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BUSINESS GEOGRAPHY

1. **Russia's Number One**
   - Power Producer

2. **The World's Number Two**
   - Power Producer and Installed Capacity Owner

Rosenergoatom, Joint-Stock Company, is the largest power generating company in Russia and the country's only operator of Russian nuclear power plants.

---

**Power Units**

- **35** In operation
- **6** Under construction and 1 Floating NPP
- **2** Physical start-up in 2017
- **2** Decommissioning
- **3** Under shutdown

**Percent Share in the Russian Federation Energy Balance**
- 18.9%

**Percent Capacity Factor**
- 83.3%

---

**Regions of Operating**

- 10

---

**Power Generation in 2017**

- 202.87 BLN KWH
- 27.9 GW

---

**World's Number Two Power Producer and Installed Capacity Owner**

- Russia's Number One Power Producer

---

**Percent Share in the Russian Federation Energy Balance**

- 18.9%

---

**Percent Capacity Factor**

- 83.3%
# Key Performance Indicators in 2015-2017

## Power Generation, BLN KWh

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual 2017</th>
<th>Plan 2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>202.87</td>
<td>202.87</td>
<td>199.84</td>
<td>195.2</td>
</tr>
<tr>
<td>2016</td>
<td>199.84</td>
<td>199.84</td>
<td>195.2</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>196.4</td>
<td>196.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. The FAS balance target power generation was specified as the planned indicator.

## Revenue, MLN Rubles

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>Plan 2017</th>
<th>Actual 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>263,757</td>
<td>282,036</td>
<td>360,386</td>
<td>360,386</td>
</tr>
<tr>
<td>2016</td>
<td>360,386</td>
<td>360,386</td>
<td>360,386</td>
<td>360,386</td>
</tr>
<tr>
<td>2017</td>
<td>360,386</td>
<td>360,386</td>
<td>360,386</td>
<td>360,386</td>
</tr>
</tbody>
</table>

## Capacity Factor, %

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual 2017</th>
<th>Plan 2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>85.95</td>
<td>85.95</td>
<td>83.1</td>
<td>82.1</td>
</tr>
<tr>
<td>2016</td>
<td>83.1</td>
<td>83.1</td>
<td>82.1</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>82.9</td>
<td>82.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Registered Capital, MLN Rubles

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>671,517</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>793,123</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>793,123</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- registered capital 100 mln rubles
- the FAS balance target power generation was specified as the planned indicator.
1. Information about the reasons for a decrease in the headcount may be found in Section 3.5 – HR Policy.

2. Fulfilment of Rosenergoatom investment program for 2017 by 98% as refers to investment in equity is related to diversion of the investment resource that was earlier planned for investment in equity, repayment of the principal amount of the loan for optimization of expenses for repayment of interest on loans.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Headcount, Pers.</th>
<th>Labor Productivity in Rosenergoatom, MLN RUBLES/PERS.</th>
<th>Investments in Equity, MLN RUBLES</th>
<th>EBITDA Margin, %</th>
<th>Charitable Contributions, MLN RUBLES</th>
<th>Net Profit, MLN RUBLES</th>
<th>Net Asset Value, MLN RUBLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>33,086</td>
<td>38.64</td>
<td>1,741,607</td>
<td>46.7</td>
<td>505</td>
<td>4,981</td>
<td>1,999,613</td>
</tr>
<tr>
<td>2016</td>
<td>35,248</td>
<td>37.0</td>
<td>1,614,094</td>
<td>41.8</td>
<td>501.5</td>
<td>1,999</td>
<td>1,999,009</td>
</tr>
<tr>
<td>2015</td>
<td>35,744</td>
<td>51.3</td>
<td>1,470,670</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Aggregate Amount of Main Taxes Accrued to Budgets, MLN RUBLES</th>
<th>For the Purpose of Profit Tax Payment</th>
<th>Gross Profit, MLN RUBLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>18,169</td>
<td>35,481</td>
<td>152,730</td>
</tr>
<tr>
<td>2016</td>
<td>21,986</td>
<td>1,983</td>
<td>108,969</td>
</tr>
<tr>
<td>2015</td>
<td>32,847</td>
<td>5,415</td>
<td>107,456</td>
</tr>
</tbody>
</table>

1. Annual report 2017
2. In addition, transferred in favor of Atomenergoprom – a responsible participant in the consolidated group of taxpayers.

3. Federal budget
4. Budget of the Russian Federation constituent entities
5. Local budgets
6. Personal income tax
7. In addition, transferred in favor of Atomenergoprom – a responsible participant in the consolidated group of taxpayers.

1. Amount of taxes paid minus tax refunds from budgets.
**Key Events of 2017**

- **FEBRUARY 27**
  - Novovoronezh NPP-2 power unit No. 1 with VVER-1200 reactor was put into commercial operation.

- **AUGUST**
  - The Best Russian NPP corporate contest results were summarized. Year 2016 title was won by the Balakovo NPP. Among top three were the Kursk (number two) and Beloyarsk (number three) NPPs.

- **SEPTEMBER 7**
  - Rosenergoatom Competence Center for APCS Cybersecurity at Nuclear Power Plants was established on the basis of VNIIAES.

- **SEPTEMBER 20-22**
  - A decision was made to create a single educational center – Rosatom Technical Academy within the power engineering division structure.

- **SEPTEMBER 30**
  - The Smolensk NPP started producing cobalt isotope Co-60 (the first extra cobalt absorber was loaded into the reactor of the power unit No.1).

- **OCTOBER 1.**
  - The Beloyarsk NPP employees as part of the author team received the Russian Federation Government Sci-Tech Award for improving the efficiency of the fast neutron reactor operation, development and life extension.

- **OCTOBER 25th**
  - Rosenergoatom celebrated its 25th anniversary.

- **SEPTEMBER 7**
  - The Rostov NPP hosted a large-scale emergency drill complex involving observers from six countries, the NPP emergency response team (NPP ERT), Russian Emercom, Defense Ministry and National Guard.

- **OCTOBER**
  - The 1st loop of the Academician Lomonosov floating power unit reactors was washed out.

**KEY EVENTS OF 2017**

1. **NOVEMBER 30**
   - The POWER Magazine named the innovative power unit No.1 of the Novovoronezh NPP-2 among the world’s best three power units.

2. **NOVEMBER**
   - Employees of the Rostov and Kola NPPs became gold and silver prize winners at WorldSkills Hi-Tech 2017.

3. **DECEMBER 6**
   - The Smolensk NPP started transferring spent nuclear fuel to dry storage – the first spent fuel assembly was dismantled.

4. **DECEMBER 6**
   - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:33 PM (Moscow time).

5. **DECEMBER 8**
   - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

6. **DECEMBER 9**
   - The Rostov NPP became the winner of the corporate safety culture contest in 2017.

7. **DECEMBER 27**
   - Employees of the Rostov and Kola NPPs became gold and silver prize winners at WorldSkills Hi-Tech 2017.

8. **DECEMBER 27**
   - The innovative power unit No.1 pertaining to Generation III+ with the VVER-1200 reactor at the Leningrad NPP-2 was connected to the Unified Energy System of Russia.

9. **DECEMBER 20**
   - The Leningrad NPP demonstrated a record high power output of 1 trillion kWh among domestic nuclear plants.

10. **DECEMBER 8**
    - The Leningrad NPP demonstrated a record high power output of 1 trillion kWh among domestic nuclear plants.

11. **DECEMBER 8**
    - First criticality at the Leningrad NPP-2 power unit No.1 started at 10:33 AM (Moscow time).

12. **DECEMBER 27**
    - First criticality at the Leningrad NPP-2 power unit No.1 started at 10:33 AM (Moscow time).

13. **DECEMBER 20**
    - First criticality at the Leningrad NPP-2 power unit No.1 started at 10:33 AM (Moscow time).

14. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

15. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

16. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

17. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

18. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

19. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

20. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

21. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

22. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

23. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

24. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

25. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

26. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

27. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

28. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

29. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).

30. **DECEMBER 8**
    - First criticality (nuclear fuel loading into the reactor) at the Rostov NPP power unit No.4 started at 7:53 PM (Moscow time).
 ADDRESS BY BOARD OF DIRECTORS CHAIRMAN

DEAR READERS,

Year 2017 ended up with good results for Rosenergoatom as a power engineering division of Rosatom State Corporation and for the Russian nuclear industry in general. We are working on a scheduled basis to commission new power units at nuclear plants, increase power output in accordance with the national energy needs, rapidly develop new business lines, and diversify the activities.

One of the most important results of 2017 was the first criticality at two new power units of the Rostov and Leningrad NPP-2 connected to the grid in early 2018. In the reporting year, the Novovoronezh NPP-2 power unit No.1 was put into commercial operation. This is the first of a series of power units with VVER-1200 reactors. The NPP-2006 project implemented at first power units of the Novovoronezh NPP-2 and Leningrad NPP-2 pertains to the most advanced generation “three plus”. This generation of reactors lays the basis for the commercial proposal of Rosatom State Corporation in international markets, which is highly appreciated by our foreign colleagues.

At present, seven* new NPP power units are under construction in Russia, including a floating power unit. These will ensure national energy security in the long term.

In 2017, another all-time record was set on the power output of nuclear power plants in the contemporary history of the Russian nuclear power industry. Rosatom State Corporation continues implementation of foreign projects providing the nuclear industry enterprises with orders for years ahead.

Among the key strategic objectives of the whole industry and Rosenergoatom as the ordering customer of new nuclear capacities are improving the operational efficiency, reducing the power units construction time and cost. The processes of digitalization, implementation of innovative projects, and compliance with global sustainability standards play an important role in taking leadership today.

In the long run, and in line with the strategic priorities of Rosatom State Corporation, Rosenergoatom faces the challenges of retaining achieved performance, increasing the share of nuclear power generation in Russia, upgrading the power units, constructing and commissioning new capacities, and decommissioning of the shutdown power units, as well as personnel training for Russian and foreign NPPs constructed in accordance with Russian designs.

I am sure Rosenergoatom will successfully meet new challenges as we have everything needed: government support, technological potential and highly professional employees.

ALEXANDER LOKSHIN,
Chairman of the Board of Directors,
Rosenergoatom Joint-Stock Company; First Deputy CEO for Operations Management, Rosatom State Corporation

1. Including: Novovoronezh NPP-2 power unit No. 2, Leningrad NPP-2 power unit No. 2, two power units of the Kursk NPP-2, two power units of the Baltic NPP and a floating power unit.
DEAR COLLEAGUES AND PARTNERS,

You are holding in your hands the tenth integrated Rosenergoatom, Joint-Stock Company annual report summarizing the results of our work in 2017 and accessing the prospects for the Company’s activities in the short, medium and long term.

Today, the global community is focused on shaping a new economy based on equal opportunities for all people without any exception and environmental protection principles relating to the global climate change risk. The Russian nuclear power industry in general and particularly Rosenergoatom make a considerable contribution to creation of such an economy and implementation of the 2030 Agenda for Sustainable Development adopted by the UN (Sustainable Development Goals).

The nuclear power industry is one of the most rapidly-developing and high-tech sectors of the present-day economy due to its unique opportunities in supplying the growing energy needs of the economy and the society, the contribution made by the industry into reducing the carbon emissions, developing the areas of presence and the countries of potential market partners. Technological leadership of Rosenergoatom is based on the uninterrupted development and introduction of innovative solutions, and the process of digital transformation.

Year 2017 was significant for us due to implementation of the major innovative projects in the nuclear power industry, which underpin the leading positions of Rosatom State Corporation in the domestic and global markets. Key events in the reporting year are connected with the start-up of new power units. The Novovoronezh NPP-2 power unit No.1, a pilot unit with the new post-Fukushima Generation III+ nuclear reactor VVER-1200. First criticality (nuclear fuel loading into the reactor) was started by experts in December 2017 at the second unit of this series, the Leningrad NPP-2 power unit No.1. Moreover, first criticality was started in December 2017 at the Rostov NPP power unit No.4, the last unit of the VVER-1000 (V-320) reactor series (its power start-up was successfully completed in February 2018).

A considerable achievement in the modernization and life extension areas was the license obtained from Rostekhnadzor by the Balakovo NPP for operation of the power unit No.2 for an additional 25-year period (above the scheduled 30 years) owing to major efforts focused on the equipment upgrade. As for the innovations, I can not leave unmentioned an important project for the industry – construction of a floating nuclear power plant (FNPP). The project entered the final construction stage in 2017. Upon delivery of the floating power unit to Murmansk in 2018, it will be subject to first criticality, and the power unit will be commissioned a year after at the base site in Pevek, Chukotka Autonomous Okrug.

In 2017, the year of Rosenergoatom anniversary, all key performance indicators were achieved, and another all-time record was set on the power output of nuclear power plants, which became one of the main achievements of the year. While prioritizing safe operation, Russian nuclear plants surpassed the performance of 2016 in terms of power generation and increased the total output by more than 6.5 bln kWh – to 202.9 bln kWh (versus 196.4 bln kWh in 2016). The annual target of the Federal Antimonopoly Service was exceeded by 3 bln kWh (with the planned value of 199.84 bln kWh). Thus, it was a record-breaking year for the Russian nuclear power industry throughout its history. It approached to the absolute output record of 212.6 bln kWh achieved in the times of the Soviet Union.

According to the results of 2017, the share of nuclear plants in the Russian energy output grew to 18.9%, which is 0.6% up versus 2016. The capacity factor of Rosenergoatom nuclear plants is at the world’s best level – 83.3%. The installed capacity of NPPs increased to 27.9 GW.

In addition to traditional businesses, we continue working on new product lines, including non-nuclear ones. One of the most important events of 2017 for Rosenergoatom in this area was the start of cobalt isotope production at the Simolensk NPP. Another step was made on the way to large-scale growth of modern Russian radiation technologies. Isotopes have successfully been produced by the Leningrad NPP for many years now. We are planning to develop this area of activity in future at the Kursk and Beloyarsk power plants.

The results of 2017 lay the basis for further development of the power engineering business and new business lines of Rosenergoatom, including the non-nuclear sector. Safe operation of nuclear power plants along with full compliance with occupational health and safety standards and rules remain a permanent priority of Rosenergoatom and a focus of its public annual reports for many years. The safety principle hinges on implementation and constant upgrade of integrated solutions, as well as maintenance of safety culture and high professionalism among the personnel.

I am convinced that Rosenergoatom team will cope with each and every task ensuring the energy safety of Russia and sustainable development of our Company.
YEAR CONTINUOUS FLIGHT OF A CARGO DRONE WILL BE POWERED BY ONE NPP UNIT RATED AT 1,000 MW PER HOUR
ROSENERGOATOM, JOINT-STOCK COMPANY IS ONE OF THE KEY PLAYERS IN THE POWER INDUSTRY AND THE ONLY OPERATOR OF RUSSIAN NUCLEAR POWER PLANTS, WHICH IS CLOSELY COOPERATING WITH INTERNATIONAL PARTNERS AND MARKETS.

Maintenance of a high safety level of the Company’s activities for people and environment by means of renewable energy, inter alia, advanced and cleaner technologies, as well as higher energy efficiency.

Increase in the level of installed capacity and power output of NPPs in order to enable access to cheap, reliable, sustainable and modern energy sources for all.

Innovative development of the nuclear power industry and utilization of the intellectual and technological potential of the Company with a view to promote other economic sectors in order to improve the efficiency of resource use and wider application of clean and environmentally safe technologies and industrial processes.

THE COMPANY EXERTS CONSIDERABLE INFLUENCE ON THE SOCIOECONOMIC WELFARE OF THE SOCIETY AND ENVIRONMENTAL PROTECTION IN THE AREAS OF PRESENCE – LOCATIONS OF NUCLEAR POWER PLANTS AND REGIONS OF BUSINESS ACTIVITIES, AS WELL AS ON THE GLOBAL SCALE.
1.1 GENERAL INFORMATION

ROSENERGOATOM, JOINT-STOCK COMPANY (HEREINAFTER – THE COMPANY OR ROSENERGOATOM) IS ONE OF THE LARGEST SINGLE-PRODUCT PLAYERS IN THE RUSSIAN POWER MARKET, IT IS NUMBER ONE IN RUSSIA IN TERMS OF POWER OUTPUT AND NUMBER TWO IN TERMS OF INSTALLED CAPACITY. IN ADDITION, THE COMPANY IS THE ONLY OPERATOR OF RUSSIAN NUCLEAR POWER PLANTS.

The core businesses of Rosenergoatom are generation of power and heat by its nuclear plants, operation of nuclear plants, sources of radiation, nuclear material and radioactive substance storage sites pursuant to the procedure set forth by the Russian Federation laws.

The Company integrates as branch companies, operational nuclear plants, directorates of nuclear plants under construction, Directorate for Construction and Operation of Floating Nuclear Power Plants, as well as engineering centers, design and technology branch offices.

CORPORATE STRUCTURE

ROSENERGOATOM HEADQUARTERS

ROSENERGOATOM AFFILIATES – NUCLEAR POWER PLANTS IN OPERATION
- Balakovo NPP
- Bibiino NPP
- Beloyarsk NPP
- Kalinin NPP
- Kola NPP
- Kursk NPP
- Leningrad NPP
- Novovoronezh NPP
- Rostov NPP
- Smolensk NPP

- Directorate for Construction and Operation of Floating Nuclear Power Plants
- Technology Branch Office
- Pilot and Demonstration Engineering Center for Decommissioning
- Capital Projects Implementation Branch Office

ROSENERGOATOM AFFILIATES – DIRECTORATES OF NUCLEAR POWER PLANTS UNDER CONSTRUCTION
- Directorate of Baltic NPP under construction
- Directorate of Nizhny Novgorod NPP under construction
- Directorate of Voronezh NPP under construction
- Directorate of Kostroma NPP under construction

ROSENERGOATOM AFFILIATES

1. As of December 31, 2018. Until May 1, 2017 Rosenergoatom also included the Science and Engineering Center. On January 17, 2017, the Board of Directors resolved to liquidate the Center.

* The reasons for changes in the equity holding structure are given in Section 4.1 – Corporate Governance. Material Changes in Size, Structure, or Ownership in Reporting Period.

SUBSIDIARY COMPANIES

<table>
<thead>
<tr>
<th>No.</th>
<th>Company</th>
<th>Stake, %</th>
<th>Core Business</th>
<th>Headcount, Pers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Atomenergoremont JSC</td>
<td>100</td>
<td>Ensuring operational capabilities of power plants, performing repairs at NPP power units</td>
<td>8345</td>
</tr>
<tr>
<td>2</td>
<td>AtomenergoSbyt JSC</td>
<td>100</td>
<td>Power sales in the retail market</td>
<td>2115</td>
</tr>
<tr>
<td>3</td>
<td>EREC JSC</td>
<td>100</td>
<td>Research and development in natural and engineering sciences</td>
<td>224</td>
</tr>
<tr>
<td>4</td>
<td>Baltic NPP JSC</td>
<td>100</td>
<td>Power sales of the Baltic NPP under construction</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>IKAD JSC</td>
<td>100</td>
<td>Consulting in commercial activities and management</td>
<td>41</td>
</tr>
<tr>
<td>6</td>
<td>Atomtrans JSC</td>
<td>100</td>
<td>Activities of road freight transport and transportation services</td>
<td>278</td>
</tr>
<tr>
<td>7</td>
<td>Atomtechenergo JSC</td>
<td>100</td>
<td>Ensuring operational capabilities of power plants</td>
<td>2339</td>
</tr>
<tr>
<td>8</td>
<td>NPP RTC JSC</td>
<td>100</td>
<td>Research and development in natural and engineering sciences</td>
<td>45</td>
</tr>
<tr>
<td>9</td>
<td>ZAES Production Association JSC</td>
<td>100</td>
<td>Technical supervision, testing and analysis</td>
<td>261</td>
</tr>
<tr>
<td>10</td>
<td>CONSYSTOS JSC</td>
<td>100</td>
<td>Computer software development</td>
<td>798</td>
</tr>
<tr>
<td>11</td>
<td>Energoatominvest LLC</td>
<td>100</td>
<td>Provision of miscellaneous financial services not included into other groups, except for insurance and pension coverage</td>
<td>39</td>
</tr>
<tr>
<td>12</td>
<td>Rosatom Service JSC</td>
<td>96.7</td>
<td>Ensuring operational capabilities of power plants, running international business</td>
<td>144</td>
</tr>
<tr>
<td>13</td>
<td>Beloyarsk NPP-2 JSC</td>
<td>88</td>
<td>(under liquidation)</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>VNIAES JSC</td>
<td>75</td>
<td>Research and development in natural and engineering sciences</td>
<td>591</td>
</tr>
<tr>
<td>15</td>
<td>Termoxid PNF JSC</td>
<td>67</td>
<td>Chemicals production</td>
<td>10</td>
</tr>
</tbody>
</table>

20.9 GW — total installed capacity

202.9 BLN KWH — power output

102-2, 102-4, 102-7

ROSENERGOATOM, JOINT-STOCK COMPANY STOCKHOLDERS:

Rosatom State Corporation (12.4849%)
Atomenergoprom, Joint-Stock Company (87.5151%)
1.2 MISSION, VISION AND VALUES

OUR MISSION:
- Supplying consumers with power and heat produced by the nuclear power plants of Rosenergoatom with guaranteed safety as its top business priority.
- The Power Engineering Division of Rosatom State Corporation is headed by Rosenergoatom JSC.
- The Company's activities are closely related to the business priorities of the State Corporation and based on its three strategic objectives:
  - Increasing the share in international markets;
  - Reducing prime cost and accelerating processes;
  - Providing new products to the Russian and international markets.

OUR VISION:
- A globally diversified power engineering company being one of the global industry leaders and ensuring failsafe and reliable energy supply as well as competitive cost if compared to the power generated by other sources.
- The unified corporate industry-specific values shaped by Rosatom State Corporation are applicable to the entire nuclear power industry of Russia. These values underpin the activities of Rosenergoatom and the companies within its control circuit.

OUR VALUES:
- Rosenergoatom is primarily focused on energy safety, protection and safety of people. As an operator company, Rosenergoatom is fully responsible for ensuring nuclear and radiation safety at all stages of the NPPs life cycle, while facing a whole range of challenges related to location, design, construction, operation, and decommissioning of NPPs. Important aspects of the Company's activities are socioeconomic development of Russian and environmental protection. Rosenergoatom implements the following principles during performance of its main activity on operation of NPPs:
  - Ensuring nuclear, radiation, technical, fire and environmental safety, as well as labor protection;
  - Unconditional compliance with legislation of the Russian Federation, compliance with requirements of federal standards and rules for security, compliance with institutional standards;
  - Safety culture improvement;
  - Economic efficiency of power and heat production at NPPs.

PARTICIPATION IN RUSSIAN NON-COMMERCIAL ORGANIZATIONS

On October 12, 2017, Rosenergoatom became one of the founding members of Rosatom Technical Academy (Autonomous Non-Commercial Organization for Continuing Vocational Education). The Organization is an education and research center of Rosatom State Corporation in the areas of ensuring safe utilization of nuclear energy and increasing the level of operational processes competence among the nuclear industry personnel. An educational counter-terrorism center for protection of nuclear facilities and materials of Rosatom State Corporation is working on the basis of the Academy. In addition, the Academy is implementing international educational programs for foreign experts.

Rosenergoatom is also one of the founding members of the National Nuclear Innovative Consortium (2014).

MEMBERSHIP IN INTERNATIONAL ORGANIZATIONS 102-12, 102-13

- International Atomic Energy Agency (IAEA);
- WANO – World Association of Nuclear Operators;
- Materials Ageing Institute (MAI) under the auspices of EDF;
- European Utility Requirements (EUR);
- Nuclear Energy Agency under the Organization for Economic Cooperation and Development (NEA/OECD);

3.038 BLN RUBLES Dividends from equity holdings in subsidiaries according to the results of 2017.

REVENUE AND NET PROFIT OF MAJOR SUBSIDIARIES IN 2017

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue, Mln Rubles</th>
<th>Net Profit, Mln Rubles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atomenergoremont JSC</td>
<td>11,148.7</td>
<td>334.97</td>
</tr>
<tr>
<td>Atomtechenergo JSC</td>
<td>6,196.4</td>
<td>1,176.77</td>
</tr>
<tr>
<td>VNIEES JSC</td>
<td>1,404.2</td>
<td>94.88</td>
</tr>
</tbody>
</table>

1. The Russian Federation is a member of the Agency; Rosenergoatom participates in activities under the auspices of the Agency via an authorized organization – Rosatom State Corporation.
2. The Russian Federation is a member of the Agency; Rosenergoatom participates in activities under the auspices of the organization via an authorized organization – Rosatom State Corporation.
The Company’s business model entails creation of value in the short, medium and long term owing to transformation of capitals into tangible results – stockholder value, products and services demanded in the market – aimed at achieving strategic objectives.

The Company’s value chain forms part of common industry-level processes of Rosatom State Corporation organized in accordance with fuel and equipment life cycles.

BUSINESS MODEL AND VALUE CREATION IN ROSENERGOATOM, JSC

FINANCIAL:
Equity (authorized capital) and the funds borrowed from banks and financial institutions.

HUMAN:
The Company’s personnel with their competences, experience, and motivation level for achievement of the strategic objectives of Rosenergoatom.

PRODUCTION:
• Nuclear power plants operated by the Company, including equipment and infrastructure.
• Services of construction, assembly and repair organizations, rendered for the Company at the stages of NPPs construction and operation.
• Services of the enterprises supplying reactor fuel assemblies (FAs) to NPPs and accepting spent nuclear fuel for storage and reprocessing.
• Services of the industry-level enterprises that produce management and control equipment and systems for NPPs, as well as other suppliers of materials and equipment used at NPPs.
• Servicing (system operators, sales system administrators, etc.).

INTELLECTUAL:
• Results of activities of the engineering and design organizations developing front-end engineering design, project design and detailed engineering design documentation for NPPs construction.
• Result of activities of the industry-level enterprises dealing with engineering of reactor plants for new NPP power units, auxiliary equipment and its components.
• The operations related to sci-tech support of nuclear plants operation and enhancement of reliability, safety and efficiency of NPPs, and performed by research and development organizations.
• The intellectual systems, software and hardware complexes, simulators, automated process control systems, technical diagnostics systems and virtual modeling of NPPs for new projects, which were developed for the Company.

NATURAL:
First of all, water resources required in the power and heat production process at NPPs, and land plots for construction of new NPP power units.

SOCIAL CAPITAL AND GOODWILL:
Relations of Rosenergoatom with stakeholders, their attitude to the Company and its activities, including trust and readiness to cooperate.
### Key Results

#### Value Creation for Rosenergoatom

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing of EBITDA, mln rubles</td>
<td>158,466</td>
<td>134,614</td>
<td></td>
</tr>
<tr>
<td>Increasing of power output, b/n kWh</td>
<td>3%</td>
<td>202.87</td>
<td>196.4</td>
</tr>
<tr>
<td>Increasing of labor productivity, mln rubles/pers.</td>
<td>23%</td>
<td>10.64</td>
<td>7.07</td>
</tr>
<tr>
<td>Increasing of intangible assets value, mln rubles</td>
<td>58%</td>
<td>1,708</td>
<td>1,135</td>
</tr>
</tbody>
</table>

#### Value Creation for the Society

<table>
<thead>
<tr>
<th>Description</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental costs, mln rubles</td>
<td>3,837</td>
<td>3,447</td>
</tr>
<tr>
<td>1.98</td>
<td>1.68</td>
<td></td>
</tr>
</tbody>
</table>

#### Contribution to Sustainable Development

<table>
<thead>
<tr>
<th>Goal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Peace, justice and strong institutions</td>
</tr>
<tr>
<td>2.</td>
<td>Responsible consumption and production</td>
</tr>
<tr>
<td>3.</td>
<td>Sustainable cities and communities</td>
</tr>
<tr>
<td>4.</td>
<td>Industry, innovation and infrastructure</td>
</tr>
<tr>
<td>5.</td>
<td>Decent work and economic growth</td>
</tr>
<tr>
<td>6.</td>
<td>Affordable and clean energy</td>
</tr>
<tr>
<td>7.</td>
<td>Clean Water and Sanitation</td>
</tr>
<tr>
<td>8.</td>
<td>Climate Action</td>
</tr>
<tr>
<td>9.</td>
<td>Life below Water</td>
</tr>
<tr>
<td>10.</td>
<td>Sustainable cities and communities</td>
</tr>
<tr>
<td>11.</td>
<td>Responsible Consumption and Production</td>
</tr>
<tr>
<td>12.</td>
<td>Industry, Innovation and Infrastructure</td>
</tr>
<tr>
<td>13.</td>
<td>Climate Action</td>
</tr>
<tr>
<td>14.</td>
<td>Life below Water</td>
</tr>
<tr>
<td>15.</td>
<td>Peace, Justice and Strong Institutions</td>
</tr>
<tr>
<td>16.</td>
<td>Sustainable Development Goals</td>
</tr>
</tbody>
</table>
1. Overview

• Satisfaction level ....................................... 81 %

• Total number of staff training hours

HUMAN CAPITAL
- Equity, mln rubles .......................... 1,508,466
- Net assets, mln rubles ...................... 1,509,615
- Authorized capital, mln rubles .......... 815,841
- Average staff number, pers. ............. 33,886
- Labor productivity, mln rubles/pers .......... 10.64
- Total number of staff training hours .. 3,115,027
- Satisfaction level ......................... 81 %

PRODUCTION CAPITAL
- Power units in operation .................. 35
- The Company’s partners: construction, assembly and repair enterprises, suppliers of nuclear fuel, systems and equipment suppliers

INTELLECTUAL CAPITAL
- Intangible assets value, mln rubles ........ 1,790

NATURAL CAPITAL
- Amount of water withdrawn from sources, mln m³ ........................................ 8,665.7
- Crepted water, mln m³ ..................... 6,255.0
- the share of contaminated wastewater, mln m³ ........................................ 0.03 %
- Produced waste, t .............................. 35,112

1. The information about the Company’s key partners is given in 2014 Annual Report (page 31).

CAPITALS DEVELOPMENT PROCESSES

MODERNIZATION OF EXISTING NPPS
Activities aimed at increasing NPPs operation performance subject to unconditional safety at all stages of their life cycle.

ORGANIZATION/PERFORMANCE OF R&D
The search initiated by the Company for solution of long-term tasks in production and sci-tech activities to the extent of modernization of NPP power units design and construction technologies, increase of major equipment service life, introduction of new materials and technologies, and development of new reactor units.

Aktivnost of existing NPPs

The transport initiated by the Company for solution of long-term tasks in production and sci-tech activities to the extent of modernization of NPP power units design and construction technologies, increase of major equipment service life, introduction of new materials and technologies, and development of new reactor units.

DEVELOPMENT OF INTERNATIONAL ACTIVITIES:
- Marketing – collection and analysis of information to determine parameters of effective demand, desired commodity (consumer) properties, target markets and consumers, and promotional channels;
- Service development – forming a line of services with required consumer properties, approaches to pricing and interaction with target customers;
- Sales and contracting – services promotion, consumer search, and interaction with consumers up to conclusion of a contract;
- Production (provision) of services – processes of contractual obligations discharge;
- After-sale service – provision of additional services to ensure competitive performance and establishment of long-term mutually beneficial relations with consumers.

VALUE CREATION FOR STAKEHOLDERS

The Company uses sales channels for sale of products (basic: power, capacity, and heat) to consumers. As a result of its activities, Rosenergoatom offers uninterrupted power supply to end consumers at a competitive price, yields profit to stockholders and asset growth, promoting development of the Company and the industry in general.

The current situation in the Russian and global markets requires that the Company improves the efficiency of capital projects, including optimization of NPPs construction cost and time while ensuring a high safety level, and reduces operating expenses in order to keep the target profitability level. Moreover, product and geographic diversification is required.

Rosenergoatom has a unique experience in creating the nuclear power infrastructure in the Russian Federation that provides it with the key competitive advantages, rendering technical supervision services at Russian design power units, performing start-up and commissioning operations in Russia and abroad, operating and maintaining the power units at Russian NPPs.

The strategy Rosenergoatom is part and parcel of the business strategy of Rosatom State Corporation, which, in its turn, is based on provisions of the Russian Federation Energy Strategy.

In 2017, Rosatom State Corporation confirmed its strategic objectives approved a year before.
**KEY MARKET CHALLENGES**

- Low energy consumption growth rates in the Russian market — <1% until 2022
- Surplus of generating capacities in Russia (according to experts' assessments)
- Long-term government-supported strategy of the end consumer support through the "inflation minus" tariffication principle
- Higher competitiveness of steam generating units (combined heat and power plants)

**STRATEGIC GOALS OF ROSENERGOATOM**

1. Increasing the share in international markets
2. Reducing prime cost and accelerating processes
3. New products for Russian and International markets

**CORE OPERATIONS OF ROSENERGOATOM**

- Services throughout the whole NPP life cycle
- Nuclear infrastructure creation and development services
- Decommissioning of NPP power units
- Operational improvements
- NPP construction efficiency improvement
- Equipment upgrade
- Services for various types of generating facilities
- Isotope business
- Data processing centers construction at NPPs
- NPPs decommissioning and radioactive waste treatment
- Electricity distribution

**CONTRIBUTION TO STRATEGY IMPLEMENTATION IN 2017**

- 60.2 bln rubles – revenues from new products (outside Rosatom State Corporation circuit)
- 48.4 bln rubles – portfolio of new product orders for the period of 10 years (outside Rosatom State Corporation circuit)
- Co-60 cobalt isotope production started at the Smolensk NPP
- The Smolensk NPP started transferring spent nuclear fuel to dry storage
- Balakovo NPP power unit No.2 operation license obtained for another 26 years
- Commissioning of the Rostov NPP power unit No.4
- Start-up of the innovative Generation III+ power unit No.1 at the Leningrad NPP-2
- Record output for domestic NPPs at the Leningrad NPP – 1 tln kWh
- 60.2 bln rubles – revenues from new products (outside Rosatom State Corporation circuit)
- 48.4 bln rubles – portfolio of new product orders for the period of 10 years (outside Rosatom State Corporation circuit)
- Co-60 cobalt isotope production started at the Smolensk NPP
- The Smolensk NPP started transferring spent nuclear fuel to dry storage

Implementation of strategic objectives require that Rosenergoatom is constantly developing processes and technologies, as well as advancing new business lines. Among the key development vectors of the Company’s activities are...
CONTRIBUTION TO STRATEGY IMPLEMENTATION IN REPORTING PERIOD

The most significant events of 2017 are:

- Novovoronezh NPP-2 power unit No.1 was put into commercial operation;
- First criticality at the Rostov NPP power unit No.4 and the Leningrad NPP-2 power unit No.1;
- In addition, the following investment projects are up and running:
  - Construction of the Novovoronezh NPP-2 power unit No.2 and the Leningrad NPP-2 power unit No.2 is being completed;
  - The main construction stage of the Kursk NPP-2 power units No.1 and No.2 is underway;
  - Construction of the Floating Nuclear Power Plant (FNPP) is being completed.

A series of operations aimed at extending the service life of the Balakovo NPP power unit No.2 was accomplished, and a license for the additional operation period was received.

A permit of Rostekhnadzor was received to extend the fuel campaign of the Kudankulam No.2 reactor unit and the materials of the power unit with BN-1200.

Among the key events of 2017 in NPPs Servicing Abroad are:

- Signing of a contract for servicing of the El Dabaa NPP planned for construction in Egypt;
- Signing of a contract for provision of evaluation services and nuclear infrastructure development in the Republic of Zambia;
- Signing of a contract for servicing of the Akkuyu NPP (Turkey);
- Signing of contracts for personnel training and commissioning operations at the Rooppur NPP (Republic of Bangladesh).

In 2017, as part of the new contract the Smolenensk NPP power unit No.1 started producing Co-60, preparations required for Co-60 production in 2018 are underway at the Smolenensk NPP power unit No.2 at the moment. The Beloyarsk NPP is getting prepared for highly active Co-60 production start-up in 2018.

A key event of 2017 was implementation of one of the Company’s major projects — construction of the Data Processing and Storage Center of Rosenergoatom (DPC) at the site close to the Kalinin NPP. DPC Stage 1 facilities were commissioned in December 2017. DPC Stage 2 facilities are under construction. They are scheduled for completion in April 2018 and commencement of lease in June 2018.

Research on extending the fuel campaign of the BN-600 and BN-800 power units continued with introduction of new structural materials of fuel element jackets, as well as implementation of a series of measures for gradual transition of BN-800 to full loading with MOX fuel.

A comprehensive R&D Program for 2017-2024 was enacted for substantiation of the 1st stage of the two-component nuclear energy system of a closed loop cycle on the basis of heat reactors (VVER) and fast sodium reactors (BN).

A joint meeting of the Sci-Tech Council of Rosatom State Corporation held on July 18, 2017 considered the results of feasibility optimization for the engineering design of BN-1200 reactor unit and the materials of the power unit with BN-1200.

OBJECTIVES FOR 2018 AND MEDIUM TERM

The Strategic Council of Rosatom State Corporation set the target indicators for Rosenergoatom in 2018-2020. A new key performance indicator (KPI) of EBITDA Contribution (Power Generation) was added to the KPI matrix. Its target value is on the ambitious level achievable through positive influence of power (capacity) prime cost reduction, additional revenue generation by means of production ramp-up, and a favorable price environment in the power (capacity) market.

The KPI of Specific Forecast Cost of NPP Construction, Taking into Account Time Limits, Rubles/KWh was replaced for Compliance with Deadlines and Costs of NPPs Construction, % setting additional requirements for improving efficiency of nuclear plants construction.

As part of achieving the Fulfilment of State Objectives KPI, Rosenergoatom will face the challenges of the Leningrad NPP power unit No.1 and the Rostov NPP power unit No.4 commissioning within the specified deadlines, as well as preparation for comprehensive harbor testing of the floating power unit, construction of the onshore infrastructure and hydraulic facilities for the FNPP.

As part of achieving the Fulfilment of State Objectives KPI, Rosenergoatom will face the challenges of the Leningrad NPP power unit No.1 and the Rostov NPP power unit No.4 commissioning within the specified deadlines, as well as preparation for comprehensive harbor testing of the floating power unit, construction of the onshore infrastructure and hydraulic facilities for the FNPP.

Rosenergoatom

Annual report 2017

#1. Overview

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Rosenergoatom

As part of achieving the Fulfilment of State Objectives KPI, Rosenergoatom will face the challenges of the Leningrad NPP power unit No.1 and the Rostov NPP power unit No.4 commissioning within the specified deadlines, as well as preparation for comprehensive harbor testing of the floating power unit, construction of the onshore infrastructure and hydraulic facilities for the FNPP.

KEY INDICATORS FOR ROSENERGOATOM ACTIVITIES IN 2018-2020

<table>
<thead>
<tr>
<th>Key Indicators</th>
<th>2016 (actual)</th>
<th>2017 (actual)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA contribution (power generation), bln rubles</td>
<td>—</td>
<td>—</td>
<td>215.4</td>
<td>207.3</td>
<td>205.2</td>
</tr>
<tr>
<td>Investment program fulfilment, %</td>
<td>99.6</td>
<td>99.7</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Power generation at NPPs, bln kWh</td>
<td>196.4</td>
<td>282.07</td>
<td>201.33</td>
<td>282.6</td>
<td>220.7</td>
</tr>
<tr>
<td>Installed capacity of NPPs, GW</td>
<td>27.1</td>
<td>27.09</td>
<td>30.1</td>
<td>30.4</td>
<td>30.6</td>
</tr>
<tr>
<td>Compliance with deadlines and costs of NPPs construction in Russia, %</td>
<td>—</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Labor productivity across Power Engineering Division, mln rubles/pers.</td>
<td>7.04</td>
<td>6.65</td>
<td>9.2</td>
<td>9.7</td>
<td>10.2</td>
</tr>
<tr>
<td>LFIFD and reducing accident severity at enterprises, including contractors (versus base level of previous year)</td>
<td>0.08/20%</td>
<td>0.15/20%</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>No events above INES Level 2</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>R&amp;D funding, bln rubles</td>
<td>—</td>
<td>1.8</td>
<td>&gt; 2.8</td>
<td>&gt; 2.8</td>
<td>&gt; 2.8</td>
</tr>
<tr>
<td>Fulfilment of state objectives, %</td>
<td>98</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
1.5 RISK MANAGEMENT

The Company’s risk management system (RMS) shall support implementation of the strategy and the business plan at all levels through integration of the risk management process with the managerial decision making processes, ensuring timely identification, evaluation and efficient mitigation of the risk level.

Development of the Company’s RMS is carried out in line with the Regulation on Power Engineering Division Risk Management System of Rosatom State Corporation. Due to specific nature of its activities, Rosenergoatom pays special attention to the risks of nuclear, radiation, occupational and fire safety, physical protection of NPPs, therefore any decisions related to the Risk Management System functioning are taken with due account of the requirements stipulated by the standards applicable to all kinds of safety, as well as uninterrupted operation and streamlining of the safety management system as part of the Company’s overall management system.

In 2017, as in the previous years, Rosenergoatom did not allow for considerable adverse consequences of risk occurrence.

BASIC PRINCIPLES OF RISK MANAGEMENT SYSTEM

• Mandatory accounting for the necessity of compliance with the applicable standards of all kinds of safety, and ensuring of uninterrupted functioning and streamlining of the safety management system being an integral part of the overall management system of Rosenergoatom.

• Main processes of production, financial, organizational planning (strategic planning, business planning, investment planning, budgeting) include the risk identification and assessment procedures.

• Comprehensive assessment of risks is carried out with consideration of mutual influence of all risks emerging in various fields of the Company’s activities.

RISK MANAGEMENT SYSTEM GOALS AND OBJECTIVES

GOAL

• Organization of risk management activities capable of making a considerable impact on the goals of the Company and organizations within the Company’s management circuit.

