclear fuel	Nuclear fuel in which the content of fissionable nuclides is higher than in natural raw material
Enriched uranium	Uranium in which the content of uranium-235 isotope is higher than in natural uranium. Reactor quality uranium is usually enriched approximately to 3.5% U-235, and the content of U-235 in weapon-grade uranium is over 90%
Fuel element cans	Metal pipes in the reactor active zone containing oxide fuel pellets
Circulating water	Water that has been used in the processing cycle and that is to be used for the same purposes after cooling or purification
Radioactive waste treatment	General term uniting all activities related to the processing, conditioning, transportation, storage and burial of radioactive waste
Ozone-depleting substances	Any substance with an ozone-depleting potential higher than 0, able to deplete the stratospheric ozone layer. Most of ozone-depleting substances, including CFC, halons and methylbromide, fall under the Montreal protocol as amended
Trial performance	Stage of PP commissioning from the beginning of the power launch till the PP acceptance for industrial operation

Term	Definition
Primary energy sources	Source energy form used for satisfying the energy needs of the organisation preparing the report. Examples of primary sources include irreplaceable energy sources, e. g. coal, natural gas, oil and nuclear energy. They also include such replaceable sources as biomass, sun and wind energy, geothermal and hydraulic energy
First nuclear project	The USSR's nuclear project aimed at creating weapons of mass destruction with the use of nuclear energy
Fuel recharging	Operation performed by material-handling machines for replacing used fuel; the fuel radiation degree at which the recharging is done depends on the fuel composition after radiation, on the allowable work duration and on the reactivity change
Fuel reprocessing	A complex of chemical processes designed to remove fission products from spent nuclear fuel and fissile material recovery for reuse
Radioactive waste processing	Technological operations aimed at changing of aggregative state and/or physic-chemical properties of radioactive waste and transforming them into forms suitable for transportation, storage and/or disposal
Maximum permissible dose	The maximum value of the individual equivalent radiation dose per year, which does not cause unfavourable changes in the personnel's health after 50 years of uniform exposure
Industrial park	Special territory on which production and other enterprises are united by means of a common infrastructure and mutual production cooperation
Fuel production	Nuclear fuel production, generally in the form of ceramic buttons enclosed in metal pipes (fuel elements), which are later assembled in fuel assemblies (FA)
Radioactive isotopes	Isotopes with unstable nuclei under radioactive disintegration
Radioactive waste	Nuclear materials and radioactive substances, further use of which is not provided
Radiation safety	System of measures aimed at limiting the exposure of employees and public to the lowest values of the radiation dose achieved by means acceptable to the society, and preventing the occurrence of early radiation effects and limiting manifestations of long-term effects of radiation to an acceptable level
Radionuclides	General name for radioactive atoms. Great danger for environment
Regenerated uranium	Uranium separated from used nuclear fuel in the process of chemical processing for reuse in nuclear fuel (regenerated fuel)
Rehabilitation of contaminated territories	Lowering of the radioactive contamination degree to the level ensuring the maximum protection of population and recovery of the condition of all elements of the ecosystem (waters, soils, air) to the current normative level
Radioactive substances discharge	Controlled radionuclide discharge into the water with liquid effluents of a nuclear facility
Social capital	The system of relations created within the company and between the Company, various stakeholder groups and other communities aimed at enhancing mutual prosperity
Social partnership	System of institutes and mechanisms of coordination of the interests of the production process participants (workers, employers, state authorities, local government) based on equal cooperation
Audit standard ISAE 3000 (International Standard on Assurance engagements)	International Standard on Auditing non-financial reporting
Stakeholder Engagement Standard AA1000SES (AA1000 Stakeholders Engagement Standard)	Generally applicable regulatory framework of corporate governance for planning, execution, evaluation, informing and non-financial audit of stakeholder interaction quality in reporting and accountability of organizations
Sublimation production	Uranium hexafluoride production
Fuel pellet	Pellet from compacted uranium dioxide, is the base of nuclear fuel and is placed inside fuel elements

