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Annual Report of JSC "TVEL". Short version
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Annual Report of JSC "TVEL"
2014.
Short version
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Message from JSC “TVEL” Chairman of the Board of Directors A.M. Lokshin

Dear Colleagues,

The year 2014 showed us once again that enterprises of ROSATOM State Corporation and Fuel Division have successfully coped with the assigned tasks. We have a lot to be proud of, despite complicated foreign policy situation, we managed to expand our presence in international markets, and the orders portfolio of ROSATOM State Corporation for the first time exceeded USD 100 bln.

TVEL Fuel Company made important contribution to these achievements. On results of the year 2014, scope of new contracts of JSC “TVEL” with foreign partners exceeded USD 3 bln, while a 10 year portfolio exceeded USD 10 bln. Last year for the first time in national nuclear history the European reactor was charged with TVS-KVADRAT. Another important achievement of ROSATOM State Corporation was the entry to the fuel market of western research reactors.

Throughout the year the Company assured uninterrupted delivery of nuclear fuel to all foreign consumers. This is the outcome of the synergy of four cornerstones of TVEL Fuel Company — separation-sublimation, nuclear fuel fabrication, gas centrifuge and scientific divisions.

Furthermore, the enterprises of the Fuel company actively developed production infrastructure, which enables to face the future with confidence. The following can be referred to the milestones of the year: commencement of construction of the dense fuel fabrication module, i.e. facilities of fuel production for fast neutron reactors, creation of experimental fuel assemblies with dense fuel, and expansion of non-nuclear production.

The year 2014 showed us that human, industrial and R&D potential of TVEL Fuel Company allows carrying out the whole scope of projects required to create new products, including non-nuclear ones, that meet all prospective needs of the day.

I believe that in 2015 the progressive movement towards the stated objectives will continue.

Chairman of the Board of Directors of JSC “TVEL”

A. M. Lokshin
Message from the President of JSC “TVEL” Yu.A.Olenin

Dear friends and colleagues,

In 2014, TVEL Fuel Company continued its rapid growth.

The Company fulfilled the plan for production and supply of nuclear fuel despite the acute competition and complicated international situation. The fuel was delivered to the consumers within the time limits provided by the contracts, in compliance with all quality and safety regulations. TVEL FC proved once again its business reputation of the reliable supplier.

The Company continued implementation of its strategy aimed at strengthening of positions in international market of nuclear fuel cycle. The breakaway contract with NPP operator in Western Europe for the delivery of prototype TVS-KVADRAT assemblies was made operational. We ensured the entrance of ROSATOM into the international market of nuclear fuel for western research reactors. The Company signed the contracts to supply fuel for NPP in Hungary, Slovakia, Finland, and for research reactors in the Netherlands, Uzbekistan and the Czech Republic.

Particular focus was placed on sectoral research in order to retain leadership in a highly competitive market, and to ensure the future success of the Company. Zero failure technology, extended operation cycle, capability of reactors capacity extension are just some of the outcomes of research and development activity of the Fuel Division. Successful implementation of “Proryv” Project, testing of experimental fuel assembly for reactor BREST-300 are also of relevance.

Manufacturing of zirconium production moved to a new orbit, which is confirmed by the independent international commission. The Company discharged its contractual obligation within the international project ITER, supplying its European customer with the unique superconductive products. Titanium and calcium wire production was expanded. All of this reflects how the reporting year contributed to the implementation of the Company’s plans to promote non-nuclear production, and to reach tenfold increase of the revenue from non-nuclear production by 2030.

In 2014, the values of State Atomic Energy Corporation “Rosatom” were integrated into the Fuel Company management and corporate culture. Much was done to improve performance of the management and the staff using the value paradigm, enabling to modify the quality of labor commitments, and to achieve tangible performance results.
All enterprises showed steady growth in labor efficiency and salaries. To improve social welfare in 2015 we plan to adjust the income index for at least inflation level.

Governed by the world’s best practices of corporate governance and standards, we are committed to adhering to principles of sustainable development, interacting with every worker and the labor groups, the local authorities, applying creative managerial decisions, introducing economically sound innovations, improving technological base, and expanding foreign economic activity to promote continued success of the Fuel Company and the Russian nuclear industry.

I would like to express my gratitude to all employees for effective and highly professional work, for their responsible approach and genuine concern.

President of JSC “TVEL”  
Yu. A. Olenin

### Key Figures

<table>
<thead>
<tr>
<th>Capital</th>
<th>Results 2014</th>
</tr>
</thead>
</table>
| Financial | - Net income: RUB 20,870 mln  
- Increase in labor efficiency in 2014/2013: 22.2%  
- Dividends paid in 2014: RUB 16,291 mln  
- EBITDA margin: 35.5%  
- General savings in procurement: RUB 2,601 mln |
| Natural | - Radionuclide contamination of new territories: none  
- INES-rated events: 0  
- Environmental expenses: RUB 2,371.2 mln  
- Water consumption: decrease by 3.5%  
- Power and heat consumption: decrease by 4.6%  
- Total primary energy consumption: decrease by 2.9% |
| Industrial | - Production plan: 100%  
- Net assets gain in 2014/2013: 2%  
- Investment program financing volume: RUB 29,466 mln |
| Human | - Average salary rate growth in 2014/2013: 11.3%  
- Number of submitted/implemented suggestions for improvement: 68,488/55,373  
- Growth of submitted and implemented suggestions for improvement in 2015/2014: 79%  
- Social programs expenditures per 1 employee: RUB 56.0 thous.  
- Labor safety expenditures per 1 employee: RUB 79 thous.  
- Trained: 11,227 employees  
- TWI-based LTIFR* reduction in 2014/2013: 50%  
- Growth of personnel involvement in 2014/2013 by 5%: from 76% to 81% |
| Social | - Gross tax allowances to Federal, regional and local budgets: RUB 23,774 mln  
- Financing of charity and social initiatives: RUB 245.3 mln  
- Reclamations from the products consumers: 0  
- Internship at TVEL FC enterprises: 748 students  
- Employed graduates of secondary specialized colleges and universities: 81 |
| Intellectual | - Number of intellectual property objects registered in 2014: 83 |

* Lost time injury frequency rate — number of lost time incidents divided by total hours worked for the reporting year and rated as 1 mln man hours
Major Performance Indicators of TVEL FC*, RUB mln

- Revenue (net) from sales of products (excluding VAT and excise duties, similar mandatory payments):
  - 121,958 in 2012
  - 131,436 in 2013
  - 137,962 in 2014

- Net assets:
  - 566,907 in 2012
  - 579,708 in 2013
  - 590,006 in 2014

* Financial and economic indicators are given in accordance with consolidated management statements of TVEL FC.