OBJECTIVES

• Timeliness and completeness of identification of the risks significantly influencing the Company’s goals achievement.

• Correct assessment of risks with a view to support the planning system ensuring predictability of the range of changes in the key performance indicators of the Company and organizations within its management circuit.

• Constant monitoring of risks and control of action plans execution in order to prevent, consciously perceive, and decrease the probability and exposure to risks.

SYSTEM OF RISK MANAGEMENT COMPETENCE DISTRIBUTION AMONG MANAGEMENT AND CONTROL BODIES

<table>
<thead>
<tr>
<th>LEVELS</th>
<th>MANAGEMENT</th>
<th>CONTROL BODIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>CEO</td>
<td>Risk planning</td>
</tr>
<tr>
<td></td>
<td>Risk officer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dedicated structural unit for risk management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk owners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Independent internal inspector</td>
<td></td>
</tr>
<tr>
<td>Tactical</td>
<td>Identification and analysis</td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td>Mitigation measures</td>
<td></td>
</tr>
</tbody>
</table>

CEO

Risk officer

Dedicated structural unit for risk management

Risk owners

Independent internal inspector

Identification and analysis

Mitigation measures
MAJOR RESULTS OF 2017 AND PROSPECTS FOR 2018

The Company’s major efforts in streamlining the risk management system are focused on its further integration with all basic processes including investment planning and budgeting.

A Regulation on Risk Management System of the Power Engineering Division of Rosatom State Corporation was developed in a scheduled manner (in lieu of the previous Risk Management Policy); the list of key risks and their owners was updated, aggregate influence of risks (including the risks of considerable changes in the global commodity markets) on major financial and economic indicators was assessed, scheduled monitoring of risk management measures was accomplished.

Procedural Guidelines for Process Risks Management were developed as part of transition to the integrated management system. Large-scale integration of the risks management procedures with each and every process was launched. Work was organized to compile reports in accordance with the Procedural Guidelines, and preliminary reports on risks management in all processes were received.

Further development of the methodological and regulatory support of the risk management system is scheduled for 2018. A focus will be placed on introduction of risk management into international activities.

UPDATED LIST OF KEY RISKS:

• Coordination and Development Planning Risks
• Safety Risks
• External Environment Risks
• Operational Risks
• Supporting Processes Related Risks

POTENTIALLY CONSIDERABLE RISKS TO ROSENERGOATOM GOALS ACHIEVEMENT

The most significant risks capable of making considerable impacts on achievement of the Company’s strategic goals and objectives were identified on the updated list of key risks:

<table>
<thead>
<tr>
<th>CONSIDERABLE RISKS BEHAVIOR MATRIX</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-url" alt="Behavior Matrix" /></td>
</tr>
</tbody>
</table>

1. RISK OF DECREASE IN ELECTRICITY AND CAPACITY PRODUCTION VOLUME

- **Risk factors:** Violations, equipment failures resulting in full or partial unloading of the power unit, and NPP unpreparedness to meet production commitments.

- **Risk level:** Risk level reduced. Introduction and application of the RPS for streamlining of production activities allowed for full elimination of the adverse factors impact in 2017.

- **Risk management:** All cases of upsets and failures in equipment operation were investigated pursuant to the established procedure. Corrective and preventive measures were developed. They are aimed at removal of the root causes of upsets and prevention of their repetition.

2. RISK OF UNFAVORABLE CHANGES IN MARKET PRICES

- **Risk factors:**
  - Price environment changes in the electricity and capacity market (due to reduced electricity consumption, emergence of more economically viable generation in the market, fluctuation of prices for fossil fuel)
  - Full or partial absence of demand for potential capabilities of NPPs due to specific requirements of the system operator for the energy system operation mode.

- **Risk level:** The risk level is moderate, the risk was partially observed as the system operator limitations in 2017.

- **Risk management:** The risk depends exclusively on external factors. Risk hedging with the use of financial instruments does not seem possible due to low market liquidity. For the purpose of risk reduction, energy distribution service providers are taking efforts to agree repair times for network equipment with Federal Grid Company of Unified Energy System, and Unified Energy System Operators.

3. RISK OF COUNTERPARTY’S FAILURE TO TIMELY DISCHARGE ITS OBLIGATIONS IN FULL

- **Risk factors:** Deterioration of financial and economic stability and payment discipline among counterpart agents.

- **Risk level:** Moderate

- **Risk management:**
  - Reviewing claims related to WECM non-payers;
  - Settling the debts of existing WECM players in an out-of-court manner;
  - Returning a portion of WECM receivables in accordance with the results of tenders organized by the Russian Federation Energy Ministry to replace the suppliers of last resort;
  - Applying the system of financial guarantees in the wholesale market.

4. RISK OF GROWING COSTS AND EXTENDING TERMS OF NPPS CONSTRUCTION IN RUSSIA

- **Risk factors:**
  - Violation of obligations by sub-contractors in relation to work schedules and quality
  - Violation of obligations by suppliers in relation to the equipment supplies schedule and quality

- **Risk level:** The risk level was throughout 2017 due to high probability of construction time and cost impacts on the Company’s financial indicators.

- **Risk management:** For the purpose of risk management, the system of management is under improvement for all stages of NPPs construction, starting from pre-design preparations and ending with power unit commissioning. Requirements for organization of the assembly and construction work monitoring system were developed and introduced at NPP construction sites. The requirements ensure a unified procedure at all sites for collection and analysis of data and information on assembly and construction work quality.

<table>
<thead>
<tr>
<th><img src="image-url" alt="Behavior Matrix" /></th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-url" alt="Behavior Matrix" /></td>
<td>4</td>
<td>2</td>
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<tr>
<td><img src="image-url" alt="Behavior Matrix" /></td>
<td>1</td>
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</tr>
<tr>
<td><img src="image-url" alt="Behavior Matrix" /></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Changes are caused by considerable potential influence of risk factors.
1.6 SUSTAINABLE DEVELOPMENT GOALS

Being one of the largest power industry enterprises and the only operator of Russian nuclear plants, Rosenergoatom significantly influences the socioeconomic welfare of the society and the environment in the areas of presence – locations of nuclear plants and regions of business activities, as well as on the global scale.

The Company fully understands its economic, social and environmental responsibility before the society and completely supports the UN Sustainable Development Goals that can be achieved through combination of efforts of governments, private sector, civil society, and the global community.

UNSUSTAINABLE DEVELOPMENT GOALS

On September 25, 2015, the UN member states adopted the 2030 Agenda for Sustainable Development. It contains a series of goals aimed at liquidating poverty, preserving the planet resources, and ensuring well-being for all. Each of the 17 Goals contains a series of indicators that shall be achieved during 15 years.

THE COMPANY’S SUSTAINABLE DEVELOPMENT ACTIVITIES INCLUDE:

- Maintaining energy security of the Russian Federation through safe, reliable and efficient operation of nuclear power plants;
- Developing the power industry and increasing energy efficiency;
- Minimizing the environmental impact, on the global scale, inter alia;
- Exerting the economic and social influence in the regions of presence;
- Observing the principles of corporate social responsibility and efficient personnel management;
- Increasing the transparency and accountability of activities, following the best international practices and standards of sustainability reporting (including the Global Reporting Initiative Standards, and the International Integrated Reporting Framework);
- Positive interaction with stakeholders.
DUE TO SPECIFIC ACTIVITIES, THE COMPANY MAKES A CONSIDERABLE CONTRIBUTION TO ACHIEVEMENT OF THE FOLLOWING UN SUSTAINABLE DEVELOPMENT GOALS:

- **Clean Water and Sanitation**: Ensure availability and sustainable management to water and sanitation for all
- **Affordable and Clean Energy**: Ensure access to affordable, reliable, sustainable and modern energy for all
- **Decent Work and Economic Growth**: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- **Industry, Innovation and Infrastructure**: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

IN ADDITION, ROSENERGOATOM MAKES A DIRECT IMPACT ON OTHER SUSTAINABLE DEVELOPMENT GOALS, NAMELY:

- **Good Health and Well-Being**: Ensure healthy lives and promote well-being for all at all ages
- **Quality Education**: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- **Sustainable Cities and Communities**: Make cities and human settlements inclusive, safe, resilient and sustainable
- **Responsible Consumption and Production**: Ensure sustainable consumption and production patterns
- **Climate Action**: Take urgent action to combat climate change and its impacts
- **Life below Water**: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- **Peace, Justice and Strong Institutions**: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

The matters related to sustainability management are regularly put on meetings agenda of the Company’s Board of Directors and its directorate.

**DELINEATION OF FUNCTIONAL RESPONSIBILITY AREAS OF SUSTAINABLE DEVELOPMENT AMONG CORE STRUCTURAL UNITS IS GIVEN BELOW:**

<table>
<thead>
<tr>
<th>Social Responsibility</th>
<th>First Deputy CEO for Corporate Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental impact, power generation, energy efficiency improvement</td>
<td>First Deputy CEO for NPP’s Operation</td>
</tr>
<tr>
<td>Economic responsibility</td>
<td>Deputy CEO – Director for Economics and Finance</td>
</tr>
</tbody>
</table>

The matters related to sustainability management are regularly put on meetings agenda of the Company’s Board of Directors and its directorate.
02. TECHNOLOGICAL LEADERSHIP AND INNOVATIONS

2.1 Situation in Power Sector

2.2 Generating Capacities. Developing Generating Potential

2.3 Ensuring Safety of Russian NPPs

2.4 Innovations. Sci-Tech Policy. Knowledge Management System

2.5 Contribution to Russian Digital Economy. Information Technology

2.6 International Sci-Tech Cooperation

2.7 International Business and New Products

12 000 ELECTRIC CARS COULD BE CHARGED DURING ONLY 1 HOUR BY ONE REACTOR RATED AT 1,000 MW
2.1 SITUATION IN POWER SECTOR

THE COMPANY’S CORE BUSINESS IS POWER AND HEAT GENERATION AT NUCLEAR PLANTS. ROSENERGOATOM TRADITIONALLY TAKES THE LEADING POSITIONS AMONG RUSSIAN AND FOREIGN GENERATING COMPANIES IN TERMS OF INSTALLED CAPACITY AND POWER OUTPUT.

CONTRIBUTION TO ACHIEVEMENT OF UN SDGS

- Affordable and Clean Energy
  Ensure access to affordable, reliable, sustainable and modern energy for all

- Decent Work and Economic Growth
  Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

- Industry, Innovation and Infrastructure
  Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- Sustainable Cities and Communities
  Make cities and human settlements inclusive, safe, resilient and sustainable

MACROECONOMICS

Global economic activity is growing further. The global production volume grew by 3.7% in 2017, which is 0.5 percentage points more than in 2016. Unexpectedly rapid economic growth was observed in Europe and Asia. The global forecast for 2018 and 2019 increased by 0.2 percentage points to 3.9%. Such a revision reflects the higher pace of the global economy growth. In 2017, higher rates of economic growth, if compared to the previous year, were observed in some 120 countries making up three-fourths of the global GDP. That was the widest synchronized growth of the global economy since 2010.

The global trade ramps up owing to higher rates of investments growth, especially in the developed countries.

The current status of the Russian economy is assessed by analysts as steady, and the growth as “moderate”. The influence of the EU and US economic sanctions continued in 2017. The GDP index totaled 1.5%. The Russian economy growth rates are estimated on the same level of 1.5-2% in 2018.

Rosenergoatom is a Power Engineering Division of Rosatom, the only operator of all Russian NPPs.
ELECTRICITY AND CAPACITY MARKET

Contrary to many expectations of the 1950-60s when the first NPPs appeared, the nuclear power industry has not become the dominating energy source. At present, it only supplies 5% of the global energy consumption. In the period until 2040, all scenarios contemplate that the nuclear industry will grow faster than the energy consumption, enabling the industry to increase its share to 7%. Meanwhile, the nuclear power development trends will differ in developed and developing countries. The share of NPPs in power generation in the OECD member states is forecast to decrease from 17.9% in 2015 to 17.5-17.7% in 2040. The respective share outside the OECD will increase from 4.5% in 2015 to 7.9-8.1% in 2040 on the contrary.

In 2017, the global generating capacities of nuclear plants grew to 391 GW (power), the number of operating reactors totaled 448.

In terms of the number of reactors in operation, Russia takes the 5th place after France, USA, Japan and China (as of December 31, 2017). In terms of installed capacity of NPPs and the amount of operating power units Rosenergoatom holds the 2nd place in the world among leading global companies operating NPPs (1st place – EDF, France).

Nuclear capacities use from 2016 to 2040 by countries, most likely scenario:


WORLD’S TOP 5 COMPANIES (AS OF END OF 2017)

<table>
<thead>
<tr>
<th>No.</th>
<th>Operator Company</th>
<th>International Abbreviation</th>
<th>Country</th>
<th>Number of Units</th>
<th>Number of Sites</th>
<th>Installed Capacity, Net MW (Power)</th>
<th>Generation in 2016 GWh (Supply)</th>
<th>Generation in 2015 GWh (Supply)</th>
<th>Generation in 2014 GWh (Supply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Électricité de France</td>
<td>EDF</td>
<td>France</td>
<td>58</td>
<td>19</td>
<td>63,138 – 65,880</td>
<td>386,412.88</td>
<td>419,822.15</td>
<td>418,801.40</td>
</tr>
<tr>
<td>2</td>
<td>Rosenergoatom</td>
<td>REA</td>
<td>Russia</td>
<td>35+</td>
<td>10</td>
<td>26,111 – 27,000</td>
<td>181,460.81 (supply)</td>
<td>182,877.15 (supply)</td>
<td>179,214.80 (supply)</td>
</tr>
<tr>
<td>3</td>
<td>Korea Hydro and Nuclear Power</td>
<td>KHNP</td>
<td>South Korea</td>
<td>24+</td>
<td>6</td>
<td>22,901 – 23,719</td>
<td>151,455.4 (generation)</td>
<td>157,108.94 (generation)</td>
<td>169,918.23 (generation)</td>
</tr>
<tr>
<td>4</td>
<td>Exelon Corporation</td>
<td>Exelon</td>
<td>USA</td>
<td>22</td>
<td>13</td>
<td>22,092 – 22,912</td>
<td>186,475.71 (supply)</td>
<td>182,810.48 (supply)</td>
<td>182,151.68 (supply)</td>
</tr>
<tr>
<td>5</td>
<td>NNEGC Energoatom</td>
<td>NNEGC</td>
<td>Ukraine</td>
<td>15</td>
<td>4</td>
<td>13,107 – 15,835</td>
<td>76,977.79 (supply)</td>
<td>82,485.17 (supply)</td>
<td>83,122.78 (supply)</td>
</tr>
</tbody>
</table>

In terms of the number of reactors in operation, Russia takes the 5th place after France, USA, Japan and China (as of December 31, 2017). In terms of installed capacity of NPPs and the amount of operating power units Rosenergoatom holds the 2nd place in the world among leading global companies operating NPPs (1st place – EDF, France).

NPP power generation in world countries (left scale) and output in TWh (circle size), most likely scenario:

1. Hook-up of the Rostov NPP power unit No.3 on December 27, 2014, Beloyarsk NPP power unit No.4 on December 10, 2015, Novovoronezh NPP-2 power unit No.1 on August 5, 2016, final shut-down of the Novovoronezh NPP power unit No.3 on December 25, 2016. Power generation data of 2014 pertain to 34 units, 2015 – 35 units, 2016 – 36 units.
2. Shin-Wolsong NPP power unit No.2 commissioned in February 2015, Shin-Kori NPP power unit No.3 – in January 2016. The Kori-1 NPP power unit was finally shut down in June 2017.
power stations with the capacity exceeding 5 MW are embraced in the Russian UES power complex.

In 2017, the Russian UES power plants generated 1,053,861.9 mln kWh, including power output of captive power plants (0.5% increase versus 2016). Out of this amount, the annual power output by types of power plants was as follows:

FORECAST DEMAND FOR POWER IN RUSSIAN UES IN 2017-2023

Annual growth, %

- 0.3% 1.30% 1.28% 1.49% 0.89% 1.00% (1.00)% 0.00%

Unified Energy System of Russia, bln kWh

<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>2016</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td>27.905</td>
<td>282.90</td>
<td>1027.80</td>
<td>1101.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Including the energy system power output data according to the SO UPS press release (http://so-ups.ru/).
The actual revenue from electricity and capacity sales equaled 357,548.3 mln rubles in 2017. The actual revenue surpassed the planned level by 1,819.4 bln rubles (0.5%). A considerable growth of the revenue versus 2016 was stipulated by capacity supply two new power units in 2017: the Beloyarsk NPP No.4 and the Novovoronezh NPP-2. For further details refer to the Generating Capacities and Financial Stability sections.

Production and sales of heat to consumers are a separate line of the Company's business. NPPs produce heat in various carrier media: hot water, vapor, condensate, and sell it to consumers in the heat market in the cities where nuclear plants are located.

In 2017, the Company's revenue from the sale of heat totaled 1,315 bln rubles.

The heat market is fully regulated, the sales are performed at the tariffs set by municipal authorities. Rosenergoatom has developed and is implementing a program for centralization of heat distribution activities aimed at future introduction of the competitive heat market model. AtomteploSbyt, having relevant competences and a respective branch network in the cities where NPPs are located, was selected as the centralized heat distribution operator.
2.2 GENERATING CAPACITIES.
DEVELOPING GENERATING POTENTIAL

202.87
BLN KWH
Rosenergoatom traditionally set a record in power generation in 2017 – 202.87 bln kWh, which is 3.3% more than in 2016.

199.84
BLN KWH
the balance of the FTS for 2017 (minimum annual amount of power to be generated by Rosenergoatom). The planned level was surpassed by 3 bln kWh or 1.5%.

18.9%
is the share of Rosenergoatom NPPs in the total power generated in the Russian Federation (18.3% in 2016).

83.29% 85.36%
is the capacity factor of 2017 (83.13% in 2016). is the availability factor of 2017 (85.32% in 2016).

199.84
18.9%
83.29%
85.36%
BLN KWH
is the share of Rosenergoatom NPPs in the total power generated in the Russian Federation (18.3% in 2016).

MAIN FACTORS OF OUTPUT INCREASE IN 2017/2016:

• Decreased aggregate duration of scheduled repairs at NPP power units (optimized repairs duration in 2017 – 168.5 days if compared to the FAS balance);

• Power generation at the Beloyarsk NPP power unit No.4 (commissioned on October 31, 2016);

• Power generation at the Novovoronezh NPP-2 power unit No.1 (commissioned on February 27, 2017);

• Slippage of in-vessel storage operations at the Kursk NPP power unit No.3.

POWER GENERATION BY NPPS OF RUSSIA, BLN KWH

CAPACITY FACTOR, %

DIAGRAM OF RUSSIAN NPPS LOADING IN 2017 (AS OF JANUARY 1, 2018), MW

Russian NPPs set an absolute all-time record in the Russian nuclear industry, having approached to the absolute output record reached by nuclear power plants of the Soviet Union in 1989 (212.58 bln kWh, including nuclear plants of Ukraine, Lithuania and Armenia).
Technological Leadership and Innovations

Rosenergoatom Annual report 2017

Balakovo NPP

31,995.3 MLN KWH
power generation in 2017

758.8 BLN KWH
were generated by the Balakovo NPP (from the power unit No.1 start-up date).

95.2% GENERATION VS 2016
383.6% RUSSIAN FAS BALANCE TARGET ACHIEVEMENT
91.31% CAPACITY FACTOR

15.8% of the Company's total power output were produced by the Balakovo NPP in 2017.

3,302 PERSONS
employed

According to the results of 2017 – Year of Ecology in Russia – the Balakovo NPP was named as the Russian Environmental Protection Leader for the 10th time and was one of the winners of the traditional contest for the Nuclear Industry Organization of Environmental Excellence.

Operating Performance of Balakovo NPP in 2017

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>28.12.1985</td>
</tr>
<tr>
<td>2</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>08.10.1987</td>
</tr>
<tr>
<td>3</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>24.12.1988</td>
</tr>
<tr>
<td>4</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>11.04.1993</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW
4,000
**BELOYARSK NPP**

10,201.9 MLN KWH

Power generation

187.7 BLN KWH

were generated by the Beloyarsk NPP (from the power unit No.1 start-up date).

5.0% of the Company’s total power output were produced by the Beloyarsk NPP!

2,518 PERSONS

employed.

121.5% GENERATION VS 2016

207.7% RUSSIAN FAS BALANCE TARGET ACHIEVEMENT

78.42% CAPACITY FACTOR

---

**OPERATING PERFORMANCE OF BELOYARSK NPP IN 2017**

**SVEROLOVSK OBLAST**

“...The Beloyarsk NPP is important for the industry in terms of economic return and fast reactor mathematics. Here, in the Sverdlovsk land, we have a serious growth point – not only in technology, but in creating the offers that will maintain our leadership in the global nuclear industry in the coming decades.”

ALEXEY LIKHACHEV,
CEO of Rosatom State Corporation

---

**OPERATING POWER UNITS AT BELOYARSK NPP**

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>BN-600</td>
<td>600</td>
<td>08.04.1980</td>
</tr>
<tr>
<td>4</td>
<td>BN-800</td>
<td>885</td>
<td>10.12.2015</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW

1,485
BILIBINO NPP

226.1 MLN KWH
power generation

In 2009, the Bilibino NPP shared the first place in the Best NPP in Safety Culture contest with the Balakovo NPP.

OPERATING PERFORMANCE OF BILIBINO NPP IN 2017

10.09 BLN KWH
were generated by the Bilibino NPP (from the power unit No.1 start-up date).

0.11% of the Company’s total power output were produced by the Bilibino NPP.

700 PERSONS
employed.

AVAILABILITY RATIO
81.63%

GENERATION VS 2016
102.3%

RUSSIAN FAS BALANCE TARGET ACHIEVEMENT
118.8%

CAPACITY FACTOR
53.77%

OPERATING POWER UNITS AT BILIBINO NPP

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 EGP-6</td>
<td>12</td>
<td>12.01.1974</td>
</tr>
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<td>2</td>
<td>2 EGP-6</td>
<td>12</td>
<td>30.12.1974</td>
</tr>
<tr>
<td>3</td>
<td>3 EGP-6</td>
<td>12</td>
<td>22.12.1975</td>
</tr>
<tr>
<td>4</td>
<td>4 EGP-6</td>
<td>12</td>
<td>27.12.1976</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW
48
KALININ NPP

32,672.4 MLN KWH
power generation

568.9 BLN KWH
were generated by the Kalinin NPP
(from the power unit No.1 start-up
date).

16.1% of the Company’s total power output were produced by the Kalinin NPP.

3,238 PERSONS
employed.

120.3% GENERATION VS 2016

300.4% RUSSIAN FAS BALANCE TARGET ACHIEVEMENT

93.24% CAPACITY FACTOR

OPERATING PERFORMANCE OF KALININ NPP IN 2017

TVER OBLAST
In 2017, the Kalinin NPP produced more power than any other nuclear plant in Russia.

OPERATING POWER UNITS AT KALININ NPP

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>09.05.1984</td>
</tr>
<tr>
<td>2</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>11.12.1986</td>
</tr>
<tr>
<td>3</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>16.12.2004</td>
</tr>
<tr>
<td>4</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>24.11.2011</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW
4,000
KOLA NPP

10,152.4 MLN KWH

power generation

OPERATING PERFORMANCE OF KOLA NPP IN 2017

409.3 BLN KWH were generated by the Kola NPP (from the power unit No.1 start-up date)

83.84% AVAILABILITY RATIO

103.2% GENERATION VS 2016

99.5% RUSSIAN FAS BALANCE TARGET ACHIEVEMENT

65.85% CAPACITY FACTOR

5.0% of the Company’s total power output were produced by the Kola NPP

2,101 PERSONS employed.

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VVER-440</td>
<td>440</td>
<td>29.06.1973</td>
</tr>
<tr>
<td>2</td>
<td>VVER-440</td>
<td>440</td>
<td>09.12.1974</td>
</tr>
<tr>
<td>3</td>
<td>VVER-440</td>
<td>440</td>
<td>24.03.1981</td>
</tr>
<tr>
<td>4</td>
<td>VVER-440</td>
<td>440</td>
<td>11.10.1984</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW: 1,760

KOLA PENINSULA

The Kola NPP is the first nuclear power plant of Russia built beyond the Arctic Circle.

MURMANSK
170 km

POLYARNYE ZORI
11 km

GENERATION VS 2016

RUSSIAN FAS BALANCE TARGET ACHIEVEMENT

CAPACITY FACTOR
KURSK NPP

28,631.8 MLN KWH
power generation

887.7 BLN KWH
were generated by the Kursk NPP (from the power unit No.1 start-up date).

14.1% of the Company's total power output were produced by the Kursk NPP.

4,158 PERSONS employed.

KURSK OBLAST

The Kursk NPP was among Russia’s three most efficient nuclear plants in 2017.

OPERATING PERFORMANCE OF KURSK NPP IN 2017

887.7
BLN KWH
GENERATION VS 2016
104.2%
130.6%
RUSSIAN FAS BALANCE TARGET ACHIEVEMENT
81.71%
CAPACITY FACTOR

OPERATING POWER UNITS AT KURSK NPP

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>12.12.1976</td>
</tr>
<tr>
<td>2</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>28.01.1979</td>
</tr>
<tr>
<td>3</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>17.10.1983</td>
</tr>
<tr>
<td>4</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>02.12.1985</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW
4,000
LENINGRAD NPP

26,751.9

MLN KWH

power generation

LENINGRAD OBLAST

On December 7, 2017, first criticality started at the Leningrad NPP-2 power unit No.1 of the new Generation III+

LENINGRAD NPP

26,751.9

MLN KWH

power generation

LENINGRAD NPP

26,751.9

MLN KWH

power generation

OPERATING PERFORMANCE OF LENINGRAD NPP IN 2017

998.3 BLN KWH

were generated by the Leningrad NPP (from the power unit No.1 start-up date).

13.2% of the Company's total power output were produced by the Leningrad NPP.

5,652 PERSONS employed.

94.6% GENERATION VS 2016

99.7% RUSSIAN FAS BALANCE TARGET ACHIEVEMENT

76.35% CAPACITY FACTOR

OPERATING POWER UNITS AT LENINGRAD NPP

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>21.12.1973</td>
</tr>
<tr>
<td>2</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>11.07.1975</td>
</tr>
<tr>
<td>3</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>07.12.1979</td>
</tr>
<tr>
<td>4</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>09.12.1981</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW: 4,000

* VVER-1200 Power Unit No.1 at Leningrad NPP-2 (under construction). First criticality was started in 2017.

** VVER-1200 Power Unit No.2 at Leningrad NPP-2 (under construction).
NOVOVORONEZH NPP

16,514.5 MLN KWH

Power generation (including 6,123.9 mln kWh were generated by Novovoronezh NPP-2 power unit No.1)

8.1% of the Company's total power output were produced by the Novovoronezh NPP.

3,898 PERSONS employed.

544.1 BLN KWH were generated by the Novovoronezh NPP (from the power unit No.1 start-up date).

120.3% GENERATION VS 2016

300.4% RUSSIAN FAS BALANCE TARGET ACHIEVEMENT

93.24% CAPACITY FACTOR

OPERATING PERFORMANCE OF NOVOVORONEZH NPP IN 2017

VORONEZH OBLAST

At present, 3 power units are in operation: No. 4 (VVER-440), No.5 (VVER-1000), and the Novovoronezh NPP-2 power unit No.1 (VVER-1200 reactor put into commercial operation in February 2017).

OPERATING POWER UNITS AT NOVOVORONEZH NPP

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>31.05.1980</td>
</tr>
<tr>
<td>6**</td>
<td>VVER-1200</td>
<td>1,180.3</td>
<td>05.08.2017</td>
</tr>
</tbody>
</table>

Aggregate installed capacity in 2017, MW: 2,597.3

** Novovoronezh NPP-2 power unit No.1

* VVER-1200 Power Unit at Novovoronezh NPP-2 is under construction.
ROSTOV NPP

23,177.7 MLN KWH
power generation

OPERATING PERFORMANCE OF ROSTOV NPP IN 2017

- 210.6 BLN KWH generated by the Rostov NPP (since the beginning of operation).
- 11.4% of the Company’s total power output were produced by the Rostov NPP.
- 2,933 PERSONS employed.

ROSTOV OBLAST

First criticality was started at the new power unit No.4 (VVER-1000 reactor) on December 6, 2017.

Since 2001, the power plant has become the four times winner of the industry-level contest in the safety culture area, including the year of 2017 (together with the Beloyarsk NPP).

OPERATING POWER UNITS AT ROSTOV NPP

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>30.03.2001</td>
</tr>
<tr>
<td>2</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>18.03.2010</td>
</tr>
<tr>
<td>3</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>27.12.2014</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW: 3,000

* First criticality was started at the new power unit No.4 (VVER-1000 reactor) on December 6, 2017.
SMOŁENSK NPP

22,544.6

MLN KWH

power generation

In 2017, the Smolensk NPP became the Company’s organization of environmental excellence by winning the nation-wide Health and Safety contest held under the auspices of the Russian Federation Ministry of Labor and Social Protection.

OPERATING PERFORMANCE OF SMOŁENSK NPP IN 2017

639.2

BLN KWH

were generated by the Smolensk NPP (from the power unit No.1 start-up date).

11.1%

of the Company’s total power output were produced by the the Smolensk NPP!

3,622

PERSONS

employed.

101.0%

GENERATION VS 2016

97.7%

RUSSIAN FAS BALANCE TARGET ACHIEVEMENT

85.79%

CAPACITY FACTOR

SMOŁENSK OBLAST

OPERATING POWER UNITS AT SMOŁENSK NPP

<table>
<thead>
<tr>
<th>Power Unit Number</th>
<th>Reactor Type</th>
<th>Installed Capacity, MW</th>
<th>Start-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>09.12.1982</td>
</tr>
<tr>
<td>2</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>31.05.1985</td>
</tr>
<tr>
<td>3</td>
<td>RBMK-1000</td>
<td>1,000</td>
<td>17.01.1990</td>
</tr>
</tbody>
</table>

Aggregate installed capacity, MW: 3,000
**NEW POWER UNITS CONSTRUCTION**

Pursuant to the Russian Energy Strategy until 2030, and the General Allocation Pattern for Russian Energy Facilities until 2035, a strategic goal of Rosenergoatom is to provide for an increase in the share of nuclear power in the national energy balance while ensuring the necessary safety level, by means of building new power units of NPPs, inter alia.

In 2017, 8 power units of NPPs and a floating nuclear power plant (FNPP) were under construction.

General contractors: Atomstroyexport, Atomenergoproekt, Concern Titan-2 (engineering procurement construction). General contractors and contractors were selected in accordance with the requirements of the Unified Industry-Level Standard for Procurement of Rosatom State Corporation.

1. As of December 31, 2017. Two power units were started up in 2018 – the Rostov NPP power unit No.4 and the Leningrad NPP-2 power unit No.1.

2. For information related to the quality of equipment supplied to the Company’s NPPs see Section 4.6 – Quality Assurance.

### RESULTS ACHIEVED IN CONSTRUCTION OF NEW NPP POWER UNITS IN 2017

<table>
<thead>
<tr>
<th>No.</th>
<th>NPP Name</th>
<th>Power Unit Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Novovoronezh NPP-2, power unit No.2, VVER-1200</td>
<td>The power unit was supplied with auxiliary voltage. The sub-stage of equipment start-up and commissioning, testing and proofing started. Process systems are being prepared to testing with the unsealed reactor.</td>
</tr>
<tr>
<td>2.</td>
<td>Leningrad NPP-2, power unit No.1, VVER-1200</td>
<td>First criticality started at the unit</td>
</tr>
<tr>
<td>3.</td>
<td>Leningrad NPP-2, power unit No.2, VVER-1200</td>
<td>Reactor facility equipment was installed to proper locations using the open top technology. Concrete embedding of the reactor building was completed at mark 26. The generator stator was installed in a proper location.</td>
</tr>
<tr>
<td>4.</td>
<td>Rostov NPP power unit No.4, VVER-1200</td>
<td>First criticality started at the unit</td>
</tr>
<tr>
<td>5.</td>
<td>Baltic NPP power unit No.1, VVER-1200</td>
<td>Funds were earmarked to pay out interest on the loan, to support the capital construction directorate, land lease and maintenance of ASE (former NIAEP) site.</td>
</tr>
<tr>
<td>6.</td>
<td>Baltic NPP power unit No.2, VVER-TOI</td>
<td>Soil was replaced and artificial infrastructure was created for the power unit facilities. Reinforcing of the reactor building underframe started.</td>
</tr>
<tr>
<td>7.</td>
<td>Kursk NPP-2 power unit No.1, VVER-TOI</td>
<td>Preparatory operations are underway.</td>
</tr>
<tr>
<td>8.</td>
<td>Kursk NPP-2 power unit No.2, VVER-TOI</td>
<td>Preparatory operations are underway.</td>
</tr>
</tbody>
</table>
Construction and commissioning of the nuclear industry facilities, including NPP power units, creates new jobs: a number of employees are hired from among local inhabitants within a 160-km radius from the construction site. This results in the creation of new jobs: a number of employees are hired from among local inhabitants within a 160-km radius from the construction site. In addition, each job at the NPP construction site actually promotes creation of another 10-12 jobs in adjacent sectors of economy (metallurgy, machine building, etc.).

MODERNIZATION AND SERVICE LIFE EXTENSION OF POWER UNITS

NPPs upgrade management is based on the industry-level regulatory documents, and implementation of long-term, medium-term, and annual (current) operations planning procedures. The target-oriented work planned for 2017 in order to upgrade NPPs was fully completed and made a considerable contribution to improving safety, reliability and cost-effectiveness of further operation of upgraded NPP power units.

AMONG THE CORE AREAS OF UPGRADE EFFORTS ARE:

- Support of NPP power unit safety in accordance with the requirements of standards and rules in the area of nuclear power use;
- Compliance with the terms and conditions of licenses for power unit operation;
- Compliance with post-Fukushima safety requirements;
- Execution of industry-level programs for enhancing NPP safety by means of upgrade of main reactor turbine, electrical, measurement and control equipment, process systems, control and protection systems, personnel training simulators, and communications equipment, among other things;
- Replacement of exhausted NPP equipment items with the modern ones in order to increase reliability and extend mean time between repairs;
- Improving safety and reliability of operation of systems and equipment involved in handling spent nuclear fuel and radioactive waste at existing NPPs;
- Implementation of systems for diagnostics and monitoring of operating condition of heating, mechanical and electrical equipment of NPPs;
- Implementation of modern energy efficient processes and equipment;
- Optimization of processes in order to improve energy efficiency of NPP power units operation;
- Implementation of automated NPP energy efficiency management systems;
- Renovation and modernization of worn out and obsolete equipment of auxiliary industrial facilities that ensure proper operation of NPPs.

HEAT CAPACITY INCREASE AT POWER UNITS

A permit of Rosatom was received in 2017 to increase the heat output to 104% of the nominal value in the pilot operation mode for the Rosatom NPP power unit No. 3, and in the commercial operation mode for the Kalinin NPP power units No. 1 and No. 2.

So far all 11 power units of VVER-100 type participating in the program for installed capacity increase have obtained permits for operation at 104% of the nominal capacity level.

SERVICE LIFE EXTENSION FOR EXISTING NPP POWER UNITS

Service life extension (SLE) for existing NPP power units is one of the Company’s priorities aimed to maintain generating capacities and increase NPP safety.

STAGES OF EXISTING NPP POWER UNITS UPGRADE

STAGE 1

A series of operations aimed at assessing the technical capability, safety and feasibility of SLE Stage 1 beginning – 10 years before the power unit design service life expiry.

STAGE RESULT

5 years before the power unit service life expiry, an investment project for SLE is developed and a decision is made to prepare the power unit for life extension.

STAGE 2

Implementation of the program on the unit preparation for extended service life, including large-scale upgrade, and improvement of the safety level in line with the up-to-date global standards and IAEA recommendations.
NPP GENERATING CAPACITY PRESERVATION DUE TO SERVICE LIFE EXTENSION, CAPACITY, MW

PLANS FOR SLE AT POWER UNITS EXPIRING BETWEEN 2018 AND 2023

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Reactor Type</th>
<th>Commissioning Year</th>
<th>Design Service Life Expiry, Year</th>
<th>Planned Expiry of Additional Service Life, Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balakovo NPP</td>
<td>3</td>
<td>VVER-1000</td>
<td>1998</td>
<td>2018</td>
<td>2048</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>VVER-1000</td>
<td>2003</td>
<td>2023</td>
<td>2053</td>
</tr>
<tr>
<td>Smolensk NPP</td>
<td>3</td>
<td>RBMK-1000</td>
<td>1998</td>
<td>2019</td>
<td>2034</td>
</tr>
</tbody>
</table>

PLANS FOR SLE (UP TO 60 YEARS) AT POWER UNITS WITH FIRST EXTENDED SERVICE LIFE EXPIRING BETWEEN 2017 AND 2019

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Reactor Type</th>
<th>Commissioning Year</th>
<th>First Extended Service Life Expiry, Year</th>
<th>Planned Year of Second Extended Service Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novovoronezh NPP</td>
<td>4</td>
<td>VVER-440</td>
<td>1972</td>
<td>2002</td>
<td>2017</td>
</tr>
<tr>
<td>Kola NPP</td>
<td>1</td>
<td>VVER-440</td>
<td>1977</td>
<td>2007</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VVER-440</td>
<td>1974</td>
<td>2004</td>
<td>2019</td>
</tr>
</tbody>
</table>

In 2017, the operations were carried out in compliance with the Programs of Measures for Ensuring NPPs Decommissioning approved by Rosatom State Corporation, and the Federal Target Program for Ensuring Nuclear and Radiation Safety in 2016-2020 and until 2030 stipulating, inter alia, that the Beloyarsk NPP power units No.1 and No.2, Billino NPP power units Nos.1-4 and first-generation NPP power units with VVER-440 and RBMK-1000 reactors were prepared for decommissioning.

NPP POWER UNITS DECOMMISSIONING

Rosenergoatom is decommissioning the Novovoronezh NPP power units No.1 and No.2. The Beloyarsk NPP power units No.1 and No.2, and the Novovoronezh NPP power unit No.3 will be finally shut down for preparation to decommissioning.

Decommissioning operations are carried out by the Company’s specialized branch – Pilot and Demonstration Engineering Center. Pursuant to the existing Rostekhnadzor license and in accordance with the project for decommissioning in 2017, the decommissioning operations continued at the Novovoronezh NPP power units No.1 and No.2.

Reference experience was obtained in disassembly and fragmentation of Circuit 1 equipment.

A complex for plasma treatment of RAW was put into commercial operation.

Target indicators of 2017 were achieved, particularly:

- LRW treated in the amount of 337.3 m³;
- SRW treated in the amount of 1,303 m³;
- Equipment and construction structures disassembled (691 t);
- Metal structures deactivated (421.5 t);
- 45 non-return protective containers were sent for long-term storage.
FINAL SHUTDOWN OF POWER UNITS FOR DECOMMISSIONING

In 2017, three power units shut down for decommissioning were in operation without generation: the Beloyarsk NPP power units No.1 and No.2, and the Novovoronezh NPP power unit No.3. Two power units – No.1 of the Leningrad NPP and No.2 of the Billbins NPP – were prepared for final shut-down scheduled for 2018.

MAINTENANCE CAMPAIGN RESULTS

The goal of the Company’s maintenance operations strategy is to support the working capacity of NPP systems and equipment in order to ensure safe, reliable and cost-effective operation of nuclear plants in accordance with the standards and rules applicable to the nuclear power industry.

Pursuant to the concept endorsed by the operator and the IAEA technical documents, NPP equipment maintenance is based on scheduled (preventive) maintenance and on-condition maintenance. As part of the maintenance operations campaign implementation in 2017, the annual schedule of Russian NPPs maintenance for 2018 was developed and approved. With a view to improve the quality of long-term planning of NPP maintenance and repair, Rosenergoatom developed a ten-year schedule of Russian NPP units maintenance for 2019-2028.

Optimization of maintenance duration by 168.5 days in total became possible due to the following:

- Targeted search and removal of downtimes during scheduled repairs as a part of Rosatom production system development
- Conservative approach to preparation of power unit repair schedules, allowing for time margin to remove possible defects;
- Absence of defects that may affect the duration of the critical path of repairs.

168.5 days was the total optimization of maintenance duration in 2017.

CASE STUDY

In 2017, Rosenergoatom prioritized the strategy of transfer from the concept of delayed disassembly of power units to immediate disassembly. At present, immediate disassembly is the most effective and the cheapest option if compared to delayed disassembly – the cost is 20% lower. This option is approximately 4 times shorter (some 15 years) instead of 60-70 years in case of delayed disassembly. Thus, the concept implementation will not only cut down the cost of NPP units decommissioning operations, but to avoid shifting the burden of decommissioning expenses on future generations.

ROSMON Production System (RPS) IMPLEMENTATION

In order to fulfill the business indicators set before Rosenergoatom by Rosatom State Corporation, and gradually increase the efficiency of activities and further development of the Power Engineering Division of the State Corporation, a three-year Program for Rosatom Production System (hereinafter – RPS) Development by Power Engineering Division in 2017-2019 was compiled.

PROGRAM FOR RPS DEVELOPMENT BY POWER ENGINEERING DIVISION IN 2017-2019:

- Management involvement on the level of the Division and its enterprises into the process of constant streamlining;
- Methodological support of the RPS deployment in the Division;
- RPS projects implementation in the organizations of the Division;
- Replication of best practices and exchange in accumulated experience during the RPS deployment.

The Policy for Organization of Rosatom Production System in Power Engineering Division was approved with a view to organize a systematic approach to the RPS development. Implementation of the personal RPS project of Rosenergoatom CEO – Power Engineering Division Transformation into RPS Division – continued in 2017.

All branches and subsidiaries of Rosenergoatom included into the Division-level RPS deployment program (over 60 production sites) confirmed achievement of the RPS deployment indicators and compliance with the status of a RPS Enterprise.