Term	Definition
Fuel assembly	Assembly of fuel elements (rods, bars, plates, etc.), held together by support plates and other structural components all-in-one during transportation and exposure in the reactor. Assemblies are loaded into the core of a nuclear reactor
Heat carrier	Liquid or gas used for heat transfer from the reactor active zone to the steam generators or directly to the turbines
Production placement topology	Plan of territorial location of production facilities
Uranium-233	Artificial uranium isotope with half-life period $1.6 \times 10^5$ years obtained by transmutation of thorium-232 after neutron capturing; is a fissionable nuclide
Uranium-235	Natural uranium isotope with atomic mass 235 and half-life $7.1 \times 10^8$ years; is the only fissionable material existing in nature
Uranium-238	Natural uranium isotope with atomic mass 238 and half-life $4.5 \times 10^9$ years; can be used as fertile material to obtain plutonium-239
Backend	Element (part) of fuel assembly
Tail storage	Complex of special structures and equipment designed for storage or burial of radioactive, toxic and other non-utilizable wastes of minerals enrichment called tails
Power unit	One of the NPP reactors with necessary additional equipment
Nuclear facility	Any installation, in which radioactive or fissionable materials are generated, processed or handled
Nuclear energy	Internal energy of atomic nuclei released in nuclear fission or nuclear reactions
Nuclear fuel	Material containing fissile nuclides which allows the chain reaction when placed in a nuclear reactor
Nuclear wastes	Radioactive materials generated on various stages of the nuclear fuel cycle, including development of uranium deposits, enrichment, fuel production, reactor operation, fuel processing, etc.
Nuclear reactor	Unit in which the controlled chain nuclear reaction with energy release takes place. Reactors are classified by purpose, carrier type, design and other characteristics
Nuclear fuel cycle	Sequence of manufacturing processes for nuclear reactor functioning, from uranium mining to the disposal of radioactive waste

#### Abbreviations

Term	Description
ACS DEP	Automated Control System for Design-Engineering Preproduction
NPP	Nuclear power plant, industrial enterprise producing electrical energy
FN	Fast neutron reactor where sodium is the carrier in the first and second loop and water and vapour in the third loop. In Russia, it is used at the Beloyarsk NPP
VVER	Water-water energy reactor
HEU	Highly enriched uranium
GDO	Government Defence Order

Term	Description
GC	Gas centrifuge
ICAM	Internal Control and Audit Management of TVEL FC
SA	Subsidiary and affiliate
USPS	Unified sectoral purchase standard of Rosatom State Atomic Energy Corporation
SWU	Separative work unit
URS	Uniform remuneration system
CATE	Closed Administrative-Territorial Entity
IMS	Integrated Management System for Quality, Ecology and Safety
ITER	(ITER, International Thermonuclear Experimental Reactor) — International Thermonuclear Experimental Reactor built on basis of a tokamak by an international group of scientists under the aegis of IAEA. It is supposed to be a type of the world's first DEMO thermonuclear power plant
KPI	Key performance indicators
CRMS	Corporate risk management system
IAEA	(International Atomic Energy Agency, IAEA), international controlling body monitoring the observance of nuclear safety and non-proliferation of nuclear weapons in the world
MW	Megawatt — unit of power equalling to 10 <sup>6</sup> watts. MW(e) relates to electric power of a generator; MW(t) relates to thermal power of a reactor or heat source (e. g., the full thermal power of the reactor itself is generally three times more than the electric power)
MOX-fuel	From English: MOX, Mixed Oxide Nuclear Fuel (generally on basis of uranium and plutonium)
R&D	Research and development
LEU	Low enriched uranium
USRS	Unified & Standardized Remuneration System
NFC IS	Nuclear fuel cycle initial stage
STC	Scientific and technical council
DUH	Depleted uranium hexafluoride
EP	Environment protection
EUP	Enriched uranium product
SNF	Spent nuclear fuel
RPS	Rosatom State Corporation Production System
RAW	Radioactive waste
HPCTR	High-power channel-type reactor — a type of single loop power reactor where water is carrier and graphite is decelerator
RN	Radionuclides
RTUAEIE	Russian Trade Union of Atomic Energy and Industry Employees