* Excluding VAT to be compensated from the budget.
Milestones 2014

**January**
- TVEL and Dukovany NPP signed a contract to supply R5-4 grade fuel starting from 2015
- TVEL and Kozloduy NPP signed a contract to develop an improved nuclear fuel cycle with 3,120 MW Generation II fuel for Units 5 and 6, and carry out a safety assessment

**February**
- PJSC NCCP and Nuclear Research and Consultancy Group Petten (NRG Petten) have signed a contract for supply of low-enriched fuel assemblies made by PJSC NCCP for high-flux research reactor HFR (Petten, the Netherlands)

**March**
- Technologically sophisticated titanium production has been mastered and industrial small-scale production of calcium wire has been organized at SC CMP

**April**
- Following the arrangements between TVEL and ZNPP to supply TVS-2M Generation II fuel, Zaporizhia NPP Unit One has been operating in the extended 18-month fuel cycle since February 2014
- Four TVS-KVADRAT assemblies were loaded into a European pressurized water reactor as a part of the pilot operation stage
- TVEL received regulatory approval from the NNR State Expertise for its project to construct a Pilot Demonstration Facility at SC “SGCHE” (Seversk, Tomsk region)

**June**
- TVEL and Slovakia signed two nuclear fuel supply contracts for approximately €640 mln

**July**
- SC “SGCHE” has successfully held acceptance tests of experimental fuel assembly for reactor BREST-300
- PJSC “KMP” has produced and put on tests at SC “IPPE” the pilot batch of 3x Generation III gas centrifuges

**August**
- PJSC NCCP and Nuclear Research and Consultancy Group Petten (NRG Petten) have signed a contract for supply of low-enriched fuel assemblies made by PJSC NCCP for high-flux research reactor HFR (Petten, the Netherlands)

**September**
- PJSC NCCP and Nuclear Research and Consultancy Group Petten (NRG Petten) have signed a contract to supply FA within the package agreement for construction of the second stage of Paks NPP (consisting of two new power units)

**October**
- FISC “KMP” has produced and put on tests at SC “IPPE” the pilot batch of 3x Generation III gas centrifuges
- The joint Kazakhstan-Russia Uranium Enrichment Center reached its rated annual capacity of 5 mln SWU
- Hungarian MVM Paks II and TVEL signed an offtake contract to supply FA within the package agreement for construction of the second stage of Paks NPP

**November**
- SC “SGChE” has successfully held acceptance tests of experimental fuel assembly for reactor BREST-300

**December**
- PJSC NCCP and Nuclear Research and Consultancy Group Petten (NRG Petten) have signed a contract for supply of low-enriched fuel assemblies made by PJSC NCCP for high-flux research reactor HFR (Petten, the Netherlands)
- Hungarian MVM Paks II and TVEL signed an offtake contract to supply FA within the package agreement for construction of the second stage of Paks NPP
- Hungarian MVM Paks II and TVEL signed an offtake contract to supply FA within the package agreement for construction of the second stage of Paks NPP
- TVEL completed deliveries of NbTi and Nb3Sn superconducting strands for the ITER magnet system
General

General Information Concerning TVEL Fuel Company

Fuel company comprises subsidiaries for fabrication of nuclear fuel, uranium conversion and enrichment, production of gas centrifuges, as well as research, design and development organizations.

JSC “TVEL” is a parent company of the Fuel Company of ROSATOM State Atomic Energy Corporation.

Full company name: Joint Stock Company TVEL.

Abbreviated company name: JSC “TVEL”.

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

Location: 24 Bolshaya Ordynka St, Moscow 119017, Russian Federation.

Mailing address: 49, Kashirskoe Highway, Moscow 115409, Russian Federation.

History of the Company: see official website www.tvel.ru


Basic Characteristics

The core activity of TVEL FC is development, production and sale of nuclear fuel for power and research reactors in Russia and abroad, as well as of associated nuclear and non-nuclear products.

All activities comply with safety requirements: nuclear, radiation, industrial, fire, environmental, labor safety, physical protection of nuclear facilities and emergency preparedness.
Subsidiaries of the Fuel Company are located in 11 regions of the Russian Federation.

Social environment of TVEL FC operation is characterized by the fact that three enterprises of the Company are located within Closed Administrative Territorial Units* (Seversk, Novouralsk, Zelenogorsk), and one is located within a mono-town (Glazov). Those enterprises are town-forming organizations and major taxpayers**.

Core business of the Company involves production of nuclear fuel, besides TVEL FC supplies the Russian and international market with the wide range of non-nuclear products:

- zirconium
- lithium
- calcium
- magnets
- thin-walled pipes
- polishing powders
- pinch rolls, zeolite catalysts
- superconductor materials.

*T CATU.
**The detailed information concerning contribution of TVEL FC into the development of regions of presence is presented in the Section "Development of Regions of Presence", Chapter 4.

Regions of Presence of JSC "TVEL" Enterprises

Subsidiaries of the Fuel Company are located in 11 regions of the Russian Federation.
Mission, Goals, Values of TVEL FC

Mission of TVEL FC is to meet the demands of the customers of the Fuel Company in the sphere of nuclear fuel cycle and in the related sectors, in strict compliance with requirements of safety, security, environmental and social awareness.

Strategic vision of TVEL FC is focused on global leadership in FE NFC and achievement of global competitiveness in NFC in the atmosphere of social cohesion.

Workers of the Fuel Company are governed by the Values shared by all organizations and enterprises of ROSATOM State Corporation. These core values were formed throughout the course of history of the nuclear sector in Russia, and conform with global approach to determination of the fundamental principles of the sector performance. In 2014, TVEL FC implemented a pilot project of ROSATOM State Corporation for translation and strengthening of ROSATOM State Corporation’s values in corporate culture of the Fuel Company (for details about the project please refer to Corporate Culture Section*).

Mission as a part of Development Strategy of the Fuel Company was approved by Strategic Board of ROSATOM State Corporation on December 9, 2014.

Management system and corporate values are the central elements of business model of TVEL FC, they contribute to effective use of resources by the Company and generate positive effects of the Company’s activity.

For more detailed information about the Values of the Fuel Company refer to:

<table>
<thead>
<tr>
<th>Values of the Fuel Company</th>
<th>Responsibility for the Result</th>
<th>Efficiency</th>
<th>One Step Ahead</th>
<th>One Team</th>
<th>Safety</th>
<th>Respect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>27 page</td>
<td>33 page</td>
<td>36 page</td>
<td>46 page</td>
<td>51 page</td>
<td>56 page</td>
</tr>
</tbody>
</table>
Global Presence

Reliable Supplies by TVEL FC

According to the Contracts, the Fuel Company is ultimately responsible to the Customer for all subcontractors engaged. In this connection the Company has built the system of preliminary assessment of suppliers and subcontractors of design services, fuel fabrication, transportation, financial services, etc. Analysis is carried out on availability of the international and Russian licences and permits for activity, experience and qualification, the quality management system. Every subcontractor must develop the Quality Assurance Programs and the Procedure of Interaction under every contract in order to guarantee compliance with the contractual terms.
To assure reliable supplies, the Company develops, and if necessary, implements alternative routes of nuclear fuel delivery. Thus, in 2014 nuclear fuel supplies to Slovakia and Hungary for the first time were performed by air, escaping the territory of Ukraine.

In 2015 the Company plans to start preparation for certification of supply chain security management system according to requirements of ISO 28000:2007.