RPS TRAINING

It was planned to arrange for 12,867 pers./courses in this area of training in 2017. This demand was supplied by 105% by efforts of the Division-level trainers, Rosatom Corporate Academy, and by means of distance learning. 25 persons passed certification as internal trainers at the Corporate Academy. At present, there are 56 experts who perform training in RPS at the Division.

IMPROVEMENT PROPOSALS

Think Tanks started their activities at all NPPs of Rosenergoatom in 2017. In accordance with the results of 2017, the Think Tank system registered 3,596 implemented improvement proposals.

DIVISION-LEVEL CONTEST OF RPS PROJECTS AND IMPROVEMENT PROPOSALS

The first contest for the best RPS projects and improvement proposals was held in 2017 among the Division employees. More than 90 RPS projects and over 150 improvement proposals were contesting. In accordance with the assessment results, 16 best RPS projects and 26 proposals were selected.

PRIORITIZED RPS PROJECTS

In 2017, the Company’s top managers initiated 35 prioritized RPS projects aimed at achieving the target performance indicators of Rosenergoatom. 19 projects were completed, implementation of 16 RPS projects will be continued in 2018. In 2017, their implementation resulted in the total reduction of lead time by 714 days, additional output of 3,651.75 mln kWh, and the decrease of inventory turnover to 39.9 days.

CASE STUDY: MAINTENANCE CAMPAIGN

The innovative solutions introduced during the scheduled maintenance at the Balakovo NPP units in 2017 enabled reduction of the total duration by 22.9 days. This exceeded 500 mln rubles of additional profit in money terms. Maintenance and upgrade operations optimizing solutions were introduced as part of the Rosatom Production System. Only the fourth power unit was subject to a record high number of upgrade operations – almost equipment was renewed in the turbine island, improvements were made in the reactor building as well.
SS SYSTEM

In 2017, the Procedural Recommendations for Organization of Workplaces in Compliance with SS System (system for jobs organization and rationalization) in Rosenergoatom was updated, the third audit was held at the headquarters by NPP personnel in accordance with the SS System. Subsidiary companies continued work to implement the SS System in 2017.

COST OPTIMIZATION PROGRAM (COP)

Rosatom divisions, including the Power Engineering Division, launched the Cost Optimization program (COP) in 2016. The Program is aimed at cutting down the costs without compromising safety and operational needs: business trips, transportation, rental and others. Considerable success was attained in centralized divisional purchases in the reporting period.

60 MLN RUBLES

The Division cut down the operational expenses in the IT sector by 60 mln rubles in total in 2017.

by 80%

mobile communications tariffs were reduced. The number of direct phone lines and communication channels was optimized.

26 MLN RUBLES

were saved in purchases of computing hardware.

ENERGY SAVING AND ENERGY EFFICIENCY ENHANCEMENT

In 2017, Rosenergoatom successfully achieved the target cost saving indicator due to the saving of energy resources in the conditions comparable to those of the reference year of 2015. This indicator reached 2.92% in 2017. In the comparable conditions of power and water allocation averaged 2.53% (279,997 thousand kWh) and 1.34% (86,060 thousand m³) respectively, with heat consumption increased by 2.42% (30.11 thousand Gcal) in 2017.

Energy resource saving became possible owing to the actions taken to reduce consumption, energy resource losses, increase energy efficiency of production processes, and boost power output.

Auxiliary power consumption totaled 5.52% in 2017 (6.48% in 2016).

The consolidated energy saving and energy efficiency improvement program for 2017-2021 was implemented in the scope scheduled for 2017 – 1.23 bln rubles. As part of the program execution, work was continued to upgrade thermal and mechanical equipment, implement energy resource accounting systems, improve lighting systems using LED lights, reduce heat losses in heat supply systems, and replace obsolete thermal insulation.

Work continued to upgrade the high pressure cylinder, high pressure and intermediate pressure cylinder of turbines, replace circulation pumps, clean turbine condensers of sediments, modernize automatic regulation and control devices at several NPPs with a view to boost the operational safety of main equipment, the energy efficiency of operating power units due to the increase of the turbines efficiency factors; decrease of the number and duration of repairs.

Work was performed to substantiate the increase in VVER-1000 power units capacity to 107% of the nominal value in order to step up the power output in 2017.

According to the results of surveillance audit, compliance of the Company’s energy management system with the ISO 50001:2011 international standard was confirmed.

ENERGY RESOURCE CONSUMPTION IN 2017

<table>
<thead>
<tr>
<th>Item</th>
<th>In Kind</th>
<th>Thousand Rubles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear power (used as a fuel), FA, pcs</td>
<td>4,827</td>
<td>1</td>
</tr>
<tr>
<td>Automotive gasoline, t</td>
<td>501</td>
<td>24,526</td>
</tr>
<tr>
<td>Diesel fuel, t</td>
<td>7,863</td>
<td>322,720</td>
</tr>
<tr>
<td>Fuel oil, t</td>
<td>14,711</td>
<td>185,948</td>
</tr>
<tr>
<td>Gas (natural), m³</td>
<td>2,168,971</td>
<td>21,206</td>
</tr>
<tr>
<td>Oil, carbon, peat, shale oil</td>
<td>Not purchased</td>
<td></td>
</tr>
</tbody>
</table>

/CASE STUDY/
Rosenergoatom joined the nation-wide #BrighterTogether action to support a careful attitude to energy resources. The declaration states the necessity of a careful attitude energy resources, nature, development of modern energy efficiency technologies allowing for improvement of competitive ability of the national economy.

1. The information constitutes commercial secret.
2.3 ENSURING SAFETY OF RUSSIAN NPPS

SAFETY IS AN UTMOST PRIORITY OF ROSENERGOATOM AS THE OPERATING COMPANY. THE COMPANY’S BRANCHES HAVE BEEN DEMONSTRATING FAILSAFE AND SECURE OPERATION IN EVERY ASPECT OF ACTIVITY DURING THE WHOLE LIFE CYCLE.

Rosenergoatom performs its activities related to providing consumers with power and heat produced by the Company’s nuclear power plants with guaranteed safety as its top business priority. The Company consistently and purposefully discharges the obligations arising from the Convention on Nuclear Safety, accounts for the recommendations of the International Atomic Energy Agency (IAEA) safety regulations and guidelines, as well as the Basic Safety Principles for Nuclear Power Plants, and the Safety Culture.

The Company participates in international cooperation under the auspices of the IAEA in line with the Unified Industry-Specific Interaction Procedure for Rosatom State Corporation and its Organizations with IAEA.

RESULTS OF 2017

The operating NPPs safety status in 2017 had positive trends if compared to 2016.

<table>
<thead>
<tr>
<th>NPP</th>
<th>Incidents</th>
<th>Unplanned Automatic Scrams</th>
<th>Critical</th>
<th>Injuries (Number)</th>
<th>Fires/Ignitions (Number)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0</td>
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<tr>
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<tr>
<td>Total</td>
<td>46</td>
<td>201</td>
<td>33</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

THERE WERE NO

- Incidents accompanied by radiation consequences (Regulation NP-004-08), nuclear materials and radioactive substances loss
- Injuries and incidents at the registered hazardous production facilities of the Company
- Malfunctions of safety systems elements that could lead to safety functions loss
- Events classified as INES Level 1

THERE WERE

- 3 unplanned automatic reactor scrams critical
- 2 at the Novovoronezh NPP-2 power unit
- No.1 low power testing stage
- 2 accidents (Kola NPP)
- 1 ignition (Leningrad NPP)
- 1 event INES Level 1 at the Novovoronezh NPP-2 power unit No.1
- 36 deviations in NPP operations classified as INES Level 0 / Below Scale
- Among them:
  - 33 at power units in commercial operation,
  - 3 at the Novovoronezh NPP-2 power unit No.1 at the low power testing stage
- There were 65 deviations in 2016

UNPLANNED AUTOMATIC SCRAMS PER 7,000 HOURS

CHANGES IN UNPLANNED AUTOMATIC SCRAMS BETWEEN 2011 AND 2017

1. Power units under low power testing.
2. Events associated with low power testing of power units at the stage of their commissioning.
Rosenergoatom Concern JSC Results of 2017

SAFETY STATUS

Rosenergoatom takes a series of internal and external measures confirming the compliance with Russian and international requirements for nuclear power plant safety.

The OSART mission was held at the Leningrad NPP in November 2017. The mission decided that the operating condition at the moment was in full compliance with the IAEA safety requirements (the mission did not make any recommendations, it gave 7 proposals and 4 good practice examples). Preparations are underway for the corporate OSART mission in Rosenergoatom in 2018 and the OSART mission at the Kalinin NPP in 2019.

As part of cooperation with the IAEA, 33 international events were held at the Company’s Headquarters and branches, and Rosenergoatom employees participated in 23 IAEA events abroad in 2017.

NPPs are internally inspected according to the annual action plan, NPP inspection schedule, management instructions of Rosenergoatom and Rosatom State Corporation.

42 scheduled process audits and safety inspections were held in 2017 at the existing NPPs and those under construction by the Company’s commissions. In accordance with the inspection results, improvement measures have been developed, their progress is under control and supervision.

The operating NPPs safety condition was assessed as suitable, with corrective actions needed and expedient in several functional areas at certain NPPs, and on the corporate level.

INCREASING SAFETY AND STABILITY OF NPPS AGAINST EXTREME EXTERNAL IMPACTS

In connection with the events occurred in Japan which caused the accident at the Fukushima NPP Rosenergoatom has analyzed possible accident development scenarios at Russian nuclear power plants against extreme external impacts, determining activities aimed at mitigating consequences and reducing the impact on population and environment in case of severe off-design accident. All activities scheduled for 2017 were completed.

Each year the Company updates its activities according to the results achieved in the previous period.

SAFETY CULTURE

The safety culture is a set of characteristics and peculiarities of the organizations’ activities and behavior of individual persons, which stipulates that NPP safety as a top priority is in the focus required by its importance (NP-001-15).

Safety culture is a cornerstone principle of NPP safety management. In accordance with the results of the cutoff safety culture day held in 2017, the Beloyarsk and Rostov NPPs were named as the most successful power plants in terms of the safety culture development in the reporting period.

Meanwhile, the average (per 7,000 hours of operation) number of critical reactor scrams (WANO indicator) for Russian NPPs remains considerably lower than that for other nuclear power plants worldwide.

FIRE SAFETY

In 2017, Rosenergoatom paid much effort to ensure and increase fire safety at nuclear plants, namely:

\- Implementing the Action Plan for Improving Fire Safety at Operating NPPs in 2013-2017;
\- Checking up and assessing the fire safety status of NPPs during comprehensive and ad-hoc inspections of the operating NPPs (9 inspections), and during NPP units construction (14 inspections);
\- Developing the measures to increase efficiency of fire safety control at the NPPs under construction;
\- Enabling the Program for Improving Fire Safety and Upgrading Fire Fighting Systems at NPPs in 2018-2022;
\- Target Program for Equipment and Re-Equipment of Facility-Based Structural Units of State Fire Service for NPPs Protection in 2016-2018 was completed by 90% (as of January 1, 2018);
\- Ensuring the implementation of the Plan for Enhancing Fire Safety for Rosenergoatom NPPs under Construction and Improving Efficiency of Control over Fire Safety;
\- Implementing and supervising preparations for the spring-summer and autumn-winter fire hazard periods at all NPPs;
\- Developing, manufacturing and deploying innovative types of special-purpose fire-fighting equipment for extinguishing of fires at NPP facilities (including a fire vehicle with a compression technique of fire fighting and a mobile robotized unit for fire fighting in the event of hazardous fire factors, radia-

The level of performance of fire-fighting activities associated with rectification of points of criticisms indicated by the state fire supervision authority is 100%.
Rosenergoatom pays great attention to industrial safety of NPP Hazardous Production Facilities (HPFs).

As of the end of 2017, 75 HPFs were registered with the departmental (industry-specific) section of the state register of hazardous production facilities according to the Federal Law on Industrial Safety of Hazardous Production Facilities. All these HPFs were insured pursuant to the Federal Law on Compulsory Civil Liability Insurance for Owners of a Hazardous Facility for Causes of Consequences of Accidents and Incidents at Production Facilities and at Providing Due Safety at Work. HPFs were insured pursuant to the Federal Law on Industrial Safety Declarations were prepared pursuant to regulatory requirements for hazardous production facilities of 1st and 2nd hazard classes in compliance. Rosenergoatom employees involved in operation of HPFs undergo training and certification on the matters of industrial safety in the appropriate committees of Rostekhnadzor, the Company’s Headquarters, and NPPs.

Rosenergoatom has the industrial safety management system in place in order to prevent industrial accidents and incidents, as well as in order to plan and implement priority and long-term measures aimed at increasing industrial safety of hazardous production facilities and at providing due training for the Company’s personnel making them ready to containment and elimination of consequences of accidents and incidents at HPFs.

EMERGENCY PREPAREDNESS AND RESPONSE

Rosenergoatom has created and currently operates the Emergency Prevention and Response System (EPRS). The system is used to plan, ensure preparedness, and conduct activities aimed at protecting personnel and nuclear power plant premises against emergency situations, both natural and man-made.

Among the measures aimed at improving the NPP safety (in case of simultaneous accidents at several power units of a monoblock NPP inter alia) and taken in 2017 after analysis of the Fukushima-Daiichi NPP accident, Rosenergoatom implemented the measures targeted at raising the efficiency of emergency planning and response.

A special focus of emergency preparedness is placed on regular personnel training at power plants related to natural and man-induced accidents response.

Comprehensive emergency response drill (CERD-2017) aimed at coordination and interaction among forces and facilities involved in emergency response at NPPs were held at the Rostov NPP in accordance with the most realistic scenario of a real accident. Among the participants of CERD-2017 were: the nuclear power plant emergency response (NPPER) team, emergency center of Rosatom State Corporation, local authorities, Russian Emercom, and Defense Ministry. The drill fully involved specialized mobile emergency response machinery and equipment.

In 2017, the NPPER team and technical support centers (TSC) participated in 9 emergency response drills and trainings held at Rosenergoatom NPPs to practice the actions in the environment similar to the Fukushima-Daiichi power plant accident. In the same period, the Regional Crisis Center operated by the WANO Moscow Center, the Company’s Crisis Center, and TSCs were involved in international emergency trainings at foreign NPPs: Paks (Hungary), Dukovany (Czech Republic), Tianwan (China), Kozloduy (Bulgaria), Bushehr (Iran), as well as the Armenian NPP (Armenia), Rivno NPP (Ukraine), and the Belarus NPP (Belarus) under construction.

No industrial accidents at hazardous production facilities operated by the Company were registered in 2017.

The government set objectives of first criticality at the Leningrad NPP-2 power unit No. 1 and the Rostov NPP power unit No. 4, particularly related to the power plant engineering and technical means complex creation. The said power units were placed under protection of the National Guard, which allowed to obtain Rostekhnadzor licenses for their operation.

Streamlining of the physical protection systems at NPPs was in line with the Action Plans for Ensuring Physical Protection, Accounting and Control of Nuclear Materials during NPPs Operation in 2017. There were no unauthorized actions related to the Company’s branches – nuclear power plants, including trespassing into restricted areas. No cases were reviewed for administrative sanctions, license suspension and/or termination by Rostekhnadzor inspectors (in relation to physical protection).

COMPREHENSIVE EMERGENCY RESPONSE DRILL OF NPPER TEAM (ROSTOV NPP, SEPTEMBER 20-22, 2017)

<table>
<thead>
<tr>
<th>PARTICIPANT</th>
<th>&gt; 1100</th>
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</thead>
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<tr>
<td>persons</td>
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2.4 INNOVATIONS. SCI-TECH POLICY. KNOWLEDGE MANAGEMENT SYSTEM

IN ORDER TO MULTIPLY TECHNOLOGICAL LEADERSHIP AND IMPROVE COMPETITIVE ABILITY IN THE INTERNAL AND EXTERNAL MARKETS WITH METICULOUS MAINTENANCE OF A HIGH SAFETY LEVEL, ROSNEERGATOM PRIORIZES ITS INNOVATION MANAGEMENT ACTIVITIES, KNOWLEDGE PRESERVATION AND TRANSFER.

NEW GENERATION III+ POWER UNITS WITH VVER TYPE (VVER-1200, VVER-TO) REACTORS

Among the key factors of further development of the nuclear industry in Russia and worldwide are primarily safety, absence of limits on raw material resources, solution of issues related to nuclear fuel cycle waste, and competitive advantage among other types of power generation.

The water-cooled pressurized reactor (VVER) technology will remain the practical basis of the nuclear industry in the decades to come not only in Russia, but worldwide.

Its further development and improvement are aimed at reducing capital and operational expenses, streamlining fuel use, strengthening consumer appeal while maintaining the appropriate level of safety.

The evolutionary NPP-2006 project with the VVER-1200 reactor (Generation III+) takes into account the experience gained in construction and operation of serial VVER-1000 reactors.

The NPP-2006 project has been developed in two scenarios (designed by Atomenergo-proekt, Moscow, and ATOMPROEKT, Saint-Petersburg) and is targeted at large-scale construction of nuclear plants in the short term in Russia and abroad.

Rosenergatoom constructs new power units with the VVER-1200 reactor at the Novovoronezh NPP-2 power unit No.1 was launched in 2016, and the Leningrad NPP-2 power unit No.1 – in 2017.

POWER UNITS WITH FAST NEUTRON REACTORS, AND CLOSED FUEL CYCLE

"We believe that the future of the global nuclear energy is inextricably linked to closure of the nuclear fuel cycle, with 'fast' reactor technologies being an integral part of it. Closure of the fuel cycle will enable the peaceful atom to become an environmentally safe energy source nearly inexhaustible for many millennia. What's important is that the technology is not a remote prospect: with the available science and technology development level we have every reason to suppose that an integrated product in this area will be offered to the market in the coming 10-15 years. On the scale of the nuclear industry, it is a technology of tomorrow".

ALEXEY LIKHACHEV, CEO of Rosatom State Corporation

A comprehensive R&D Program was enacted in 2017 by Rosenergatoom for substantiation of creating the 1st stage of the two-component nuclear energy system of a closed loop fuel cycle on the basis of heat reactors (VVER) and fast sodium reactors (BN) in 2017-2024.

At present, basic technologies of the closed nuclear fuel cycle (CNFC) are tested during operation of the Beloyarsk NPP energy complex (power units with BN-600 and BN-800 reactor units) in combination with the existing fuel production facilities, spent nuclear fuel reprocessing facilities, spent nuclear fuel and radioactive waste treatment facilities, as well as those being created.

On October 31, 2016, the Beloyarsk NPP power unit No.4 with BN-800 fast neutron reactor with the installed capacity of 885 MW was put into commercial operation.

Research on extending the fuel campaign of the BN-600 and BN-800 power units continued in 2017 with introduction of new structural materials of fuel element jackets, as well as implementation of a series of measures for gradual transition of BN-800 to full loading with MOX fuel.

The technology of sodium-cooled fast reactors is advancing through development of a high-power BN-type main power unit. A joint meeting of the Sci-Tech Councils No.1 and No.8 of Rosatom State Corporation held on July 1, 2017 considered the results of feasibility improvement for the engineering design of the BN-1200 reactor unit and the materials of the BN-1200 reactor power unit. In general, the Sci-Tech Council approved the results of the engineering design optimization for the reactor unit, turbine unit, and materials of the BN-1200M reactor unit project. In accordance with the Sci-Tech Council recommendations, the Terms of Reference were compiled for the BN-1200M reactor unit.

The Beloyarsk NPP site laid the basis for core infrastructure allowing to start construction of the power unit No.5, competent construction and assembly organizations and technicians are available there. In addition, core documents were prepared for the launch of this project (investment plan, declaration of intent, investment rationale, environmental impact assessment), public hearings were held to consider the power unit location.
The evolutionary NPP-2006 project with the VVER-1200 reactor (Generation III+) takes into account the experience gained in construction and operation of serial VVER-1000 reactors. The NPP-2006 project has been developed in two scenarios (designed by Atomenergoproekt, Moscow, and ATOMPROEKT, Saint-Petersburg) and is targeted at large-scale construction of nuclear plants in the short term in Russia and abroad.

Rosenergoatom constructs new power units with the VVER-1200 reactor at the Novovoronezh NPP-2 and the Leningrad NPP-2 (the Novovoronezh NPP-2 power unit No.1 was launched in 2016, and the Leningrad NPP-2 power unit No.1 – in 2017).

In the period between 2021 and 2025, among the goals and objectives for further development of the VVER technology is to introduce an advanced NPP unit with the VVER-TOI reactor assuming further optimization of design solutions at the Novovoronezh NPP-2 and Leningrad NPP-2 units. At present, detailed engineering and construction operations are carried out at the Kursk NPP-2 site, which lays the basis for the new VVER-TOI project implementation.

If compared to conventional power units of the same type, Generation III+ NPP projects feature several advantages that considerably improve their economics and safety:

- Reactor unit capacity increased by 20% versus the previous generation (VVER-1000)
- Design life of main equipment grew twice (with potential extension for another 20 years)
- Headcount decreased by 30-40%
The FNPP is an innovative power source created on the basis of Russian technologies of nuclear shipbuilding, and aimed at reliable year-round energy supply to the Russian Arctic and Far East, as well as other isolated, fuel-lacking areas in Russia and abroad.

The following operations were performed in relation to the FPU construction in 2017:

• Washing of the systems of the 1st loop of the FPU reactor assemblies 1 and 2;
• Comprehensive preparation of the FPU for transportation to the port of Murmansk;
• Mooring tests started;
• Transshipment complex equipment testing held.

The basic construction period operations continued at the FNPP onshore infrastructure and hydraulic facilities construction site in Pevek in 2017, including:

• Completion of construction and assembly of the mooring berth approach section;
• Beginning of the mooring berth construction;
• Beginning of the onshore infrastructure facilities construction.

Accomplishment of the onshore and hydraulic facilities construction, the FPU transportation to Pevek, and the FNPP commissioning are scheduled for 2019.

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• Beginning of the mooring berth construction;
• Beginning of the onshore infrastructure facilities construction.

Accomplishment of the onshore and hydraulic facilities construction, the FPU transportation to Pevek, and the FNPP commissioning are scheduled for 2019.

The closure of the nuclear fuel cycle enables:

• involving the Uranium-238 isotope, which is not used, into effective production (through its conversion into new fuel), that will supply the nuclear industry with fuel for hundreds of years and minimize radioactive waste;
• using plutonium from spent nuclear fuel (SNF) accumulated by reactors of all types;
• afterburning of most troublesome and long-lived isotopes from SNF of all types of reactors, including actinides (eliminating their future long-term storage under supervision).

The technology of sodium-cooled fast breeder reactors is advanced through development of a high-power BN power unit. A joint meeting of Sci-Tech Councils No.1 and No.8 of Rosatom State Corporation held on July 18, 2017 considered the results of feasibility improvement for the engineering design of BIN-1200 reactor unit and the materials of the power unit with BIN-1200.

The meeting analyzed operation of optimized BIN-1200 in normal conditions, beyond normal operation, design basis accidents and beyond design basis accidents, ensuring nuclear and radiation safety on the basis of experience in development and operation of BIN-600 and BIN-800 reactors (Beloyarsk NPP power units No.3 and No.4).

In general, the Sci-Tech Council approved the results of optimization of the engineering design, turbine unit, and power unit design materials, as well as prepared the terms of reference for BIN-1200M reactor unit.

The Beloyarsk NPP site laid the basis for core infrastructure allowing to start construction of the power unit No.5 with BIN-1200 reactor, competent construction and assembly organizations and technicians are available there.
The FNPP operating personnel is currently being hired and trained. The FNPP includes:

- a floating power unit (FPU) with two KLT-40S reactor units being the source of power and heat generation with the capacity of 70 MW and 50 Gcal/h respectively;
- onshore infrastructure and hydraulic engineering structures in Pevek, Chukotka Autonomous Okrug designed to supply heat and power from the FPU to energy grids.

The FNPP peculiarity is that the floating power unit (FPU) is fully created by ship-builders with the use of the mastered nuclear shipbuilding technology. After comprehensive testing and delivery to the customer, the FPU is conveyed to the berth where it is connected to onshore grids and starts supplying power to the grid. The floating design minimizes the scope and cost of capital construction of the plant in the location area. The customer receives environmentally friendly power and heat, while the matters of RAW storage, qualified servicing and decommissioning of the plant when overaged are tackled by the operating organization with the use of the existing engineering capabilities of the nuclear fleet.

R&D AND INNOVATIONS MANAGEMENT, R&D FUNDING MECHANISM, R&D INVESTMENTS PRODUCTIVITY

The nuclear industry is the leader in terms of the number and the level of sci-tech developments in engineering and construction of new NPP power units, creation of new nuclear fuel, extension of the operational NPP life cycles and boosting of the power units capacity. The target is not only to preserve these positions, but to strengthen them primarily through innovative development, improvement of competitive ability of the products and services at nuclear power markets by means of upgrade of the existing technologies and re-equipment of the production capacities.

The Company’s main expert body in charge for streamlining reactor technologies and their innovative development is the Sci-Tech Council (STC) of Rosenergoatom, which closely cooperates with the STC No. 1 – Nuclear Power Units and Nuclear Plants of Rosatom State Corporation. In accordance with the Federal Law No. 317 dated December 1, 2007, it is a permanent consultative and advisory body created for methodological, information analysis and expert support of Rosenergoatom activities.

The Technology Development Block comprising the Directorate for Technology Development is responsible for the industry-level Innovations Management function ensuring a functional vertical in the Company. The Technology Development Block also comprises the New Platform Project Office that is focused on managing fast sodium reactors development.

Rosenergoatom uses various forms of innovations implementation in its activities. The focus is placed on innovative development owing to technologies and competencies primarily created during the R&D ordered by the Company. R&D is an integral stage of creating innovative products.

On the basis of the Long-Term Investment Program, Rosenergoatom annually compiles three-year and annual R&D plans. The approved spending target is stated in the respective section of the Integrated Investment Program of the Company for the planning year. The Company’s approved R&D plans stipulate development of materials and substantiation of NPPs safety, creation of domestic competitive equipment and materials by leading Russian companies, invention of breakthrough technologies and products for power markets of new reactor units.

A comprehensive R&D program was under implementation to prevent and manage severe accidents at VVER-type NPPs. The program was based on analysis of Rostekhnadzor comments and R&D related to creation and operation of the Virtual NPP software and hardware complex. The complex enables forecasting, analyzing and assessing the risks of severe accidents during operation of the power units constructed in line with the VVER-1200 design.
**INTELLECTUAL PROPERTY: INVENTIONS, KNOW-HOW, NEW TECHNOLOGIES**

The industry-level Information System for Intellectual Property Rights Management (ISIPRM) is a basic tool for information analysis support of the intellectual property rights management. The system was fully deployed in Rosenergoatom in 2016. The system creates a single information medium for intellectual property management, applied in the nuclear power industry, and stipulated by the applicable laws and local regulations of Rosatom State Corporation. In 2017, the industry-level ISIPRM was constantly adapted and updated with current data on the Company’s intellectual property.

Protected intellectual property obtained by the Company primarily as a result of work performance by contractors according to R&D contracts at the expense of Rosenergoatom.

**IN 2017:**

- Rosenergoatom executed 11 production contracts at the expense of Rosenergoatom. The Company completed the accounting of intellectual property resulting from the work performed by the industry-level organizations under contracts made with Rosenergoatom as part of VVER-reactor NPP projects development (VVER-1200, VVER-T01) (under the contracts with Science and Innovations, and the industry-level Center of Competence in Intellectual Property Management of Rosatom – IP Operator). These activities were carried out as part of Rosatom program for implementation of the project for comprehensive protection of NPP technologies associated with VVER-1200 reactor units, fast reactors and the FNPP.
- 8 applications for the Russian Federation invention patents and 6 applications for PC software registration were filed.
- 6 applications were filed in line with the RST procedure (Patent Cooperation Treaty) in order to receive patents abroad. Another 5 applications for foreign inventions patenting are planned for filing on the basis of information about technical solutions considered as production secrets in 2017.

All foreign patenting activities related to inventions are carried out by Rosenergoatom in close and fruitful cooperation with the industry-level center of competence in intellectual property management – IP operator.

The Company’s intellectual property portfolio comprises exclusive rights to 328 items of intellectual property, including 120 invention patents and 43 utility model patents, 146 items of PC software and databases, among them 13 items of PC software and 1 database have certificates of their state registration issued by Rospatent. In addition, Rosenergoatom possesses 4 registered trademarks and 16 production secrets.

For Computational Modeling of Severe Beyond Design Basis Accidents, Including Creation and Transfer of Radioactive Substances at Pressurized Water-Cooled Reactor Units of VVER Type (SOCRATES/V2).

The number of introduced and used applications, patents, etc. is given between the brackets.

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<th>Item</th>
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<th>2016</th>
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</tbody>
</table>

1. The number of introduced and used applications, patents, etc. is given between the brackets.
KNOWLEDGE MANAGEMENT SYSTEM

The Knowledge Management System (KMS) is implemented in Rosenergoatom with a view to manage sci-tech content, intellectual property and communities of experts as the holders of critical knowledge as well as to ensure efficient protection of intellectual property rights and creation of the Company’s intellectual assets.

KMS Principles:

• Prioritized safety,
• Intellectual capital value,
• Generations continuity,
• Critical knowledge preservation.

These principles were fixed in the Knowledge Management System Policy approved by Rosenergoatom in 2017. The Innovative Development Directorate is a single center of responsibility for organization of this work in Rosenergoatom.

The Company’s knowledge management activities are carried out in all KMS processes (management of sci-tech communities, sci-tech content and intellectual property), which are within the Innovations Management group of processes in a single model of the Company’s integrated management system, and are related to many other processes.

RESULTS OF 2017:

• The automated management system for technical documentation (more than 280 thousand documents) was introduced in Rosenergoatom and its branches.

CRITICAL KNOWLEDGE PRESERVATION AMONG PERSONNEL

In 2015, a project was launched to implement the system for preservation of critical knowledge among personnel, as an element of the intellectual capital, into the activities of the Company and the Division. As part of the project, the Balakovo and Leningrad NPPs in cooperation with Rosatom Technical Academy successfully introduced pilot projects to create a critical knowledge management system. The Personnel Training Department is a center of responsibility for organization of work aimed at preserving critical personnel knowledge in Rosenergoatom.

In accordance with the results of the pilot projects, the Company developed and enacted in 2017 the Procedure for Critical Personnel Knowledge Preservation, the Procedural Guidelines for Organization and Performance of Work in this area, and deployed the knowledge preservation system in its branches. 45 NPP employees were trained to use the basic methods of such work.

In 2017, Sochi hosted the industry-level conference – Nuclear Knowledge Infrastructure. Challenges and Solutions. A joint project of Rosenergoatom and VNIIAES was awarded the main prize of Rosatom State Corporation in the Best Comprehensive Project in Knowledge Management nomination in 2017 for the Introduction of Integrated Approach to Creation of Nuclear Knowledge Management System in Rosenergoatom.

In 2017, the automated management system for technical documentation (more than 280 thousand documents) was introduced in Rosenergoatom and its branches.

1. Further information regarding Rosatom KMS may be found on the website: http://www.atomkms.com
2.5 CONTRIBUTION TO RUSSIAN DIGITAL ECONOMY. INFORMATION TECHNOLOGY

Digitalization allowing for reduction in expenses for and costs of energy resources increases the reliability and efficiency of energy systems owing to creation of risk oriented management on the basis of information technologies and predictive analytics ensuring a common access to data, which undoubtedly makes the company highly competitive in the energy market.

ROSENERGOATOM PARTICIPATION IN RUSSIAN DIGITAL ECONOMY PROGRAM

In compliance with the Russian Federation Government Directive No. 1632-r dated June 28, 2017, a state-run economic development program was launched – the Russian Digital Economy. The program stipulates that digital data is a key factor of production.

The meeting of the Government Commission in charge for the use of information technologies for improvement of the life quality and business environment held on December 18, 2017 approved the action plan in the Program sector for Shaping of Research Competences and Technological Back-logs. Representing a center of competences of Rosatom State Corporation, Rosenergoatom is mentioned in the action plan in the respective area.

As part of digitalization of the Russian economy, a transfer shall be made to the Smart Energy System of Russia (SESR) envisaging synthesis of the energy and information systems, changes in the structure of the energy system and the principles of its management: the consumer and the distribution grids become the object of management and self-balancing.

Rosenergoatom is a direct participant of the process of transfer to SESR. In order to transfer to the SESR, a nation-wide platform solution is being developed. Rosatom State Corporation and Rosenergoatom, together with Russian companies will create a unified digital platform, IoT-energy, ensuring integration and processing of information about energy facilities on the basis of an approved CIM model.

NEW PRODUCTS OF ROSENERGOATOM AS PART OF DIGITAL ECONOMY DEVELOPMENT

In 2017, the work continued to create digital products based on information systems for production processes support, operation, maintenance and repair of equipment, operation experience accounting, technical documentation management, collection and transfer of the power unit parameters, time and cost management of the capital construction facilities, as well as a series of others.

“Digital transformation of the power industry is quite a large set of measures, establishment of a common language and communication space among all participants of the industry level processes. Meanwhile, the interests of all stakeholders shall be taken into consideration, and the safety of such communications shall be ensured.”

YEVGENY RYBCHAK, Director of the Department for Monitoring and Control of Power Industry, Russian Energy Ministry

MAJOR EFFECTS OF TRANSFER TO SMART ENERGY

- Transfer to risk-oriented management based on predictive analysis and information technologies
- Enhancement of reliability, availability and energy efficiency due to the energy system flexibility and adaptability
- Decrease of the life-cycle cost to 15-30% owing to introduction of new construction principles for the energy sector, management and repair of equipment, operation experience accounting, technical documentation management, collection and transfer of the power unit parameters, time and cost management of the capital construction facilities, as well as a series of others.
- Reduction of the level of redundant installed capacity owing to consumer load and energy storage systems management, self-balancing of equipment
- Making a straight vertical of management of the current and trustworthy information allowing for prediction of the equipment status in various planning horizons
- Outworm of the share of expenses for the energy resource and enhancement of the grid infrastructure availability

PROGRAM AREAS

- Statutory regulation
- Staff and education
- Shaping of research competences and technological back-logs
- Information infrastructure
- Information security

1. Details of the program may be found at: www.govemment.ru
SPOTLIGHTS OF R&D IN 2017

- Streamlining design and engineering solutions
- Developing, verifying, validating calculation codes used for substantiation of design and engineering solutions
- Ensuring materials engineering support for generation and fuel supply to VVER
- Metal testing for extending the service life of VVER-1000 reactor vessels and in-vessel devices up to 60 years and beyond
- Substantiating VVER-TOI design solutions, preparations for the Kursk NPP-2 construction on the basis of the VVER-TOI project

DIGITAL PATTERN OF NPP OPERATION EXPERIENCE

Present-day management of NPPs shall be carried out in a digital format with the use of IT solutions aimed at supporting the processes. Rosenergoatom faces the challenge of the processes automation and creation of a unified tool of the NPP systems management – a full-scale digital pattern (or model) of operation that embraces resource, personnel, maintenance and repair, analytics, risks and knowledge base management and that can be replicated as an integrated solution, at foreign projects of Rosenergoatom, inter alia.

SERVICING MANAGEMENT PLATFORM

The Company’s platform for NPP servicing management (maintenance and repair, operation experience) lays the cornerstone for development of a new product proposal of the Company’s services on the basis of ‘big data’. Pilot facilities, the Balakovo and Smolensk NPPs, are facing the challenge of developing the MRP (equipment maintenance and repair) platform with further creation of a digital product.

SERVICING MANAGEMENT PLATFORM CONSTRUCTION

- Upgrade
- RPS
- INFOPANELS
- Analytics, modeling
- CS SYSTEMS Dispatch center

SERVICING MANAGEMENT PLATFORM SUPPLIES

- MANAGEMENT REFERENCE DATA
- AUTOMATED DESIGN AND ENGINEERING DOCUMENT MANAGEMENT SYSTEM Technical documentation

SERVICING MANAGEMENT PLATFORM MONITORING

- Receipt, treatment and transfer of process parameters
- PILOT OPERATION MANAGEMENT: Analysis of considerable events, interaction detection, root cause analysis, etc.
- AUTOMATED INFORMATION SUPPORT SYSTEM: Inspections


SERVING MANAGEMENT PLATFORM

1. REFERENCE PROJECT: MRP PLATFORM DEVELOPMENT (2017/2018 BALAKOVO NPP + SMOLENSK NPP)

NPP FACILITIES STATUS AND SERVICING MONITORING:
- status assessment
- process parameters collection
- malfunctions and defects statistics
- status modeling

NPP OPERATION PROCESSES SUPPORT AND SAFETY:
- EAM
- Documentation management, event registration
- Event logs, inspection control
- Quality records

REPAIR PROGRAM RESOURCE PLANNING, EAM, ERP:
- Material and labor resources (valuation map)
- Dosimetry limits for personnel and labor intensity
- Assessment of readiness for repair beginning
- Service requirements management

SYSTEM WIDE ANALYSIS AND EVALUATION OF FEASIBILITY INDICATORS OF THE COMMERCIAL FUEL ENERGY COMPLEX OF BN-1200 UNDER OPERATION IN THE TWO-COMPONENT STRUCTURE OF THE RUSSIAN NUCLEAR POWER INDUSTRY.

"A separate stage of the digital transformation is the completion of a reference pattern in Russia, build-up of the digital shell, multi-language translation of the created solution and its replication in foreign markets – we are planning to complete it within three-four years."

SERGEY MIGALIN, Deputy CEO – Director for Economics and Finance, Rosenergoatom

2. PRODUCT PROPOSAL CREATION

SITUATION CRISIS CENTER OF RESPONSE MANAGEMENT (POWER UNIT RECORDS)

INTELLIGENT SEARCH FOR NON-STRUCTURED DATA, CORRELATION OF EVENTS/PARAMETERS, NPP OPERATION EXPERIENCE

KNOWLEDGE MANAGEMENT AND E-LEARNING (INTERACTIVE TECHNOLOGIES AND AUTOMATED PARAMETRIZATION OF NPP OPERATIONS COURSES)

COMPREHENSIVE SOLUTION OF NPP CYBERSECURITY ISSUES, APCS/CIM

SERVICING PROJECT MANAGEMENT AND CLIENT DOSSIER, SOLUTIONS FOR INFORMATION FIELD, MOBILE PLATFORMS, CUSTOMER’S DASHBOARD COMPONENTS RENTAL, CUSTOMER’S PORTAL

MODULAR DPCS INTEGRATED INTO NPP UTILITIES, IT SERVICES OF DPCS
INFORMATION TECHNOLOGY

In 2017, Rosenergoatom won the National IT Leadership Prize in the Energy Industry Enterprise nomination, and the SAP Value Award 2017 in the Digital Transformation Leader nomination.

In 2017, as part of the approved Strategy for Developing Information Technologies of Power Engineering Division until 2020, Rosenergoatom worked in four main areas: applicable information systems, IT infrastructure, information security and improving operational efficiency (Cost Optimization Program).

APPLIED INFORMATION SYSTEMS

In the reporting period, an important step was made on the way to digital transformation – implementation of corporate information systems was completed: the centralized enterprise resource management system (SAP ERP), the personnel management system (SAP HCM), the unified industry-level electronic document management system in all 16 branches of the Company. The total number of the SAP ERP users at enterprises exceeded 4 thousand persons.

An important aspect of such transformation is integration of information systems allowing for elimination of double data entry, operation- al efficiency, transparency and reliability of information.

INFORMATION SECURITY

Rosenergoatom continued working on the upgrade of the integrated system of information security according to the guidelines of the Russian Federal Service for Technical and Export Control, and the Industry-Level Requirements for Information Security.

The network traffic protection and firewall systems were upgraded in order to defend the corporate network perimeter from cyber threats.

Information security products were introduced, including the information security events monitoring system, with a view to raise the level of information security of Rosenergoatom.

The division-level enterprises identified and repelled mass virus attacks (WannaCry, Petya) with the use of modern information security products. In order to speed up the response to events and incidents related to information security, the Information Security Competence Center has been established and is under development on the basis of CONSYSTCO.

We ensured operation and upgrading of antivirus tools, and unauthorized access protection tools. Monitoring, analysis, and review of the information security incidents are carried out on a weekly basis.

DATA PROCESSING AND STORAGE CENTERS (DPC)

The DPC construction project is implemented near the Kalinin NPP taking into account the advantages of direct connection of the site immediately to NPP power supply grids.

The DPC objective is to implement a proprietary disaster-proof system for the production process data processing and storage accessible 24/7 year round, as well as to diversify the business portfolio, and bring Rosenergoatom to a new development area of data processing and storage services.

The federal-level DPC Stage 1 facilities were commissioned in December 2017. In order to use vacant capacities of the DPC, active pre-contractual work is underway with the state and commercial companies for provision of a wide range of DPC infrastructure services. This allowed to reduce risk load on the project and ensure a stable portfolio of orders in the long run. The DPC Stage 2 facilities construction is underway, their completion and commencement of lease are scheduled for 2018.

The new DPC will become the nation’s largest and one of the largest in Europe, its power consumption will reach 80 MW.

The DPC project is included into the Russian Federation Digital Economy Program implementation plan. Rosenergoatom is planning to transfer all IT systems to the DPC during 2018 and further on in a stage-wise manner.

ACTIVITIES RELATED TO KEY PROJECTS IN IT INFRASTRUCTURE AREA

- Designing of a disaster-proof IT infrastructure of Rosenergoatom on the basis of the federal-level Data Processing Center at the Kalinin NPP.
- Terms of reference developed and approved for creation of an automated technical support system for IT services users. The project implementation is scheduled for 2018-2020.
- Terms of reference developed and approved for designing of typical IT infrastructure of the Company’s branches.
- The project implementation is scheduled for 2018-2020.
- As part of the project for Boosting Functionality and Productivity of Corporate Services and Replication of Solutions at Enterprise-Level DPCs, work was performed to migrate the infrastructure of VNIAES and dedicated branches of Atomenergoproekt. The project completion is scheduled for 2018.