Term	Description
SSC	Separation-sublimation complex
SCM	Superconducting material
JV	Joint venture
EMS	Ecological management system
FA	Fuel assembly
TVS-KVADRAT	Name of a FA for PWR reactors developed in Russia
FP	Fuel pin
TVEL JSC The Fuel Company	TVEL JSC and the enterprises managed by the Company
FS	Feasibility study
HPP	Heat and power plant
FFMS	Federal Financial Markets Service
FTP	Federal target program
EGR	Energy channel-type graphite reactor with vapour overheating, used at the Bilibinskaya NPP
NRS	Nuclear and radiation safety
NF	Nuclear fuel
NFC	Nuclear fuel cycle, complex of measures for ensuring the functioning of nuclear energy engineering including extraction and processing of uranium ore, fuel fabrication, transportation to the NPP, storage and treatment of UNF. In the event of UNF burial, the NFC is called open; if fuel processing and reuse is provided, the cycle is closed
BWR	Boiling water reactor — tank-type boiling water reactor where water is used as the coolant
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortization is analytical indicator equal to the amount of profit before income tax expense, interest and accumulated depreciation
INES	International Nuclear Event Scale
PR, GR	Public relations, Government relations
PWR	Pressurized water reactor — type of foreign reactors with pressurized water, similar to VVER

**The main regulatory legal acts regarding the activity  
 of TVEL JSC and its subsidiaries and affiliates  
 are the following:**

*Federal Laws*

1. Russian Federation Law №3297-1 "On Restricted Administrative and Territorial Entity" dd. *July 14, 1992.*
2. Russian Federation Law №5485-1 "Concerning State Secrets" dd. *July 21, 1993.*
3. Federal Law №60-FZ "Concerning Supplies of Products for Federal State Requirements" dd. *December 13, 1994.*
4. Federal Law №68-FZ "On Population and Territory Protection from Natural and Man-made Emergency Situations" dd. *December 21, 1994.*
5. Federal Law №170-FZ "On Nuclear Energy Use" dd. *November 21, 1995.*
6. Federal Law №208-FZ "On Joint-Stock Companies" dd. *December 26, 1995.*
7. Federal Law №3-FZ "On Radiation Safety of Population" dd. *January 9, 1996.*
8. Federal Law №39-FZ "On Securities Market" dd. *April 22, 1996.*
9. Federal Law №174-FZ "Concerning Ecological Examinations" dd. *November 23, 1995.*
10. Federal Law №116-FZ "On Industrial Safety of Hazardous Production Facilities" dd. *July 21, 1997.*
11. Federal Law №117-FZ "On Safety of Hydrotechnical Constructions" dd. *July 21, 1997.*
12. Federal Law №52-FZ "Concerning the Sanitary and Epidemiological Welfare of the Population" dd. *March 30, 1999.*
13. Federal Law №183-FZ "On Export Control" dd. *July 18, 1999.*
14. Federal Law №178-FZ "Concerning the Privatization of State and Municipal Property" dd. *December 21, 2001.*
15. Federal Law №7-FZ "Concerning the Protection of the Environment" dd. *January 10, 2002.*
16. Federal Law №98-FZ "On Commercial Secrets" dd. *July 29, 2004.*
17. Federal Law №94-FZ "Concerning the Placing of Orders for Supplies of Goods, the Performance of Work and the Rendering of Services for State and Municipal Requirements" dd. *July 21, 2005.*
18. Federal Law №135-FZ "On Competition Protection" dd. *July 26, 2006.*
19. Federal Law №152-FZ "On Personal Data" dd. *July 27, 2006.*
20. Federal Law №13-FZ "On the Peculiarities of Management and Disposition of Assets and Shares of Organizations Operating in the Field of Nuclear Energy Use, and on Amendment of Certain Legislative Acts of Russian Federation" dd. *February 05, 2007.*
21. Federal Law №317-FZ "On Rosatom State Atomic Energy Corporation" dd. *December 01, 2007.*
22. Federal Law №35-FZ "Regulations on the Discipline for Employees of Operators of Production Facilities and Sites that are a Major Ra-

diation and Nuclear Hazard in the Field of Nuclear Energy Use" dd. *March 08 2011.*