TVEL Fuel Company is the only supplier of nuclear fuel to Russian nuclear power plants. It provides with nuclear fuel 78 power reactors in 15 countries all over the world, research reactors in 9 countries worldwide and transportation reactors of the Russian Nuclear Powered Fleet.

One out of every six power reactors in the world operates with fuel manufactured by TVEL FC*.

Position of TVEL FC in the World Market of the Front End of Nuclear Fuel Cycle

TVEL FC is the only supplier of nuclear fuel to Russian nuclear power plants. It provides with nuclear fuel 78 power reactors in 15 countries all over the world, research reactors in 9 countries worldwide and transportation reactors of the Russian Nuclear Powered Fleet.

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* Section “Position of TVEL FC in the World Market of FE NFC”.

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**Provision of Foreign Design NPP with Nuclear Fuel and FA**

<table>
<thead>
<tr>
<th>Country</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia</td>
<td>120</td>
<td>117</td>
<td>125</td>
</tr>
<tr>
<td>Western</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CIS and Eastern Europe</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Provision of Russian Design NPP with Nuclear Fuel and FA**

<table>
<thead>
<tr>
<th>Country</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia</td>
<td>120</td>
<td>117</td>
<td>125</td>
</tr>
<tr>
<td>Western</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CIS and Eastern Europe</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Number of reactors of western design running on Russian-made fuel (in cooperation with AREVA)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**Number of reactors of Russian design running on Russian-made fuel**

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>70</td>
<td>69</td>
<td>72</td>
</tr>
</tbody>
</table>

**NPP Units in Operation at the End of the Reporting Year**

- North America: 120
- Western Europe: 117
- Asia-Pacific: 125
- CIS and Eastern Europe: 2
- South America: 1
- Africa: 2
**TVEL FC is a global leader in nuclear fuel production and uranium enrichment.**

- **Fabrication market share**: 17%
- **Enrichment market share**: 36%
- **NPP power units in operation, worldwide/Russian Federation, as of December 31, 2014**: 438/34
- **NPP power units under construction, worldwide/Russian Federation, as of December 31, 2014**: 70/9
- **Export proceeds of TVEL FC in 2014**: 1.5 USD bln
- **Export orders portfolio for products and services of FE NFC for a 10 year period**: 10.4 USD bln
- **Number of reactors running on Russian-made fuel**: 78

*According to AEA, excluding floating nuclear power plants (FNPP).*

FC strategy is oriented at achievements of the following indicators by the year 2030:

- Enrichment market share gain to 42% (including 20% supply through TENEX), nuclear fuel fabrication — to 22% owing to manufacture of traditional products having good consumer properties, and entry into new nuclear markets.
- Twofold growth of the Fuel Company revenue as compared to 2014.
- Tenfold growth of revenue in non-nuclear directions (including businesses under formation) as compared to 2014.
- Threefold growth of labor efficiency as compared to 2014.

42% of the world market services on uranium enrichment — this is the real target of TVEL FC 2030
Values and Results

Responsibility for the Result

“Each of us bears personal responsibility for his/her work result to the State, Sector, colleagues and customers. In our work, we set for ourselves the most stringent requirements. It is not the spent effort that is evaluated, but the achieved results. The successful results are the basis for our new achievements.”

Excerpt from the Decision of the Strategic Council of ROSATOM State Corporation d/d July 03, 2014

Quality Management

TVEL FC has implemented and applies the Integrated Quality Management System (QMS), certified in accordance with the requirements of the international standard ISO 9001:2008, ISO 14001:2004 and BS OHSAS 18001:2007 in TÜV International Certification.

The systematic customer-oriented work of the Company results in no-claim and persistently high customer satisfaction index.

The project “Zero Failure”, which has been implemented since 2012, is aimed to develop and implement the set of sci-tech and technological activities intended to reveal and eliminate failure of nuclear fuel for VVER-1000 reactors. In July 2014 the Memorandum of Joint Activity was executed between the Operating Companies JSC ČEZ (Czech Republic), State Enterprise National Nuclear Energy Generating Company “Energoatom” (Ukraine), Kozloduy NPP (Bulgaria), Rosen- ergoatom, and the nuclear fuel supplier JSC “TVEL”, and the project was set from four-party into five-party format.

Production and Economic Results

In 2014, the subsidiaries of TVEL FC met the targets for products and services to the full extent, which enables compliance with all contractual commitments of the Company to Russian and foreign customers.

Considerable increase in labor efficiency over the period from 2012 to 2014 speaks for growth of production efficiency, that is the success in addressing the major business task; this has been achieved primarily through implementation of ROSATOM Production System*, the increase in the Company revenue, and the headcount optimization during the Fuel Company restructuring. Change in the volume of revenue from sales of non-nuclear products in 2014 is stipulated by reduction of the volume of energy services sales and completion of deliveries under ITER project. Despite the negative factors the Fuel Company exceeded the targets set for production and sales, works and services by 4% due to increase in sales of calcium core wire, titanium alloys rolling, lithium and isotope products.

* The Section “Performance Assurance”.

Customers’ Satisfaction Assessment, 2012–2014

<table>
<thead>
<tr>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
Following the results 2014 the Fuel Company became the leader in labor efficiency in the nuclear industry.

In 2014 TVEL FC continued its forward motion within the directions that are considered promising and new both for the industry and for Russia, such as “Lithium-ion energy storage” and “Electrochemical generators on the basis of hydrogen fuel cells”.

Electrochemical generators developed by ZEP LLC were put on tests on the gas transmission infrastructure objects in 2014.

The year 2015 will be even more intense as regards the objectives set by the Company.

Efforts should be made to accelerate the achieved rates of growth, to leverage the accumulated scientific engineering potential of the industry through creation and launching of new science- and technology-intensive sophisticated non-nuclear products.

### Revenue from FA sales, RUB mln

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue from FA sales</td>
<td>67,550</td>
<td>73,595</td>
<td>81,055</td>
</tr>
</tbody>
</table>

### Distribution of Revenue From Nuclear Fuel Sales by Consumers Geography, RUB mln (%)

<table>
<thead>
<tr>
<th>Category of consumers</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian consumers</td>
<td>31,022 (45.9%)</td>
<td>31,973 (45.4%)</td>
<td>34,650 (42.7%)</td>
</tr>
<tr>
<td>European consumers</td>
<td>36,528 (54.1%)</td>
<td>39,689 (53.9%)</td>
<td>42,390 (52.3%)</td>
</tr>
<tr>
<td>Asian consumers</td>
<td>0 (0%)</td>
<td>1,933 (2.6%)</td>
<td>4,015 (5%)</td>
</tr>
<tr>
<td>Total</td>
<td>67,550 (100%)</td>
<td>73,595 (100%)</td>
<td>81,055 (100%)</td>
</tr>
</tbody>
</table>

### Dynamics of Revenue from General Industrial Activities in 2012–2014, RUB mln

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Δ 2014 / 2013</th>
<th>2015, plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue from general industrial activities</td>
<td>13,466.78</td>
<td>11,669.4</td>
<td>12,135.6</td>
<td>4%</td>
<td>12,648.65</td>
</tr>
<tr>
<td>including energy services and outgoing services (superconductors, etc.)</td>
<td>8,373.39</td>
<td>7,094.18</td>
<td>6,507.05</td>
<td>-8%</td>
<td>6,411.69</td>
</tr>
</tbody>
</table>
Achievement of Major KPI and Production Indicators of TVEL FC in 2014