1. Implementation of these projects is scheduled for 2018-2020.
2.6 INTERNATIONAL SCI-TECH COOPERATION

WORLDWIDE STRATEGIC PARTNERS – INTERNATIONAL ORGANIZATIONS

IAEA

In 2017, Rosenergoatom actively participated in the 7th meeting of the contracting parties of the Convention of Nuclear Safety.

As part of cooperation with the International Atomic Energy Agency (IAEA), the Company’s Headquarters and branches hosted 33 international events in the reporting year. In addition, Rosenergoatom employees participated in 23 IAEA events abroad.

As part of the long-term IAEA Operational Safety Section (OSART) program, a follow-up visit to the Novovoronezh NPP was held in March 2017 by OSART. The visiting team defined that recommendations and proposals of the OSART mission held in 2015 were 90% fulfilled, with the remaining 10% being fulfilled at a fast pace.

Coordinated preparations for the OSART mission are underway for the corporate OSART mission (2018), and the OSART mission at the Kalinin NPP (2019) with international experts involved. In April 2017, the Kalinin NPP hosted the IAEA workshop devoted to the Safety Culture.

The OSART mission was held at the Leningrad NPP in November 2017. The mission defined that the power plant operation safety level is currently fully in line with the IAEA safety requirements. The mission gave no recommendations, 7 proposals and 4 good practice examples.

“...The innovative technologies used at the Novovoronezh NPP such as virtual reality and computer visualization, impressed all our team. This really helps students put themselves into the situation similar to a real environment at the unit. This practice will be included into the data basis summarizing the results of the OSART mission, and other power plants across the world will be able to get access to our experience. If someone from the IAEA asks for contact details of the power plant that has done a good job in personnel training, we will definitely point out the Novovoronezh NPP.”

PETER TERREN,
Deputy Team Head,
Integration and Computer Visualization,
Rose Energy Systems

Rosenergoatom is the largest member organization of the World Association of Nuclear Operators (WANO) in the WANO Moscow Center. As part of cooperation with the WANO, representatives of the Company’s Headquarters and branches participated in 125 international events in 2017. In addition, Rosenergoatom arranged the activities of the WANO Moscow Center representatives at the NPP sites.

In 2017, top management of the Company participated in all major events of the WANO: the General Assembly, the Main Governing Board meetings, the International Council of Technical Managers of Operating Companies and NPPs.

Rosenergoatom was verified for compliance with the European Operators’ requirements in the reporting year. EDW was the technical leader of evaluation. Among the experts were ČEZ (Czech Republic), MVM Paks (Hungary), GEN energija (Slovenia).

A key initiative of the year was to perform a complex of measures in the safety culture area: the support mission at the Company’s Headquarters and 4 nuclear plants with a view to check up the status of the safety culture and raise its level. These activities will be continued in 2018.

In 2017, Rosenergoatom continued operation of the WANO Crisis Center on the basis of the Company’s Crisis Center, 10 international emergency drills were held with participation of the Regional Crisis Center. The Regional Crisis Center embraced nuclear plants with RBMK, BN and EGP reactors in the reporting year.

Rosenergoatom is also an active participant of the WANO Reorganization project stipulating creation of the fifth regional WANO center in Shanghai, PRC.

MEMBERSHIP IN INTERNATIONAL ORGANIZATIONS

• International Atomic Energy Agency (IAEA)
• World Association of Nuclear Operators (WANO)
• Materials Ageing Institute (MAI)

EUROPEAN UTILITY REQUIREMENTS (EUR)

Design documentation of the VVER-TOI reactor was verified for compliance with the European operators’ requirements in the reporting year. EDW was the technical leader of evaluation. Among the experts were ČEZ (Czech Republic), MVM Paks (Hungary), GEN energija (Slovenia).

A representative of Rosenergoatom has been on the Secretariat of the Nuclear Energy Agency under the Organization for Economic Cooperation and Development (NEA/OECD), Radiological Protection and Human Aspects of Nuclear Safety starting from December 1, 2017. In addition, Rosenergoatom participated in the NEA/OECD project for the Information System on Occupational Exposure (ISOE).

NUCLEAR ENERGY AGENCY UNDER ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (NEA/OECD)

A representative of Rosenergoatom has been on the Secretariat of the Nuclear Energy Agency under the Organization for Economic Cooperation and Development (NEA/OECD), Radiological Protection and Human Aspects of Nuclear Safety starting from December 1, 2017. In addition, Rosenergoatom participated in the NEA/OECD project for the Information System on Occupational Exposure (ISOE).

1. The Russian Federation is a member of the Agency; Rosenergoatom participates in activities under the auspices of the Agency via an authorized organization – Rosatom State Corporation.

"The Leningrad NPP passed a thorough self-assessment in accordance with the IAEA standards, which resulted in initiation of such measures as the integrated management system introduction with a view to improve its activities. Execution of the proposals made by the OSART will further raise the power plant operation safety level and the identified good practices will help increase the safety level worldwide, if implemented at other power plants."

Vesselin Rangelov,
Deputy Team Head,
Lead Specialist for IAEA Nuclear Safety
In 2017, 23 joint actions were held involving representatives from the Headquarter and branches of Rosenergoatom (including NPPs), organizations and enterprises of the industry Rosatom State Corporation, NIKEI, Atommepogroekt, Gidropress, ASE, VNIAES, VNNIEF, Alexandrov Research Institute of Technology, Science and Innovations, Kurchatov Institute, etc. Cross-visits were made by Andrey Petrov, Rosenergoatom CEO to Flamanville NPP in France, and by Dominique Minière, Executive Vice President, Nuclear and Thermal to the Beloyarsk and Leningrad NPPs.

The following areas feature the largest number and widest scope of actions, as well as the most active interest from both sides: NPP operation, NPP engineering and support, inventory and logistics management, design techniques and experience in implementing new reactor projects, fast breeder reactors.

As part of the interchange, the Modern Russian and French NPPs photo exhibition was organized and held in Moscow.

During preparations for the corporate OSART mission, a workshop on the Experience in IAEA Corporate OSART Missions was held in France with participation of EDF representatives. Under the agreement between Rosenergoatom and the EDF Materials Ageing Institute (MAI), the experts from Russian organizations and MAI member companies exchanged experimental data and knowledge. The R&D results achieved by Rosenergoatom in cooperation with MAI are used by Russian organizations in comparative analysis of methods and approaches for extension of Russian NPP operation periods. Joint work with global leaders in this sector enables developing Russian technologies in the area of NPP equipment durability and lifespan, and conducting joint international research, comparative analysis of methods and approaches for ensuring reliability of obtained results.

**ÉLECTRICITÉ DE FRANCE (EDF, FRANCE)**

**IN 2017, OPERATIONS WITHIN MAI PROJECTS CONTINUED, INCLUDING:**
- Reactor vessel ageing assessment (Kurchatov Institute),
- Deformation of elements of reactor vessel components (GIDROPRESS),
- Further understanding of the mechanism for irradiation-assisted stress corrosion cracking (IASCC), and
development of the model to forecast reactor vessel elements resistance to IASCC (PROMETEY Central Research Institute of Structural Materials)

**REGIONAL SCALE STRATEGIC PARTNERS**

**IBERDROLA (SPAIN)**

The main result of the year was signing of the Memorandum of Understanding between Iberdrola Generacion Nuclear and VNIAES.

**COOPERATION WITH NORDIC COUNTRIES (NORWAY, FINLAND AND SWEDEN)**

As part of existing agreements, cooperation of the Leningrad and Kola NPPs was furthered with SSM (Sweden), STUK (Finland), and IPE/NRPA (Norway). Projects were focused on the following areas in 2017: emergency preparedness, decommissioning, radioactive waste handling and disposal, etc. Rosenergoatom representatives participated in the activities of the Russian-Scandinavian task force for emergency preparedness created by Rosatom State Corporation at the initiative of the Scandinavian countries.

**KEY INTERNATIONAL EVENTS OF 2017**

- WANO General Assembly with participation of CEO and First Deputy CEO for NPPs Operation
- OSART mission at Leningrad NPP
- International insurance inspections at Rostov and Smolensk NPPs
- Follow-up peer reviews of Kalinin, Balakovo and Bilbino NPPs by WANO
- 7th meeting of contracting parties of Convention of Nuclear Safety with participation of Rosenergoatom delegation headed by First Deputy CEO for NPPs Operation (operators’ joint paper)
- Visit by Dominique Minière, Executive Vice President, Nuclear and Thermal to the Belyarsk and Leningrad NPPs
- Follow-up reviews of Novovoronezh NPP by WANO
- Pre-launch peer reviews of Rostov and Leningrad NPPs by WANO
- Visit by Dominique Miniere, Executive Vice President, Nuclear and Thermal to the Flamanville NPP in France
- Comprehensive emergency drill at Rostov NPP attended by 15 foreign observers

2.7 INTERNATIONAL BUSINESS AND NEW PRODUCTS

DEVELOPMENT OF NEW BUSINESSES AND EXPANSION OF FOREIGN PRESENCE ARE AMONG THE COMPANY’S TOP PRIORITIES.

Being one of the key participants of the comprehensive proposal of Rosatom State Corporation in the international markets for construction of NPPs abroad, Rosenergoatom closely watches the safety and reliability of their operation, as well as quality of their servicing. In order to facilitate the access of foreign customers to a wide range of services provided by the Power Engineering Division, Rusatom Service is defined as a single industry-wide integrator of the foreign NPPs servicing proposal.

NEW BUSINESS LINES DEVELOPMENT

Creation of new products and their sales in the Russian and international markets is rapidly developing. Currently, the Company’s new business lines portfolio contains five major areas surrounding mainly the Division’s core activities, and several new businesses focused on their diversification and support.

NEW BUSINESS LINES DEVELOPMENT AREAS

NON-NUCLEAR

ELECTRICITY DISTRIBUTION

Expanding available competencies and acquiring additional ones in basic markets

ADJACENT MARKETS

Using available competencies in new markets

DATA PROCESSING CENTER

Expanding available competencies and acquiring additional ones in basic markets

NUCLEAR

NPP SERVICING ABROAD

Using available competencies in new markets

ISOTOPES PRODUCTION

Acquiring additional competencies in new markets

"Today, we need to move towards exponential growth in financial indicators owing to product and geographic diversification. Firstly, this is a service oriented model of business surrounding the core, provision of a full range of services throughout the life cycle of NPPs when implementing international projects. Secondly, this is development of new technologies and the business lines based on them as the cornerstone of future leadership in the Russian and international markets. Let me emphasise that one of the factors of success in international markets is coordinated interaction of the Division with Rosatom structures involved in international activities. Thus, it is we – with our will, business acumen, and persistence – who will successfully face the strategic challenges. It is well-known that those who aim high, reach high."

ANDREY PETROV, CEO, Rosenergoatom

RESULTS OF NEW BUSINESS LINES DEVELOPMENT ACCORDING TO KEY INDICATORS IN 2016–2017

<table>
<thead>
<tr>
<th>Business Line</th>
<th>Revenues from New Products, Bln Rubles</th>
<th>New Product Orders Portfolio for 10 Years, Bln Rubles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016</td>
<td>2017</td>
</tr>
<tr>
<td>NPP Servicing Abroad</td>
<td>4.9</td>
<td>4.66</td>
</tr>
<tr>
<td>Penetration of B2B and B2C segments with new products</td>
<td>8.00</td>
<td>8.12</td>
</tr>
<tr>
<td>Electricity Marketing (Supplier of Last Resort)</td>
<td>49.15</td>
<td>55.33</td>
</tr>
<tr>
<td>Total</td>
<td>54.13</td>
<td>60.11</td>
</tr>
</tbody>
</table>

1. In 2015-2016 the revenues and portfolio of new product was calculated with consideration of intra-group turnover, starting from 2017 calculations are made outside Rosatom State Corporation circuit only (external customers). Therefore, the data of 2015-2016 were reassessed and reflect the amount of revenue and the portfolio of new orders outside Rosatom State Corporation circuit only.

2. Outside Rosatom State Corporation circuit.

NPP SERVICING ABROAD

BASIC PRODUCT PROPOSALS IN NPP SERVICING ABROAD:

- Nuclear infrastructure
- Personnel training
- Commissioning
- Training center
- Operation
- Servicing
- Simulators
- Technical supervisor

NPP Servicing Abroad is an important strategic initiative of the Division, which is coordinated in Rosenergoatom by the International Business and Development Department, and Rusatom Service.

Such operations involved 12 countries of the world: Armenia, Belarus, Bulgaria, Czech Republic, Slovakia, Hungary, Lithuania, Iran, China, India, Bangladesh, Finland, and Russia. Servicing is the market leader in Armenia, Bulgaria, and Iran.
## Technological Leadership and Innovations

**Major International Projects**

| Service life extension of the Kozloduy NPP power unit No.6, equipment upgrade |
| Commissioning and start-up, personnel training at the Belarus NPP |
| Service life extension of the Metsamor NPP power unit No.2 |
| Spare parts supplies |

| Substantiation of possible life extension of the Kozloduy NPP power unit No.6, equipment upgrade |
| Commissioning and start-up, personnel training at the Belarus NPP |
| Service life extension of the Metsamor NPP power unit No.2 |
| Spare parts supplies |

| Servicing and personnel training at the Akkuyu NPP planned for construction |
| Servicing of the El Dabaa NPP planned for construction in Egypt |
| Maintenance and repair, spare parts supply, engineering services and technical support of the Bushehr NPP power unit No.1 |
| Personnel training, start-up and commissioning of the Rooppur NPP power units No.1 and No.2 |

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### Technical Academy

**Adjustments and Improvements**

- Nuclear infrastructure
- Technical supervision
- Personnel training
- Documentation development
- Simulators
- Commissioning
- Personnel training
- Operation
- Maintenance and repair
- Equipment and fuel quality control
- Personnel training (technology integrator)

### INTEGRATOR

An authorized organization of Rosatom State Corporation for managing NPP servicing abroad. A ‘single window’ for an integrated offer of the Division and international contracts execution.

### CUSTOMER

A company that is an existing or potential buyer (customer) of the product.

### INTEGRATED PRODUCT OFFER

- Shaping an integrated offer
- Marketing
- Market packaging of the product
- Interacting with the customer in relation to all matters during the contract making and execution

### PRODUCT

Specific activity (supplies, work, services) offered for sales in line with the NPP Servicing Abroad business.

### PRODUCT OWNERS

Division organizations – product manufacturers having relevant competencies and reference.

### BLN RUBLES – Total New Product Orders Portfolio for 10 years, NPP Servicing Abroad business line (outside Rosatom State Corporation circuit).

<table>
<thead>
<tr>
<th>48.44</th>
</tr>
</thead>
</table>
KEY PROJECTS OF 2017 IN NPPS SERVICING ABROAD

103-1, 103-2, 103-3

NUCLEAR INFRASTRUCTURE

In 2017, Rusatom Service was defined as a single integrator of the nuclear infrastructure (industry-level coordination center) responsible for assessment, Russian support in planning, creation and development of national nuclear infrastructure and industry in the customer countries.

THE REPUBLIC OF ZAMBIA

In June 2017, a contract was made for provision of services in assessment and development of the nuclear infrastructure in the Republic of Zambia between the Zambian Government and Rusatom Service.

COMPREHENSIVE SERVICE CONTRACTS

EGYPT

In 2017, a Service Contract was made for maintenance and operation support of El Dabaa NPP with the effective date of December 11, 2017. Construction start is scheduled for 2018. The Contract is the largest one in terms of rendered services among similar comprehensive service contracts in the industry.

TURKEY

A comprehensive service contract was made with Akkuyu Nuclear providing for execution of repair operations, supply of spare parts, equipment and materials, rendering of Akkuyu NPP operating personnel training, equipment of the Akkuyu NPP training center, including a simulator complex for the main control room/standby control room (duplex: full-scale simulator – analytical simulator). This long-term contract stipulates long lasting cooperation related to the Akkuyu NPP servicing (50 years, which is comparable to the nuclear plant life cycle).

PERSONNEL TRAINING

BELARUS

As part of the Belarus NPP construction and commissioning project in line with the approved schedule of operational personnel apprenticeship, 189 Belarusian experts passed apprenticeship in 2017.

FINLAND

Over 200 persons passed the basic training course in Finland for the Hanhikivi-1 NPP personnel. A personnel training plan has been developed and is being approved by the foreign customer.

HUNGARY

In accordance with the contract made with MVM ERBE, 20 persons passed training in the NPP-2006 Technology Basics subject.

BANGLADESH

An agreement was made with ASE for Rooppur NPP operating personnel training (1,424 pers.). The training start was scheduled for 2018.

OPERATION AND SERVICING

ARMENIA

As part of the service life extension for the Armenian NPP power unit No. 2, operations were ongoing for assessment of the technical condition and substantiation of the remaining equipment life. During the period of scheduled maintenance of the power unit No.2, repair operations were held in 2017 with the use of equipment elements welding. Russian experts’ activities in 2017 laid the basis for early start-up of the NPP after scheduled maintenance of 2017.

BULGARIA

In 2017, the Kozloduy NPP power unit No.5 obtained the license for an extended service life of 10 years. SLE operations at the power unit No.6 are on schedule. Assembly of upgraded generator equipment at the power unit No.5 was completed in 2017.

SLOVAKIA

Technical support of start-up and commissioning operations continued during completion of the Mochovce NPP power units No.3 and No.4.

BELARUS

Work continued to commission the Belarus NPP; washing of the safety systems started at the power unit No.1 open reactor.

BANGLADESH

A contract was made with ASE for start-up during the commissioning of the Rooppur NPP power units No.1 and No.2.
ADJACENT MARKETS
In 2017, Atomtechenergo and Atomenergoprom continued execution of a series of repair, construction and assembly operations at the PIK reactor equipment.

EREQ made and agreement with GMM Khimmash in 2017 promoting generation of a considerable share of EREC revenue outside the Rosatom State Corporation circuit, and an agreement with Cryogenmash.

ELECTRICITY MARKETING
In 2017, AtomEnergoSbyt continued operations in the status of the “last resort supplier” of electricity in the Kursk, Tver, Smolensk, and Murmansk Oblasts.

The revenue totaled 55.3 bln rubles in 2017, which is 13% higher than the target indicator. Additional products were under development in all corporate branches in 2017 (B2B and B2C). The revenue from this project implementation in 2017 totaled 117.4 mln rubles, which is 20% higher than the target indicator.

CERTIFICATION BODY AND TESTING LABORATORY
EREQ successfully passed the procedures to expand the accreditation area of the Certification Body and the Testing Laboratory. First agreements were made in 2017 for provision of product certification services that previously were outside the Body’s accreditation area.

LIQUID RAW REPROCESSING AS A NEW BUSINESS LINE
In 2017, Rosenergoatom initiated R&D on Development of Liquid RAW Processing Plant in Modular Design with Production of Conditioned RAW Meeting Acceptance Criteria for Burial.

DATA PROCESSING CENTERS
A key event of 2017 was implementation of one of the Company’s major project – construction of the Data Processing Center at the site located near the Kalinin NPP.

ISOTOPE BUSINESS AS A NEW BUSINESS LINE
CO-60 PRODUCTION AT SMOLENSK AND KURSK NNPS
In order to ensure failsafe production and increase the share of export to the global Cobalt-60 markets after expiry of the service life of the Leningrad NPP RBMK-1000 power units, which currently hosts Cobalt-60 production, a project was launched to organize production at the Smolensk and Kursk NPP.

In 2017, the Smolensk NPP power unit No.1 started producing Co-60, preparations required for Co-60 production in 2018 are underway at the Smolensk NPP power unit No.2 at the moment.

Iodine-131 production also started at the Leningrad NPP in 2017. The isotope will be used for production of the radiopharmaceuticals required for diagnostics and treatment of oncological diseases. Historically, among the enterprises of the Rosatom State Corporation isotope complex involved in Iodine-131 production were NIIAR and NIIFKhI. At present, a decision is made to involve the Leningrad NPP capacities as well.

PROMISING AREAS
TURKEY
In 2018, it is planned to hold negotiations and make an addendum to the service contract for start-up and technical support of the Akkuyu NPP commissioning.

BANGLADESH
Completion of approval and signing of the Service Contract with the Nuclear Energy Commission of the Republic of Bangladesh are scheduled for 2018 in order to provide technical support of operation, and participate in maintenance and repair of the Rooppur NPP.

SAUDI ARABIA
A series of meeting with the customer are scheduled for 2018 with a view to discuss an integrated proposal of Rosatom State Corporation, which influences the services rendering.

BULGARIA, IRAN, UZBEKISTAN
As part of development of a new promising product line – Heat Energy – by the Company’s subsidiary Atrometelexport, a design office was established in 2017. Negotiations on this product line with Bulgaria, Iran and Uzbekistan are scheduled for 2018.
03. SUSTAINABILITY MANAGEMENT

1.5 MLN
SMART HOMES WILL BE SUPPLIED WITH POWER DURING A MONTH BY THE NUCLEAR POWER UNIT RATED AT 1,000 MW

3.1 Financial Stability .................................................. 123
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3.5 HR Policy ........................................................... 147
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3.7 Social Policy.
   Developing Areas of Presence. Charity ......................... 161
KEY RESULTS OF 2017:

3,837 MLN RUBLES
Environmental costs of NPPs in 2017

10,712.0 RUBLES
The minimum salary of the Company’s employee from September 1, 2017 (with the minimum monthly wage of 7,800.0 rubles from July 1, 2017)

3,115,027 HOURS
Rosenergoatom employees received 3,115,027 hours of training

2,645,342 THOUSAND RUBLES
The Company’s social policy expenses

CONTRIBUTION TO ACHIEVMENT OF UN SDGs

Good Health and Well-Being
Ensure healthy lives and promote well-being for all at all ages

Quality Education
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Clean Water and Sanitation
Ensure availability and sustainable management of water and sanitation for all

Climate Action
Take urgent action to combat climate change and its impacts

Life below Water
Conserve and sustainably use the oceans, seas and marine resources for sustainable development

KEY FINANCIAL AND ECONOMIC INDICATORS OF ROSENERGOATOM ACTIVITIES

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Δ2017/2016, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>mln rubles</td>
<td>263,757</td>
<td>282,036</td>
<td>360,386</td>
</tr>
<tr>
<td>Gross profit</td>
<td>mln rubles</td>
<td>103,616</td>
<td>105,583</td>
<td>152,738</td>
</tr>
<tr>
<td>Percent of gross profit to revenue</td>
<td>%</td>
<td>39%</td>
<td>37%</td>
<td>42%</td>
</tr>
<tr>
<td>Business expenses</td>
<td>mln rubles</td>
<td>-21</td>
<td>-22</td>
<td>-18</td>
</tr>
<tr>
<td>EBITDA</td>
<td>mln rubles</td>
<td>135,535</td>
<td>134,614</td>
<td>198,062</td>
</tr>
<tr>
<td>Net profit</td>
<td>mln rubles</td>
<td>12,073</td>
<td>1,807</td>
<td>8,742</td>
</tr>
<tr>
<td>Net assets</td>
<td>mln rubles</td>
<td>1,298,091</td>
<td>1,389,225</td>
<td>1,509,615</td>
</tr>
<tr>
<td>Return on sales (by net profit)</td>
<td>%</td>
<td>5.28%</td>
<td>3.76%</td>
<td>12.76%</td>
</tr>
<tr>
<td>Return on assets</td>
<td>%</td>
<td>18.7%</td>
<td>16.3%</td>
<td>21.5%</td>
</tr>
<tr>
<td>Return on equity</td>
<td>%</td>
<td>1.12%</td>
<td>0.76%</td>
<td>3.17%</td>
</tr>
<tr>
<td>EBITDA margin (EBITDA/revenue), estimated</td>
<td>%</td>
<td>51.7%</td>
<td>47.75%</td>
<td>52.99%</td>
</tr>
<tr>
<td>EBITDA margin (EBITDA/revenue), budgeted</td>
<td>%</td>
<td>45.49%</td>
<td>43.23%</td>
<td>46.79%</td>
</tr>
<tr>
<td>Debt/equity ratio</td>
<td></td>
<td>8.87</td>
<td>0.87</td>
<td>8.05</td>
</tr>
<tr>
<td>Current liquidity ratio</td>
<td></td>
<td>1.18</td>
<td>1.63</td>
<td>2.18</td>
</tr>
<tr>
<td>Equity</td>
<td>mln rubles</td>
<td>1,296,828</td>
<td>1,388,030</td>
<td>1,508,466</td>
</tr>
<tr>
<td>Debt</td>
<td>mln rubles</td>
<td>87,932</td>
<td>95,131</td>
<td>74,046</td>
</tr>
</tbody>
</table>

1. Management expenses are shown excluding accrued industry-specific reserves (allocated to prime cost)
### VALUE CREATED AND DISTRIBUTED BY ROSENERGOATOM IN ACCORDANCE WITH RUSSIAN ACCOUNTING STANDARDS, BLN RUBLES

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Indicators</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Created economic value</td>
<td>279.7</td>
<td>294.5</td>
<td>375.8</td>
</tr>
<tr>
<td>2</td>
<td>Incomes (sales revenue, gains from financial investments, and sold assets)</td>
<td>279.7</td>
<td>294.5</td>
<td>375.8</td>
</tr>
<tr>
<td>3</td>
<td>Distributed economic value</td>
<td>160.3</td>
<td>178.3</td>
<td>217.2</td>
</tr>
<tr>
<td>4</td>
<td>Operating costs (payments to suppliers and contractors, cost of purchased materials)</td>
<td>181.6</td>
<td>190.0</td>
<td>141.4</td>
</tr>
<tr>
<td>5</td>
<td>Salaries and other payments and benefits for employees</td>
<td>28.6</td>
<td>29.1</td>
<td>30.1</td>
</tr>
<tr>
<td>6</td>
<td>Payments to capital providers</td>
<td>1.5</td>
<td>1.6</td>
<td>3.8</td>
</tr>
<tr>
<td>7</td>
<td>Gross tax payments (before individual profit tax and VAT)</td>
<td>24.1</td>
<td>26.2</td>
<td>41.4</td>
</tr>
<tr>
<td>8</td>
<td>Investments in communities, including donations</td>
<td>0.4</td>
<td>0.5</td>
<td>0.3</td>
</tr>
<tr>
<td>9</td>
<td>Retained economic value (Line 1 – Line 3)</td>
<td>131.4</td>
<td>136.8</td>
<td>106.6</td>
</tr>
<tr>
<td>10</td>
<td>Contribution to GDP (Line 5 + Line 6 + Line 7 + Line 8 + Line 9)</td>
<td>174.1</td>
<td>175.5</td>
<td>274.5</td>
</tr>
</tbody>
</table>

### REVENUE ANALYSIS

Revenue from sales of the Company's products in 2017, Mln Rubles

- Revenue from electricity and capacity sales by Rosenergoatom at the WECP, taking into account the Bilibino NPP, Mln Rubles
- Revenue from own products sales
- Revenue from purchased products sales

### ACTUAL REVENUE STRUCTURE

Total Revenue From Sale of Power (Capacity) in Accordance With Accounting Statements

<table>
<thead>
<tr>
<th>Total (Mln Rubles)</th>
<th>357,548</th>
</tr>
</thead>
<tbody>
<tr>
<td>Including:</td>
<td></td>
</tr>
<tr>
<td>Revenue from sales of own products</td>
<td>354,730</td>
</tr>
<tr>
<td>Including:</td>
<td></td>
</tr>
<tr>
<td>Bilibino NPP</td>
<td>2,255</td>
</tr>
<tr>
<td>Regulated agreements (power)</td>
<td>9,081</td>
</tr>
<tr>
<td>Regulated agreements (capacity)</td>
<td>24,221</td>
</tr>
<tr>
<td>Day-ahead market</td>
<td>183,653</td>
</tr>
<tr>
<td>Deregulated bilateral contracts</td>
<td>1,908</td>
</tr>
<tr>
<td>Balancing market</td>
<td>1,311</td>
</tr>
<tr>
<td>Capacity supply agreements (capacity)</td>
<td>96,921</td>
</tr>
<tr>
<td>Capacity according to competitive capacity offtake agreements</td>
<td>76,188</td>
</tr>
<tr>
<td>Revenue from sales of purchased products</td>
<td>2,818</td>
</tr>
<tr>
<td>Including:</td>
<td></td>
</tr>
<tr>
<td>ATOMENERGOPROMSUBT</td>
<td>44</td>
</tr>
<tr>
<td>Regulated agreements (power)</td>
<td>341</td>
</tr>
<tr>
<td>Day-ahead market</td>
<td>2,721</td>
</tr>
<tr>
<td>Balancing market</td>
<td>312</td>
</tr>
</tbody>
</table>

### KEY FACTORS INFLUENCING ACTUAL REVENUE INCREASE

#### VOLUME FACTORS:
Increase in the actual volume of electricity produced by the Company and supplied at deregulated prices (day-ahead market and balancing market) by all blocks over 12 months of 2017

| 2015       | 159,373 |
| 2016       | 164,754 |

#### PRICING FACTORS:
Difference in the actual weighted average capacity price under capacity supply agreements

| 2015       | 839,318 |
| 2016       | 1,080,960 |

78,020 MLN RUBLES

The increase in actual revenue from electricity and capacity sales by Rosenergoatom over 12 months of 2017 (if compared to the similar period of 2016).
2017
2016

1,509,615
MLN RUBLES
The net profit of business activities as of December 31, 2017.

1,556,578
MLN RUBLES
The value of net assets as of December 31, 2017.

INCREASE IN ROSENERGOATOM PRODUCED ELECTRICITY SUPPLY TO WECM AT Deregulated PRICES BY NEW POWER UNITS PUT INTO COMMERCIAL OPERATION IN 2016-2017

<table>
<thead>
<tr>
<th>NPP</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELOYARSK NPP POWER UNIT No. 4, MLN KWH</td>
<td>3,790</td>
<td>5,968</td>
</tr>
<tr>
<td>NOVOVORONEZH NPP-2 POWER UNIT No. 1, MLN KWH</td>
<td>968</td>
<td>1,124</td>
</tr>
</tbody>
</table>

INCREASE IN THE ACTUAL MONTHLY AVERAGE CAPACITY SUPPLY UNDER CAPACITY SUPPLY AGREEMENTS, MW PER MONTH

<table>
<thead>
<tr>
<th>NPP</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVOVORONEZH NPP-2 POWER UNIT No. 1, MLN KWH</td>
<td>2,911</td>
<td>2,623</td>
</tr>
</tbody>
</table>

PROFIT ANALYSIS

The net profit of business activities totaled 45,981 mln rubles in 2017, which is 35,376 mln rubles more than the similar indicator of 2016. (10,605 mln rubles of net profit). The net profit growth is supported by the increase in the sales income due to higher revenue.

ASSETS ANALYSIS

According to the accounting balance sheet, the value of net assets as of December 31, 2017 totaled 1,509,615 mln rubles. The growth in net assets value of 120,390 mln rubles was caused by the growth in the value of both non-current assets by 6%, or 82,941 mln rubles, and current assets by 32%, or 44,622 mln rubles.

An increase in the value of non-current assets is caused by the growth in the value of buildings, machinery and equipment by 23%, or 137,292 mln rubles, and fixed assets value. This was related to commissioning of the Novovoronezh NPP power unit No. 6 and taking account of the expenses for connection to power grids (Ros—tov, Novovoronezh NPPs).

As of December 31, 2017, the net assets of Rosenergoatom exceeded the registered capital by 1.85 times. This ratio positively characterizes the financial situation of Rosenergoatom and fully meets the statutory requirements for the net asset value of an organization.

Taking into account that the net assets both exceeded the registered capital and increased during the reporting period, we may say that the financial status of Rosenergoatom is healthy.

BALANCE SHEET STRUCTURE

The amount of assets of Rosenergoatom increased by 8% (127,563 mln rubles) in 2017. The increase in the amount of assets is due to growth in the value of both non-current assets by 6%, or 82,941 mln rubles, and current assets by 32%, or 44,622 mln rubles.

An increase in the value of non-current assets is caused by the growth in the value of buildings, machinery and equipment by 23%, or 137,292 mln rubles, due to commissioning of the Novovoronezh NPP power unit No. 6, and accounting of expenses for connection to power grids (Rostov, Novovoronezh NPPs).

As of December 31, 2017, the non-current assets value totaled 1,556,578 mln rubles, or 89% of the total asset value. The value of current assets of Rosenergoatom increased by 44,622 mln rubles, or 32% in 2017. The share of short-term financial investments in the Company’s current assets considerably increased in 2017 (by 34,465 mln rubles) due to lending to Atomenergomash in line with Rosenergoatom Financial Policy.

CHANGES IN ASSETS OF ROSENERGOATOM, MLN RUBLES

<table>
<thead>
<tr>
<th>Year</th>
<th>Current assets</th>
<th>Non-current assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>122,788</td>
<td>1,348,290</td>
</tr>
<tr>
<td>2016</td>
<td>141,182</td>
<td>1,472,912</td>
</tr>
<tr>
<td>2017</td>
<td>165,079</td>
<td>1,556,578</td>
</tr>
</tbody>
</table>

STRUCTURE OF ACCOUNTS RECEIVABLE, MLN RUBLES

<table>
<thead>
<tr>
<th>Year</th>
<th>Advance payments for capital construction</th>
<th>Buyers and customers</th>
<th>Bad debt provisions</th>
<th>Advance payments for current operations</th>
<th>Other receivables</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>78,600</td>
<td>6,099</td>
<td>17,419</td>
<td>14,536</td>
<td>16,652</td>
</tr>
<tr>
<td>2016</td>
<td>38,472</td>
<td>3,751</td>
<td>19,187</td>
<td>29,199</td>
<td>27,143</td>
</tr>
<tr>
<td>2017</td>
<td>60,253</td>
<td>3,476</td>
<td>26,041</td>
<td>17,339</td>
<td>19,047</td>
</tr>
</tbody>
</table>
**CHANGES IN LIABILITIES**

The cost of Rosenergoatom property as of the end of the reporting period totaled 1,508,466 mln rubles. The Company’s structure of sources of funds is dominated by the equity – its specific weight totals 87%.

The property value increased as a result of the increase in equity value by 120,437 mln rubles due to construction of fixed assets and construction work in progress through depreciation deductions and provisions aimed at ensuring nuclear power plants safety at all stages of their life cycle and development, and created in accordance with the Russian Federation Government Regulation dated January 30, 2002 No. 68 on Approval of Rules for Funds Allocation by Operating Companies for Provisions Aimed at Ensuring Nuclear Power Plants Safety at All Stages of Their Life Cycle and Development.

---

**CHANGES IN LIABILITIES OF ROSENERGOATOM, MLN RUBLES**

<table>
<thead>
<tr>
<th>Year</th>
<th>Long-term liabilities</th>
<th>Short-term liabilities</th>
<th>Capital and reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>143,206</td>
<td>86,404</td>
<td>1,508,466</td>
</tr>
<tr>
<td>2016</td>
<td>141,887</td>
<td>84,977</td>
<td>1,388,029</td>
</tr>
<tr>
<td>2015</td>
<td>55,512</td>
<td>220,378</td>
<td>1,295,020</td>
</tr>
</tbody>
</table>

---

**BUDGETING**

In order to achieve key performance indicators, Rosenergoatom applies a systematic approach to planning and accounting of incomes, costs, and cash flows. The budgeting process is performed in line with the approved Unified Industry-Level Procedure of Mid-Term Business Planning in Rosatom State Corporation and Its Organizations. The budget is detailed quarterly planning of the first year of the business plan developed for five years. The process is run through the Distributed Planning and Budgeting System of Rosatom.

The budget, income and expense estimates for manufacturing and sales of products by types of activity across branches, Headquarters, and Rosenergoatom as a whole are developed and approved on the annual basis through corporate procedures in order to execute the Company’s production program, and guarantee financing of top-priority business and development areas. Cost estimates are the documents laying the basis for spending funds of Rosenergoatom and its branches for the planned period.

Funds are spent strictly within the limits communicated to structural units in accordance with the approved consolidated income and expense estimates subject to adjustments made pursuant to the approved procedure. The Company is also engaged in operational financial planning (planning horizon of 1 month). Spending is funded according to the cash flow budget.

---

**COST MANAGEMENT IN 2017**

Considerable cost optimization is only possible on the basis of a systemic targeting and management of all enterprise resources and expenses. Expenses of structural units of the Company’s Headquarters and branches are controlled on a monthly basis, consolidated estimates are analyzed (plan/actual), and forecasts until the year end are made on a quarterly basis. Pursuant to the target indicators for 2017, the Company continued keeping expenses under control both as part of the administrative costs optimization program and for the purpose of achieving the target value of adjusted free cash flow. Branches and structural units of the Headquarter received individual tasks for reduction of costs with inclusion in the KPI matrix.

During the year, the branches performed constant monitoring of the expenses level, additional corrective measures were taken if required. As a result, specific semi-fixed costs were maintained on the level of 1,667 thousand rubles/MW, measured at the prices of 2013, which is slightly lower than the level of 2016 (1,670 thousand rubles/MW).
THE COMPANY’S INVESTMENT ACTIVITY IN THE FORM OF CAPITAL INVESTMENTS IS AIMED AT IMPLEMENTING THE RUSSIAN FEDERATION PROGRAM FOR NUCLEAR POWER INDUSTRY COMPLEX DEVELOPMENT.

Rosenergoatom investment programs are prepared in full conformity with the strategic goals of the Power Engineering Division of Rosatom State Corporation, aimed at providing consumers with electricity and heat produced at Russian nuclear power plants with guaranteed safety as a top priority of its activities.

Distribution of functions among the parties involved in the investment process is regulated by the Investment Agreement between Rosatom State Corporation, Atomenergomorom, and Rosenergoatom.

Investment activities of the Company are financed from the Company’s own funds, from the assets contributed by Rosatom State Corporation, and borrowed funds.

Pursuant to the Resolution by the General Stockholder Meeting (Minutes No. 23 dated June 27, 2017 with consideration of the Minutes of Rosatom State Corporation Management Committee Meeting No. 27 dated September 14, 2017), Rosenergoatom profit of 8,458.39 mln rubles was channeled to fund projects and measures of the investment program for 2017-2019.

The estimated demand for investments to fixed capital in 2018 and in 2019–2022 is as follows (in mln rubles, without VAT):

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>186,526.52</td>
</tr>
<tr>
<td>2019</td>
<td>177,005.22</td>
</tr>
<tr>
<td>2020</td>
<td>146,708.26</td>
</tr>
<tr>
<td>2021</td>
<td>121,751.36</td>
</tr>
<tr>
<td>2022</td>
<td>89,414.44</td>
</tr>
</tbody>
</table>

The Power Engineering Division project portfolio funded from CIR is dominated by the DPC project. The project milestones planned for 2017 were passed.


The planned amount of the investment program for 2017 totaled 160,252.12 mln rubles, the actual amount of 2017 – 161,048.09 mln rubles.

Furthermore, the funds of the Rosatom State Corporation’s asset contribution totaling 22,719.0 mln rubles were channeled to investment projects related to construction of NPP units.

ROSENERGOATOM INVESTMENT PROJECTS FUNDED FROM CONSOLIDATED INVESTMENT RESOURCE (CIR) OF ROSATOM STATE CORPORATION.

CIR funding totaled 2,266.2 mln rubles.

CIR funded projects implemented in 2017 (1,990.2 mln rubles allocated, with VAT):

- Rosenergoatom DPC construction – 1,878.9 mln rubles, with VAT;
- Co-60 production arrangement at RBMK-type reactors – 21.3 mln rubles, with VAT.

PROJECTS OF THE COMPANY’S SUBSIDIARIES INCLUDED INTO THE CONSOLIDATED BUDGET OF ROSATOM STATE CORPORATION IN 2017:

<table>
<thead>
<tr>
<th>Company</th>
<th>Project</th>
<th>Amount, Mln Rubles, VAT Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atomegometor</td>
<td>Acquisition of maintenance aids, jigs, fixtures and tools, etc.</td>
<td>123.1</td>
</tr>
<tr>
<td>Atomtechenergo</td>
<td>Acquisition of equipment for start-up and commissioning, etc.</td>
<td>146.0</td>
</tr>
<tr>
<td>AtomEnergofizy</td>
<td>Supporting activities of last resort suppliers in the Kursk, Tver, Smolensk and Murmansk Oblasts</td>
<td>48.8</td>
</tr>
<tr>
<td>VNIIAES</td>
<td>Creation of the monitoring system for engineering structures of NPP facilities, etc.</td>
<td>38.1</td>
</tr>
<tr>
<td>Russatom Service</td>
<td>IT equipment acquisition, etc.</td>
<td>11.7</td>
</tr>
<tr>
<td>AtomEnergofizy</td>
<td>Acquisition of IT equipment and administrative support equipment</td>
<td>9.9</td>
</tr>
<tr>
<td>ZAES</td>
<td>Acquisition of computer devices and uninterrupted power supply equipment</td>
<td>4.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>56.0</td>
</tr>
</tbody>
</table>
3.3 ENVIRONMENTAL IMPACT

THE COMPANY’S ENVIRONMENTAL POLICY IS AIMED AT ENSURING SUSTAINABLE ENVIRONMENTALLY-FRIENDLY DEVELOPMENT OF THE NUCLEAR INDUSTRY, AND PROVIDING THE LEVEL OF NPP SAFETY WHEN THE IMPACT ON THE ENVIRONMENT, PERSONNEL, AND POPULATION WOULD BE MINIMAL IN THE SHORT AND LONG TERMS, THUS CONSERVING NATURAL SYSTEMS, AND SUPPORTING THEIR INTEGRITY AND LIFE-SUSTAINING FUNCTIONS.