23. Federal Law №190-FZ "On Radioactive Waste Management and on Amendment of Certain Legislative Acts of Russian Federation" dd. *July 11, 2011.*
24. Federal Law №223-FZ "On Procurement of Goods, Works, and Services by Certain Legal Entities" dd. *July 18, 2011.*
25. Federal Law №347-FZ "On Amendment of Certain Legislative Acts of Russian Federation for the Purpose of Safety Regulation in the Field of Nuclear Energy Use" dd. *November 30, 2011.*

*The Russian Federation Presidential Decrees*

1. The Russian Federation Presidential Decree №312 "On control over the export of Russian nuclear materials, equipment and technologies" dd. *March 27, 1992.*
2. The Russian Federation Presidential Decree №166 "On management development at enterprises of the nuclear fuel cycle" dd. *February 8, 1996.*
3. The Russian Federation Presidential Decree №202 "On approval of the list of nuclear materials, equipment, special non-nuclear materials and relevant technologies subject to export control" dd. *February 14, 1996.*
4. The Russian Federation Presidential Decree №1012 "On guarantees of safe and sustainable operation of the nuclear power industry of the Russian Federation" dd. *July 2, 1996.*
5. The Russian Federation Presidential Decree №36 "On approval of the list of dual-use equipment and items and related technologies used for nuclear purposes, subject to export control" *January 14, 2003.*
6. The Russian Federation Presidential Decree №556 "On reorganization of nuclear energy industrial complex of Russian Federation" dd. *April 27, 2007.*

*Government Regulations and decrees*

1. Russian Federation Government Regulation №240 "On approval of the list of job positions in the nuclear facilities obliged to receive permissions from the Federal Service for Ecological, Technological and Nuclear Supervision to work in the field of nuclear energy use" dd. *March 3, 1997.*
2. Russian Federation Government Regulation №289 "On determination of areas adjacent to the high radiation and nuclear hazardous plants and facilities, and on formation and use of centralized funds for financing of social protection of the population living in these areas, as well as for financing of social infrastructure development in these areas in accordance with the Federal Law "On the financing high radiation and nuclear hazardous plants and facilities" dd. *March 12, 1997.*