Financial Results

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit of measurement</th>
<th>Target</th>
<th>Actual value</th>
<th>Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFCF FC**</td>
<td>RUB bln</td>
<td>21.90</td>
<td>33.33</td>
<td>52.19%</td>
</tr>
<tr>
<td>Labor efficiency</td>
<td>RUB mln/person</td>
<td>4.91</td>
<td>5.49</td>
<td>11.89%</td>
</tr>
<tr>
<td>Foreign orders portfolio</td>
<td>USD bln</td>
<td>10.33</td>
<td>10.39</td>
<td>0.63%</td>
</tr>
<tr>
<td>Semi-fixed costs</td>
<td>RUB mln</td>
<td>43,600</td>
<td>39,963</td>
<td>-8.34%</td>
</tr>
</tbody>
</table>

**  Adjusted free cash flow — free cash flow with adjustments.
**  Lost time injury frequency rate — number of lost time incidents divided by total hours worked for the reporting year and rated as 1 mln man hours.

Distribution of Consolidated Revenue by Directions, RUB mln

- Nuclear fuel and components
- Services on conversion and enrichment
- Gas centrifuge products
- R&D
- Other products

<table>
<thead>
<tr>
<th>Types of products</th>
<th>Volume of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td>Nuclear fuel and components</td>
<td>1,353.5</td>
</tr>
<tr>
<td>Engineering services</td>
<td>7.2</td>
</tr>
<tr>
<td>Lithium products</td>
<td>16.3</td>
</tr>
<tr>
<td>Calcium, titanium, zirconium</td>
<td>12.4</td>
</tr>
<tr>
<td>Isotope products</td>
<td>9.9</td>
</tr>
<tr>
<td>Other products</td>
<td>29.7</td>
</tr>
<tr>
<td>Total</td>
<td>1,429</td>
</tr>
</tbody>
</table>

Direction 2014 Share in total amount of investments in 2014

- Nuclear industry       | 17,295.0        | 58.7%           |
- Development of general industrial activities | 336.0          | 1.8%           |
- Development of infrastructure | 1,244.0       | 4.2%           |
- Safety and encumbrances  | 2,645.0         | 9.0%           |
- Others                 | 7,745.0         | 26.3%          |
| Total for TVEL FC       | 29,466.0        | 100.0%         |

Distribution of Export Revenue by Types of Products, RUB mln

1. Dividends paid to JSC "AEP"
2. Dividends paid to JSC "TVEL" from SC

Financing of TVEL FC Investment Projects by Directions, RUB mln

| Nuclear industry       | 17,295.0        | 58.7%           |
| Development of general industrial activities | 336.0          | 1.8%           |
| Development of infrastructure | 1,244.0       | 4.2%           |
| Safety and encumbrances  | 2,645.0         | 9.0%           |
| Others                 | 7,745.0         | 26.3%          |
| Total for TVEL FC       | 29,466.0        | 100.0%         |
“We always find the best solutions to problems. We are efficient in all we do; when achieving the set targets, we make efficient use of the Company’s resources and are continuously improving our working processes. There are no obstacles that can hinder our finding out the most efficient solutions.”

Excerpt from the Decision of the Strategic Council of ROSATOM State Corporation d/d July 03, 2014

The top performer in terms of the adopted SFI among the subsidiary companies of ROSATOM at the end of 2014 was SC AECC, and the most active worker on SFI adoption — production engineer of workshop No.51 of sublimation factory SC “SGChE”, Mikhail Miasnikov (57 personal suggestions for improvement adopted). A year earlier the most active worker for improvements adoption in nuclear industry also was the employee of SC “SGChE” — Boris Zabelin, electrician, who filed 47 suggestions.

The project on energy consumption reduction and energy efficiency improvement in industrial companies of ROSATOM State Corporation is one of the major projects aimed to improve competitiveness in the specific industry.

The subsidiaries of the Fuel Company are considered to be the pilot ones in the process of organization and implementation of methods and accounting system of energy saving in the specific industry in general, starting from energy inspections, long-term programs and specific measures for energy conservation.

In 2014, energy consumption by the subsidiary companies of TVEL FC was reduced by 22.6%* (880 mln kWh), heat energy — by 36.9% (1,511 thous. Gcal) as compared to the basic figures 2009.

* Calculation of saving is carried out in accordance with the order approved by ROSATOM State Corporation on October 17, 2010, the Methods for calculation of cost saving gained from reducing the energy consumption, as well the own methods for subsidiary companies of JSC “TVEL” approved by it and coordinated with ROSATOM State Corporation.

22.6% reduction of energy consumption by subsidiaries of TVEL FC in 2014
According to the information of the Automated Information and Measuring System of Electric Energy Commercial Accounting, as compared to 2009.

According to the information of the Automated Information and Measuring System of Electric Energy Technical Accounting, as compared to 2009.

The companies of TVEL FC purchase primary sources of energy from third party suppliers. The Fuel Company maintains no records of primary energy sources consumption in monetary terms by the sources.

The reduction in energy resources consumption (as compared to 2009) in monetary terms was 27.4% (RUB 2,191 mln) with the target indicator — 23%. Reduction of energy consumption should not be related to reduction of the volume of the Fuel Company’s production program, it was achieved through realization of activities under the Program “Energy Saving and Efficiency Improvement” effective in the subsidiaries of TVEL FC since 2011. In 2014 the amount of financing under the Program was equal to RUB 573.72 mln.

We strive to be the leader in the global market. We are always one step ahead in technology, knowledge and the professional strength of our employees. We foresee what will be tomorrow and are ready to be it today. We continuously advance and learn. Every day we try to work better than yesterday.”

Except from the Decision of the Strategic Council of ROSATOM State Corporation d/d July 03, 2014

Scientific and Technological Activities

Scientific and technological activities of TVEL FC are focused on:

- improvement of characteristics and technologies of nuclear fuel production;
- design and technological development of the separation-sublimation complex;
- innovative activities in the non-nuclear industry.

Involvement of Universities in Implementation of the Investment Projects

In 2012–2014, MEPhI NRNU was involved in the frameworks of implementation of the investment projects aimed at development of new types of fuel for nuclear power plants, research reactors (RR), low-capacity nuclear power stations (LNPS).
Activity of MEPhI NRNU involves the following:

- establishment of regularities of texture variations in the products of zirconium alloys induced by a neutron irradiation;
- development of the modified oxide nuclear fuel for high fuel burn-ups;
- development of the method for improving the corrosion resistance of fuel-element claddings made of zirconium alloys by multicomponent alloying at ion mixing.