MAIN GOALS AND OBJECTIVES OF ENVIRONMENTAL POLICY

Rosenergoatom environmental policy ensures implementation of the basic provisions of the Russian Federation Constitution and laws, definition of main principles and obligations in the area of environmental protection, assurance of environmental safety, and sustainable environmentally-friendly development of nuclear power plants.

ENVIRONMENTAL POLICY IMPLEMENTATION RESULTS IN 2017

NPP production activities were carried out in unconditional compliance with standards and rules of the applicable environmental laws. NPPs were operating in a safe and reliable manner, making as low environmental impact as possible.

In 2017:

- Positive opinions of the state environmental expert review were received in relation to the materials substantiating licenses for power units operation;
- Self-assessment of NPP compliance with environmental laws and results of the environmental protection measures was organized and carried out;
- New revisions were developed and enacted of STO 1.1.1.01.003.0761-2017 – Environmental Management System of Rosenergoatom. General Provisions, Structure, Requirements, and STO 1.1.1.01.003.0762-2017 – Environmental Management System of Rosenergoatom. Internal Audit;
- The action plan of Rosenergoatom and Rosatom State Corporation was implemented for arrangement of the Year of Ecology in 2017;
- Actions scheduled for 2017 by the Comprehensive Plan for Implementation of the Environmental Policy of Rosatom State Corporation for 2016 and until 2018, and the industry-level Prioritized Action Plan for Reduction of Negative Impacts on Environment of Rosatom State Corporation until 2020 were taken (as refers to Rosenergoatom and operational NPPs).

As part of the Environmental Policy implementation, the following major activities were performed:

- The Balakovo NPP stopped placing hazard class III waste at the Landfill for NPP Waste Containing Radionuclides within Tolerable Limits;
- The Kalinin NPP commissioned modular treatment facilities at the outlet No.4 of the storm water drain of Stage 1;
- The Leningrad NPP commissioned pumping plants for process and storm water;
- Biological treatment facilities were upgraded at the Smolensk NPP. Neutralization and burial (emplacement) of waste of hazard classes I to III stopped. All waste of hazard class III was unloaded and transferred for disposal from detention pond No.3 of the landfill for non-radioactive industrial waste and construction debris.

In accordance with the results of the Rosatom sponsored contest for Nuclear Industry Organization of Environmental Excellence, the second place was taken by the Balakovo NPP; the third place – by the Nevelsorezn NPP special nomination – the Kalinin NPP. The judging commission noted a considerable contribution made by the Company and its branches to environmental protection and ensuring environmental safety, which was evidenced by the materials presented at the contest.

<table>
<thead>
<tr>
<th>3,837 MLN RUBLES</th>
<th>Environmental costs of NPPs totaled in 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.01%</td>
<td>The share of NPPs in the amount of pollutant emissions into atmospheric air by all Russian enterprises did not exceed 0.01%</td>
</tr>
</tbody>
</table>

Pursuant to the Russian President Decree, the year of 2017 was named as the Year of Ecology and Specially Protected Natural Areas.

"The main change in the nuclear power industry in the recent decade is transfer to environmental information disclosure. Transparency helps solving environmental problems and ensuring broad support of the industry."

SERGEY BARANOVSKY,
Chairman of Green Cross Inter-Regional Public Environmental Organization, Doctor of Engineering

"New standards of safety and environmental friendliness, as well as the chosen direction to the fuel cycle closure let us say that the nuclear industry is one of the ‘greenest’ today. Nevertheless, we need to continue improvement of technologies, safety and economic attractiveness."

ALEXEY LIKHACHEV,
CEO of Rosatom State Corporation

ATMOSPHERIC EMISSIONS OF POLLUTANTS

The amount of atmospheric pollutants emission by the nuclear power plants does not exceed the permitted values, and is considerably lower than the limits set by the environmental authorities. The bulk of pollutant emissions at NPPs are attributed to boiler houses, boiler facilities of health and recreation resorts, and standby diesel generator plants started on an occasional basis for scheduled test runs. Gross atmospheric emissions of pollutants at all NPPs did not exceed the standard values:

- 1,069 t of air pollutants (23.3% of the amount allowed in the reporting year) were emitted;
- Amount of solid pollutants – 38 t, gaseous and liquid pollutants – 1,031 t;
- Gas cleaning and dust capturing units received 153.8 t of pollutants, 151.1 t out of them were collected and decontaminated (above 98.2% collecting efficiency).

Nuclear power plants strive to further reduce harmful effect on the atmosphere: we are improving the technology used for increasing efficiency of fuel combustion, use fuel oil of higher quality (with a lower sulfur content), improve technologies used in painting, put into operation efficient gas cleaning and dust capturing units.

DISCHARGE OF POLLUTANTS INTO WATERS

Nuclear power plants are large water consumers, therefore the issues of water consumption and water disposal play an important role in environmental activities. Almost all water extracted from water bodies (over 99%) was used at NPPs as industrial water (cooling of process media in turbine condensers and heat exchange equipment), and returned to water bodies.

Nuclear power plants do not make a considerable impact on water sources. The water sources used by nuclear power plants do not belong to protected areas. Nuclear power plants have no effect on the wetlands included in the Ramsar List.

MAIN INDICATORS OF ENVIRONMENTAL IMPACT

VOLUME OF POLLUTANT EMISSIONS INTO ATMOSPHERE BY NUCLEAR POWER PLANTS IN 2015-2017, T

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur oxide</td>
<td>613.6</td>
<td>465.3</td>
<td>488.8</td>
</tr>
<tr>
<td>Carbon oxides</td>
<td>143.5</td>
<td>146.1</td>
<td>114.1</td>
</tr>
<tr>
<td>Nitrogen oxides (in NO₂ equivalent)</td>
<td>222.8</td>
<td>215.6</td>
<td>186.3</td>
</tr>
<tr>
<td>Hydrocarbons (excl. volatile organic compounds)</td>
<td>162.4 (among them: 164.8)</td>
<td>154.7</td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds</td>
<td>182.9</td>
<td>78.1</td>
<td>71.9</td>
</tr>
<tr>
<td>Other gaseous and liquid</td>
<td>23.8</td>
<td>24.1</td>
<td>23.8</td>
</tr>
<tr>
<td>Total</td>
<td>1,268.9</td>
<td>1,081.4</td>
<td>1,030.7</td>
</tr>
</tbody>
</table>

EMISSIONS OF NOₓ, SOₓ, AND OTHER SIGNIFICANT POLLUTANTS INTO ATMOSPHERE, INDICATING THEIR TYPE AND MASS, T

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
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</tr>
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<td>143.5</td>
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<tr>
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</tr>
<tr>
<td>Total</td>
<td>1,268.9</td>
<td>1,081.4</td>
<td>1,030.7</td>
</tr>
</tbody>
</table>

EMISSIONS OF OZONE-DESTROYING SUBSTANCES (ODS) IN 2015-2017

<table>
<thead>
<tr>
<th>Name of ODS</th>
<th>ODS Emitted, T</th>
<th>ODS Emitting, T</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCFC-22</td>
<td>7.446</td>
<td>10.729</td>
</tr>
<tr>
<td>HCFC-141b</td>
<td>1.670</td>
<td>1.745</td>
</tr>
<tr>
<td>HCFC-142b</td>
<td>0.085</td>
<td>0.114</td>
</tr>
</tbody>
</table>

WHERE: HCFC-22 – difluorochloromethane (ODP = 0.055); HCFC-141b – 1,1-dichloro-1-fluoroethane (ODP = 0.11); HCFC-142b – 1-chloro-1,1-difluoroethane (ODP = 0.065).

USE OF WATER BY SOURCES, MLN M³

<table>
<thead>
<tr>
<th>Extracted Water by Sources</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable water from natural water sources</td>
<td>11.0 (among them 8.1 – ground water)</td>
<td>11.0 (among them 8.0 – ground water)</td>
<td>11.0 (among them 7.5 – ground water)</td>
</tr>
<tr>
<td>Potable water from water supply utility systems and other water supply systems</td>
<td>7.3</td>
<td>6.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Fresh process water from natural bodies of water</td>
<td>1,687.5</td>
<td>1,665.4</td>
<td>1,670.8</td>
</tr>
<tr>
<td>Sea water</td>
<td>5,149.5</td>
<td>5,254.4</td>
<td>4,969.7</td>
</tr>
<tr>
<td>Total</td>
<td>6,851.9</td>
<td>6,931.8</td>
<td>6,665.7</td>
</tr>
</tbody>
</table>

VOLUME OF MULTIUSABLE AND REUSABLE WATER, MLN M³

<table>
<thead>
<tr>
<th>Year 2015 2016 2017</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Consumption</td>
<td>3,318</td>
<td>4,291</td>
<td>4,180</td>
</tr>
<tr>
<td>In water recycling systems</td>
<td>3,152</td>
<td>3,067</td>
<td>2,983</td>
</tr>
<tr>
<td>In reused water systems</td>
<td>32,287.4</td>
<td>32,409.3</td>
<td>32,618.5</td>
</tr>
<tr>
<td>In reused water systems</td>
<td>418.4</td>
<td>474.1</td>
<td>456.7</td>
</tr>
<tr>
<td>Total</td>
<td>503-1</td>
<td>503-1</td>
<td>503-1</td>
</tr>
</tbody>
</table>
SEA / POTABLE WATER WITHDRAWAL AND DISCHARGE

<table>
<thead>
<tr>
<th>NPP</th>
<th>Water Bodies</th>
<th>Withdrawal</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balakovo</td>
<td>Saratov Reservoir</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Belyaysk</td>
<td>Belyaysk Reservoir</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Obkhoivoskoye Swamp</td>
<td></td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Bilbino</td>
<td>Reservoir on Bolshoi Ponneugen Stream</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td>Bolshoi Ponneugen Stream</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Kalinin</td>
<td>Kalinin NPP Reservoir (heat sinks)</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td>Volchina River, Khomutovka River</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Kola</td>
<td>Olshchaya Bay of the Iranda Reservoir</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td>Molochnaya Bay of the Iranda Reservoir</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Kurik</td>
<td>Seym River</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Leningrad</td>
<td>Kopolye Bay in the Gulf of Finland, Sista River, Kovaishi River</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td>Kopolnoukoye Lake</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td>Pegia River</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Novovoronezh</td>
<td>Don River</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Rostov</td>
<td>Tumlyansk Reservoir</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td>Heat sink of the Tumlyansk Reservoir</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Smolensk</td>
<td>Reservoir on Dneba River</td>
<td>↓</td>
<td>↓</td>
</tr>
</tbody>
</table>

In 2017, NPP wastewater disposal was within the limits of water balance and the amount of generated power, and totaled 94% of the volume of water used. It is a good indicator of water resources use. Water resources were used in compliance with the limits established by environmental authorities. Waste waters of household sewage and storm water drainage were treated before their discharge into surface waters at all NPPs. Control of the water resources use. Water resources were included into the List of Water Reservoirs (including Water Reservoirs with Capacity Exceeding 10 mln m³) subject to development of the rules of use for each water reservoir.


In 2017, the total of 6,255.0 mln m³ were removed, and the share of contaminated waste water was equal to 0.03%.

6,244.8 mln m³ of partially clean waste water and 7.9 mln m³ of waste water treated to standard quality were discharged into water bodies in 2017, including:

- 5.6 mln m³ at the mechanical water treatment facilities;
- 2.3 mln m³ at the biological water treatment facilities.

The discharge volumes of polluted waste waters are steadily reduced owing to consistent modernization and reconstruction of waste water treatment facilities at NPPs.

Handling Production and Consumption Waste

As far as handling production and consumption waste (hereinafter – waste) is concerned, NPPs effect their environmental protection activities in accordance with legislation of the Russian Federation in the area of environmental protection, and based on the license and approved draft standards for waste generation and limits on waste emplacement.

Like any other enterprises, nuclear power plants generate waste of five hazard classes, resulting from their production activities. In 2017, nuclear power plants produced 35,112 t of waste, which is 1,791 t less than in 2016 (36,903 t).

Environmental Costs

The environmental costs incurred by NPPs include expenses for protection and rational use of water resources (including payments to other enterprises for acceptance and treatment of wastewater), atmospheric air, environmental protection against the adverse impact of production and consumption waste (including payments under contracts on transfer of waste to specialized organizations).

Production and Consumption Waste by Classes, T

<table>
<thead>
<tr>
<th>Class</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>47</td>
<td>55</td>
<td>29</td>
</tr>
<tr>
<td>Class 2</td>
<td>131</td>
<td>138</td>
<td>59</td>
</tr>
<tr>
<td>Class 3</td>
<td>2,795</td>
<td>2,256</td>
<td>3,045</td>
</tr>
<tr>
<td>Class 4</td>
<td>728</td>
<td>127</td>
<td>124</td>
</tr>
<tr>
<td>Class 5</td>
<td>29,501</td>
<td>19,555</td>
<td>17,234</td>
</tr>
</tbody>
</table>

As of the beginning of 2017, there were 5,101.9 t of waste, and 6,552 t as of the year end.

In 2017, nuclear power plants transferred waste to other organizations for:

- Treatment – 2,259 t;
- Disposal – 10,284 t;
- Neutralization – 7,130 t;
- Burial – 10,998 t.

Waste is sourced from auxiliary structural units and units supporting nuclear power plants operation (maintenance and repair of buildings, equipment, NPP personnel servicing, waste water treatment, metal and wood processing). All production and consumption waste is emplaced at specially equipped sites, in special storages, and its disposal is controlled by ecological services of nuclear power plants.

The share of recycled and reused water averaged 49.6% of the total water intake in the reporting year.

All water reservoirs used for process and recycling water supply at nuclear power plants (except for the Leningrad and Bilbino NPPs) are included into the List of Water Reservoirs.

The bulk of waste (91.1%) generated in 2017 consisted of class 4 waste (low hazardous waste) and class 5 waste (virtually non-hazardous waste).

The table shows the percentage of recycled and reused water.

Sea & Potable Water Withdrawal and Discharge

In accordance with duly agreed and approved with waste waters from NPPs was effected content of pollutants entering surface water into surface waters at all NPPs. Control of the drainage were treated before their discharge waters of household sewage and storm water of generated power, and totaled 94% of the volume of water used. It is a good indicator of use for each water reservoir.

In 2017, the total of 6,255.0 mln m³ were removed, and the share of contaminated waste water was equal to 0.03%.

6,244.8 mln m³ of partially clean waste water and 7.9 mln m³ of waste water treated to standard quality were discharged into water bodies in 2017, including:

- 5.6 mln m³ at the mechanical water treatment facilities;
- 2.3 mln m³ at the biological water treatment facilities.

The discharge volumes of polluted waste waters are steadily reduced owing to consistent modernization and reconstruction of waste water treatment facilities at NPPs.

The discharge volumes of partially clean waste waters are steadily reduced owing to consistent modernization and reconstruction of waste water treatment facilities at NPPs.

Waste is sourced from auxiliary structural units and units supporting nuclear power plants operation (maintenance and repair of buildings, equipment, NPP personnel servicing, waste water treatment, metal and wood processing). All production and consumption waste is emplaced at specially equipped sites, in special storages, and its disposal is controlled by ecological services of nuclear power plants.

The environmental costs incurred by NPPs include expenses for protection and rational use of water resources (including payments to other enterprises for acceptance and treatment of wastewater), atmospheric air, environmental protection against the adverse impact of production and consumption waste (including payments under contracts on transfer of waste to specialized organizations).

Production and Consumption Waste by Classes, T

<table>
<thead>
<tr>
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<th>2015</th>
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<td>17,234</td>
</tr>
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</table>

The share of recycled and reused water averaged 49.6% of the total water intake in the reporting year.

Operation of waterworks at federal water bodies imposes additional responsibility on nuclear power plants for preservation and rational use of water resources, cleanliness of water protection areas, etc.
A fine in the amount of 30.0 thousand rubles was imposed on the Leningrad NPP in 2017 for violation of the environmental regulations.

Applicable legislation provides for a fee for the adverse environmental impact as a form of partial compensation for the damage caused to the environment by a natural resource user. Nuclear plants are obliged to pay for the following types of the adverse environmental impact:

- Atmospheric emissions of pollutants;
- Discharge of pollutants into waters;
- Production and consumption waste emplacement.

<table>
<thead>
<tr>
<th>ENVIRONMENTAL COSTS, MLN RUBLES</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEE FOR ADVERSE IMPACT ON ENVIRONMENT, THOUSAND RUBLES</td>
<td>3,486</td>
<td>3,447</td>
<td>3,037</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL COSTS BY AREAS, MLN RUBLES

<table>
<thead>
<tr>
<th>Item</th>
<th>Current Expenses</th>
<th>Payments for Environmental Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of atmospheric air and prevention of climate change</td>
<td>148</td>
<td>15</td>
</tr>
<tr>
<td>Collection and treatment of waste waters</td>
<td>1,016</td>
<td>118</td>
</tr>
<tr>
<td>Waste handling</td>
<td>566</td>
<td>166</td>
</tr>
<tr>
<td>Protection and rehabilitation of lands, surface and ground waters</td>
<td>118</td>
<td>28</td>
</tr>
<tr>
<td>Protection against noise, vibration, and other types of impact</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Preservation of biodiversity and protection of natural areas</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Ensuring environmental radiation safety</td>
<td>1,215</td>
<td>546</td>
</tr>
<tr>
<td>Research and development activities aimed at reducing adverse human-induced impact</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous areas</td>
<td>170</td>
<td>68</td>
</tr>
</tbody>
</table>

The Federal Medical-Biological Agency of Russia identified an administrative offence at the Kola NPP in the reporting year.

ENVIRONMENTAL RISKS MANAGEMENT

The most efficient scientific approach allowing for quantitative assessment of the impact made by various human-induced factors on the environment and human health, is a risk analysis methodology. Since the late 1980s, this methodology was successfully applied in all economically developed countries as one of the top priority and most efficient tools of scientific substantiation of managerial solutions in the area of environmental and health protection.

In the recent years, the Nuclear Safety Institute under the Russian Academy of Sciences completed a series of scientific projects that allowed to perform comparative analysis of radiation risks imposed by Russian NPPs operation, and chemical risks related to coal-fired CHPPs, other industrial facilities and human-induced factors for the health of the Russian population. This kind of research in evaluation of radiation and chemical risks for human health in NPP locations were carried out in the Sverdlovsk and Voronezh Oblasts, and where it was decided to construct new NPP units. The outcomes were taken into account in preparation of the Company’s environmental policy, and development of Rosenergoatom Environmental Management System (EMS).

ECOLOGICAL ACCEPTABILITY

Rosenergoatom developed program activities in key areas, including environmental, along with corporate standards which reflect short-term goals and comply with the Company’s strategic concept on EMS improvement.

The following documents were developed and enacted to harmonize the environmental activities of NPPs with the requirements of international laws and regulatory acts of various levels:

- Basic Rules of Ensuring Environmental Protection at NPPs;
- Procedural Guidelines for Arrangement of Environmental Monitoring at NPPs;
- Guidelines for Organization of Work during Production and Consumption Waste Handling.
3.4 RADIATION EFFECT ON PERSONNEL AND POPULATION

The Company strictly abides by sanitary rules, radiation safety standards and rules with constant monitoring of the radiation situation at NPPs and in adjacent areas, personnel doses, radioactive substances emission and discharge values; consistently conducts the policy of implementation and further development of the methodology on radiation protection optimization at nuclear power plants, which consists in maintaining individual exposure doses and number of exposed persons on the lowest possible levels taking into account economic and social factors.

The Company maintains a trend of decreasing the personnel exposure as a result of its activities aimed at improving the radiation situation at the process equipment and in process rooms, reducing the personnel exposure to ionizing radiation fields, as well as the organizational measures for streamlining the radiation protection at nuclear plants.

RESULTS OF 2017 IN RADIATION SAFETY MAINTENANCE

<table>
<thead>
<tr>
<th>NOT EXCEEDED</th>
<th>MORE THAN 95% OF NPP PERSONNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>The basic exposure dose limits among personnel at all NPPs were not exceeded</td>
<td>were not exposed above the individual dose limit of 5 mSv set for the population</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELIMINATED</th>
<th>NO UNAUTHORIZED DISCHARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unauthorized exceeding of the reference level of the individual exposure dose (mSv) was eliminated</td>
<td>of radioactive nuclides into the environment took place</td>
</tr>
</tbody>
</table>

LOWER THAN APPLICABLE STANDARDS
Gas-aerosol emissions by NPPs and radioactive substances discharge into water bodies were considerably lower than applicable standards.

MAXIMUM INDIVIDUAL DOSES AT NPPS, MSV

<table>
<thead>
<tr>
<th>Maximum Individual Dose at NPPs, MSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lam</td>
</tr>
<tr>
<td>10.4</td>
</tr>
</tbody>
</table>

SLIDING (OVER THREE YEARS) COLLECTIVE RADIATION EXPOSURE AT NPPS BY TYPES OF REACTOR UNITS, PERSON-SV/UNIT

COLLECTIVE RADIATION EXPOSURE AT NPPS IN 2015-2017, PERSON-SV/UNIT

The maximum individual exposure dose among NPP personnel does not exceed the target indicators set for nuclear plants.

Current radiation exposure of personnel at nuclear power plants with VVER and RBMK type reactors almost reached the optimal level comparable to similar indicators of foreign NPPs, slight deviations from which are usually defined by the number and duration of repairs during the year.
RADIATION CONTROL

Radiation control is aimed at determining the level of compliance with radiation safety principles and standard requirements, including non-exceedance of specified limits of doses and admissible levels for normal operations, as well as procurement of the information required for optimizing protection and making decisions on interference in case of radiation accidents.

For control of dose loads and radiation risks, the Company’s NPPs use the automated system of individual dosimeter control (ASIDC) and the automated workstation calculating individual radiation protection (AWCIR).

In 2017, a series of measures for implementation at the NPPs of the best practices in the sanitary admittance regime, including application of CCTV for control of compliance with the requirements for radiation safety, upgrade of stationary sanitary air locks, etc.

The maximum values characterizing industrial emissions of radionuclides by NPPs into the environment received with the use of a conservative approach to accounting of emissions and discharges (consisting in presumed presence of radioactive substances in emissions and discharges, even if they are not observed by respective instruments and techniques) are at the level of 0.5 of the lower measurement limit.

In 2017, the Rosenergoatom continued implementing the Action Plan for Introduction of Guidelines for Development and Establishment of Permissible Standards for Radioactive Substances Discharge to Atmosphere by Rosatom State Corporation. The Action Plan implementation is coordinated by a task force comprised of representatives of Rosenergoatom, the Scientific and Engineering Center for Nuclear and Radiation Safety, Russian FMBA, RPA Typhoon, VNIIAES.

In order to ensure compliance of the radiation control efficiency with the current requirements at all stages of the NPP life cycle, it is planned to upgrade the RCS at power plants. The upgrade is carried out in a scheduled manner in line with the programs. NPP radiation control organization (scope, frequency, control points, performers, and result record-keeping) is determined by relevant rules approved by regional directorates of the Federal Medico-Biological Agency (FMBA) of Russia, which perform independent random radiation control of the natural environment locations and locally produced food items.

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Emissions of inert radioactive gases (IRG) and iodine-131 into atmosphere in 2017

<table>
<thead>
<tr>
<th>NPP</th>
<th>IRG</th>
<th>% of Allowable Emissions</th>
<th>MBq</th>
<th>% of Allowable Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TBq</td>
<td></td>
<td>MBq</td>
<td></td>
</tr>
<tr>
<td>Balakovo</td>
<td>22.9</td>
<td>3.3</td>
<td>73.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Beloyarsk</td>
<td>1.9</td>
<td>0.5</td>
<td>25.7</td>
<td>0.1</td>
</tr>
<tr>
<td>Bilibino</td>
<td>516.3</td>
<td>26.3</td>
<td>167.3</td>
<td>0.85</td>
</tr>
<tr>
<td>Kalinin</td>
<td>28.5</td>
<td>5.0</td>
<td>126.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Kola</td>
<td>14.7</td>
<td>2.1</td>
<td>62.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Kurak</td>
<td>48.2</td>
<td>13.0</td>
<td>1,006.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Leningrad</td>
<td>281.7</td>
<td>9.5</td>
<td>245.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Novovoronezh</td>
<td>45.0</td>
<td>6.6</td>
<td>402.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Rostov</td>
<td>83.8</td>
<td>14.2</td>
<td>53.7</td>
<td>0.2</td>
</tr>
<tr>
<td>Smolensk</td>
<td>658.1</td>
<td>0.5</td>
<td>135.0</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Radiation control system

- Process radiation monitoring
- Radiation monitoring of NPP rooms and facilities
- Radiation control of radioactive contamination
- Radiation monitoring of environment
- Automated radiation monitoring system used outside NPP facilities
- Automated radiation control system used at NPP and its facilities
- Online radiation monitoring and laboratory analysis equipment
- Automated system of individual dosimeter control

For the entire period of NPPs operation, there were no losses, theft, or unauthorized use of nuclear materials.

Handling radioactive waste and spent nuclear fuel

- Timely removal from the Company’s nuclear plant sites
- Ensuring nuclear and radiation safety during storage and handling of SNF
- Gradual reduction of volumes and production
- Conditioning that ensures safe temporary storage of RAW at NPPs and its further transfer to burial facilities of the National Operator for Radioactive Waste Management.

Raw management and conditioning techniques used at NPPs

- Liquid RAW
  - Deep evaporation
  - Cementation
  - Bituminization
  - Ion-selective treatment

- Solid RAW
  - Burning
  - Compaction
  - Fragmentation
  - Decontamination
  - Melting

Nonproliferation of nuclear materials

Nonproliferation of nuclear materials is ensured through the Company’s system of state accounting and control of nuclear materials. This system functions in full compliance with the requirements of international and Russian regulations and is under control of Rosatom State Corporation and Rosatom State Corporation and Rosstekhnadzor. The system comprises a set of organizational activities, regulatory and procedural documents, and technical means which provide for accounting and control, and prevention of unauthorized operations with nuclear fuel at all stages of its handling at NPPs.
RESULTS OF 2017: SAFETY WAS ENSURED DURING SNF AND RAW MANAGEMENT.

- RAW production was reduced in 2017 by 3% versus 2016;
- SNF volumes removed from NPP sites correspond to the level planned for 2017;
- In 2017, preparation was ensured for removal of 3 trains with SNF from the Beloyarsk NPP AMB reactors, and 2 trains with SNF by 6 transport packages TUK-84/1 in each were removed to PO Mayak;
- Trial removal of 18 SNFAs (VVER-1000) in a new transport package (TUK-1410) from the Balakovo NPP to PO Mayak;
- Trial removal of 18 SNFAs (VVER-1000) with enrichment of 4.4% in transportation packages TUK-13 from the Kalinin NPP to GKhK with the use of the SNFA burn-up measurement plant;
- The first SNFA (RBMK-1000) was dismantled at the SNF container storage and handling complex being constructed at the Smolensk NPP (November 2017);
- Construction of RAW processing complexes continued at the Kursk and Leningrad NPPs;
- 636 t of metal waste contaminated with radioactive substances were removed from NPP sites (Balakovo, Kalinin, Kola, Kursk, Leningrad, and Smolensk NPPs).

As part of the Federal Target Program for Ensuring Nuclear and Radiation Safety for 2016-2020 and until 2030, federal RAW were transferred for further burial in 2017: 1,400 m³ from the Balakovo NPP, 1,719.2 m³ from the Smolensk NPP; treatment of federal liquid RAW was arranged at the Balakovo, Kola, Novovoronezh, Smolensk NPP – 955 m³, solid RAW – from the Balakovo, Leningrad, Smolensk NPPs – 1,210 m³.

3.5 HR POLICY

“ROSENERGOATOM STRENGTH IS IN CONTINUITY OF THE TRADITIONS INHERITED FROM OUR FOUNDERS. PRIORITIES OF SAFETY, EFFICIENCY, QUALITY OF WORK ARE PASSED DOWN FROM GENERATION TO GENERATION OF NUCLEAR EXPERTS. THIS IS A CLUE TO OUR SUCCESS AND CONFIDENCE IN OUR FUTURE.”

ANDREY PETROV, CEO, Rosenergoatom

Human capital is the most valuable resource of the nuclear industry due to its high technology intensity and a long cycle of qualified staff training. Rosenergoatom HR policy aims at providing competent and highly-professional employees to the Company and the industry as a whole to achieve strategic objectives and economic stability.

The principles of equality and non-discrimination lay the basis for Rosenergoatom to maintain the labor conditions that allow for all employees to equally and fully unlock their potential. As a responsible employer, the Company primarily acts in line with the Russian Federation Social Policy standards, ensures compliance of labor conditions with high standards of safety, and cares about social welfare and additional social support of its employees.

One of the focuses of the Company’s HR policy is development of the talent pool, which stipulates interaction with school children, students and young experts, as well as personnel of foreign customers and construction suppliers of Russian NPPs.

The Company’s average headcount is annually decreasing (with unconditional compliance with the principle of safe operation of NPPs) pursuant to the instructions of the Russian Federation Government and Rosatom State Corporation related to improvement of labor productivity.

Rosenergoatom activities are underpinned by unified industry-level values of Rosatom State Corporation and its organizations. In case of absence of clear instructions, decisions are made on the basis of the values. Knowledge of and adherence to the values are mandatory for all employees of the nuclear power industry.

BASIC PERSONNEL INDICATORS (AS OF DECEMBER 31, 2017)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of fired employees</td>
<td>1,956</td>
<td>3,981</td>
<td>1,611</td>
</tr>
<tr>
<td>Total number of hired employees</td>
<td>7,961</td>
<td>5,931</td>
<td>6,625</td>
</tr>
<tr>
<td>Total number of employees (average headcount)</td>
<td>36,435</td>
<td>34,655</td>
<td>33,886</td>
</tr>
</tbody>
</table>

1. Detailed description of social programs for the Company’s employees is given in Section 3.7.
2. The main personnel characteristics are provided in Appendix 14.

SAFETY
ACCOUNTABILITY
EFFICIENCY
ONE TEAM
RESPECT
ONE STEP AHEAD
In 2017, the Company was actively promoting corporate values, including the relations with Top 1,000 employees, integration of values into HR processes, assessment against values, and transmission of values in the internal communication system. Corporate values are incorporated by Rosenergoatom into the personnel management system, namely:

- Employment interview for compliance with the values;
- Decisions on staff appointment to superior positions are made on the basis of annual assessment with the RECORD system and 360 Degrees method, consisting of questions on compliance with values;
- Promotion to Rosatom talent pool on the basis of assessment against the values;
- Programs of non-financial rewarding stipulate that compliance with the values is the most important and the cut-off criterion for selection of winners; the annual industry-level recognition program – Rosatom Man of the Year – introduced three separate nominations in the area of values (One Step Ahead, Efficiency, Team of the Year).

The Ethics Code is a baseline for Rosenergoatom employees. The Code defines ethic principles of the Company’s activities and sets the requirements for the personnel behavior.

The Ethics Code provisions are applicable to all employees irrespective of their position level and period of work in the Company. Rosenergoatom Ethics Code hinges on uniform values for all enterprises of the nuclear power industry.

The evaluation system used to assess managers’ performance is based on the annual evaluation system including, among other things, KPI achievement assessment. Moreover, top managers, Heritage level reservists, successors for critical jobs are evaluated using the 360 Degrees method: in addition to self-evaluation and upward feedback, it stipulates a poll among colleagues and subordinates.

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KPI SYSTEM

The Company’s system for operational performance management (OPM) and personnel motivation is aimed at attaining the planned performance level. The system is based on the use of key performance indicators (KPIs) that permit measuring the efficiency and define performance criteria of each employee. The remuneration process and its relation to personnel performance and development are open and transparent.

KPI target values for the current and subsequent years are set up based on the out-performance on the main indicators that characterize the target status – implementation of the Company’s strategic goals. An automated system for human resource development (RECORD System) is under implementation on the basis of ETWeb.

The remuneration of Rosenergoatom personnel is governed by the Company’s Typical Regulation on Labor Compensation. The personnel motivation system hinges on awarding bonuses for KPI achievement. Bonuses are only paid upon achievement of KPI threshold values. If achievements significantly exceed the target, the bonus can be increased. Employees are assessed via the RECORD System. In addition to the employee efficiency, development of vocational and technical knowledge and skills, assessment includes uniform industry-specific evaluation since 2016.

**PERSONNEL REMUNERATION. KPI SYSTEM**

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**PERSONNEL ASSESSMENT, VOCATIONAL TRAINING AND DEVELOPMENT**

Successful functioning of the Company’s personnel training, psychological support and career development is one of the key factors influencing safe, reliable and efficient operation of NPPs.

In order to implement unified approaches and streamline the regulatory basis in relation to personnel management, the following documents were approved in 2017: the general provisions for a personnel management system, the procedure for vocational training of Rosenergoatom employees. The Company’s personnel training and career development system hinges on the internal and external training systems.

Special attention in Rosenergoatom personnel training is given to safety culture.

### WHAT DOES THE REMUNERATION DEPEND ON?

<table>
<thead>
<tr>
<th>Position level (in line with differentiating factors)</th>
<th>Position function type</th>
<th>Level of vocational competence and labor productivity</th>
<th>Level of KPI achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue collar workers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue collar workers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MINIMUM AMOUNT OF REMUNERATION BY EMPLOYEE CATEGORY, THOUSAND RUBLES PER YEAR

<table>
<thead>
<tr>
<th>Employee Category</th>
<th>Base Pay</th>
<th>KPI Achievement Bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers</td>
<td>456.5 up</td>
<td>149.4 up</td>
</tr>
<tr>
<td>Specialists</td>
<td>238.5 up</td>
<td>44.3 up</td>
</tr>
<tr>
<td>Blue collar workers</td>
<td>107.2 up</td>
<td>10.5 up</td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers</td>
<td>467.2 up</td>
<td>149.4 up</td>
</tr>
<tr>
<td>Specialists</td>
<td>249.9 up</td>
<td>44.3 up</td>
</tr>
<tr>
<td>Blue collar workers</td>
<td>115.8 up</td>
<td>10.5 up</td>
</tr>
</tbody>
</table>

1. Detailed information on the Ethics Code may be found in Section 4.1 – Corporate Governance.
With a view to provide human resources to the nuclear industry for achievement of strategic objectives of Rosenergoatom and the Power Engineering Division, the Company performed personnel assessment and career development.

PERSONNEL VOCATIONAL TRAINING AND DEVELOPMENT

Training of Rosenergoatom personnel is carried out in accordance with the industry-level programs for development of the managerial talent pool, Global Professionals, New Products, HR school, as well as the Rosatom Production System (NPS) program and the corporate English language program. In addition, on the basis of the results of the annual performance assessment, training is held for development of corporate values.

Rosenergoatom created internal coaching in order to promote the RPS methodology and develop managerial skills among personnel. In 2017, 27 internal coaches were certified to perform training in the RPS area, and 3 internal coaches – training of junior executives in line with the Manager’s School program.

NPP personnel training is organized and arranged by training and apprenticeship units (centers), hereinafter – TAU, which have training facilities and resources allowing to successfully perform vocational training activities.

In 2017, Rosenergoatom enacted the Long-Term Program for Equipment of NPP Personnel Training and Apprenticeship Centers with Typical Packages of Training Facilities Ensuring Personnel Career Development for Safe Performance of Work at NPP Units and Common Systems (including Operations at Electrical Plants). The Company developed and revised 389 and 1,367 educational materials, respectively, 2,189 job training programs, 60 computer systems used at NPP personnel training and apprentice centers for teaching and assessment.

Training and apprentice centers are staffed with the instructors having the required job experience who passed special psychological and pedagogical training. In order to ensure standardized approaches to professional training of personnel, the Company operates the Instructor School. 336 NPP instructors attended advanced training courses in 2017.

Pre-appointment training is carried out for newly hired or transferred employees. In 2017, pre-appointment training of NPP personnel totaled 1,025.6 thousand hours.

Proficiency maintenance is performed on an annual basis among all employees of nuclear power plants. In 2017, Rosenergoatom developed and introduced the Program for Creation and Introduction of Continuous Training Qualification Maintenance System for Russian NPP Personnel. The Company’s NPP personnel pass advanced training in two areas: vocational and managerial competences development.

Certain types of activities are performed by NPP employees upon availability of Rostekhnadzor permits for execution of nuclear power industry operations. The employees of Rosenergoatom NPPs received 1,634 Rostekhnadzor permits. Meanwhile, 253 Rostekhnadzor permits were received and 226 – extended in 2017. Pursuant to the license conditions, holders of Rostekhnadzor permits annually pass qualification maintenance. In 2017, 1,174 employees holding Rostekhnadzor permits passed qualification maintenance at TAU, and 332 – at MEPNI.

NPP personnel training also includes psychological training provided by experts of the psycho-physiological support laboratory, 12,390 employees of nuclear plants passed psychological training in the amount of 54.9 thousand hours in 2017.

ENACTED IN 2017 WERE:

- Program for Rosenergoatom Personnel Training in Safety Culture
- Program for Training of Personnel Involved in Investigation and Analysis of Causes and Reliability Critical Events at Nuclear Plants
- Program for Rosenergoatom Personnel Training in Analysis and Application of Nuclear Plants Operation Experience

Ensuring the safety of nuclear power plants is the employees’ prioritized objective and internal need leading to appreciation of responsibility and self-control during execution of all types of work influencing the safety.

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PERSONNEL TRAINING FOR CUSTOMERS AND SUPPLIERS OF RUSSIAN NPPS

Construction Abroad

The decision to establish the Technical Academy was made by Rosatom State Corporation to promote the activities of the Consortium of Contractors for Personnel Training of Foreign Customer and Supplier of NPP Construction. Rosatom Technical Academy will enable reducing operational expenses, using the available industrial resources in an efficient way, and providing a full package of services related to personnel training at Russian and foreign nuclear plants, including:

- Creation of a single training base for preparation in the Russian Federation of the foreign customer and supplier's personnel for nuclear power plants;
- Preparation of proposals to make contracts (agreements) on provision of turnkey services for creation of the personnel training system, and the foreign customer knowledge management and implementation system;
- Personnel training on a turnkey basis of the foreign customer and the supplier’s personnel for nuclear power plants;
- Qualification maintenance and upgrade among personnel of the foreign customer and the supplier of NPPs;
- Development of industry-specific regulatory documents of the foreign customer;
- Organization of the training base creation, and support of activities of the foreign customer's NPP training centers;
- Minimizing the risks when providing a full package of services.

In 2017, training was received at the Company’s employees in 2017 through participation of employees in the vocational skills championships according to the World Skills standards. In 2017, the first qualification tournament of vocational skills REASkills 2017 was held among 11 core competences of the Division (67 participants and over 70 experts representing the existing NPPs and subsidiaries). The Division team was represented by 45 participants and 67 experts at AtomSkills 2017 – the 2nd international championship. The Division employs 12 medals (4 gold, 5 silver, 3 bronze). As part of the nuclear industry team, 24 employees of the Division participated in WorldSkills Hi-Tech national championship; 9 participants and 15 experts. They won 3 medals for Rosatom State Corporation: one gold and two silver. In addition, on the conditions of partnership between the Belarus NPP and the Ural Radio Engineering College named after A.S. Popov, an industry-level Electronics Competence Center was established in 2017. The Center is aimed at the qualification upgrading among the workers and engineers of the nuclear industry in accordance with the industry-level and international requirements. 14 employees of the Power Engineering Division upgraded their qualification as part of the pilot group.

In 2015, Rosenergoatom launched a project to introduce a system of critical knowledge preservation among the employees of the Company and the Power Engineering Division. As part of the project, the Balakovo and Leningrad NPPs in cooperation with Rosatom Technical Academy successfully introduced pilot projects to create a critical knowledge management system for the personnel of these NPPs.

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CRITICAL KNOWLEDGE PRESERVATION AMONG PERSONNEL

In 2015, Rosenergoatom launched a project to introduce a system of critical knowledge preservation among the employees of the Company and the Power Engineering Division. As part of the project, the Balakovo and Leningrad NPPs in cooperation with Rosatom Technical Academy successfully introduced pilot projects to create a critical knowledge management system for the personnel of these NPPs.

In accordance with the results of these projects, the company developed and enacted in 2017 the following documents: Procedure for Critical Personnel Knowledge Preservation, and the Procedural Guidelines for Organization and Performance of Work to Preserve Critical Knowledge among Personnel, as well as deployed the critical personnel knowledge preservation system in the Company's branches.

In order to unify the approaches to these activities, 45 employees of nuclear plants were trained in application of the basic techniques recommended for the activities related to critical personnel knowledge preservation.

In 2017, the second contest was announced for awarding of corporate student scholarships, and university teacher grants based on the results of the academic year of 2016/2017. Pursuant to the contest results, 17 best teachers of the subjects demanded by Rosenergoatom and 41 students (MEPhI with branches in Volgodonsk and Obninsk, National Research Tomsk Polytechnic University, Ural Federal University.

In 2017, Rosenergoatom is running a multi-level human resource development system: starting from professional orientation work with secondary school and university students, and completing with preparation of personnel for critically important top management positions. The Company is interested in attracting the best students and graduates for work at NPPs and other organizations forming part of the management circuit.

HUMAN RESOURCE DEVELOPMENT

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Problems of the academic competition in Engineering are within the school curriculum in Physical Education, but have a clear engineering focus. Among the problems are those considering the operating principles of specific engineering systems (How Does It Work? or Physics in Engineering). In the academic year of 2017-2018, prize winners of the Engineering academic competition among school children will get significant benefits when entering the Russian universities, and additional points when entering employer-sponsored education in NPP-related fields of study.

Among the established leaders in staff training for Rosenergoatom are MEPHI National Research Nuclear University with branches (Volgodonsk, Obninsk), Ivanovo State Power University, National Research Tomsk Polytechnical University, and IREESTU, Ivanovo State University.