3. Russian Federation Government Regulation №306 "On rules of decision-making on siting and construction of nuclear facilities, radiation sources and storage facilities" dd. *March 14, 1997.*
4. Russian Federation Government Regulation №367 "On financing of the decommissioning of nuclear installations, radiation sources and storage of nuclear materials, radioactive substances and radioactive waste, research and development activities to validate and improve the safety of these facilities" dd. *April 2, 1997.*
5. Russian Federation Government Regulation №677 "On measures to implement the Russian Federation Presidential Decree №166 "On management development at enterprises of the nuclear fuel cycle" dd. February 8, 1996" dd. *June 11, 1996.*
6. Russian Federation Government Regulation №865 "On approval of the Regulation on licensing of the activities in the field of nuclear energy use" dd. *July 14, 2007.*
7. Russian Federation Government Regulation №1298 "On approval of the Rules for creation of the system of state accounting and control of nuclear materials and radioactive waste" dd. *October 11, 1997.*
8. Russian Federation Government Regulation №1511 "On approval of the development and approval of federal rules and regulations in the field of nuclear energy use" dd. *December 1, 1997.*
9. Russian Federation Government Regulation №973 "On the export and import of nuclear materials, equipment, special non-nuclear materials and related technologies" dd. *December 15, 2000.*
10. Russian Federation Government Regulation №68 "On approval of the Rules of contribution to reserve funds by enterprises and companies exploiting high radiation hazardous and nuclear hazardous industries and facilities (nuclear power plants) to ensure the safety of nuclear power plants at all stages of their life cycle and development" dd. *January 30, 2002.*
11. Russian Federation Government Regulation №794 "On the unified state system of emergency prevention and management" dd. *December 30, 2003.*
12. Russian Federation Government Regulation №401 "On the Federal Service for Ecological, Technological and Atomic Inspection" dd. *July 30, 2004.*
13. Russian Federation Government Regulation №576 "On approval of the Rules of contribution to reserve funds by enterprises and companies exploiting high radiation hazardous and nuclear hazardous industries and facilities (other than nuclear power plants) to" dd. *September 21, 2005.*
14. Government Executive Order №484-p "The concept of the Federal Target Program "Nuclear and Radiation Safety in 2008 and up to 2015" dd. *April 19, 2007.*
15. Russian Federation Government Regulation №456 "On approval of the Rules of the physical protection of nuclear materials, nuclear facilities and storage facilities for nuclear materials" dd. *July 19, 2007.*
16. Russian Federation Government Regulation №352 "On approval of the Regulation on the system of governmental accounting and control of nuclear material" dd. *May 06, 2008.*
17. Government Executive Order №1311-p "List of operators of production facilities and sites that are a major radiation and nuclear hazard" dd. *September 14, 2009.*
18. Russian Federation Government Regulation №63 "On approval of the Instruction for the procedure of access of the officials and citizens of Russian Federation to the Secretes of State" dd. *February 06, 2010.*
19. Russian Federation Government Regulation №88 "On approval of the Rules on recognition of the organization suitable to operate a nuclear facility, radiation source or storage facility; to carry out siting, design, construction, operation and decommissioning of nuclear facility, radiation source or storage facility on its own or with the assistance of other organizations; and to handle nuclear materials and radioactive substances" dd. *February 17, 2011.*
20. Russian Federation Government Regulation №597 "On the list of the operating organizations subject to the Federal Law "Regulations on the Discipline for Employees of Operators of Production Facilities and Sites that are a Major Radiation and Nuclear Hazard in the Field of Nuclear Energy Use", on change and invalidation of certain acts of the Russian Federation Government" dd. *July 20, 2011.*
21. Russian Federation Government Executive Order №373 "On approval of the regime of permanent federal government oversight of nuclear facilities" dd. *April 23, 2012.*
22. Government Executive Order №610-p "The list of nuclear facilities subject to the regime of permanent federal government oversight" dd. *April 23, 2012.*
23. Russian Federation Government Regulation №908 "On approval of the Regulation on the procurement information layout on the official website" dd. *September 10, 2012.*
24. Russian Federation Government Executive Order №932 "On approval of the Rules for the plan formation for procurement of goods (works, services) and the requirements to the form of such a plan" dd. *September 17, 2012.*
25. Russian Federation Government Executive Order №1044 "On the federal government oversight of nuclear energy use" dd. *October 15, 2012.*
26. Russian Federation Government Executive Order №1265 "On the federal rules and regulations on nuclear energy use" dd. *December 06, 2012.*
27. Russian Federation Government Regulation №1494 "On approval of the Regulation on nuclear facilities assignment to categories and determination of composition and boundaries of such facilities" dd. *December 30, 2012.*

*Acts of the Federal Agencies of Executive Authority*

1. Federal Financial Markets Service Order №06-117/ПЗ-Н “On approval of the information disclosure by issuers of equity securities” dd. *October 10, 2006*.
2. Rostekhnadzor Order №703 “On approval of the Administrative provision on fulfilment of the state function of monitoring and supervision of the physical protection of nuclear facilities, radiation sources, storage facilities, nuclear materials and radioactive substances, and of the unified state system of nuclear materials accounting and control of radioactive substances and radioactive waste by the Federal Service for Ecological, Technological and Nuclear Supervision” dd. *15.12.2011*.
3. Rostekhnadzor Order №721 “On approval of the Administrative provision for the Federal Service for Ecological, Technological and Atomic Supervision on the issue of permits for nuclear facilities workers to carry out work in the field of nuclear energy” dd. *21.12.2011*.
4. Rostekhnadzor Order №67 “On approval of the federal norms and rules in the field of nuclear energy use “Fundamental rules for control and accounting of radioactive materials and waste in a company” (along with “HII-067-11 Federal norms and rules...””) dd. *31.01.2012*.
5. Rostekhnadzor Order №186 “On approval of methodological recommendations for review of documents submitted for a license to operate in the field of nuclear energy use in terms of nuclear materials accounting and control” dd. *26.03.2012*.
6. Rostekhnadzor Order №255 “On approval of the federal norms and rules on atomic energy use “Fundamental rules for nuclear materials control and accounting” dd. *17.04.2012*.

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APPENDIX 12.  
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