Moscow Institute of Steel and Alloys (MISA), branch of MEPhI NRNU in Seversk, N. I. Lobachevsky State University of Nizhni Novgorod, Ural State University, etc. were also involved by sub-contracting with branch organizations (SC “VNIINM”, SC CMP) in the development of mathematical models of processes, study of the properties of different materials, and other issues:

- a number of fundamental and applied researches were carried out with the assistance of MISA and Tomsk Polytechnic University on the subjects connected with the development of criteria for concentration of hydrogen in the material of the claddings; these are to be used in engineering design of the fuel elements of water-cooled reactors in justifying their safe working capacity in normal and transient operation;
- in conjunction with Tomsk State University there were carried out the works on modelling of cold rolling of tubes on roll mills to ensure the structure and mechanical properties of fuel-element claddings;
- verification experiments, defining the properties of a moulding powder and compressed tablets in relation to the pressing load application and removal pattern, and modes of pressing-out and adaptation of the developed 3D model of press operation for industrial rotary presses, were carried out in Seversky Institute of Technology of MEPhI NRNU;
- developments in non-nuclear industry in collaboration with Moscow State University: technology of superconducting wire of iron arsenide — superconducting material with great potential in industrial application.

In 2012–2014, R&D funding in universities averaged to RUB 83.18 mln per annum.

Innovative Activities in the Nuclear Industry

Services and products of FE NFC form the base of activity of the subsidiaries comprising the Fuel Company (more than 80% of revenues following the results 2014), and that is why innovative activities in nuclear industry are essential to ensure long-term competitiveness and sustainability of TVEL FC.

In 2012–2014, investments of JSC “TVEL” in research and development amounted to more than RUB 1.5 bln annually.

Main R&D issues are as follows:

- design and improvement of nuclear fuel and reactor cores of Russian design (primarily VVER-1000/1200/1300);
- design of nuclear fuel for Western reactors (PWR);
- design of nuclear fuel for low-capacity nuclear power stations, research reactors and nuclear-powered icebreaker (NPIB).

In 2014, a pilot lot of TVS-KVADRAT was manufactured, delivered and, on obtaining permission from the State supervisory authority of the European country, fed into reactor of the European company for operation.

By the end of 2014, specialists of JSC “TVEL”, PJSC NCCP, SC CMP, SC “VNIINM”, and JSC “Afrikantov OKBM”, engaged in implementation of “TVS-KVADRAT” Project, were recognized as the winners in the special category “One Step Ahead” of the annual industry competition “ROSATOM’s Person of the Year”.

“TVS-KVADRAT” Project

“TVS-KVADRAT” design is based on long experience in manufacturing and operation of nuclear fuel in VVER-1000 reactors. In particular, “TVS-KVADRAT” design employs frame and spacer grid design solutions tested and approved in fuel assemblies for VVER-1000, which allows to increase the operational reliability of nuclear fuel in PWR reactors. Advanced Russian alloys based on zirconium are used as structural materials. Russian design of fuel for PWR reactor has a stable geometry, is not prone to damage and has higher degree of fuel burn-up.

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By the end of 2014, specialists of JSC “TVEL”, PJSC NCCP, SC CMP, SC “VNIINM”, and JSC “Afrikantov OKBM”, engaged in implementation of “TVS-KVADRAT” Project, were recognized as the winners in the special category “One Step Ahead” of the annual industry competition “ROSATOM’s Person of the Year”.

“Proryv” Project

“Proryv” Project of ROSATOM Nuclear Energy State Corporation is implemented in the framework of the Federal Target Program “New Age Nuclear Energy Technologies for the Period 2010–2015 and up to 2020”. The purpose of the project is to develop fast neutron reactors with closed nuclear fuel cycle, and to arrive at the solution of safe nuclear energy sector creation and irradiated fuel disposal problems.

The project includes the construction of the Experimental Demonstration Energy Complex at SC “SGChE”, using the reactor BREST-OD-300, the irradiated fuel radio-chemical processing module and module of fuel production from derivatives. In the framework of the Project the works are ongoing on development of new reactor and industrial technologies, including a new mixed nitride uranium plutonium fuel characterized by high density and thermal conductivity.

Research of reactor plant goes in two directions: BREST type reactor with lead coolant, and FN-1200 reactor with sodium coolant. Despite very similar solutions and operation parameters, the type of coolant provides for some significant differences in core design and new structural materials used.

Participants of “Proryv” Project are JSC “TVEL” and its subsidiaries: SC “VNIINM”, SC “SGChE”, PJSC NCCP, PJSC “MSZ”, Elemeash-CTP LLC, NCCP Engineering LLC, etc.
In 2013, by the order of ROSATOM State Corporation No. 1/200-П, SC “SGChE” was designated as the operator of fuel fabrication/refabrication and spent nuclear fuel reprocessing modules, and the working group was established under the leadership of P.I. Lavrenyuk, senior Vice-President of JSC “TVEL”; the task of the group is to organize interaction and coordination of the project participants for construction of nuclear fuel cycle facilities of EDEC. SC “SGChE” has established the directorate for implementation of “Proryv” project.

Innovative Activities in the Non-nuclear Industry

In order to create new and innovative industries aimed at the development of the second core business of the Fuel Company, there are implemented projects on four programs: “New Energy”, “Machine building”, “Metallurgy”, “Chemistry”.
Main Lines of New Businesses Development in TVEL FC

Total revenue from implementation of innovative projects* in non-nuclear sphere in 2014 reached RUB 6,059 mln, which is 26% higher than in 2013 (RUB 4,819 mln in 2013, RUB 4,054 mln in 2012).

In 2012-2014, TVEL FC invested annually more than RUB 1 bln of own and borrowed funds in the implementation of innovative projects in non-nuclear sphere.

* Projects associated with products output within 3 years from the start of the production.
Current Products by New Businesses of TVEL FC

**New Energy**
- Lithium and lithium-based materials
  - Lithium 7 hydroxide monohydrate, lithium metal, lithium chloride
  - Lithium ferrophosphate
  - Lithium cobaltate
  - Special purpose (military and space machinery) electrochemical power sources (alkaline fuel cells)

**Metallurgy**
- Special metalurgy
  - Zinc metal alloys
  - Calcium metal
  - Titanium alloys
  - Columbium alloys
- Special tube rolling
  - Titanium alloys rolling (tubings, seamless tubes, hollow wire)
- Hydrometallurgy
  - Production of polishing powder
  - Production of ZrO₂ items
  - Strands for ITER Project
  - Nickel filtering elements, powders
- Nanometallurgy
  - Production of stable isotopes
  - Production of 93 isotopes of 19 chemical elements: Ar, Mg, Cr, Fe, Rb, Sr, Ru, Os, Pb, Se, S, Te, Zn

**Chemistry**
- Fluorine compounds
  - Extra pure fluorine hydrogen
- Catalysts
  - Autocatalysts
  - Zeolite catalysts for petroleum chemistry

**Machine building**
- Equipment for nuclear fuel cycle
  - Static frequency converters
  - Dosimeters, radiation meters
  - LED fixtures
  - Controllers
- Cold and hot water flow meters
- High-precision gas meters
- Car electrical equipment
- Printed circuit boards
- Equipment for storage of spent nuclear fuel (cansisters, canisters)
- Units and components for gas centrifuges
- Ball- and screw-type plugs
- Lock valves

**Instrumentation**
- Equipment for nuclear fuel cycle
  - Static frequency converters
  - Dosimeters, radiation meters
  - LED fixtures
  - Controllers
- Cold and hot water flow meters
- High-precision gas meters
- Car electrical equipment
- Printed circuit boards
- Equipment for storage of spent nuclear fuel (cansisters, canisters)
- Units and components for gas centrifuges
- Ball- and screw-type plugs
- Lock valves

**Basic subsidiaries:**
- PJSC NCCP
- PJSC NCCP / Cathode Materials LLC (PJSC NCCP subsidiary)
- ZEP (Electrochemical Converter Plant) LLC (SC UEIP subsidiary)
- SC CWP
- SC UEIP
- SC "PA BCP"
- SC "SGCHE"
- Ecoalliance LLC (SC UEIP subsidiary)
- PJSC NCCP
Intellectual Property of TVEL FC

TVEL FC owns more than 1,600 items of intellectual property.