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Among the established leaders in staff training for Rosenergoatom are MEPHI National Research Nuclear University with branches (Volgodonsk, Obninsk), Ivanovo State Power University, National Research Tomsk Polytechnical University, Ural Federal University.

In 2017, Rosenergoatom is running a multi-level human resource development system: starting from professional orientation work with secondary school and university students, and completing with preparation of personnel for critically important top management positions. The Company is interested in attracting the best students and graduates for work at NPPs and other organizations forming part of the management circuit.

In accordance with the results of these projects, the company developed and enacted in 2017 the following documents: Procedure for Critical Personnel Knowledge Preservation, and the Procedural Guidelines for Organization and Performance of Work to Preserve Critical Knowledge among Personnel, as well as deployed the critical personnel knowledge preservation system in the Company’s branches.

In order to unify the approaches to these activities, 45 employees of nuclear plants were trained in application of the basic techniques recommended for the activities related to critical personnel knowledge preservation.

Problems of the academic competition in Engineering are within the school curriculum in Physical Education, but have a clear engineering focus. Among the problems are those considering the operating principles of specific engineering systems (How Does It Work? or Physics in Engineering). In the academic year of 2017-2018, prize winners of the Engineering academic competition among school children will get significant benefits when entering the Russian universities, and additional points when entering employer-sponsored education in NPP-related fields of study.

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According to preliminary estimates, education of over 2,000 specialists will additionally be required by 2027 taking into account power units construction abroad.

MENTORING

An employee development program is available in Rosenergoatom – mentoring. Among the goals are adjustment of employees, ensuring succession of generations, and assisting in development of professional and managerial competencies among the employees. In total, 1,773 employees acted as mentors in 2017. Every newly hired young specialist and probationer is assigned with a mentor from among highly qualified employees who helps the young specialist during the on-boarding period, transfers the knowledge necessary for the specialist to carry out work, and monitors performance of assigned tasks.

In 2017, a mentoring program was available for the members of the talent pool. Mentoring, as informal tutorship, is applied to high potential employees with a view to create development opportunities, and unveil their leadership abilities.

SCHOOL – UNIVERSITY – DIVISION

SCHOOL CHILDREN RELATIONS

• Atom Classes with in-depth study of Physical Education sponsored by Rosenergoatom are operational in the cities of NPPs.
• Another academic competition in Engineering was held in 2017. Over 500 school children from the cities where NPPs are located participated in this academic competition owing to the Company’s support.

STUDENT RELATIONS

• Over 300 students attend leading technical universities under employer-sponsored contracts. If such students are successful in their studies, they receive additional financial support; attend practical training at NPPs, and obtain an employment offer upon graduation from the university.
• In 2017, all branches of Rosenergoatom – operating power units participated in traditional Rosatom Career Days in Ekaterinburg (Ural Federal University), Ivanovo (Ivanovo State Power University), and MEPhI.

NUMBER OF GRADUATES EMPLOYED IN 2017, BY FIELDS OF STUDY, PERS.

Nuclear power plants: design, operation and engineering .................................................. 66
Electrical power and electrical engineering ................................................................. 27
Thermal power and thermal engineering .................................................................. 23
Electronics and automation of physical plants .......................................................... 32
Nuclear physics and technologies ............................................................................. 11
Nuclear power and thermal physics .......................................................................... 14
Miscellaneous fields of study (aggregate) ................................................................. 98

NUMBER OF GRADUATES HIRED IN 2017, PERS., %

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Number of Graduates Hired</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear power plants: design, operation and engineering</td>
<td>66</td>
<td>27%</td>
</tr>
<tr>
<td>Electrical power and electrical engineering</td>
<td>27</td>
<td>10%</td>
</tr>
<tr>
<td>Thermal power and thermal engineering</td>
<td>23</td>
<td>9%</td>
</tr>
<tr>
<td>Electronics and automation of physical plants</td>
<td>32</td>
<td>12%</td>
</tr>
<tr>
<td>Nuclear physics and technologies</td>
<td>11</td>
<td>4%</td>
</tr>
<tr>
<td>Nuclear power and thermal physics</td>
<td>14</td>
<td>6%</td>
</tr>
<tr>
<td>Miscellaneous fields of study (aggregate)</td>
<td>98</td>
<td>38%</td>
</tr>
</tbody>
</table>

CAREER AND SUCCESSION MANAGEMENT. DEVELOPMENT OF TALENT POOL

The career and succession management process has to be organized in order to prepare successors for the management positions. The process also includes management of career expectations of employees increasing their level of involvement. Development of a strong talent pool is one of the links of career and succession management.

Rosenergoatom successfully implements the unified industry-specific system for development of the talent pool for various position levels: Rosatom’s Talents for initial management level, Rosatom’s Capital for medium management level, and Rosatom’s Legacy for top management level. Employees who have potential to management activities, are motivated to achieve high results, professional growth and development become selected to the talent pool. Employees are selected to the talent pool pursuant to the annual performance evaluation and approval of succession plans at all levels of management.

The system enables the career and succession management process automation in Rosenergoatom. Employees are planning their careers within the Division: from an engineer with no labor grade to deputy CEO. 124 employees joined the managerial talent pool in 2017. 116 managers from the talent pool received new appointments.

TALENT POOL PERFORMANCE INDICATORS, % OF APPOINTMENTS FROM TALENT POOL IN 2017

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appointments from talent pool to top management level positions</td>
<td>55.6%</td>
</tr>
<tr>
<td>Talent pool members appointed to new positions</td>
<td>46.4%</td>
</tr>
</tbody>
</table>

Number of Mentors, Pers.:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probationers</td>
<td>975</td>
</tr>
<tr>
<td>Newly hired young employees</td>
<td>579</td>
</tr>
<tr>
<td>For transfer of key knowledge and skills</td>
<td>27</td>
</tr>
<tr>
<td>Young employees appointed as junior executives</td>
<td>79</td>
</tr>
<tr>
<td>Managerial talent pool members (mentoring)</td>
<td>175</td>
</tr>
</tbody>
</table>

Routine Performance Evaluation and Career Development in 2017

Employees subject to routine performance evaluation and career development, pers. | 14,911 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>59%</td>
</tr>
<tr>
<td>Women</td>
<td>41%</td>
</tr>
<tr>
<td>Managers</td>
<td>65%</td>
</tr>
<tr>
<td>Specialists</td>
<td>20%</td>
</tr>
</tbody>
</table>
PERSONNEL INVOLVEMENT

Rosenergoatom studies involvement and satisfaction of its employees on an annual basis through Your Opinion is Important to Rosatom poll. Some 12 thousand employees of the Power Engineering Division participated in the poll in 2017. The poll showed that the Company’s working environment and teamwork remained on the 85% performance level.

According to Aon Hewitt, an international company surveying global engagement, Rosenergoatom performance exceeds the average engagement level of Russian production companies and corresponds to the level of the nation’s best employers.

The engagement improving measures are shaped and implemented in line with the engagement survey results and the employees’ feedback. The key measures of 2017 were aimed at:

• Improving trust to managers and developing feedback;
• Enhancing employees recognition and value;
• Developing employees.

PERSONNEL SUPPORT, DEVELOPMENT AND MOTIVATION PROGRAMS

Rosenergoatom employees annually participate in the industry-level recognition program – Rosatom Man of the Year. Among the main criteria for selection of the winners are considerable performance results, efficient approaches to problem solving, and commitment to corporate values. An employee can become a participant of the contest either by himself or upon recommendation of the immediate manager.

Winners in Division-level vocations are defined at the level of Rosenergoatom, in corporate-level vocations – at the level of functional responsibility centers of Rosatom State Corporation, and in special nominations devoted to Rosatom values – by the Central Contest Committee headed by Rosatom CEO. The number of Rosenergoatom nominees is growing year on year.

In 2017, 273 contest applications were filed, which is 23% more than in 2016.

According to the Russian Federation Labor Code and the state-run labor policy, the Company’s labor protection policy is aimed at prioritized preservation of the employee’s life and health during labor activities.

Occupational health and safety measures are focused on improving labor conditions, mitigating and managing personnel injury risks, which yield economic advantages: reduction of costs related to compensations for work in harmful and heavy conditions, decrease in losses connected with injuries, occupational diseases, a drop in personnel turnover.

The matters of safety and health are included in the Industry-Wide Agreement on Nuclear Power, Industry, and Science for 2015-2017 made between the employees and employers with participation of Rosatom State Corporation.

Labor protection committees (commissions) were created at each of the Company’s NPPs in line with the Standard Regulation on Labor Protection Committee (Commission), taking into account the trade union’s opinion. Committees are an integral part of the labor protection management system, as well as one of the forms of employees’ participation in labor protection management. The committees’ work hinges on the principles of social partnership, and their activities involve all NPP employees (some 97% of the total number of Rosenergoatom employees).

INJURY RATE

In 2017, 2 incidents occurred with the Company’s employees at the operational NPP facilities (Kola NPP – 1 severe and 1 light). There were no incidents among NPP personnel at the NPP units under construction in 2017.

Causes of incidents:

• Violation of job procedures;
• Unsatisfactory job engineering (deficient pre-job briefing);
• Non-use, wrong use or lack of supervision of personal protective equipment use;
• Personal negligence of the injured.

In 2017, in addition to the said incidents, 2 incidents occurred as a result of the road accidents involving the Leningrad NPP employees (1s (female) and 2l) and the Kola NPP (2l) due to the faults of third parties.

In order to prevent injuries and eliminate the causes of occurred incidents, certain corrective measures have been developed and are implemented:

• Comprehensive measures are underway to ensure labor protection and safety during start-up operations and their acceptance at the power units under construction;
• Special operating regime enacted at the existing NPPs was extended in order to ensure full commitment to engineering discipline and its control.

• Measures were introduced to strengthen responsibility for deliberate non-use or incomplete use of individual protective equipment when performing work and changing over; violation of requirements for work processes, job instructions and standard operating procedures, requirements for safe work, equipment operation and repair, as well as labor protection rules, safety techniques, occupational health, fire safety and environmental protection.

CONTRACTORS’ PERSONNEL LABOR SAFETY

Causes of incidents:
• Faults in design and scheduled maintenance,
• Unsatisfactory organization of work performance,
• Wrong procedure of process operations of scheduled maintenance.

There were no occupational diseases among the Company’s employees in 2017.

<table>
<thead>
<tr>
<th>NPP</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the Company’s operational NPPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balakovo</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Beloyarsk</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Kalinin</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Kola</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kursk</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Leningrad</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Rostov</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Smolensk</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>At construction sites of the Company’s NPPs under construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beloyarsk, power unit No. 4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kursk NPP-2</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Leningrad NPP-2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novovoronezh NPP-2</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Rostov, power units No. 3 and No. 4</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Sub-total</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

1. All injuries happened to men.
LABOR PROTECTION EXPENSES IN 2017

<table>
<thead>
<tr>
<th>NPP</th>
<th>Amount, Mln Rubles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balakovo</td>
<td>391.2</td>
</tr>
<tr>
<td>Beloyarsk</td>
<td>276.2</td>
</tr>
<tr>
<td>Bibiino</td>
<td>77.2</td>
</tr>
<tr>
<td>Kalinin</td>
<td>400.0</td>
</tr>
<tr>
<td>Kola</td>
<td>341.4</td>
</tr>
<tr>
<td>Kursk</td>
<td>352.4</td>
</tr>
<tr>
<td>Leningrad</td>
<td>416.7</td>
</tr>
<tr>
<td>Novovoronezh</td>
<td>584.8</td>
</tr>
<tr>
<td>Rostrav</td>
<td>230.4</td>
</tr>
<tr>
<td>Smolensk</td>
<td>310.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,395.9</td>
</tr>
</tbody>
</table>

Expense Items:
- Performing labor protection activities according to collective agreements;
- Ensuring normal working environment;
- Improving labor conditions and protection;
- Acquiring personal protective equipment;
- Therapeutic and preventive nutrition;
- Purchasing detergents and disinfectants.

MAIN RESULTS OF LABOR PROTECTION IN 2017:
- Measures were implemented to improve occupational safety and health at operational NPPs and those under construction;
- Occupational health and safety checks were performed at NPPs according to the safety inspection schedule for 2017;
- Full-scale application of the occupational safety and health management system started during NPP facilities construction.

KEY OBJECTIVES FOR 2018:
- Elimination of pre-conditions for injuries,
- Implementation of a series of measures to ensure appropriate labor conditions for personnel during construction and start-up of NPP facilities,
- Further performance of special evaluation of labor conditions,
- Prevention of injuries resulting from traffic accidents and operation of electrically-powered equipment, assessment of the measures efficiency, improvement of labor protection activities efficiency.

3.7 SOCIAL POLICY.
DEVELOPING AREAS OF PRESENCE.
CHARITY

AMONG THE STRATEGIC GOALS OF THE COMPANY’S POLICY IS INCREASING ITS ATTRACTIVENESS AS THE EMPLOYER IN THE LABOR MARKET, ENHANCING THE EMPLOYEES ENGAGEMENT, ATTRACTION AND RETAINING HIGHLY-QUALIFIED EXPERTS, AND QUALITY MANAGEMENT OF SOCIAL EXPENSES.

ROSENERGOATOM SOCIAL EXPENSES IN 2014-2017, THOUSAND RUBLES

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs per employee</td>
<td>75.56</td>
<td>77.25</td>
<td>78.87</td>
</tr>
<tr>
<td>Total costs of social policy implementation</td>
<td>2,660,145</td>
<td>2,794,916</td>
<td>2,645,342</td>
</tr>
<tr>
<td>Including by main programs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health programs (VHI + accident insurance)</td>
<td>351,435</td>
<td>358,408</td>
<td>358,396</td>
</tr>
<tr>
<td>Health resort treatment</td>
<td>268,780</td>
<td>342,496</td>
<td>435,765</td>
</tr>
<tr>
<td>NGO</td>
<td>196,650</td>
<td>128,975</td>
<td>116,526</td>
</tr>
<tr>
<td>Cultural and sports events</td>
<td>588,382</td>
<td>562,662</td>
<td>558,358</td>
</tr>
<tr>
<td>Improving housing conditions</td>
<td>268,150</td>
<td>264,783</td>
<td>277,087</td>
</tr>
<tr>
<td>Retirees support</td>
<td>289,469</td>
<td>332,162</td>
<td>351,296</td>
</tr>
</tbody>
</table>

SOCIAL EXPENSES BREAKDOWN BY KEY PROGRAMS IN 2017, THOUSAND RUBLES

1. Basic provisions of the social policy and trade union relations are disclosed in the Company’s 2013 Annual Report (pages 203-206).
HEALTH PROGRAMS

In addition to medical care received by the employees as part of compulsory health insurance (CHI) and state guarantees, Rosenergoatom provides its employees with voluntary health insurance (VHI), as well as accident and sickness insurance. Employees can at their expense insure their family members at corporate special prices and receive special information, consulting, and medical assistance both at health care institutions of their region, and at the institutions located in Moscow and Saint Petersburg.

PERSONNEL REHABILITATION

Each year, Rosenergoatom conducts activities for personnel rehabilitation in departmental clinics and Russian health resort institutions.

Thus, 11,849 persons received health rehabilitation at 63 health clinics and Russian health resort institutions.

Improving Housing Conditions

Provision of employees with housing is one of the most important conditions in attracting qualified personnel. It is especially important given the scale of construction of new NPPs. Housing construction and assistance to employees in obtaining housing was carried out in accordance with the Company’s housing program approved in 2017, and the respective needs.

A residential building was commissioned in Volgodonsk in 2017 with 116 flats for the Rostov NPP employees and their family members.

Pursuant to the comprehensive housing program for 2017-2021, over 60,000 m² of housing is planned to be built (about 900 apartments).

CULTURAL AND SPORTS EVENTS

In the reporting year, 27% of total expenses for key social policy programs of Rosenergoatom were channelled for this area.

IMPROVING HOUSING CONDITIONS

In 2017, Rosenergoatom focused on constructing a house in Volgodonsk for employees of the Rostov NPP.

The house was commissioned in 2017 with 116 flats for employees and their family members.

A residential building was commissioned in Volgodonsk in 2017 with 116 flats for the Rostov NPP employees and their family members. 360 employees of Rosenergoatom received interest-free loans to pay their mortgage downpayment, over 3,000 persons received reimbursement of interest on the mortgage loan.

Pursuant to the comprehensive housing program for 2017-2021, over 60,000 m² of housing is planned to be built (about 900 apartments).

YOUTH POLICY

Rosenergoatom places a focus on the youth policy. Decent material, social and living conditions, as well as vocational and career development opportunities are created for every young person hired by a nuclear plant.

Thus, Rosenergoatom focuses on the youth policy. Decent material, social and living conditions, as well as vocational and career development opportunities are created for every young person hired by a nuclear plant. This is possible due to existing programs and regulations providing the employer’s guarantees to a young employee.

Youth organizations are operational at NPPs. They unite socially active young employees who successfully perform research and development, participate in environmental and socially significant projects, actively do sports. Work is ongoing for military training and patriotic upbringing of the youth, participation in the search movement.

The International Association of Young Nuclear Engineers is cooperating with industry-level youth associations. Support is provided to young employees and experts in line with the Program for Support of Young Employees and Experts of Rosenergoatom Headquarters and Branches (appendix to Collective Agreement) and similar programs of NPPs.

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In 2017, the actual number of retired employees in the Inter-Regional Public Organization of Rosenergoatom Veteran Employees (IPORVE) totaled 17,811 persons (17,424 persons in 2016). From the funds allocated by Rosenergoatom under charity contracts, IPORVE provided 85.5 mln rubles as financial aid to retirees in difficult situations (69.7 mln rubles in 2016), 72.3 mln rubles for health resorts and medical rehabilitation of retirees (65.9 mln rubles in 2016).

Rosenergoatom spent 20.3 mln rubles for organization of recreational and cultural events among the veterans (9.8 mln rubles in 2016). Veterans received nursing services, and presents on holidays and anniversaries. Financial aid was provided to pensioners in 42,910 cases (48,186 cases in 2016).

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VETERANS’ MOVEMENT
Support of the veterans’ movement helps to preserve the achieved level of relations with veterans, involving them in ‘can-do’ work and transfer of knowledge and experience to young experts, as well as to provide them with quality medical care. This is one of the important thrusts of the Company’s social policy.

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Sustainability Management

Annual report 2017

Rosenergoatom

CHARITY

Rosenergoatom maintains an important corporate tradition of annual charity allocations, as part of the social policy implementation. The support is granted in accordance with the co-funding principle in relations between the Company and the charity recipient. In addition to Rosenergoatom partnership with other enterprises, employees of the NPPs and the Headquarters participate in charitable projects.

The Company provides charity in the following areas:

- Support of socially disadvantageous social groups (orphaned children or persons in dire straits, disabled persons, the Chernobyl disaster liquidators, veterans of war and labor, large families, etc.);
- Support for cultural projects that promote healthy lifestyle, and patriotism;
- Support and promotion of sports and a healthy lifestyle, and patriotism;
- Events aimed to improve social and sport infrastructure, and landscaping in the satellite towns of NPPs;
- Support for cultural projects that promote moral values and responsibility.

ROSENERGOATOM EXPENSES FOR CHARITY IN 2015-2017, MLN RUBLES

<table>
<thead>
<tr>
<th>Charity Areas</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional events under the charity policy</td>
<td>118</td>
<td>277.2</td>
<td>250.8</td>
</tr>
<tr>
<td>Charitable activity in the regions of NPPs (including aid for the pensioners and the poor, children’s and sports institutions, etc.)</td>
<td>152</td>
<td>159</td>
<td>159.1</td>
</tr>
<tr>
<td>Industry-level programs</td>
<td>51.5</td>
<td>85.8</td>
<td>115.1</td>
</tr>
<tr>
<td>Total</td>
<td>565.8</td>
<td>490.8</td>
<td>587.8</td>
</tr>
</tbody>
</table>

“Two years ago we laid a cornerstone of the future monument commemorating Chernobyl liquidators. This monument is devoted to the people, Chernobyl liquidators, new generators of nuclear experts. It was erected to immortalize the deed of the liquidators. It was our war and our victory.”

VLADIMIR ASMOLOV
Advisor to CEO, Rosatom State Corporation, Research Advisor of Chernobyl NPP Confinement Project

“Dreams come true owing to the people who care about our children, about creating a safe environment in the socially significant institutions of the city.”

ZHANNA SUKHANOVA, Head of Forest Wonderland Kindergarten, (Desnogorsk, Smolensk Oblast)
200,000

INDUSTRIAL ROBOTS OPERATING IN THE AUTOMOTIVE INDUSTRY WILL BE POWERED BY THE FOUR-UNIT NPP RATED AT 4,000 MW PER HOUR
KEY RESULTS OF 2017:

3rd PLACE
In the rating of Corporate Transparency of Russian Companies 2017 in the nomination of the Leader in Corporate Transparency among State-Owned Companies.

86% of the identified corruption risks were eliminated or minimized by owners of the business processes.

CONTRIBUTION TO ACHIEVEMENT OF UN SDGS

Peace, justice and efficient institutions

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

4.1 CORPORATE GOVERNANCE

THE COMPANY’S CORPORATE GOVERNANCE SYSTEM HINGES ON COMPLIANCE WITH THE RUSSIAN LAWS AND CONSIDERATION OF BASIC RECOMMENDATIONS OF THE CORPORATE ETHICS CODE. IN ADDITION, ROSENERGOATOM ABIDES BY THE STANDARDS OF BEST PRACTICES IN CORPORATE GOVERNANCE OF ROSATOM STATE CORPORATION.

A high level of responsibility and large-scale objectives set before the Russian nuclear industry enterprises required that Rosenergoatom consistently improves the quality of corporate governance, comply with the principles of transparency and general availability of information, observation of the acknowledged ethical standards, maintenance of the management efficiency, and respect for the rights of stockholders and other stakeholders.

The Company has not approved the corporate management code. Rosenergoatom applies certain standards of the Corporate Governance Code recommended by letter No. 06-52/2463 dated April 10, 2014 of the Bank of Russia to its daily practice taking into account the specifics of the legal status of Rosatom State Corporation set forth in regulations of the Russian Federation, which provide for unified management of organizations operating in the nuclear power industry. The standards of the Corporate Governance Code are reflected in a number of local regulations providing the stockholder with all possibilities to participate in the corporate governance and familiarization with the information related to the Company’s activities.

1. The information regarding compliance of Rosenergoatom with the principles and recommendations of the Corporate Governance Code approved by the Board of Directors of the Bank of Russia on March 21, 2014, are given in Appendix 9.


4.1 CORPORATE GOVERNANCE

Among the key internal documents governing corporate management in the Company and ensuring stockholder rights observation are:

• Rosenergoatom Articles of Association;
• Regulation on Rosenergoatom General Meeting of Stockholders;
• Regulation on Rosenergoatom Board of Directors.

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• Rosenergoatom Articles of Association;
• Regulation on Rosenergoatom General Meeting of Stockholders;
• Regulation on Rosenergoatom Board of Directors.

POLICY THRUSTS

• Full and timely disclosure of reliable information about Rosenergoatom
• Implementation of corporate governance procedures corresponding to best Russian and international practices

GOALS

• Compliance of the corporate governance system with the requirements and recommendations of the regulatory bodies, best Russian and international practices
• Improvement of the Company’s activities perception

PRINCIPLES

• Observation of all stockholders’ rights
• Transparency
• Accountability
• Recognition of stakeholders’ statutory rights
## ROSENERGOATOM GOVERNING BODIES

<table>
<thead>
<tr>
<th>Governing Body</th>
<th>Function</th>
<th>Regulatory Documents</th>
<th>Events Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Meeting of Stockholders</td>
<td>Supreme governing body of Rosenergoatom.</td>
<td>Russian Federation laws, Rosenergoatom Articles of Association, Regulation on General Meeting of Rosenergoatom Stockholders</td>
<td>The General Meeting of Stockholders is held once a year. Extraordinary General Meeting of Stockholders is held on the resolution of the Board of Directors. The sole executive body – the Company’s CEO – arranges the General Meeting, including its information and documentary support.</td>
</tr>
</tbody>
</table>

### Board of Directors

A collegial governing body in charge for overall management of the Company’s activities. It is responsible for development of the strategy, control of the executive bodies’ activities, observation of the rights and legitimate interests of the Company’s stockholders. Goals and objectives of the Company’s Board of Directors are defined in the Regulation on Board of Directors.

<table>
<thead>
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<th>Regulatory Documents</th>
<th>Events Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Directors</td>
<td>Performs the functions of the corporate secretary.</td>
<td>Russian Federation laws, Regulation on Rosenergoatom Board of Directors.</td>
<td>Meetings of the Board of Directors are held as often as required, with due regard for the scale of activity, and the objectives faced by the Company.</td>
</tr>
</tbody>
</table>

### CEO

A sole executive body of the Company. Pursues the goals and performs the functions of the Company’s operations management.

<table>
<thead>
<tr>
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<th>Function</th>
<th>Regulatory Documents</th>
<th>Events Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO</td>
<td></td>
<td>Russian Federation laws, Articles of Association.</td>
<td></td>
</tr>
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</table>
GOVERNING BODIES STRUCTURE

When shaping the governing bodies structure, the Company strives to take account of the requirements and recommendations of Rosatom State Corporation, and follow the best practices in this sector.

THE STOCKHOLDERS OF ATOMENERGOPROM ARE THE FOLLOWING ENTITIES:

- 227,280,981,000 stocks issued (unpaid) as part of the Company’s additional stock issue in line with the resolution on the Company’s additional stock issue dated December 29, 2016.

The resolution on additional stock issue was approved by the Board of Directors (Minutes No.285 dated December 7, 2016), and registered with the Bank of Russia on December 30, 2016 under state registration number 1-01-55417-E-007D. The number of additionally issued stocks is 250,000,000,000 with a nominal value of 1 ruble, totaling 250,000,000,000 rubles. The additionally issued stock shall be placed no later than September 4, 2018.

The Board of Directors composition is defined according to the Russian Federation laws with due consideration of the balance of knowledge, qualification and experience, including production, industry-specific, environmental and social competencies.

There were no changes in the composition of the Board of Directors in the reporting year.
ALEXANDER MARKOVICH LOKSHIN

• Chairman of the Board of Directors, Rosenergoatom (since 2008)
• First Deputy CEO for Operations Management, Rosatom State Nuclear Energy Corporation
• Non-executive director
• Born in 1957.
• Graduated from M.I. Kalinin Leningrad Polytechnic Institute.

BORIS GEORGEYEVICH SILIN

• Member of the Board of Directors, Rosenergoatom (since 2016)
• CEG Rosenergoatom
• Executive Director
• Born in 1963.
• Graduated from Ivanovo Power Engineering Institute majoring in Thermal Power Plants. PhD in Engineering.
• Andrey Petrov possesses 30-year experience in the industry: he started his career at Khmelnytskyi NPP under the USSR Nuclear Energy Ministry as grade 5 inspection engineer of the turbine workshop.
• Since September 7, 2015 – CEO, Rosenergoatom.
• Stake owned in the registered capital of Rosenergoatom: none.
• Common stocks owned in Rosenergoatom: none.

ANDREY YUVENALYEVICH PETROV

• Member of the Board of Directors, Rosenergoatom (since 2016)
• CEG Rosenergoatom
• Executive Director
• Born in 1963.
• Graduated from Ivanovo Power Engineering Institute majoring in Thermal Power Plants. PhD in Engineering.
• Andrey Petrov possesses 30-year experience in the industry: he started his career at Khmelnytskyi NPP under the USSR Nuclear Energy Ministry as grade 5 inspection engineer of the turbine workshop.
• Since September 7, 2015 – CEO, Rosenergoatom.
• Stake owned in the registered capital of Rosenergoatom: none.
• Common stocks owned in Rosenergoatom: none.

OLEG STANISLAVOVICH BARABANOV

• Member of the Board of Directors, Rosenergoatom (since 2016)
• First Deputy CEO, Atomredmetzoloto
• Non-Executive Director
• Born in 1971.
• Education: higher technical, higher economic, PhD in Economics.
• 2011–2014 – Director of Treasury, Rosatom State Corporation
• From 2014 to 2018 – Director for Development and Restructuring, Rosatom State Nuclear Energy Corporation
• From 2018 to date – First Deputy CEO, Atomredmetzoloto.
• Stake owned in the registered capital of Rosenergoatom: none.
• Common stocks owned in Rosenergoatom: none.
Independent directors were not elected to the Board of Directors of Rosenergoatom. The Company’s internal documents neither set the minimum number of independent members on the Board of Directors, nor the independence criteria.

Members of the Board of Directors do not participate in the Company’s registered capital, do not hold the Company’s common stock, and have not entered into transactions on acquisition or alienation of the Company’s stock.

In 2017, The Board of Directors approved no resolutions on recommendations regarding the amount of dividends based on the results of the first quarter, half of the year, nine months of 2017.

The Board of Directors has no committees.

Gender composition of the Board remained unchanged: 100% of the members are men. Such a composition is reasoned by the Company’s industry-specific features and does not evidence gender inequality. The age of the Board of Directors members averages 57.

**KEY PROFESSIONAL COMPETENCES OF BOARD MEMBERS**

Finance and Audit

Strategy

Power Engineering

Legal Issues

**DURATION OF MEMBERS’ WORK ON BOARD OF DIRECTORS AS OF DECEMBER 31, 2017**

- 6 years: 3
- 5 years: 2
- 3 years: 1
- 1 year: 2
- > 30 years: 3
- > 20 years: 3
- > 10 years: 2
- > 6 years: 2
- > 3 years: 2
- > 1 year: 1

**EXPERIENCE OF BOARD MEMBERS’ WORK IN NUCLEAR INDUSTRY AS OF DECEMBER 31, 2017**

- 3 years: 3
- 2 years: 2
- 1 year: 1

**AGE STRUCTURE OF BOARD OF DIRECTORS (AS OF DECEMBER 31, 2017)**

- 60 – 64 years: 1
- 50 – 59 years: 1
- 45 – 49 years: 1

**NUMBER OF ISSUES TACKLED BY BOARD OF DIRECTORS**

- 2015: 61
- 2016: 78
- 2017: 89

**STRUCTURE OF ISSUES TACKLED BY BOARD OF DIRECTORS**

- Strategy and prioritized activities: 5 (6%)
- Control and reporting: 5 (6%)
- Corporate governance: 10 (12%)
- Branches and affiliates management: 7 (8%)
- Approval of transactions related to alienation/transfer of title to immovable property use: 13 (15%)
- Staff and remunerations: 48 (54%)

As part of the AKKUYU Project Contracting Strategy implementation with a view to render technical support for AKKUYU NUCLEAR at the Akkuyu NPP units construction and commissioning stages, a decision was made to establish the Akkuyu Engineering Center, Branch of Rosenergoatom in the Republic of Turkey.

In order to control the transactions with real estate, approval was granted by the Board of Directors to close 34 transactions;

- As part of the process for Restructuring Non-Core Assets and Equity and reduction of managerial (administrative), financial resources for upkeep of the asset complex, it is resolved to hand over immovable and movable property to Energoatominvest for further transfer to subsidiary companies located in NPP areas in order to ensure transportation services and food supply;

In 2017, the Board of Directors activity was focused on achieving the strategic goals of Rosenergoatom.

Among the most important resolutions taken in the reporting year and related to prioritized activities were:

- In order to avoid the conflict of interests, an approval was granted by the Board of Directors to close 9 interested party transactions
- Approval of transactions related to alienation/transfer of title to immovable property use.

Members of the Board of Directors do not participate in the Company’s registered capital and have not entered into transactions on acquisition or alienation of the Company’s stock.
• Approval was granted for an increase in Rosenergoatom participation in VNIIAES to 100% of the registered capital through acquisition of 28,632 common stocks worth 371,360,000 rubles;
• Transactions were approved for acquisition of additional stocks in Baltic NPP worth 160,511,000 rubles, and additional stocks of Atomtrans (61,697,228 rubles);
• Approval was granted for Rosenergoatom participation in the registered capital of CONCERN TITAN-2 through acquisition of 3,575 common stocks worth 549,999,450 rubles;
• As part of the labor and activities efficiency improvement efforts, a decision was made to wind up the Science and Engineering Center, Branch of Rosenergoatom;
• In order to enhance the Company’s level of safety and make it compliant with Ros-tekhnadzor requirements, the Board of Directors developed and approved 17 new revisions of the regulations on branches;
• As part of preparations for the Company’s general meeting of stockholders, the Board of Directors approved the 2016 annual report and annual accounting statements, and gave recommendations on distribution of profits and payment of dividends.

Performance of the Board of Directors was not evaluated in 2017.

CEO
Andrey Petrov, Member of the Board of Directors is the Company’s CEO (elected on October 7, 2015).

BOARD OF DIRECTORS SECRETARY
The Company’s Board of Directors Secretary is a corporate officer subordinate to the Company’s CEO and Board of Directors.

With a view to control the execution of the Board of Directors’ decisions, the Board annually considers a report on execution of its decisions (requirement of the Regulation on Board of Directors).

DIRECTORATE
There were no considerable changes in the Directorate composition during the reporting period. Boris Arseev and Stanislav Antipov were excluded from the Directorate in the reporting period.

In terms of gender composition, the Directorate mostly consists of men: there are only two women out of 26 members. This is due to the Company’s industry-specific features and not related to gender discrimination.

The Directorate members age averages 57. All members of the Directorate possess considerable experience in the nuclear power industry, enabling efficient management of Rosenergoatom and its branches.

AGE STRUCTURE OF BOARD OF DIRECTORS (AS OF DECEMBER 31, 2017)

AGE STRUCTURE OF BOARD OF DIRECTORS (AS OF DECEMBER 31, 2017)
184. Operating Efficiency

Rosenergoatom

COMPOSITION OF ROSENERGOATOM DIRECTORATE (AS OF DECEMBER 31, 2017)

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDREY YUVENALYEVICH PETROV</td>
<td>CEO</td>
</tr>
<tr>
<td>ALEXANDER VIKTOROVICH SHUKNOV</td>
<td>First Deputy CEO for NPPs Operation</td>
</tr>
<tr>
<td>ALEXEY GENNADYEVIICH ZHUKOV</td>
<td>First Deputy CEO - Director of Capital Projects Implementation Branch Office</td>
</tr>
<tr>
<td>JUMBERI LEONTOVICH TKBUDKHOVA</td>
<td>First Deputy CEO for Corporate Functions</td>
</tr>
<tr>
<td>ALIA IGOREVNA ARKHANGELSKAYA</td>
<td>Deputy CEO - Director for Strategy, Tariffs and Investments</td>
</tr>
</tbody>
</table>

1. Starting from September 1, 2016
CORPORATE GOVERNANCE SYSTEM STREAMLINING IN 2017

The General Meeting of Stockholders approved a new revision of the Articles of Association on January 9, 2017 in order to improve the corporate governance level in Rosenergoatom. Considerable changes in the Articles of Association are related to redistribution of competences of the General Meeting of Stockholders, in favor of the Company’s Board of Directors, cancellation of the provisions of Chapter 11 of the Federal Law on Joint Stock Companies related to interested party transactions1, and the criteria different from the Federal Law on Special Transactions (hereinafter – special transactions) related to interested party transactions, of the Federal Law on Joint Stock Companies in favor of the Company’s Board of Directors, and the persons authorized in making a transaction on behalf of the company,

- a register of individuals who are provided with the respective authorities, and their relatives (more than 700 individuals) was compiled and is regularly updated;
- Analysis of all transactions in order to identify the interested party transactions;
- Development of guidelines for Rosenergoatom and the organizations within its control circuit in order to standardize the approaches to special transactions.

The Procedure for Maintenance of Register of Persons Obliged to Provide Information Regarding Availability of Interest in Transactions was developed and approved in 2017. In line with the Procedure for Interaction between Rosenergoatom and Rosatom State Corporation1, the Company’s control circuit as of December 31, 2017 embraces 30 organizations, including 15 subsidiaries.

The Procedure for Interaction sets forth the mechanisms of organizations management, including the execution of the Interaction Protocols stipulating:

- Implementation of the corporate policy in the process of management of the Russian Federation nuclear industry complex organizations;
- Creation of an efficient corporate governance system allowing for maximum protection of the interests of Rosenergoatom as a stockholder (participant) of the Organizations;
- Improvement of efficiency and optimization of techniques of managerial functions;
- Unification and standardization of industry-level documents;
- Creation of mechanisms of control and decision making in relation to the operating activities of the Organization, its subsidiaries and affiliates;
- Improvement of quality of executed documents and approved decisions of the Organization, its subsidiaries and affiliates;
- Implementation of a unified information policy of the Corporation, the Company, the Organization, its subsidiaries and affiliates.

Rosenergoatom executed interaction orders with the key organizations within its control circuit (hereinafter – the Organizations). The interaction orders define basic terms and conditions for the Company’s participation and decision making in relation to industry-level and division-level processes in subsidiaries.

A business curator is appointed for each of the key Organizations from among the top- and mid-level management of Rosenergoatom, who is in charge for implementation of the Company’s interests, achievement of the goals and objectives of the Company’s participation in the Organization, as well as control of the current activities of the Organization, and its interaction with Rosenergoatom.

Over 400 corporate procedures of the Organizations were arranged and held in 2017. In order to improve the efficiency, standardization and operational performance of processes, the following unified procedures were introduced to subsidiary companies and organizations within the Company’s control circuit:

- Unified industry-level procedural guidelines for preparation of corporate documents by nuclear industry organizations;
- Procedure for preparation and coordination of materials for the annual general meeting of stockholders (participants) of the organizations within Rosenergoatom control circuit;
- Procedural guidelines for preparation of the annual report by the organization within Rosenergoatom control circuit;
- Procedure for maintenance of the register of persons obliged to provide information regarding availability of interest in transactions pursuant to specified criteria;
- Procedural guidelines for assessment of the Organizations’ corporate governance.

INFORMATION ABOUT MAJOR TRANSACTIONS AND INTERESTED PARTY TRANSACTIONS

No major transactions subject to approval by the Company’s governing bodies were made in the reporting year. In 2017, the Board of Directors approved 9 interested party transactions involving the persons authorized to close transactions on behalf of Rosenergoatom pursuant to the Articles of Association, who simultaneously held positions on the governing bodies of the transaction counter-parties.

Between January 1, 2017 and September 1, 2017, Rosenergoatom did not make any interested party transactions. On September 1, 2017, a new revision of the Company’s Articles of Association was registered and stipulated that Chapter 11 of the Federal Law on Joint Stock Companies No 208-FZ dated December 19, 1995 would not apply to the Company.
DISCLOSURE OF INFORMATION REGARDING HEAT AND WATER SUPPLY, AND WATER REMOVAL

Rosenergoatom, as an organization supplying heat and water, as well as removing water, is obliged to publish information on official websites of the executive authorities in the Russian Federation constitutions in charge for state regulation of prices (tariffs) within the timelines specified by the Russian Federation Government Resolutions No. 6 dated January 17, 2013 and No.570 dated July 5, 2013 (the process is assigned to the Company’s branches).

The disclosed information may be found at: http://www.rosenergoatom.ru/shareholders/krytie-informatsii/

CRITERIA FOR DETERMINING REMUNERATION OF CEO, DIRECTORATE, AND BOARD OF DIRECTORS MEMBERS

According to the Company’s Articles of Association and Regulation on Board of Directors, remuneration and (or) compensation may be paid for the expenses related to discharge of the Board members’ obligations. The General Meeting of Stockholders is authorized to make decisions on the purpose of remuneration.

No remuneration was paid to members of the Board of Directors in 2017.

For the purpose of centralization of the information disclosure process, and minimization of the risk of administrative fines for untimely and incomplete publication of information, the process was optimized in 2017 through additional publication of information on the Company’s official website, and reporting of information disclosure by the Company’s branches (Rosenergoatom Order No. 9/1185-P dated September 1, 2017).

The final KPI performance ratio equaled 107.47% in 2017 (95.46% in 2016). Basic KPIs outstrip the target values.

605.4 mln rubles is the total amount of remuneration paid in 2017 to key management personnel: executives (CEO and his Deputies) and other officers vested with authority and responsibility for planning, directing, and controlling activities of the company.

ETHICAL PRACTICE

182-16, 102-17, 102-25

Rosenergoatom approved the Ethics Code1 defining the ethical principles of the company’s activities and setting forth the employee conduct requirements. The Ethics Code provisions are applicable to all employees irrespective of their position level and period of work in the Company. Rosenergoatom Ethics Code hinges on uniform values for all enterprises of the nuclear power industry.

In order to implement ethical practices, Rosenergoatom created the Ethics Panel and appointed the Ethics Officer. The Ethics Panel is a collegiate body responsible for settling the issues of ethical misconduct. The Ethics Officer is responsible for taking preventive measures, ethics review and employees consulting.

Violations of ethical standards may be reported by email: ethics@rosenergoatom.ru (applicants are guaranteed confidentiality, anonymous reports are considered, but the Ethics Panel reserves the right to omit replies to anonymous reports). In case an ethical dilemma is not settled on the level of the Ethics Panel, the employee is entitled to apply to the hotline of the Company or Rosatom State Corporation.

1. For additional information on the KPI system refer to Section 3.5 – KPI Policy.
2. The KPI account for labor productivity across the Power Engineering Division.
4.2 ECONOMIC SECURITY

In 2017, Rosenergoatom efforts were focused on creation of a safe anti-corruption measures system ensuring timely prevention of possible corrupt practices, and take efficient measures in order to stamp them out.1

When achieving the specified goals, the Company places a focus on completion of shaping and improvement of the local regulatory framework for prevention and combating of corruption.

As a result, 100% of local anti-corruption regulations recommended by Rosatom State Corporation were developed, executed and enacted at all branches and subsidiaries:

• A new procedure was enacted for taking of measures by the Company’s employees to prevent any possible conflict of interests;
• A procedure was approved for notification of the employer by the Company’s employees about conflicts of interests and cases of being induced to corruption;
• Measures were taken to settle above 60 pre-conflict situations that could lead to conflicts of interests and cases of being induced to corruption;
• Anti-corruption sections were added to corporate websites and internal information portals of the Company and filled with the information and materials relevant to the subject.

In 2017, Rosenergoatom initiated development and execution of supplementary agreements to labor contracts with all employees of the Company and its subsidiaries on compliance with due diligence principles when discharging job duties related to purchasing and contractual activities in order to stick to the principle of inevitable responsibility for failure to observe the standards and procedures set for the Company’s employees in the anti-corruption area.

As part of the anti-corruption training plan for the Company’s employees, over 20 persons responsible for prevention of corruption and other crimes passed career development at Rosatom Technical Academy in 2017 according to the educational programs agreed with the Russian Federation President Administration.

Corruption risks were assessed resulting in approval of the following documents:

• List of business processes subject to highest probability of corruption offences;
• List of jobs holding corruption risks;
• Corruption risks matrix;
• Register of local regulations of Rosenergoatom aimed at corruption risks elimination and minimization.

Out of 36 key business processes implemented in Rosenergoatom:

• 15 processes (40%) were identified as most prone to corruption;
• 13 owners (65%) of corruption risks from among managers of the Company’s Headquarters were determined.

Most of the corruption risks identified by business process owners were eliminated or minimized (86%), the rest (14%) require additional mitigation procedures and measures.

Monitoring results showed that:

• Local anti-corruption regulations issued by the Company complied with the requirements of laws, regulations and industry-level documents;
• All employees of the Company and its subsidiaries complied with most of the requirements of anti-corruption standards and procedures, there was no criminal prosecution for corruption.

The Corruption Prevention section on the Company’s website was created. The section provides information on anti-corruption regulations, list of corruptive and other violations, as well as feedback channels that may be used to report corruption.

Feedback channels allow to directly contact the Asset Protection Department of Rosatom State Corporation via Hotline, email or paper mail. Meanwhile, the applicants are guaranteed independent consideration of any message, and non-disclosure of the message source. Anonymous messages are also considered.


1. In compliance with the provisions of the federal laws on combating corruption, and the requirements of industry-level anti-corruption local regulations.
4.3 INTERNAL CONTROL AND AUDITING

INTERNAL CONTROL AND AUDITING IN ROSENERGOATOM ARE INTEGRATED INTO THE MANAGEMENT SYSTEM, AND TARGETED AT MINIMIZING OPERATIONAL RISKS AND ENHANCING REASONABLE ATTAINABILITY OF STRATEGIC GOALS.

Streamlining of the internal control system of Rosenergoatom is an essential task in the environment of the nuclear power industry development.

The Company’s internal control system is built according to the Internal Control Policy of Rosatom State Corporation and Its Organizations (hereinafter — Industry-Level Policy) aimed at raising the guarantees of strategic targets achievement and corporate governance efficiency, and with due regard of the requirements of the general guidelines for the operating company’s quality.

FINANCIAL PERFORMANCE CONTROL

Rosenergoatom approved regulatory documents and guidelines on financial statements internal control system (FS ICS) as part of the common internal control system. The main purpose of the FS ICS is to provide reasonable assurance of the reliability of financial statements for external and internal users. The Company’s FS ICS Improvement Plan comprising measures aimed at enhancing the quality of accounting, and ensuring the reliability of financial statements, is prepared each year.

INTERNAL CONTROL SYSTEM COMPONENTS

- Corporate culture and its shaping processes
- Personnel management processes and their results
- Corporate structure and delimitation of powers
- Processes of target definition and target system (targeting)
- Monitoring activity (independent reviews)
- Risk management activity
- Information systems and communications
- Changes management activity
- Internal auditing activity
- Compliance

INTERNAL CONTROL SYSTEM PRINCIPLES

1. GENERAL INVOLVEMENT
   Each employee of the Company is responsible for internal auditing

2. AVAILABILITY
   The system is available for stakeholders (internal customers) to exert a controlling effect

3. ANTICIPATORY ORGANIZATION
   Auditing systems in variable processes and structures shall be provided with resources, organized, rebuilt, and adapted in advance

4. RISK ORIENTATION
   The Company’s internal auditing system development processes are based on the results of identification, forecasting and assessment of risks inherent to Rosenergoatom and its organizations

5. FOCUSING
   Conditions are created for focusing of the efforts of all participants of the auditing activity on development of the elements that ensure efficient achievement of targets

6. DELIMITATION OF RESPONSIBILITY
   Auditing functions are distributed among the auditors in such a way that auditing targets are efficiently achieved

7. LEGITIMACY
   The internal auditing system operation and development are based on the provisions of Russian and international laws

8. HIERARCHY
   Each management body and structural unit plays its own role in internal auditing with due account of the general structural hierarchy

9. COMPLETENESS
   The Company’s internal auditing system is complete, comprehensive, and harmonized. It embraces all aspects of the Company’s activities, and takes into account all particulars of its sub-systems

10. DEVELOPMENT BALANCE
    The auditing development activity takes into account the risks of unbalancing of its integral parts, and ensures timely response

11. SUFFICIENCY
    The scale and scope of auditing functions corresponds to the discovered risks and threats, which ensures sustainable and safe development, and efficient achievement of targets
SPECIALIZED INTERNAL CONTROL BODY

Shaped according to the Industry-Level Policy, the Company’s Specialized Internal Control Body performs its activities as a structural unit headed by Chief Supervisor:

In the reporting period, the Specialized Internal Control Body met the requirements for independence, supervisory action plans were 100% completed.

KEY SUBJECTS OF THE SUPERVISORY MEASURES ARE AS FOLLOWS:

- Efficiency of Rosenergoatom Investment Program execution;
- Supervision (compliance) of the competitive policy implementation, including purchasing, contracting activities, organizing bids for the sale of property;
- Evaluation of efficiency of subsidiary companies’ asset portfolio management;
- Issues related to prime cost composition.

Development of the supervision environment in 2017 was focused on unconditional elimination of deviations through weekly monitoring of corrective actions and communicating their results to the Company’s governing bodies, among other things.

Raising the procurement efficiency is one of the Company’s strategic goals. Therefore, constant control in this area is reasonably required. According to the principles of the industry-level Internal Control Policy, Rosenergoatom is implementing the mechanism for interested party control of purchasing activities. Potential suppliers are provided with the possibility to apply to a corporate body (Arbitration Committee) for elimination of violations of the Unified Industry-Level Purchasing Standard. Response time and decision delivery time, as well as the number of reasonable complaints filed with the Arbitration Committee reduced in the reporting period due to increased quality of purchasing procedures.

Rosenergoatom developed and implemented the Program of Internal Control and Auditing Quality Buildup for 2017. In addition, with a view to strengthen control of the financial and economic activities at the operational NPPs, an action plan was launched for further streamlining of internal control. As part of the action plan, directors of branches assumed personal responsibility for creation and functioning of an efficient internal control system at nuclear plants.

The IT system supporting the Specialized Internal Control Body was put into full-time operation in 2017. This allowed to improve the auditing efficiency and to optimize the control procedures.

The main areas of internal control and auditing in the medium and long term are as follows:

- Improvement of the control environment and the internal control procedures efficiency through reduction of intervals between the identification of deviations as part of control activities and the decision making (corrective action).
- Independent assessment of the Specialized Internal Control Body compliance with international standards of internal audit.

27 supervisory measures were completed in 2017.

286 corrective measures were developed and are ongoing as a result of the supervision.

RESPONSE TIME, DAYS

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.70</td>
<td>.60</td>
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</table>

RESULT DELIVERY TIME, DAYS

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.60</td>
<td>.60</td>
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</tbody>
</table>

SHARE OF VALIDATED COMPLAINTS IN PURCHASES

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.80</td>
<td>.83</td>
</tr>
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</table>

EXTERNAL AUDIT

Transparency and reliability of the organization’s financial statements define long-term prospects for the business development, and lay the basis for its investment attractiveness. External auditing allows reducing risks for stockholders, on the one hand, and broadening the range of potential investors, on the other.

Therefore, in compliance with legal requirements, the Company is annually subject to external auditing – assessment of accounting statements by an external auditor according to international or national standards. Financial and Accounting Advisors (FAA) were selected for accomplishment of mandatory auditing of the annual accounting (financial) statements in 2017.

Selection of the external auditor was performed on the level of Rosatom State Corporation as part of general centralization of accounting and taxation processes, budget planning, internal control of financial reporting, and risk management. The external auditor selection procedure was carried out according to the provisions of the Unified Industrial Standard (Procurement Regulation) of Rosatom State Corporation. FAA auditors studied the annual financial statements prepared for 2017 according to Russian Accounting Standards by several enterprises of Rosatom State Corporation, including the Company.
Rosenergoatom owns immovable property with the total area of some 13.8 mlн m², including industrial sites, laboratories, administrative buildings, social facilities and non-core assets.

As of December 31, 2017, the Company de-facto was using 760 land plots with the total area of 20.804 ha, among them:

- 371 land plots with the total area of 6.218 ha (fully owned by the Company);
- 389 land plots with the total area of 14.586 ha (used by the Company under tenancy).

The total cadastral value of the land plots exceeded 49 bln rubles, the Company’s land tax payments – some 170 mln rubles per year.

In order to cut down the land payments, projects are underway to establish a reasonable basis of taxation on immovable property and contestation of the cadastral value of land plots.

From 2014 to December 31, 2017, this project resulted in savings of some 123 mln rubles, including some 26 mln rubles through measures taken in 2017.

Restructuring of non-core assets through their sales resulted in the income of above 605 mln rubles (without funds received by subsidaries).

As of December 31, 2017, Rosenergoatom fully owned 7,160 items of immovable property (including 4 items of water transport).

In line with the requirements of the Federal Law No.226-FZ dated July 3, 2016 on the Russian Federation National Guard Troops as refers to housing provided to personnel of the National Guard units involved in protection of important national facilities (nuclear power plants) and special cargo, 168 housing units (apartments) were donated to the Russian Federation Treasury.

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The automated property management system (APMS) is used to increase the efficiency of operations with immovable property. This database allows receiving information about any item of the Company’s immovable property in the online mode irrespective of its location. The database contains information about more than 100 characteristics of each item of immovable property, including technical parameters, balance sheet value, legal status and utilization status, etc. ensuring prompt retrieval of the information required for managerial decision making.

Purchasing activities of Rosenergoatom within Rosatom State Corporation are governed and executed according to the following federal- and industry-level regulatory documents:

- Federal Law No. 223-FZ dated July 18, 2011 on Purchasing of Products, Work, and Services by Specific Corporate Entities;
- Unified industry-level purchasing standard (Purchasing Regulation) of Rosatom State Corporation (hereinafter – the Standard);
- Unified industry-level procedure for planning, preparation to procurement processes, reporting at its expense for the needs of Rosatom and the State Corporation’s organizations, including typical forms of technical specifications;
- Other federal- and industry-level statutory acts, regulations of Rosatom State Corporation and Rosenergoatom as related to procurement and adjacent areas.

The Company’s purchasing activity regulates the relations arising from purchasing for the needs of Rosenergoatom and its organizations with a view to promote fair competition and fair market prices, ensure efficient use of funds, transparency of order placement, and integrity of the economic space.

The key functions of Rosenergoatom as the customer of purchasing activities include:

- Ensuring introduction and execution of the purchasing techniques, performing the function of the methodologist;
- Planning of purchases and reporting on purchases;
- Arranging and holding purchasing procedures;
- Monitoring and control of the purchases correctness;
- Execution and supervising of contracts;
- Taking other actions clearly stipulated/ provided for by the Standard.

### 4.4 Property Management

#### 4.5 Purchase Management

**Main Goals and Principles of Rosenergoatom Purchasing Activity**

<table>
<thead>
<tr>
<th>Goals</th>
<th>Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring a single economic space</td>
<td>Transparency: purchasing information disclosure</td>
</tr>
<tr>
<td>Creating conditions for timely and complete satisfaction of the Company’s needs for products with desired price, quality and reliability</td>
<td>Competitive ability: equal rights, fairness, absence of discrimination and unreasonable limitation related to purchasing participants</td>
</tr>
<tr>
<td>Using the funds channelled for purchasing of such products in an efficient way</td>
<td>Justification: compliance with regulations, collegiate character and documentation of the decisions made, absence of limitations on access to participation in purchases through setting of invariable requirements for the purchasing participants</td>
</tr>
<tr>
<td>Shaping the fair market price for the products purchased by the customers, and reasonable output of the customers’ expenses</td>
<td>Timeliness: implementation of purchasing processes for timely provision of products to the customer; early notification of suppliers on the planned purchases</td>
</tr>
<tr>
<td>Expanding possibilities of legal entities and individuals participation in purchases, and promoting such participation, developing a fair competition</td>
<td>Efficiency: ensuring purposeful, feasible and cost-effective spending of funds for purchasing of products (inter alia, taking into account the purchased product life cycle) and implementation of measures aimed at reducing the customer’s expenses</td>
</tr>
<tr>
<td>Ensuring disclosure and transparency of purchases</td>
<td></td>
</tr>
</tbody>
</table>

In order to achieve the strategic goal of Rosatom State Corporation – Reducing Prime Cost and Accelerating Processes, and to execute the updated Power Engineering Division Strategy until 2030 as part of the strategic initiative of Operational Improvements for Reduction of Costs and Boosting of Output, the following actions were taken in Purchases Management:

- Reduction of processes duration as part of the industry-level Purchasing Activities Management function;
- Decrease in expenses for the function due to automation and standardization of processes;
- Ranging, unification and standardization of purchases;
- Reduction of prime cost in core business areas.

According to the Standard, Rosenergoatom developed and enacted the regulatory documents that govern the activities and the procedure of interaction among the Company’s Headquarter, branches, and subsidiaries when carrying out purchasing activities.

Pursuant to the Federal Law No.223-FZ dated July 18, 2011 and the Standard, information on goods, work, or services to be purchased is published in the unified information system: www.zakupki.gov.ru, and the official website on purchasing in the nuclear sector: www.zakupki.rosatom.ru; thus a wide range of bidders may join the procedure, and a competitive environment is created.

We are constantly streamlining the purchasing procedures in order to increase the efficiency of procurement activities. The respective indicators of efficiency are monitored by heads of the Procurement and Logistics Support Service of the Headquarters, as well as Procurement Directors created in the Company’s branches.

In 2017, Rosenergoatom and its branches held 9,930 purchasing procedures amounting to 200,722 mln rubles. Savings from competitive purchasing procedures totaled 6,085 mln rubles (8.0%).

In 2017, category management coverage of the annual purchasing plan implemented by the Company was as follows:

- Materials and equipment purchasing – 87% with the target level of 80% (28.2 bln rubles) (82.99% in 2016 with the target level of 80%);
- Work/services purchasing – 76% with the target level of 50% (29.9 bln rubles) (66.73% in 2016 with the target level of at least 50%).

The Division approved 2,740 category strategies worth 03.5 bln rubles in 2017.

Efficiency of category management of purchasing activities exceeded 7.5 bln rubles (21.6% of the previous purchases).

**EXAMPLE OF EFFICIENT CATEGORY STRATEGY**

As part of the program for substitution of imported foreign resins with domestic ion-exchange resins, a single category purchase strategy worth 373.48 mln rubles was developed in 2017. A provision is made for an option with selection of winners for every lot with the possibility of making separate supply agreements by NPPs. The open bidding procedure resulted in execution of agreements for Russian resins supply to NPPs in 2017.

The actual savings from purchases of domestically manufactured products (as compared to previous agreements for resin supply) totaled 136 mln rubles (72%).

**QUALITY POLICY**

The Company continuously performs Quality assurance, which is planned and consistent activity aimed at ensuring that all services and work related to creation, operation and decommissioning of NPPs are performed in accordance with the established procedure, and their results meet the pre-set requirements.

Rosenergoatom quality assurance system is a basic sub-system of the integrated management system. The system hinges on the ISO standards of 9000 series, federal standards and rules NP-090-11 – Requirements for Quality Assurance Programs for Nuclear Facilities, the IAEA General Safety Rules GSR Part 2 – Leadership and Management for Safety.

Rosenergoatom is implementing the Quality Policy Statement with its basic provision concerning cost-effective power generation, and reliable supply of electricity and heat to consumers, while maintaining unconditional compliance with safety requirements.

**QUALITY POLICY IMPLEMENTATION**

All activities regarding the Company’s quality system development scheduled for 2017 by administrative orders of Rosenergoatom were performed in full.

The Company achieved the quality targets set for 2017 by Rosatom State Corporation (as confirmed by monitoring of the existing system of quality management in the civil area of Power Engineering Division) in the following areas: coordination of engineering documentation, acceptance control, assembly and construction work inspection, commissioning control, maintenance and operation activities.

In 2017, five NPPs successfully passed checks of compliance with the requirements of NP-090-11, GOST ISO 9001:2011/2015, GS-R-9 (GSR Part 2):

- Kalinin NPP on February 6-10, 2017;
- Kola NPP on March 20-24, 2017;
- Novovoronesh NPP on June 19-30, 2017;
- Kursk NPP on June 5-9, 2017;
- Rostov NPP on September 11-15, 2017.
Results of 2017

• Rosenergoatom integrated management system was implemented and documented at the level of Headquarters and NPPs in line with the requirements of GSR Part 3.
• Regulatory documents and standards were developed, updated and enacted to develop the quality system in accordance with GOST R ISO 9001-2015 requirements, ensure the quality of products supplied to the NPPs.
• Schedule and program of internal audits in the Headquarters and branches of the Company in the Moscow region regarding their compliance with GOST R ISO 9001-2015, NP-090-11, and the IAEA General Safety Rules (GSR Part 2).

Plans for 2018

• Development of the integrated quality system in the following areas:
  - Shaping of the integrated management system for its demonstration, inclusive, to the corporate OSART mission of the IAEA (Corporate Governance);
  - Implementation of the integrated engineering policy in the area of safety;
  - Updating of the regulatory basis for the quality system.
• Accomplishment of internal audits of the quality system at the Headquarters and branches of the Company in the Moscow region regarding their compliance with GOST R ISO 9001-2015, NP-090-11, and the IAEA GSR Part 2.
• Full transfer of Rosenergoatom to ISO 9001 series standards as amended in 2015.
• The quality system documentation was updated in line with ISO 9001:2015 (GOST R ISO 9001:2015) taking account of the integrated management system implementation.
• Application on Quality Assurance Policy with Consideration of Development Strategy was developed and implemented.
• The employees of the Headquarters and branches were trained in the QMS buildup and documentation, as well as QMS internal auditing on the basis of ISO 9001:2015 (GOST R ISO 9001-2015). Certificate validity from December 27, 2017 to December 26, 2020.
• Harmonization of the quality system processes with the integrated management system processes.
• Functional KPI of Rosatom – Observation of Acceptance Control Timeframes at NPP Construction Sites – was 80.5% achieved (with the target value of 90%).
• Centralized training of the Novovoronezh, Kola, Rostov NPPs employees in the OMS buildup and documentation, as well as the OMS internal auditing on the basis of ISO 9001:2015 (GOST R ISO 9001:2015).
• The first external audit at the HQ; Capital Projects Implementation Branch Office, Novovoronezh, Kola, Rostov NPPs as part of compliance of the Company’s quality policy with the requirements of ISO 9001:2015 (GOST R ISO 9001:2015).
• Fixed transfer of Rosenergoatom to ISO 9001 series standards as amended in 2015.
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• The first external audit at the HQ; Capital Projects Implementation Branch Office, Novovoronezh, Kola, Rostov NPPs as part of compliance of the Company’s quality policy with the requirements of ISO 9001:2015 (GOST R ISO 9001:2015).

Quality Management of Equipment Supplied to NPPs

In line with the applicable laws in the nuclear industry, Rosenergoatom as the operating company participates in managing the quality of the equipment supplied to nuclear plants.

The quality management function is underpinned by the following actions:

• Coordination of terms of delivery, technical specifications for imported equipment, testing programs and techniques, working design documentation for the equipment (control of completeness and compliance of the said documentation with the initial technical conditions, federal standards and rules in the nuclear sector; requirements of the regulatory documents);
• Audits of the manufacturers’ data integrity as part of purchasing procedures for the supply of critical products;
• Participation in testing (acceptance, qualification, periodic, routine);
• Coordination of technical requirements and changes in them according to the testing results (control of testing completeness, compliance of the applied methods, testing results with the requirements of the terms of reference and technical specifications);
• Assessment of equipment compliance with quality plans (control of manufactur er’s compliance with the requirements of federal standards and rules, working design documentation, process flow documentation for manufacturing of equipment in a stagewise manner, against quality plan milestones);
• Coordination and approval of decisions on applicability of imported equipment being significant for the safety of the Company’s NPPs;
• Approval of decisions on applicability of general purpose industrial articles as part of equipment being significant for the safety of the Company’s NPPs;
• Acceptance control of the equipment delivered to the Company’s NPP sites (control of equipment compliance with the NPP project requirements);
• Testing, compliance assessment and acceptance control are performed by Rosenergoatom (NPPs and HQ) with the participation of Authorized Organizations (VO Beznasost, ZAES Production Association)1.

In addition, the Company considers, coordinates, controls execution and evaluates performance of the quality assurance programs of organizations involved in design and/or manufacturing of NPP equipment.

Actions and powers of Rosenergoatom are governed by federal laws, standards and rules in the area of nuclear power use. In turn, the operating procedures and authorities of the Company’s structural units are specified in the regulatory documents and standards of the operating organization. Once included into the general contractor agreements (standard general contractor agreement form) and supply agreements (standard supply agreement form), the regulatory documents and standards of the operating organization become binding.

The Company introduced the System of Voluntary Certification of Production Facilities at NPP. Equipment Manufacturing Enterprises for Compliance with Requirements of Rosenergoatom as Operating Organization2. The System is aimed at providing bona fide manufacturers (certified within the system) with advantages in bidding procedures.

1. The organizations are authorised by a joint decision of Rosatom State Corporation and Rosatomtrede Ltd no. 06-4421 dated June 25, 2007.
2. Registration number in the unified register of voluntary certification systems no. F0001 RU.31086:040640.
ROZENERGATOM STRIVES FOR ENSURING A HIGH LEVEL OF AVAILABILITY AND TRANSPARENCY OF ITS OPERATIONS BY IMPLEMENTING THE PRINCIPLE OF ACTIVE DIALOG WITH STAKEHOLDERS. WE SUPPORT ACTIVE COMMUNICATIONS WITH ALL STAKEHOLDERS, TIMELY PROVIDING SIGNIFICANT INFORMATION ON ALL ASPECTS OF ITS OPERATIONS, AND RESPONDING TO REQUESTS AND SUGGESTIONS OF STAKEHOLDERS.

The approach to interaction with stakeholders is based on the principles of regular and constructive dialog, partnership, mutually beneficial cooperation, trust and sincerity, public availability and transparency, fulfillment of assumed obligations.

In 2017, the municipal entity of the city of Obninsk, Kaluga Oblast joined the Fund Council pursuant to the city administration’s application. At present, the Fund unites 14 municipal entities and territories of nuclear plants presence, and 11 Russian NPPs.

Composition of the Fund, the audit commission and the supervisory board was changed in 2017. Sergey Chestikin, Head of the Novovoronezh Urban District Administration, Voronezh Oblast was elected as a new chairman. Four meetings of the Fund Council were held in 2017. The Fund pays much attention to development of international cooperation and partnership through “public diplomacy”, the Council members actively participate in industry-level events:

- 12th international public forum-dialog (Moscow), including AtomEx 2017 exhibition;
- Industry-level workshops on key aspects of achieving state objectives in the areas of NPPs presence.

In strict compliance with legislation of the Russian Federation, when planning its activities that may have a considerable impact on the environment and local communities, Rosenergoatom initiates public discussions. Among the participants are experts representing R&D organizations and designers, supervisory agencies, federal, regional, and local government agencies, NGOs, environmentalists, the press, and the broader public.

In 2017, over 10 public discussions were held in the areas of the Company’s presence (over 3,250 participants). The ‘case’ of each discussion includes 100 or more activities involving communities, public authorities and mass media, and involves explaining of planned activity, and its safety principles for human and environment.

1. The stakeholders ranking matrix is given in the Company’s 2015 Annual Report (page 181).

2. Public discussions are a set of activities forming part of evaluation of environmental impact of prospective economic and other activity held with a view to inform the public about planned activities and its possible impact on the environment, to identify public preferences and consider them for impact assessment, and to protect the rights, liberty and legitimate interests of citizens within areas targeted for specific business operations of significance.
that have a real possibility to obtain unbiased non-governmental environmental organizations.

Among the projects implemented as part of the 5th open contest of social projects of the AAPNP Fund in 2017 are:

- Pilot projects – Careful Clinic (Volgodonsk) and Careful City (Sosnovy Bor) aimed at improving the quality of medical service and municipal services rendered to the population (jointly with Rosatom RisP office);
- Best Municipal Practices (3 projects from each municipal entity were applied for participation in the federal contest). The basis was laid, exchange in the best practices was organized among the cities of NPPs location, and with restricted access territories;
- The new program for development of small and medium businesses (started in 2017). For selection of projects, the Fund jointly with the Association of Restricted Access Territories of Nuclear Industry established a Fund for Socioeconomic Development of Nuclear Industry Cities; the most promising and socially significant projects may seek Rosatom support;
- Urban Environment federal project. As part of the project, work was performed to improve the residential areas, repair of yards, creation of new recreation zones in all areas;
- Documentaries were produced for children about veterans with their participation. Performances will stage on their basis in the DOC format;
- A joint Russian-Hungarian project (started in 2017) – the contest of children’s photos, In the international forum-dialog AtomEco 2017. Participating in such tours were over 2,500 people.
- All projects were successfully implemented.

All news releases were published on the Company’s website (publication of reports for 2017 is scheduled for the second half of 2018), as well as in interactive annual reports of Rosenergoatom. Public presentations of environmental reports are held in all municipal entities and regional centers of NPPs location.

INTERACTION WITH MASS MEDIA

The Company’s interaction with mass media hinges on the policy of maximum transparency and availability. The information on operation of nuclear plants and radiation environment in the towns of NPP location is available on the Company’s official website (www.rosenergoatom.ru). Press releases and information communications are posted there without delays. Real-time information about radiation monitoring of Russian NPPs may be found at: www.russiannatom.ru.

All nuclear power plants have 24/7 automatic responding machines providing information about current operation of NPPs, and radiation environment on a daily basis. Public Awareness Centers at nuclear plants have a chain of Clean Energy clubs as a meeting place for local reporters who regularly write on the issues of the nuclear sector.

In 2017, more than 70 press tours were held at NPP sites (more than 750 participants). More than 1,300 press releases were published on the Company’s website about the activities of Rosenergoatom and its branches – nuclear power plants.

In order to improve the competences among personnel of mass media and press services of enterprises, the Company annually holds the Educational People contest for the best treatment of the nuclear industry subject in regional mass media. The results of the 2017 contest were summarized at the Rostov NPP during the Educational People festival of regional and corporate mass media. Participating in it were journalists from leading periodicals, information agencies, radio and TV channels from 18 regions of Russia (some 100 people in total, including representatives of press services of Rosatom enterprises). Mikhail Kozhevnikov, a Russian journalist, musical critic, producer, TV and radio host and actor, was a special guest of the festival in 2017.

From August 10 to September 10, 2017, the Multimedia Art Museum in Moscow hosted a unique social project of two global leaders of the nuclear industry – Rosenergoatom and Electricité de France (France) in commemoration of the 25th anniversary of Rosenergoatom. 25 French and 5 Russian photographers were invited to participate in the international photo project (Uniting Energy of Atom. Russia and France) allowing to demonstrate the scale of activities of the two leaders in nuclear power generation.

A most important area of informational interaction is educational work among population and communities. Exhibitions located in Community Information Centers of NPPs receive from 3 to 5 thousand visitors each year.

Atom Classes is one of the unique education projects of the nuclear industry for the Russian population. A new Atom Class was opened in Moscow in 2017, additional software and equipment was purchased to maintain the activities of Atom Classes in all cities of the Company’s presence.

Over 130 technical tours for regional and local authorities, and general public were held in 2017. Participating in such tours were over 2,500 people.

In June 2017 as part of the IAEA international conference in Exeter, the Belarusian NPP was attended by 250 foreign experts. In April 2017, a technical tour of the Russian State Duma and Federation Council members to the Novovoronezh NPP was arranged.

In November 2017, traditional educational workshops were held in format of a video conference for employees of educational and healthcare institutions in municipal entities of NPPs presence (jointly with Nongovernmental Ecological Fund named after V.I. Vernadsky, and the AAPNP Fund). Participating in the workshops were some 500 persons.

PUBLIC OPINION SURVEYS

According to the results of social studies performed by Levada-Center, the balance between positive and negative evaluations of the nuclear industry subject in the Russian population averaged 57% in 2017 (the indicator varied from 49.2 to 62.1% during the recent five years). The share of supporters of nuclear power use in Russia totaled 73.9% (the indicator varied from 66.5 to 75.5% during the recent five years). Thus, the result of 2017 corresponds to a general trend of the recent years and confirms a persistently high level of support of the nuclear power industry development programs among the Russian population.

Preservation of the balance between positive and negative evaluations is forecast at the level of 55-59% in 2018.

BLOGGSHERE AND SOCIAL NETWORKS

Work was intensified to highlight the Company’s activities in social networks. The total number of Rosenergoatom corporate accounts followers in social networks (Vkontakte, Facebook, Instagram) in 2017 grew by almost 6 times (versus 2016) and exceeded 9,500 persons (1,650 persons as of the end of 2016).

Training workshops were held in 2017 for the Company’s branches – nuclear plants. The workshops were devoted to the subject of enterprises’ activities promoting in social networks with involvement of SMM management experts.

This work will be continued in 2018 at the level of Rosenergoatom and NPPs. A corporate contest for the best public in social networks will be held among NPPs, and new accounts of Rosenergoatom will be created in Twitter and Telegram.
INTERACTION AS THIS ANNUAL REPORT WAS PREPARED

In view of the nature of the Company’s activity, the following subjects were selected as the priority issues of the Annual Report in 2017: Safe Operation of NPPs, and Technological Leadership and Innovations. Representatives of key stakeholder groups were involved in dialogs discussing the overall concept, priority issues and the draft of the Annual Report, as well as participated in public affirmation of the Report.

Dialog No.1 was held in November 2017 in the form stakeholders questioning. The Dialog was devoted to Discussing Concept of 2017 Annual Report of Rosenergoatom. All participants received the draft concept of the Company’s Annual Report. Representatives of stakeholders could express their comments and suggestions on the Company’s report and activities.

Dialog No.2 was held on February 22, 2018 in the format of a visiting meeting in Saint Petersburg at the Academician Lomonosov floating power unit under construction. The Dialog was devoted to Discussing Prioritized Subjects of 2017 Annual Report. The participants had a tour over the floating power unit, asked their questions about disclosure in the annual report of the information related to the results of 2017 and measures ensuring safety of Russian NPPs, and key innovative projects. Participating in the Dialog were representatives of public and environmental organizations, research and educational institutions, Rosatom State Corporation, etc.

Public consultations on the draft Annual Report were held on April 20, 2018 at the Company’s Headquarters and involved a wide range of stakeholders, representatives of government bodies and local authorities, public and environmental organizations, mass media, Rosenergoatom branches and subsidiaries, etc. Stakeholders were familiarized with the draft Annual Report, expressed their respective suggestions, notes and comments.

The suggestions and comments received during the dialogs and public consultations are specified in the table of suggestions by stakeholders (Appendix 4).

STAKEHOLDERS COMMISSION

In 2017, the Commission members participated in discussing the urgent matters of Rosenergoatom development, including the stakeholders’ dialogs on discussing prioritized subjects of the 2016 Annual Report (February 2017 – a visiting meeting (dialog) at the Beloyarsk NPP), and public consultations on the draft 2016 Report (April 2017 – at the Company’s Headquarters).

In addition, members of the Commission actively participated in exhibitions and other events arranged for the public throughout the year including the ATOMEXPO-2017 International Forum, and the international public forum-dialog and exhibition AtomEco-2017.

THE COMMISSION’S EFFORTS ARE AIMED AT:

• Ensuring public acceptance of the nuclear power industry development in Russia;
• Providing collective recommendations for decision making in the area of sustainable development of Rosenergoatom and the nuclear industry in general;
• Communicating with population and NGOs on the matters related to nuclear power use.
4.8 PUBLIC REPORTING SYSTEM

The following regulatory documents were used in preparation of the Annual Report:

- Federal Law dated December No.208-FZ dated December 26, 1995 on Joint Stock Companies;
- Federal Law No. 402-FZ dated December 6, 2011 on Corporate Accounting;
- Regulation on Information Disclosure by Issuers of Securities (approved by Order of the Central Bank of the Russian Federation No. 454-P dated December 30, 2014);
- Global Reporting Initiative (GRI) Sustainability Reporting Guidelines;
- AA1000 series of standards housed by Accountability AA1000 CIC (Community Interest Company);
- Integrated Reporting Standard of the International Integrated Reporting Council (IIRC);
- Public Non-Financial Reporting Development Concept (approved by the Russian Federation Government Resolution No.876-r dated May 5, 2017);
- Key Performance Indicators. Recommendations of the Russian Union of Industrialists and Entrepreneurs (RSPP) on their use within managerial practices and corporate non-financial reports;
- Corporate Transparency of Russian Companies 2017;
- 20th Annual Reports Contest of the Moscow Exchange Short listed (Top 10) in the Best Non-Public Company Report nomination;
- Annual reports contest of RA EXPERT rating agency 5 Star rating awarded (Best Quality Report);
- Corporate Transparency of Russian Companies 2017 rating 3rd place in the final ranking of the Leader in Corporate Transparency Among State Companies nomination;
- Hermes Creative Awards 2017 Platinum winner in the Publications / Annual Report nomination;
- DotComm Awards 2017 Platinum winner in the Online Annual Report, and the Online Communications nominations;
- MarCom Awards 2017 Platinum winner in the Corporate Social Responsibility, the Corporate Report, and the Power Engineering Company Report nominations;
- LACP Spotlight Awards / LACP Inspire Awards Two gold medals in the Print Annual Report, and the Annual Report nominations. No. 46 in the overall ranking of the world’s top 100 companies;
- Rosatom State Corporation’s Public Accountability Policy;
- Unified Industry-Level Procedural Guidelines for Public Reporting of Rosatom State Corporation and Its Organizations;
- Rosenergoatom Ethics Code.

Rosenergoatom annual reports are prepared on the basis of the regulatory documents approved by orders of the Company’s CEO:

- Unified Industry-Level Procedural Guidelines for Public Reporting of Rosatom State Corporation and Its Organizations (approved in 2017 by the order of Rosatom State Corporation);
- Rosenergoatom Public Reporting Policy;
- Procedure for Preparation of the Company's Annual Report;
- List of Standard Elements of the Company's Public Annual Reporting;
- Regulations on the Company’s Stakeholders Commission.

PUBLIC REPORTING AWARDS OF 2017

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Additional information about the Company’s public reporting system may be found in the 2014 Annual Report (page 158).
# APPENDICES

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APPENDIX 1.

ABOUT ANNUAL REPORT.

MATERIAL ASPECTS.

DESCRIPTION OF REPORT

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<tr>
<td>Report format</td>
<td>Integrated, as nine previous ones</td>
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<td>Prioritized Report subjects</td>
<td>• Safe operation of NPPs • Technological leadership and innovations</td>
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<td>GRI disclosure level</td>
<td>Comprehensive option under the GRI Standards</td>
</tr>
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<td>Date of previous Report publication</td>
<td>June 2017</td>
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<tr>
<td>Report coverage</td>
<td>Rosenergoatom, including branches – operating NPPs, and those under construction Information about subsidiaries is given in individual cases</td>
</tr>
<tr>
<td>Forms of reporting information assurance</td>
<td>• Auditor’s report certifying annual financial statements • Non-financial audit report • Report of the Internal Control Department on auditing of the public report building process</td>
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Sustainable development context

Information on the Company’s activities is included in a potentially wider context of sustainable development aspects (including the context of the UN Sustainable Development Goals).

Significance and completeness of the Report information

The Report covers all of the most significant impacts of the Company’s activities on the economy, environment, and the society.

Balance

The Report is compiled in consideration of the reporting year events irrespective of their positive or negative nature.

Reliability

The information is collected, registered, systematized, analyzed, and displayed in such a way that it may be verified and confirmed.

Accuracy

The data contained in the Report is accurate and detailed to the extent that the stakeholders may assess the Company’s activities on its basis.

Material presentation clarity

The information is published in the form accessible and clear to the widest public.

Comparability

The information is published in the form allowing for the stakeholders to assess the Company’s activities in the course of time and compare it to the activities of other organizations.

Timeliness

The Company’s Annual Report is published on an annual basis in line with the approved schedule. There are no considerable deviations from the deadlines for annual public reporting.

Rosenergoatom’s integrated report combines a traditional annual report of a public joint stock company, and a sustainability report. The Report is subject to approval by the general meeting of stockholders.

The report has been prepared in compliance with the global standards for sustainability reporting - GRI Standards, as well as the International Integrated Reporting Framework and Rosatom State Corporation Public Reporting Policy.

When preparing the Report, Rosenergoatom applied the following principles:

Interaction with stakeholders when preparing the Report

Significant subjects of the Report were defined with participation of stakeholders.

This Annual Report covers information on performance of Rosenergoatom and its branch companies (nuclear power plants). The Annual Report comprehensively discloses financial, economic, and production-related information on Rosenergoatom’s key activities, as well as their economic, environmental, and social impact.

Disclosure of information in the Annual Report: the Comprehensive option under the GRI Standards is proven by an independent third-party audit. To conduct an independent third-party audit, Rosenergoatom annually hires an independent auditor as determined during the relevant tender.

REPORT BUILDING PROCESS

During the annual report building process, the context of the Rosenergoatom’s operations in 2017 was subject to analysis. Just as before, safety of NPPs operation remained one of the Rosenergoatom’s focuses. Rosenergoatom defined another prioritized subject as Technological Leadership and Innovations taking into account the suggestions of stakeholders, the urgency of technological leadership and innovations on the global scale. In addition, we described the influence of this subject on various aspects of the Rosenergoatom’s activity in the reporting year and in the medium term.

The principles of highlighting material aspects and interacting with stakeholders were implemented to ensure that the selected priority subjects were relevant and significant for preparation of the Report according to the Global Reporting Initiative standards for sustainability reporting – the GRI Standards. Stakeholder representatives were invited to discuss the Report through dialogue, public consultations, and public affirmation. Interaction with stakeholders was arranged as recommended by the Stakeholder Interaction Standard AA1000 SES.

Rosenergoatom’s top executive management was involved in preparation of the Report through questionnaire surveying and selection of material aspects of activity.

This Annual Report discloses key performance indicators of business operations for the period between January 1 and December 31, 2017, and describes Rosenergoatom’s outlooks for growth, information on the strategic goals and activities aimed at laying the basis for long-term sustainability.
The 2016 Annual Report difference is in the prioritized report subjects given in the Report Building Process subsection.

DISCLAIMER
Information included in this Annual Report contains, among other things, estimates and other forecasts as an attempt to describe future events or future financial activities of Rosenergoatom. Such estimates and forecasts are speculative by their nature, and may ultimately differ from real-life events or results. Forecast information is disclosed before the respective reporting period begins. Many of the factors in the survey may cause actual results to significantly depart from those stated in our assumptions or estimates. This includes general economic conditions, competitive environment, risks related to the operations inside and outside Russia, changes in technologies and the market situation in the nuclear power industry, and other factors relevant to Rosenergoatom’s business.

For additional updates on Rosenergoatom’s activities, please visit http://www.rosenergoatom.ru

SELECTING MATERIAL ASPECTS OF ACTIVITY

In the process of developing the concept and content of the Annual Report, the Company used the results of the questionnaire survey among stakeholder representations and top management of Rosenergoatom held in December 2014 as part of the first dialog with stakeholders.

At the same time, with a view to update the list of significant subjects and to identify additional issues interesting to stakeholders, a questionnaire survey was held among representatives of stakeholders in late 2017. All suggestions were considered and taken into account, if possible, when preparing the Report. In addition, the received suggestions will be used to complete the procedures for adjustment and identification of significant subjects for disclosure in the 2018 Report1.

The ranking map was updated on the basis of the survey results. The methodology is as follows: the horizontal axis reflects the aspect significance for the company according to the survey among Rosenergoatom’s top managers, the vertical axis reflects the aspect significance for stakeholders according to the survey among them. Indicator values on each axis were determined as a ratio between the number of positive answers to the total number of respondents. The threshold value was determined to be equal to 0.5 on either axis. The aspects entering the said zone, taking into account the working group’s opinion, were considered material. They are marked in red and green.

The description of impact boundaries for the aspects is provided in Rosenergoatom’s 2013 Annual Report (pages 36-37). All material aspects are important for the organization within the report perimeter. There are no specific limits regarding aspect boundaries within the organization. The issue of on-the-job injuries in supplying companies is considered material outside the organization.

No restatements of the indicators are provided in the previous reports. All data provided is correlated with the previous reports. The Emissions aspect has been deemed immaterial because NPP emission values are situated close to the low limit of indicator measurement.