<table>
<thead>
<tr>
<th>Application</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications for inventions: Russian</td>
<td>65</td>
<td>66</td>
<td>54</td>
</tr>
<tr>
<td>Applications for inventions: foreign</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Applications for utility models: Russian</td>
<td>12</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Applications for utility models: foreign</td>
<td>1</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>Applications for software and DB: Russian</td>
<td>2</td>
<td>19</td>
<td>57</td>
</tr>
<tr>
<td>Applications for software and DB: foreign</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Applications for production secrets (know-how)</td>
<td>32</td>
<td>60</td>
<td>76</td>
</tr>
</tbody>
</table>

One Team

“We all are ROSATOM. We have common goals. Working in a team of like-minded fellows allows for unique results. Together we are stronger and can achieve most ambitious goals. The successes of our employees are the successes of the team.”

Except from the Decision of the Strategic Council of ROSATOM State Corporation d/d July 03, 2014

Human Resources

HR Policy of TVEL FC is implemented in accordance with TVEL FC Development Strategy, and is intended to ensure efficient use of human resources contributing to the achievement of the Company’s strategic goals.
Main long-term goals of TVEL FC HR policy:

• increase of personnel engagement to promote the Company’s sustainability;
• sustained growth of labor efficiency;
• adhering of personnel to corporate values;
• development of strategically important competencies and skills in order to comply with requirements to the personnel stated by international global companies;
• engagement of each employee in solving the problems of strategic development, and appealing to ‘collective intelligence’;
• ensuring of social acceptability of the changes made.

The highest percent of employees are men (64.7% of all employees, 90.7% of top managers). For the age category “45-54” the percent of women is the highest one — 43%; for the age category “under 24” the percent of women is the lowest one — 18%.

Average age of TVEL FC employees is 42. 23% of total staff are employees under 35 years old.

Recruitment of prospective young people is one of the top priorities in HR policy of the Fuel Company. By hiring young specialists, the Company intends to preserve and strengthen its position in the sphere of science and advanced technologies in the years ahead.

In 2014 746 students of higher and vocational educational institutions undertook internship with the Fuel Company subsidiaries. In 2015, the Company expects 687 students to take their practical training.

Over the reporting period the Company employed 81 graduates of the higher educational institutions and vocational secondary schools, 6 of them took target preparation classes for employment by TVEL FC.

TVEL FC pays great attention to development of succession pool and training of managers. 2014 was the year of implementation of the mandatory integrated development program “Leadership School” intended for the key industry managers. For managers there are provided training programs on development of value-based indicators. In 2015 it is scheduled the training of the managers at the management and industrial HR school.
### Jsc “Tvel” Annual Report

**Indicator 2015**  
**Uniform industry-specific succession pool**

| Number of employees included to succession pool | 450 | 153 | 151 | 197 |
| Number of employees included to succession pool and running for major posts | 450 | 153 | 151 | 197 |
| Number of employees included to succession pool and transferred to major posts | 238 | 26 | 40 | 79 |

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### Jsc “Tvel” Annual Report

**Number of employees included to succession pool and running for major posts**

|-------|----------------------------------------------|---------------------------------------------|---------------------------------------------|

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### Jsc “Tvel” Annual Report

**TVEL FC Succession Pool and Succession Plans**

* Succession pool of the 1st and the 2nd management levels (Directors General, Deputies) of the Fuel Company enterprises.  
** These are the employees, who were deliberately selected for training and further assignment to the key positions, who have management capabilities and professional expertise of the required level. The succession pool involves three levels: “ROSATOM Commons”, “ROSATOM Capital” and “ROSATOM Talents”.

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### Jsc “Tvel” Annual Report

#### TVEL FC Social Policy

<table>
<thead>
<tr>
<th>Corporate social program</th>
<th>Funds allocated under the program in 2014, RUB mln</th>
<th>Basic facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary health insurance (VHI)</td>
<td>162.36</td>
<td>99% of TVEL FC employees are insured under VHI policy. Maximum amount under the VHI policy for the year 2015 is increased by 15%</td>
</tr>
<tr>
<td>Accident and health insurance</td>
<td>11.43</td>
<td>80% of TVEL FC employees are covered by accident and health insurance</td>
</tr>
<tr>
<td>Sanitary and resort treatment, children recreation programs</td>
<td>169.32</td>
<td>4,715 employees got vouchers to sanitary and rehabilitation resorts in 2014, where 2,395 are persons working in harmful conditions. Maximum amount of each voucher in 2014 was increased by 10% — to RUB 50.4 thous. for a 21-days treatment</td>
</tr>
<tr>
<td>Assistance in improvement of housing conditions</td>
<td>68.39</td>
<td>852 employees improved their housing conditions under the program in 2014, and 479 of them are young specialists*</td>
</tr>
<tr>
<td>Benefits</td>
<td>48.68</td>
<td>4,571 workers of the Company got their benefits in 2014. Average benefit amount was RUB 10,650 thous. The amount of benefit does not depend on the official position. Types and criteria of benefit provision are unified</td>
</tr>
<tr>
<td>Sports and cultural events</td>
<td>259.15</td>
<td>The subsidiaries of TVEL FC held more than 936 corporate and sports competitions in 2014. Total number of participants — over 37,000 workers and members of their families</td>
</tr>
<tr>
<td>Assistance to non-working pensioners</td>
<td>525.39</td>
<td>Assistance to non-working pensioners is provided in accordance with the Uniform Industry-Specific Public Policy of ROSATOM State Corporation and ROSATOM enterprises. The main target of these corporate social programs is to provide social assistance to non-working pensioners, who made significant contribution to the industry development. In 2014, the corporate social program of assistance to non-working pensioners was implemented to the full extent in accordance with the approved budget. There are over 40,000 non-working pensioners in the Fuel Company. 1,607 of 40 thous. pensioners got vouchers to sanitary resorts. Total amount spent for assistance to pensioners: RUB 525,39 million, which amounts to 13,000 rubles per pensioner annually</td>
</tr>
<tr>
<td>Non-state pension provision (NPO)</td>
<td>226.44</td>
<td>By the end of 2014, 25% of TVEL FC workers were involved in the nonstate pension program; the highest rate was achieved at SC CMP (36.1%), SC “PA ECP” (28.9%), SC UEIP (26.7%) and PJSC “MSZ” (23.9%). Pension accruals under** the NPO program were accumulated mostly at the Non-State Pension Fund Atomgarant</td>
</tr>
</tbody>
</table>

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### Jsc “Tvel” Annual Report

* Young specialists are employees under 35 years old (35 years inclusive).  
** Subject to the terms of IFRS, the pension accruals mean defined benefit plans.
Safety

“Safety is the highest priority. In our work, we ensure absolute safety of people and the environment first. There are no minutiae in safety; we know safety rules and follow them, while putting a stop to violations.”

Excerpt from the TVEL JSC Health and Labor Protection Policy

Owing to preventive measures in the sphere of labor protection, in 2014 the Company continued the downward industrial injuries tendency. As compared to 2013 the number of the injured at work went down by 50% (from 6 to 3 persons).

At 17 subsidiaries of TVEL FC 3 persons were injured in 2014 (2 persons at SC “VNIINM”, and 1 at SC UEIP).

There occurred no mass accidents and emergencies at hazardous facilities.

Industrial Injuries at TVEL FC Enterprises, persons

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Severe</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fatal</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Most industrial injuries occurred due to organizational faults, such as failure of managers and specialists to ensure labor safety, as well as failure of the injured persons to observe labor and production discipline, labor protection rules and regulations.

Industrial and Consumer Waste Disposal

In 2014, total amount of industrial and consumer waste of TVEL FC Enterprises was increased by 3.1% and made 306.4 thou. tons.

In 2014, withdrawal of water by TVEL FC enterprises decreased by 3.5% as compared to the previous year, and made 545.4 mln m³. Water withdrawal by TVEL FC enterprises has no material impact on natural water bodies which are the main sources of water withdrawal.

Water Consumption and Water Disposal

The decrease in volumes of water withdrawal by the Fuel Company is mainly caused by the following:

- decrease in water withdrawal by SC AECC, SC “SGChE” and SC CMP due to reduction of the electric supply program of Irkutskenergo JSC, the HPPs of SC “SGChE” and SC CMP;

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic consumption</td>
<td>493.6</td>
<td>468.1</td>
<td>454.7</td>
</tr>
<tr>
<td>Circulating water</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
</tr>
<tr>
<td>Reused water</td>
<td>34.7</td>
<td>34.7</td>
<td>34.7</td>
</tr>
<tr>
<td>Total</td>
<td>550.4</td>
<td>534.9</td>
<td>521.5</td>
</tr>
</tbody>
</table>

Waste Generation and Recycling at TVEL FC Enterprises in 2012–2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Waste generated, tons a year</th>
<th>Waste recycled, tons a year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>368,060.3</td>
<td>5,230.4</td>
</tr>
<tr>
<td>2013</td>
<td>297,394.2</td>
<td>5,499.7</td>
</tr>
<tr>
<td>2014</td>
<td>306,415.3</td>
<td>3,605.3</td>
</tr>
</tbody>
</table>

Waste increase in 2014 was caused by:

- Increase of the amount of ashes and slag waste of Hazard Class 5 (slightly hazardous) in connection with the increase in the coal burning at SC “SGChE” and SC CMP HPPs caused by the growth in the generation of electricity and thermal energy for the population of nearby settlements;
- Optimization of the units and the production site of PJSC NCCP, which resulted in accumulation of debris and dismantled equipment which must be removed from the territory.

Environmental Impact

Water Consumption in 2012–2014, mln m³
• decrease in the volume of circulating water for equipment cooling at SC CMP HPP due to lower outdoor temperatures in Q3 2014, as compared to the same period in 2013.

In 2014, the volume of disposal of polluted waste water by TVEL FC enterprises decreased by 7%. The change in the volume of waste water is directly related to reduction of water withdrawal by the enterprises of the Fuel Company.

Pollutant Emissions

In 2014, total pollutant emissions into the atmosphere by TVEL FC enterprises amounted to 20.7 thousand tons (30.5% of the standard set by TVEL FC for 2014), which is 3.0% less than in 2013.

Emissions of ozone-depleting substances at TVEL FC enterprises decreased in 2014 by 1.8% and amounted to 262.4 tons. The decrease of emissions was caused by modernization of equipment at the enterprises of the Fuel Company.

Expenses of TVEL FC related to minimization of the environmental impact

In 2014, operating expenses of TVEL FC enterprises for environment protection amounted to RUB 2,371.17 mln.

Target funds allocated in the framework of the investment and project activities of TVEL Fuel Company and ROSATOM State Corporation, were used to finance both technical and organizational arrangements.

The bulk of environment protection expenses of TVEL FC falls on SC “SGChE”, SC UEIP and SC CMP.

<table>
<thead>
<tr>
<th>Expense item</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015 (plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation safety</td>
<td>1,059.2</td>
<td>1,235.1</td>
<td>1,000.0</td>
<td></td>
</tr>
<tr>
<td>Wastewater collection and treatment</td>
<td>427.5</td>
<td>335.1</td>
<td>450.0</td>
<td></td>
</tr>
<tr>
<td>Atmosphere air protection</td>
<td>209.1</td>
<td>187.7</td>
<td>190.0</td>
<td></td>
</tr>
<tr>
<td>Waste disposal</td>
<td>187.5</td>
<td>153.2</td>
<td>160.0</td>
<td></td>
</tr>
<tr>
<td>Land conservation</td>
<td>83.2</td>
<td>59.7</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>471.5</td>
<td>482.5</td>
<td>460.0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,223.3</strong></td>
<td><strong>2,213.3</strong></td>
<td><strong>2,371.2</strong></td>
<td><strong>2,260.0</strong></td>
</tr>
</tbody>
</table>

Expenses of TVEL FC Related to Environment Protection, RUB mln

In 2014, total amount of payments for negative impact on the environment decreased by 22.3% as compared to the previous year, and amounted to RUB 19.34 mln.

Nuclear and Radiation Safety

Assurance of nuclear and radiation safety (NRS) of facilities of the Fuel Company subsidiaries, prevention and exclusion of any possibility of inadmissible exposure of the personnel, population and environment to radiation are among the priority activities of TVEL FC.
The Company subsidiaries undertake systematic efforts for prevention and exclusion of radiation accidents, improvement of the stability of hazardous production facilities, training of personnel and special formations in conditions of accidents and emergency situations.

In 2014 TVEL FC subsidiaries registered no events which can be assigned to category 2 or higher on the INES scale, no excess of the limits of the annual effective radiation doses of the personnel, no Group A personnel exposed to the effective dose of 100+ mSv, and personnel exposed to 50+ mSv over a period of five successive years.

According to the conclusions of regulatory authorities on the results of inspections, it was noted that the radiation and nuclear safety in the Fuel Company subsidiaries, in general, conforms with the regulations and rules in the field of use of nuclear power. TVEL FC registered no cases of cancellation of any licenses related to nuclear energy application.

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Respect

“We always treat our customers, partners and suppliers with respect. We always attentively listen to and hear each other, regardless of positions and places of work. We respect the history and traditions of the nuclear industry. The achievements of the past inspire us for new victories.”

Excerpt from the Decision of the Strategic Council of ROSATOM State Corporation d/d July 03, 2014

Development of the Regions of Presence

To implement projects for development of the regions of the enterprises’ presence, TVEL FC has elaborated and approved the Program “Formation and preservation of social accord environment in the regions of the Fuel Company’s presence” which is oriented at all subsidiaries of the JSC “TVEL”, systematizes the Company’s experience in this area, and includes three groups of projects:

- cooperation with local and regional public authorities with respect to the concept of the territories’ development, the growth of regional taxes and maintenance of social and economic stability for the years 2016–2018;
- social programs at the enterprises and in the cities of presence, development of social partnership with the Russian Union of Nuclear Power and Industry Workers;
- building of multi-level internal and external communications.

Funding of charity and social initiatives of TVEL FC in 2014 amounted to RUB 245.2 mln
Funding of the Program for Social and Economic Development of the Cities of FC Subsidiaries Presence, 2014

<table>
<thead>
<tr>
<th>City</th>
<th>Scope of funding, RUB mln</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATU Novouralsk</td>
<td>878.0, including</td>
<td>780.0 Dealing with the debts of city’s energy sales organizations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>98.0 Installation of energy accounting meters in town apartments</td>
</tr>
<tr>
<td>Glazov</td>
<td>387.4</td>
<td>Construction of an ice hall, a gym hall of Physics and Mathematics Lyceum, major repair of sport facilities, city improvement, city sport teams supporting.</td>
</tr>
<tr>
<td>CATU Seversk</td>
<td>37.0</td>
<td>Construction of a gym hall of Physics and Mathematics Lyceum</td>
</tr>
<tr>
<td>CATU Zelenogorsk</td>
<td>58.5</td>
<td>Activities provided under the agreements shall be implemented within regional programs of CATU Zelenogorsk social and economic development.</td>
</tr>
</tbody>
</table>

Total 1,360.9

Working-age Population Employed by Subsidiaries of TVEL FC

<table>
<thead>
<tr>
<th>City</th>
<th>Region</th>
<th>% of working-age population employed by subsidiaries of TVEL FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angarsk (SC AECC)</td>
<td>Irkutsk Region</td>
<td>0.8</td>
</tr>
<tr>
<td>Vladimir (SC &quot;VPA &quot;Tochmash&quot;)</td>
<td>Vladimir Region</td>
<td>0.7</td>
</tr>
<tr>
<td>Kovrov (PSC &quot;KMP&quot;)</td>
<td></td>
<td>1.5</td>
</tr>
<tr>
<td>Glazov (SC CMP)</td>
<td>Udmurt Republic</td>
<td>6.1</td>
</tr>
<tr>
<td>Zelenogorsk (SC &quot;PA ECP&quot;)</td>
<td>Krasnoyarsk Territory</td>
<td>6.0</td>
</tr>
<tr>
<td>Novouralsk (SC UEIP)</td>
<td>Sverdlovsk Region</td>
<td>5.2</td>
</tr>
<tr>
<td>Seversk (SC &quot;SGChE&quot;)</td>
<td>Tomsk Region</td>
<td>5.9</td>
</tr>
<tr>
<td>Elektrostal (PSS &quot;MSZ&quot;)</td>
<td>Moscow Region</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Public Recognition

TVEL FC always applies the principles of transparency, and constantly interacts with stakeholders, systematizes, analyzes and takes into consideration their requests. This approach allows to respond quickly to potential risks connected with stakeholders relations, in particular with those of social and reputational nature.

* With account to intrinsic industry-specific limitations.
JSC “TVEL” Annual Report

About the Report


* Conforms to management accounting profile.

Awards of Subsidiaries of the Fuel Company

Numerous awards and letters of appreciation granted to subsidiaries in 2014 prove public recognition of the Fuel Company’s active position. These are awards for environmental safety, occupational culture and labor safety, charitable activity and social programs in the regions of presence, work with young generation and participation in exhibitions. Within the reporting period subsidiaries of TVEL FC won more than 50 different awards.

Abbreviations

JSC — Joint-stock companies.
NPP — Nuclear power plant, industrial facility for electric power production.
DB — Database.
FN — Fast neutron reactor where the heat carrier within the first and the second loop consists of sodium, while the third loop carries water and steam. In Russia is applied at Beloyarsk NPP.
GC — Gas Centrifuge.
SC — Subsidiary companies.
CATU — Closed administrative and territorial unit.
RR — Research Reactor.
ITER — International Thermonuclear Experimental Reactor built on basis of tokamak by international group of scientists under the aegis of IAEA. It is supposed to be a pilot version of the world’s first DEMO thermonuclear power plant.
KPI — Key performance indicators.
IAEA — International Atomic Energy Agency — international regulatory body that monitors nuclear safety performance and non-proliferation of nuclear weapons in the world.

MW — Megawatt — unit of power equal to 106 watts. MW(e) relates to electric power of a generator; MW(t) relates to thermal power of a reactor or heat source (e.g., full thermal power of the reactor itself is generally three times higher than the electric power).

MOX-fuel — Mixed Oxide Nuclear Fuel (generally on basis of uranium and plutonium).

VAT — Value added tax.

R&D — Research and development.

FE NFC — Front end of nuclear fuel cycle.

EDEC — Experimental demonstration energy complex.

LLC — Limited Liability Company.

SNF — Spent nuclear fuel.

PJSC — Public joint stock company.

SFI — Suggestions for improvement.

RPS — ROSATOM production system.

SSC — Separation-sublimation complex.

MSM — Mass media.

FA — Fuel assembly.

TVS-KVADRAT — Name of fuel assembly for PWR reactors developed in Russia.
PWR — Pressurized water reactor — type of foreign reactors with pressurized water, analogue of VVER reactor.

FE, FEG — Fuel element.

TVEL FC Fuel Company — JSC “TVEL” and subsidiary companies included into the corporate management system and consolidation perimeter used for the reporting.

HPP — Heat and power plant.

NPiB — Nuclear-powered icebreaker.

FAI — Federal Autonomous Institution.

FSUE — Federal State Unitary Enterprise.

ECM — Electronic computing machine.

NRS — Nuclear radiation safety.

NF — Nuclear fuel.

NRHF — Nuclear and radiation hazardous facilities.

NFC — Nuclear fuel cycle, set of arrangements aimed at operation of nuclear power industry, including production and processing of uranium ore, fuel production, its transportation to NPP, storage and treatment of SNF. In case of SNF burial NFC is called opened, and when it is provided fuel reprocessing and repeated use — NFC is called closed.

EBITDA — Earnings before interest, taxes, depreciation and amortization — an analytical indicator used to define a company’s profit, before interest expenses, taxes, depreciation and amortization are subtracted.

HR — Human resources.

INES — International Nuclear Event Scale.

LTIFR — Lost time injury frequency rate — number of lost time incidents divided by total hours worked for the reporting year and rated as 1 mln man hours.