---

1. Economic performance
2. Market presence
3. Indirect economic impacts
4. Procurement practices
5. Materials
6. Energy
7. Water
8. Biodiversity
9. Emissions
10. Discharges and waste
11. Products and services (ecology)
12. Conformance to requirements (ecology)
13. Transport
14. General information (ecology)
15. Evaluation of suppliers (ecology)
16. Procedures for submitting complaints (ecology)
17. Occupation
18. Relations between employees and management
19. Occupational health and safety
20. Training and education
21. Diversification and equal opportunities
22. Equal remuneration of women and men
23. Evaluation of suppliers’ labor relation practices
24. Procedures for submitting complaints on labor relation practices
25. Investments
26. Non-discrimination
27. Freedom of associations and collective bargaining
28. Child labor
29. Forced and compulsory labor
30. Safety assurance practices
31. Rights of indigenous and small peoples
32. Evaluation
33. Evaluation of suppliers’ respect for human rights
34. Procedures for submitting complaints on violation of human rights
35. Local communities
36. Corruption Prevention
37. State policy
38. Competitive barriers
39. Conformance to requirements (society)
40. Evaluation of suppliers’ impact on society
41. Procedures for submitting complaints on social impacts
42. Consumer health and safety
43. Marking of products and services
44. Marketing communications
45. Consumer privacy
46. Conformance to requirement
47. Safe operation of NPPs
48. Reliability of electricity suppliers to consumers
49. Public acceptance*
50. Interaction with state supervision agencies and non-governmental organizations*
51. Company transparency*
52. Charity and sponsorship projects*
53. Interaction with trade unions*

Purple and blue font — material aspects; black font — immaterial aspects. Rosenergoatom specific aspects are marked with asterisks (*).
## APPENDIX 2. CORPORATE AND CONTACT DETAILS

Full Name: Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants (Joint Stock Company).

Abbreviated Name: Rosenergoatom.

Location: 25 Ferganskaya Street, 109507, Moscow.

Contact Phone: +7 (495) 647-41-89.

Fax: +7 (495) 647-46-03.

Email: info@rosenergoatom.ru

Website: http://www.rosenergoatom.ru


Registrar Location: Moscow.

Registrar Address: 107996, Moscow, ul. Stromynka, d. 18, korpus 13

Details of License for Share Register Management:

License Number: 045-13976-000001

Issue Date: December 3, 2002

Licensing Authority: Federal Commission for Securities Market

License Period: without restriction of the validity period.

Stockholders Details:

as of December 31, 2017: Rosatom State Corporation – 12.4849%, Atomenergoprom JSC – 87.5151%;

as of December 31, 2016: Rosatom State Corporation – 9.9780%, Atomenergoprom JSC – 90.0220%;

as of December 31, 2015: Rosatom State Corporation – 8.3941%, Atomenergoprom JSC – 91.6059%.

## APPENDIX 3. GRI, RSPP CONTENT INDEX

GRI Content Index for Comprehensive Report Prepared in the GRI Standards¹, RSPP

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Rosenergoatom Annual report 2017

GRI Standard RSPP Information Disclosure (GRI Standards Index Match) Disclosure Comprehensiveness / Comment / Report Section Report Page and/or URL Non-Compliance

102-11 Precautionary principle 1.5. Risk Management 2.3. Ensuring Safety of Russian NPPs Page 34, 84–90


Sector Disclosures – Electric Utilities


EU3 Not applicable as the Company is not responsible for sales activity

EU4 Not applicable as the Company is not responsible for power transmission

EU5 Not applicable as emissions of CO₂ and equivalents are negligible

Strategy

102-14 Statement from senior decision-maker Address by Board of Directors Chairman Address by CEO Page 13, 14–15

102-15 Key impacts, risks, and opportunities 1.4. Strategic Goals and Objectives 1.5. Risk Management Page 22–33, 34–37

Ethics and Integrity


102-17 Mechanisms for advice and concerns about ethics 4.1. Corporate Governance Page 186

GRI Standard RSPP Information Disclosure (GRI Standards Index Match) Disclosure Comprehensiveness / Comment / Report Section Report Page and/or URL Non-Compliance

Goverance

102-18 Corporate Governance Structure 4.1. Corporate Governance Page 172–174 The Board of Directors of Rosenergoatom has no committees


102-22 Composition of the supreme corporate governance body and its committees 4.1. Corporate Governance Page 176–178 The Board of Directors of Rosenergoatom has no committees

102-23 Chairman of the supreme corporate governance body 4.1. Corporate Governance Page 176, 178

102-24 Appointment and election of the corporate governance body 4.1. Corporate Governance Page 176


102-26 Role of the supreme corporate governance body in setting purpose, values and strategy 4.1. Corporate Governance Regulation on the Board of Directors: http://www.rosenergoatom.ru/re-sources/0728e804f460f08i40i56bc4696268/poligeneri_xd.pdf. (Pages 2) Page 172–173

102-27 Collective knowledge of the supreme corporate governance body members GRI, RSPP Content Index Special measures for generation and improvement of collective knowledge of the supreme corporate governance body members are not taken.
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<td>4.1. Corporate Governance</td>
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<td>The indicator is not disclosed as there is no accounting for median wage without account of the best-compensated person.</td>
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<tr>
<td>102-39</td>
<td>The indicator is not disclosed as there is no accounting for median wage without account of the best-compensated person.</td>
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<tr>
<td>GRI 201: Direct economic value generated and distributed</td>
<td>201-1</td>
<td></td>
<td></td>
<td>Evaluation of financial implications and other risks and opportunities for the activities of the organization due to climate change was not carried out.</td>
</tr>
</tbody>
</table>

**100% of top managers (deputy CEOs of the Company – directors of branches – operating NPPs and NPPs under construction) are citizens of the Russian Federation, where the Company operates. Workforce migration only occurs within the Company's branches. Top managers in the areas of the Company's core activities (regions where NPPs are located) are not hired from among the local community.**
205-2 4.2. Economic Security Page 188–199

All regular employees and governing bodies of the Company have been informed about the existence of the Anti-Corruption Policy in the organization and the policy practices. The data collection system used by the Company does not permit to provide information on this indicator in full. There is no breakdown of the number and share of employees who passed training and education by category and region.

Availability and Reliability

GRI 302: Water 2016

GRI 103: Management Approach 2016

103-1 Relevant subjects description and their boundaries, 2016

103-2 Management approach and its components, 2016

103-3 Evaluation of the management approach

Page 29–33

Construction of nuclear power industry facilities is carried out in accordance with the energy strategy of the Russian Federation until 2030, and the master plan of the power industry facilities location until 2020, and up to 2030.

GRI 306: Effluents and Waste 2016

2.12

103-1 Relevant subjects description and their boundaries, 2016

103-2 Management approach and its components, 2016

103-3 Evaluation of the management approach

Page 132–139


GRI 302: Energy 2016

2.2

2016

302-1 Energy consumption inside the organization

2.2. Generating Capacities. Developing Generating Potential Page 83

The Company's data collection system is based on energy consumption accounting in metric units. The Company intends to present the 302-1 disclosures in full in subsequent reports.

302-2 Energy consumption outside the organization

Energy consumption outside the organization is not accounted for.

302-3 Energy capacity

The indicator is not accounted for due to the limits applicable to the indicator 302-1.
2.12 306-4 NPPs do not transport, import, or export hazardous waste.

2.12 306-5 3.3. Environmental Impact Page 136 NPPs did not discharge any waste water outside the schedule in 2017. The Company did not discharge hot water since NPPs do not discharge hot water into surface waters thanks to the branch channel system and coolers.

GRI 307: Environmental Compliance 2016

GRI 103: Management Approach 2016 103-1 Relevant subjects description and their boundaries, 103-2 Management approach and its components, 103-3 Evaluation of the management approach

GRI 307: Environmental Impact Page 132–139

SOCIETY

GRI 401: Employment 2016

GRI 103: Management Approach 2016 103-1 Relevant subjects description and their boundaries, 103-2 Management approach and its components, 103-3 Evaluation of the management approach

GRI 401: Employment 2016 3.1.1 401-1 Appendix 14. Main Personnel Characteristics Page 272 The data collection system used by the Company does not permit to provide information on this indicator in full. Not disclosed: breakdown of the number and share of newly hired employees by gender and age; breakdown of the total number of outgoing employees by gender and age; breakdown of employee turnover by age. The Company intends to present the 401-1 disclosures in subsequent reports.

401-2 All employees enjoy benefits irrespective of the number of their working hours.

401-3 The information collection system used by the Company does not permit to calculate the number of employees who were entitled to maternity/paternity leave, the number of employees who took a leave and returned from the leave; the number of employees who continued work in 12 months after return to work, and the retention factor. Approximately 100% of employees return to work after child care leave.
<table>
<thead>
<tr>
<th>GRI Standard</th>
<th>RSPP Information Disclosure (GRI Standards Index Match)</th>
<th>Disclosure Comprehensiveness / Comment / Report Section</th>
<th>Report Page and/or URL</th>
<th>Non-Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRI 404: Training and Education 2016</td>
<td>103-1 Relevant subjects description and their boundaries, 103-2 Management approach and its components, 103-3 Evaluation of the management approach</td>
<td>3.5. HR Policy</td>
<td>Page 149–151</td>
<td></td>
</tr>
<tr>
<td>GRI 404: Training and Education 2016</td>
<td>404-1</td>
<td>3.5. HR Policy</td>
<td>Page 150</td>
<td>The breakdown by gender is not recorded. The Company intends to present the 404-1 disclosures in full in subsequent reports.</td>
</tr>
<tr>
<td>GRI 404: Training and Education 2016</td>
<td>404-2</td>
<td>3.5. HR Policy</td>
<td>Page 150</td>
<td>The system of obligatory training of employees adopted in Rosenergoatom provides for enhancing knowledge in the area of labor safety, and acquisition of first aid skills in case of occupational accidents and in everyday life. Educational and mandatory training programs implemented in the Company enhance the professional level of employees and their subsequent employment in case of dismissal.</td>
</tr>
<tr>
<td>GRI 407: Freedom of Association and Collective Bargaining 2016</td>
<td>407-1</td>
<td>3.5. HR Policy</td>
<td>Page 147</td>
<td>The Company builds up its activity in strict compliance with the applicable legislation of the Russian Federation. In the reporting period there were no restrictions on freedom of associations and collective bargaining.</td>
</tr>
<tr>
<td>GRI 407: Freedom of Association and Collective Bargaining 2016</td>
<td>407-2</td>
<td>3.5. HR Policy</td>
<td>Page 147</td>
<td>The Company builds up its activity in strict compliance with the applicable legislation of the Russian Federation. In the reporting period there were no restrictions on freedom of associations and collective bargaining.</td>
</tr>
<tr>
<td>GRI 410: Human Rights Assessment 2016</td>
<td>103-1 Relevant subjects description and their boundaries, 103-2 Management approach and its components, 103-3 Evaluation of the management approach</td>
<td>3.1. HR Policy</td>
<td>Page 147–156</td>
<td>Human rights compliance or human rights impact assessment was not performed.</td>
</tr>
<tr>
<td>GRI 410: Human Rights Assessment 2016</td>
<td>412-1</td>
<td>3.2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRI 410: Human Rights Assessment 2016</td>
<td>412-2</td>
<td></td>
<td></td>
<td>Once employed, 100% of employees are made familiar with internal labor rules, policies, and procedures of the Company including those related to human rights aspects. Every employee is trained for at least two hours.</td>
</tr>
<tr>
<td>GRI 410: Human Rights Assessment 2016</td>
<td>412-3</td>
<td></td>
<td></td>
<td>All existing investment agreements are concluded in strict compliance with requirements of the Russian legislation, and provide for conformance with human rights. No separate evaluation of conformance with human rights is carried out.</td>
</tr>
<tr>
<td>GRI 410: Human Rights Assessment 2016</td>
<td>410-1</td>
<td></td>
<td></td>
<td>Standard duty regulations for all of the Company’s employees provide for knowledge of and compliance with legislation of the Russian Federation, this includes conformance with human rights. No third-party personnel are involved in this type of work.</td>
</tr>
</tbody>
</table>
### GRI 412: Non-Governmental Organizations 2016

**412-1 Relevant subjects description and their boundaries, 412-2 Management approach and its components, 412-3 Evaluation of the management approach**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
</table>

### GRI 413: Social Policy 2016

**3.7. Social Policy. Developing Areas of Presence. Charity**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>165–166</td>
<td>Pursuant to the Russian Federation laws, in all cases of planning of the activity which may significantly affect the environment and local population, the Company participates in public hearings and public discussions. The Company has no subsidiaries which significantly or adversely affect, in fact or potentially, the local community. Taking into account the high level of safety of modern NPPs, nuclear plants cannot be considered as such subsidiaries.</td>
</tr>
</tbody>
</table>

### GRI 414: Health and Safety 2016

**3.6. Radiation Effect on Personnel and Population**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>140–146, 161–164</td>
<td>Pursuant to the Federal Law No. 135-FZ dated August 11, 1995 on Charitable Activities and Organizations, and the Guidelines for Accounting of Charitable Contributions (approved by Order No. 1/811-P dated September 26, 2011 of Rosatom State Corporation), no financial contributions for political purposes are allowed. Evaluation of nuclear, radiation, industrial, technical, and fire safety is performed throughout the life cycle.</td>
</tr>
</tbody>
</table>

### GRI 415: Public Policy 2016

**EU22**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>147–156</td>
<td>Pursuant to the Federal Law No. 135-FZ dated August 11, 1995 on Charitable Activities and Organizations, and the Guidelines for Accounting of Charitable Contributions (approved by Order No. 1/811-P dated September 26, 2011 of Rosatom State Corporation), no financial contributions for political purposes are allowed.</td>
</tr>
</tbody>
</table>

### GRI 416: Customer Health and Safety 2016

**EU10**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>271</td>
<td>Pursuant to the Federal Law No. 135-FZ dated August 11, 1995 on Charitable Activities and Organizations, and the Guidelines for Accounting of Charitable Contributions (approved by Order No. 1/811-P dated September 26, 2011 of Rosatom State Corporation), no financial contributions for political purposes are allowed. Evaluation of nuclear, radiation, industrial, technical, and fire safety is performed throughout the life cycle. No incidents of non-compliance with regulations and voluntary codes concerning the impact on health and safety of products and services were identified in the reporting period.</td>
</tr>
</tbody>
</table>

### GRI 418: Human Rights 2016

**EU25**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>147–156</td>
<td>Pursuant to the Federal Law No. 135-FZ dated August 11, 1995 on Charitable Activities and Organizations, and the Guidelines for Accounting of Charitable Contributions (approved by Order No. 1/811-P dated September 26, 2011 of Rosatom State Corporation), no financial contributions for political purposes are allowed. No incidents of non-compliance with legal or statutory requirements were identified in the reporting period.</td>
</tr>
</tbody>
</table>

### GRI 419: Socioeconomic Compliance 2016

**EU25**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>147–156</td>
<td>Pursuant to the Federal Law No. 135-FZ dated August 11, 1995 on Charitable Activities and Organizations, and the Guidelines for Accounting of Charitable Contributions (approved by Order No. 1/811-P dated September 26, 2011 of Rosatom State Corporation), no financial contributions for political purposes are allowed. No incidents of non-compliance with legal or statutory requirements were identified in the reporting period. No significant fines were applied to the Company for non-compliance with legal and statutory requirements.</td>
</tr>
</tbody>
</table>

### GRI 420: Sustainability Management 2016

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>147–156</td>
<td>Pursuant to the Federal Law No. 135-FZ dated August 11, 1995 on Charitable Activities and Organizations, and the Guidelines for Accounting of Charitable Contributions (approved by Order No. 1/811-P dated September 26, 2011 of Rosatom State Corporation), no financial contributions for political purposes are allowed. No incidents of non-compliance with legal or statutory requirements were identified in the reporting period. No significant fines were applied to the Company for non-compliance with legal and statutory requirements.</td>
</tr>
</tbody>
</table>

### GRI 421: Professional and Technical Resources 2016

**EU25**

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>147–156</td>
<td>Pursuant to the Federal Law No. 135-FZ dated August 11, 1995 on Charitable Activities and Organizations, and the Guidelines for Accounting of Charitable Contributions (approved by Order No. 1/811-P dated September 26, 2011 of Rosatom State Corporation), no financial contributions for political purposes are allowed. No incidents of non-compliance with legal or statutory requirements were identified in the reporting period. No significant fines were applied to the Company for non-compliance with legal and statutory requirements.</td>
</tr>
</tbody>
</table>
### Specific Subjects of Rosenergoatom

#### BASIC STANDARD ASPECTS OF REPORTING

<table>
<thead>
<tr>
<th>Subject</th>
<th>Report Section</th>
<th>Report Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe Operation of Nuclear Plants 103-1, 103-2, 103-3</td>
<td>2.3. Ensuring safety of Russian NPPs 3.4. Radiation Effect on Personnel and Population</td>
<td>Page 84–89, 140–146</td>
</tr>
<tr>
<td>Reliability of Electricity Supplies to Consumers 103-1, 103-2, 103-3</td>
<td>2.1. Situation in Power Sector</td>
<td>Page 45–51</td>
</tr>
<tr>
<td>Public Acceptance 103-1, 103-2, 103-3</td>
<td>4.6. Interaction with Stakeholders</td>
<td>Page 201–205</td>
</tr>
<tr>
<td>Interaction with State Supervision Agencies and Non-Governmental Organizations 103-1, 103-2, 103-3</td>
<td>4.6. Interaction with Stakeholders</td>
<td>Page 201–205</td>
</tr>
<tr>
<td>Product Selling Prices 103-1, 103-2, 103-3</td>
<td>2.1. Situation in Power Sector</td>
<td>Page 45–51</td>
</tr>
<tr>
<td>Company Transparency 103-1, 103-2, 103-3</td>
<td>4.6. Interaction with Stakeholders</td>
<td>Page 201–205</td>
</tr>
</tbody>
</table>

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### APPENDIX 4. TABLE ON CONSIDERATION OF SUGGESTIONS BY STAKEHOLDERS

(Pursuant to Results of Dialogs with Stakeholders Regarding 2017 Annual Report of Rosenergoatom)

#### 1. CONSIDERATION OF PREVIOUSLY ASSUMED OBLIGATIONS OF REPORTING CAMPAIGN 2016-2017

<table>
<thead>
<tr>
<th>Suggestions by Stakeholders</th>
<th>Consideration of Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describing in the report the advantages of the Company’s consolidation, including those in the global market.</td>
<td>Accounted for in Section 2.1 – Situation in Power Sector.</td>
</tr>
<tr>
<td>Specifying the details of the strategy, the goals, and the approaches to implementation.</td>
<td>Accounted for in Section 1.4 – Development Strategy and Risk Management.</td>
</tr>
<tr>
<td>Drawing attention to intangible assets value, their evaluation and influence on the Company value.</td>
<td>Accounted for in Section 1.3 – Business Model and Capitahs.</td>
</tr>
<tr>
<td>Covering the information on Workspace Management.</td>
<td>Will be considered during the 2018 report preparation</td>
</tr>
<tr>
<td>Taking efforts to adapt international standards to Russian reality and the nuclear power industry specifics.</td>
<td>Suggestion within Rosatom State Corporation competence.</td>
</tr>
<tr>
<td>Considering the provisions of the Paris climate agreement, and expressing the Company’s stand on this matter.</td>
<td>Will be accounted for in the following reports.</td>
</tr>
<tr>
<td>Performing monitoring of the Company’s positions in international ratings and indices, and supplementing the next year’s report with such information.</td>
<td>Accounted for in the Company’s Awards section.</td>
</tr>
</tbody>
</table>

#### 2. CONSIDERATION OF SUGGESTIONS MADE DURING REPORTING CAMPAIGN OF 2017-2018

<table>
<thead>
<tr>
<th>Suggestions by Stakeholders</th>
<th>Consideration of Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUGGESTIONS RESULTING FROM DIALOG 1 (IN ABSENTIA)</strong></td>
<td></td>
</tr>
<tr>
<td>Report Concept Related Suggestions</td>
<td></td>
</tr>
<tr>
<td><strong>Stockholders</strong></td>
<td></td>
</tr>
<tr>
<td>2. Changing the wording of Chapter 4 as the results that will be stated there have been achieved not only by the management, but the whole team of Rosenergoatom. Supplementing Chapter 3 with the sustainability management approaches (agenda) or including this information in Section 1.5 about the strategy.</td>
<td>Accounted for.</td>
</tr>
<tr>
<td><strong>Business Partners</strong></td>
<td></td>
</tr>
<tr>
<td>3. Considering the practicality of spending funds for the interactive version of the Report.</td>
<td>Creation of the interactive version of the Report is reasonable due to high web traffic and good usability of the online version.</td>
</tr>
</tbody>
</table>

---
Suggestions by Stakeholders Consideration of Suggestions

4. Moving the Historical Background section to the appendices containing background information. Accounted for. The section was moved into Appendix 17.

5. Increasing the number of assuring persons in order to ensure representativeness (ecologistas currently prevail). Partially considered. A dominating share of environmental organizations is reasoned by the fact that these stakeholders are one of the most important groups.

6. The saying that Rosenergoatom is the nation’s largest power generating company is not correct (RusHydro, Gazprom Energoholding, and Inter RAO are larger in terms of installed capacity. Rosseti – geography of presence and personnel number). In terms of power output, Rosenergoatom is the nation’s largest company.


8. A sub-section of Section 2 – Situation in Power Sector refers more to Section 1, than to Section 2. This is more logical, this is how it was presented in the 2016 Report. Rejected due to inexpediency, as Section 2 is devoted to the Company’s activities related to power generation.

9. Section 3 could be supplemented with the Strategic Goals article, before the Investment Program, as technological leadership and the investment program are not only important by themselves, but for achievement of certain strategic and current goals. Rejected due to inexpediency, as general strategic goals and benchmarks are given in Section 1 – Overview.

10. Section 4 could be supplemented in the context of prioritized subject 2 with the events related to RPS management with involvement of R&D and innovations, i.e. innovations aimed at RPS goals and objectives, including inter-sector and inter-divisional RPS projects. The information about RPS projects is given in Section 2.2 – Generating Capacities. Developing Generating Potential.

Prioritized Report Subjects Related Suggestions

Business Partners

11. Taking into account that Year 2017 is the year of ecology in Russia, it is reasonable to consider contribution of NPPs in reduction of greenhouse gas emissions. Accounted for in Section 3.4 – Environmental Impact and Section 3.4 – Radiation Effect on Personnel and Population.

Suggestions Related to Defining Material Report Aspects List

Subsidiaries and Branches

12. Shall be supplemented with the aspects of New Products and Services, including Those in Extra-Industry Market. The New Products and Services subject will be discussed by stakeholders in 2018 among relevant subjects with a view to update the relevant subjects of the Company’s annual reports. In the 2017 Report, the subject is revealed in Section 2.7 – International Business and New Products.

Suggestions on Information Disclosure in Report

Subsidiaries and Branches

17. Expanding the information regarding subsidiaries, specifying core businesses and economic indicators in approximately the same way as regarding Rosenergoatom branches. Accounted for in Section 1 – Overview.

Business Partners

18. Trying not to be limited with disclosure of prioritized subject No. 2 in Section 3.1 only. Accounted for. Section 2 – Technological Leadership and Innovations is fully devoted to prioritized subject No. 2.

19. Reporting the information regarding the Company’s participation in achievement of strategic targets by subsidiary companies. Accounted for in Section 1 – Overview, and Section 4.1 – Corporate Governance.


21. Participation of the Company in the work aimed at creating the digital platform of the life cycle management at complex capital facilities. Accounted for in Section 2.5 – Contribution to Digital Economy.
33. The Report shall pay special attention to analytical information related to the situation in the power market, including return on investments, strategic risk planning, and competitors’ operations analysis, which is important.

34. Participating in the WorldSkills movement (and AtomSkills), including arrangement of competitions for NPP operators, and training various experts in the nuclear industry. Accounted for (the information is given in the Key Events of 2017 section).

35. In case there are innovative developments, they shall be patented and mentioned in the Report. Accounted for in Section 2.4 – Innovations. Sci-Tech Policy. Knowledge Management System.

36. If NPPs decommissioning is a new serious business of the Company today, then special attention shall be paid to this line in the context the Technological Leadership subject. Accounted for in Section 2.2 – Generating Capacities. Developing Generating Potential.

37. Describing the goals and objectives of the DPC in more detail is suggested to the Company. This is important. Accounted for in Section 2.5 – Contribution to Digital Economy of Russia. Information Technology.

38. The question related to what exactly will be the novelty of the FNPP project shall be answered. Partially accounted for in Section 2.4 – Innovations. Sci-Tech Policy. Knowledge Management System.

39. When preparing the Report, attention shall be paid to the interview given by Alexander Lokshin, Chairman of the Board of Directors to the Kommersant Newspaper in 2017, where he unveils the plans of the Company’s commercialization. The Company shall answer if this is achievable.

40. Considering the viability of combining different GRI formats, integrated reporting and UN sustainable development goals in a single report. Will be considered during the 2018 Report preparation.

41. Including the materials of the environmental expedition by the Oka Inter-Regional Environmentalist Movement to the Leningrad NPP into the report, in terms of public relations. Will be considered during the 2018 Report preparation.

42. Taking efforts to adapt international standards to Russian reality and the nuclear power industry specifics. The suggestion is related to Rosatom State Corporation.

43. Arranging future discussions at neutral sites to enable wider external connections and expand the range of stakeholders. Will be considered during the 2018 Report preparation.

44. Suspending the practice of visiting meetings at the Company’s nuclear plants Will be considered during the 2018 Report preparation.

45. A suggestion related to the Report structure alteration: Disclosing 25-28 indicative subjects with preparation of interactive version. The suggestion will be considered in the future.

46. As part of future activities of the Company with absolute priority of the safety issues, attention shall be paid to developing human capital, including a considerable increase in the minimum wage, a decrease in the gap between the minimum and maximum wages, avoidance of job cut, and labor productivity growth through production ramp-up. Accounted for.

47. Selecting several UN Sustainable Development Goals, and including the information on the work done into the Report. Accounted for.

48. Supplementing the intellectual property related section with the information about entry of intellectual property in the books (what amount is entered in the books and commercialized). Accounted for.

49. Giving more details regarding the information about two power units of the Baltic NPP (current conservation stage, ongoing operations), and the required comments. Accounted for.

Sugges ions by Stake hol e rs Consideration of Suggestions

Environmental and Non-Governmental Organizations

22. If there is some certainty (in general or in local projects/work) in relation to the Company’s participation in digital transformation of the industry, then it shall definitely be mentioned. Probably this shall be noted in addresses by top managers in general. Accounted for in Section 2.5 – Contribution to Digital Economy of Russia. Information Technology.

23. The 2017 Report shall describe the subject of Risk Identification and Management System as well as in 2016, the risk of operation in the domestic electricity and capacity market may be added due to the update in certain rules of the Russian power market.

24. Describing the goals and objectives of the DPC in more detail is suggested to the Company. This is important. Accounted for in Section 2.5 – Contribution to Digital Economy of Russia. Information Technology.

25. If NPPs decommissioning is a new serious business of the Company today, then special attention shall be paid to this line in the context the Technological Leadership subject. Accounted for in Section 2.2 – Generating Capacities. Developing Generating Potential.

26. Does the Company have a policy (or is it the domain of Rosatom) in relation to the projects of medium and small scale? If Rosenergoatom participates in developing these lines, then the information shall be given, except for the FNPP as small-scale nuclear power generation is developing at a high pace in various countries.

27. Defining the position of the FNPP: why the floating plant is used? Is it a pilot or serial project? What novelties does it feature? Will the FNPP be used in remote areas of the Russian North only? Will the FNPP be regarded as replacement capacity of the Bibiino NPP that will be decommissioned in the coming years (if no, then the range of the FNPP power consumers may be very small)?

28. The question related to what exactly will be the novelty of the FNPP project shall be answered. Partially accounted for in Section 2.4 – Innovations. Sci-Tech Policy. Knowledge Management System.

29. When preparing the Report, attention shall be paid to the interview given by Alexander Lokshin, Chairman of the Board of Directors to the Kommersant Newspaper in 2017, where he unveils the plans of the Company’s commercialization. The Company shall answer if this is achievable.


31. Care shall be taken when defining the FNPP as an innovative project. This project is obsolete, inter alia, in terms of safety. As the feasibility of the project is not substantiated, the Report shall mention that the project will be assessed in the process of operation.

32. Mentioning the youth relations and involving the youth in public hearings in the future. Accounted for in Section 3.5 – HR Policy.

33. The Report shall pay special attention to analytical information related to the situation in the power market, including return on investments, strategic risk planning, and competitors’ operations analysis, which is important. Accounted for in Section 1.5 – Risk Management, and Section 2.1 – Situation in Power Industry.

Suggestions on Information Disclosure in Report

Stockholders

SUGGESTIONS RESULTING FROM DIALOG NO. 2

Suggestions on Information Disclosure in Report

Environmental and Non-Governmental Organizations

Suggestions by Stakeholders Consideration of Suggestions

Auditing and Consulting Organizations

38. When substantiating innovative activities of the Company, the following definition shall be used: “Innovation is not only invention of novelties, but finding new aspects in old solutions.” Will be considered during the 2018 Report preparation.

39. Reducing the Report volume. Partially accounted for (the volume will be reduced owing to appendices and the interactive version).

40. Considering the viability of combining different GRI formats, integrated reporting and UN sustainable development goals in a single report. Will be considered during the 2018 Report preparation.

41. Including the materials of the environmental expedition by the Oka Inter-Regional Environmentalist Movement to the Leningrad NPP into the report, in terms of public relations. Will be considered during the 2018 Report preparation.

42. Taking efforts to adapt international standards to Russian reality and the nuclear power industry specifics. The suggestion is related to Rosatom State Corporation.

43. Arranging future discussions at neutral sites to enable wider external connections and expand the range of stakeholders. Will be considered during the 2018 Report preparation.

44. Suspending the practice of visiting meetings at the Company’s nuclear plants Will be considered during the 2018 Report preparation.

45. A suggestion related to the Report structure alteration: Disclosing 25-28 indicative subjects with preparation of very serious expanded topical appendices The suggestion will be considered during the 2018 Report preparation, however in line with applicable reporting requirements (Russian laws, corporate standards, etc.).

46. As part of future activities of the Company with absolute priority of the safety issues, attention shall be paid to developing human capital, including a considerable increase in the minimum wage, a decrease in the gap between the minimum and maximum wages, avoidance of job cut, and labor productivity growth through production ramp-up. Accounted for.

47. Selecting several UN Sustainable Development Goals, and including the information on the work done into the Report. Accounted for.

48. Supplementing the intellectual property related section with the information about entry of intellectual property in the books (what amount is entered in the books and commercialized). Accounted for.

49. Giving more details regarding the information about two power units of the Baltic NPP (current conservation stage, ongoing operations), and the required comments. Accounted for.
### APPENDIX 5. SYSTEM OF PUBLIC REPORTING INDICATORS AT ROSENERGOATOM

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Item</th>
<th>Report Section / Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainline Activity Efficiency</td>
<td>Electricity generation by NPPs</td>
<td>Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.1.1. Share of electricity produced by NPPs in the total power output of the Russian Federation</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.1.1.2. Electricity production by nuclear power plants in the reporting period</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>Use of installed capacity of NPPs</td>
<td>Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.1.2.1. NPP capacity factor</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>Power units capacity increase</td>
<td>Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.2.1.1. Target for increase of equivalent capacity</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.2.1.3. Number of retrofitted VVER-1000 units (in reporting period and total)</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.2.1.4. Number of retrofitted RMBK units (in reporting period and total)</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td>Service life of power units</td>
<td>1.2.2.1. Number of power units with service life extended to 15 years in the reporting period</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.2.2.2. Number of NPP power units for which the documents for service life extension, upgrade and retrofitting were prepared</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.2.3. Power units operation mode</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.2.3.6. Total reduced time of planned repairs, after rescheduling, including through reducing repair times; rescheduled repair start without changing its total duration</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>Availability ratio</td>
<td>Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>1.2.3.7. Availability ratio</td>
<td>2.2. Generating Capacities. Developing Generating Potential</td>
</tr>
<tr>
<td>Power units built and commissioned in the Russian Federation</td>
<td>1.3.1.1. Number of power units under construction in the Russian Federation</td>
<td>Developing Generating Potential</td>
</tr>
<tr>
<td></td>
<td>2.1.1.1. Gross profit</td>
<td>3.1. Financial Stability</td>
</tr>
<tr>
<td></td>
<td>2.1.1.2. Total profit tax accrued and paid</td>
<td>3.1. Financial Stability</td>
</tr>
<tr>
<td></td>
<td>2.1.1.3. Net operating profit after taxes (NOPAT)</td>
<td>3.1. Financial Stability</td>
</tr>
<tr>
<td></td>
<td>2.1.1.4. Income (total products (work and services) sold)</td>
<td>3.1. Financial Stability</td>
</tr>
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</table>

### Suggestions by Stakeholders

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Consideration of Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>50. Disclosing the information in the Report regarding the potential sites, which have already been investigated for NPPs construction, with no construction work started. The present status shall be specified.</td>
<td>Will be considered during the 2018 Report preparation</td>
</tr>
<tr>
<td>51. The Report section regarding the digital economy in the Company’s activities shall be supplemented with the information security subject.</td>
<td>Accounted for.</td>
</tr>
<tr>
<td>52. Providing details of the Company’s direct participation in the Russian Digital Economy program, specifying the program areas urgent for the Company, and the major effects for the Company from transition to smart energy.</td>
<td>Accounted for.</td>
</tr>
<tr>
<td>53. Providing more information about the subject of power units decommissioning.</td>
<td>Accounted for.</td>
</tr>
</tbody>
</table>
5.3.1. VVER-TOI 5.3.1.1. Description of work accomplished in the reporting year


4.3. Line of fast breeder reactors

5.4.3.1. Description of work accomplished in the reporting year


5.5.2. Radiation technologies

5.5.2.2. Description of plans for radiation technology development


Creating Efficient Management Mechanisms for Nuclear Industry

6.1.2. Implementation of the Rosatom Production System project

6.1.2.1. Results of implementation of the program to raise production efficiency (reduced area of preparation shops, shorter production cycle, fewer defects per specific component, lower manufacturing cost of specific equipment, and greater output in specific product positions)

2.2. Generating Capacities. Developing Generating Potential

3.4. Radiation Effect on Personnel and Population

6.1.3. Reorganizing financial and economic management

6.1.3.1. Evaluation of reorganization results (evaluation of targets achieved)

4. Operating Efficiency

6.1.5. Purchase management

6.1.5.1. Tools used to ensure more open and transparent purchasing

4.5. Purchase Management

6.1.6. Developing in-house communication

6.1.6.1. Projects to develop communication channels between executives and employees

3.5. HR Policy

4.7. Interaction with Stakeholders

6.1.8. Risk Management

1.5. Risk Management

6.1.9. IT-based management

6.1.9.1. List of IT implementation projects

2.5. Contribution to Russian Digital Economy

4.3. Internal Control and Auditing

Making Development of Nuclear Power Industry Publicly Acceptable

7.1.1. Public reports of the Company and its organizations

7.1.1.1. Compliance with international requirements for non-financial reporting and interaction with stakeholders

Appendix 1. About the Report. Relevant subjects

4.7. Interaction with Stakeholders

7.1.1.2. Interaction with stakeholders while preparing public reports

Appendix 1. About the Report. Relevant subjects

3.5. HR Policy

4.7. Interaction with Stakeholders

7.1.1.3. Compliance with corporate requirements to public reporting

Appendix 1. About the Report. Relevant subjects

5.2.2. Participation in international innovation projects

5.2.2.1. Participation in implemented international innovation projects (INRFC, ITER, Generation-IV, and FAIR)

2.6. International Sci-Tech Cooperation

7.1.2. Industry information resources

7.1.2.1. Number of information centers

4.7. Interaction with Stakeholders

3.5. HR Policy

4.7. Interaction with Stakeholders

7.1.2.2. Public and culture activities (museums, popular science, career consulting, and others)

3.5. HR Policy

7.1.2.3. Industry-level mass media

4.7. Interaction with Stakeholders

9.1.2. Training for Employees

9.1.2.1. Employees subject to routine performance evaluation and career development

3.5. HR Policy

9.1.2.3. Expenses on training of employees

3.5. HR Policy

9.1.3. Building and using human reserves

9.1.3.1. Number of employees in the succession pool

3.5. HR Policy
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Item</th>
<th>Report Section / Chapter</th>
</tr>
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<tbody>
<tr>
<td>12.4.5.2</td>
<td>Number of cases when established standard exposure limits were exceeded</td>
<td>3.4. Radiation Effect on Personnel and Population</td>
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<tr>
<td>12.4.5.4</td>
<td>Share from the total number of employees subject to individual radiation control, included in the ARMR system</td>
<td>3.4. Radiation Effect on Personnel and Population</td>
</tr>
<tr>
<td>12.4.5.5</td>
<td>Share of employees exposed to negligible risk of radiation</td>
<td>3.4. Radiation Effect on Personnel and Population</td>
</tr>
<tr>
<td>12.4.5.6</td>
<td>Share of employees exposed to life-long radiation risk</td>
<td>3.4. Radiation Effect on Personnel and Population</td>
</tr>
</tbody>
</table>

**EFFICIENCY IN SUSTAINABLE GROWTH**

**Environmental Impact (Impact on Environment and Environmental Protection)**

11.1.4. Initiatives to reduce hazardous atmospheric emissions, reduction achieved

11.1.4.1. Information on initiatives to reduce hazardous atmospheric emissions

3.3. Environmental Impact

11.1.5. Initiatives to reduce harmful discharge to water bodies, reduction achieved

11.1.5.1. Information on initiatives to reduce harmful discharges to water bodies

3.3. Environmental Impact

11.1.5.2. Quantitative data on reduction of harmful discharges to water bodies

3.3. Environmental Impact

11.1.11. Environmental management systems adopted in structural units of the Corporation

11.1.11.1. Number of structural units certified for compliance with ISO 14001

3.3. Environmental Impact

11.2.5. Consumption of water for own needs

11.2.5.1. Consumption of water for own needs

3.3. Environmental Impact

11.3.15. Payments for air-polluting emissions from permanent and mobile sources, discharges of pollutants to surface and ground water bodies, and emplacement of production and consumption waste

11.3.15.1. Payments for air-polluting emissions from permanent and mobile sources, discharges of pollutants to surface and ground water bodies, and emplacement of production and consumption waste

3.3. Environmental Impact

11.5.1. Radionuclide emissions to atmosphere

11.5.1.1. Total radionuclide emissions to atmosphere

3.3. Environmental Impact

11.5.2. Discharge of waste waters containing radionuclides

11.5.2.1. Volume of discharge of waste waters containing radionuclides

3.3. Environmental Impact

11.5.2.2. Total activity of waste waters containing radionuclides

3.3. Environmental Impact

11.5.4. Radionuclide-polluted areas

11.5.4.1. Area of radionuclide-polluted areas

3.3. Environmental Impact

11.5.4.2. Gamma radiation dose in polluted areas

3.3. Environmental Impact

**Social and Labor Relations (Organization of Labor and Decent Work)**

12.1.8. Average paycheck compared to labor market average

12.1.8.1. Average paycheck compared to labor market average

3.5. HR Policy

12.3.3. Number of employees with non-government pension plans

12.3.3.1. Number of employees with non-government pension plans

3.7. Social Policy: Developing Areas of Presence. Charity

12.3.4. Total personnel expenses

12.3.4.1. Total personnel expenses

3.5. HR Policy

12.3.5. Total expenses on social programs for employees

12.3.5.1. Total expenses on social programs for employees

3.7. Social Policy: Developing Areas of Presence. Charity

12.3.6. Social payments per employee per year

12.3.6.1. Social payments per employee per year

3.7. Social Policy: Developing Areas of Presence. Charity

12.3.7. Expenses on additional health insurance

12.3.7.1. Expenses on additional health insurance

3.7. Social Policy: Developing Areas of Presence. Charity

12.4.9. Control of personnel exposure to radiation

12.4.9.1. Annual average effective exposure of personnel to radiation

3.4. Radiation Effect on Personnel and Population

12.4.5.2. Number of cases when established standard exposure limits were exceeded

3.4. Radiation Effect on Personnel and Population

12.4.5.4. Share from the total number of employees subject to individual radiation control, included in the ARMR system

3.4. Radiation Effect on Personnel and Population

12.4.5.5. Share of employees exposed to negligible risk of radiation

3.4. Radiation Effect on Personnel and Population

12.4.5.6. Share of employees exposed to life-long radiation risk

3.4. Radiation Effect on Personnel and Population

**INFLUENCE ON SOCIOECONOMIC SITUATION IN AREAS OF PRESENCE**

**Interaction with Society**

13.2.1. Preparing restricted access municipalities development program

13.2.1.1. Preparing restricted access municipalities development program

3.7. Social Policy: Developing Areas of Presence. Charity

13.4.1. Charity projects and the volume of funds for these projects

13.4.1.1. Charity projects and the volume of funds for these projects

3.7. Social Policy: Developing Areas of Presence. Charity

**Ethical Practices and Public Regulation**

14.4.2. Organization format for ethical practices

14.4.2.1. Existence of the Ethics Code

4.1. Corporate Governance

14.4.2.2. Existence of the Ethics Code

4.1. Corporate Governance

14.4.2.3. Compliance with the Ethics Code

4.1. Corporate Governance

14.4.2.4. Use of the Ethics Code

4.1. Corporate Governance
As a merit of the 2017 Report, we should of suggestions made by stakeholders. hearings, including the table on consideration us: draft and the final version of the 2017 and state their opinions without any restric- representatives were able to ask questions activities all participants and stakeholder in the dialog meeting. In the course of these representatives of stakeholders participated Company’s 2017 Annual Report. Over 20 floating power plant under construction in meeting was held with stakeholders in Saint stakeholders. On February 22, 2018, a dialog where the concept of the 2017 Annual Report 2017, an absentee dialog was held in Moscow dialogs with stakeholders. On November 8, 2017, an absentee dialog was held in Moscow where the concept of the 2017 Annual Report was discussed by over 15 representatives of stakeholders. On February 22, 2018, a dialog meeting was held with stakeholders in Saint Petersburg at the Academician Lomonosov floating power plant under construction in order to discuss prioritized subjects of the Company’s 2017 Annual Report. Over 20 representatives of stakeholders participated in the dialog meeting. In the course of these activities all participants and stakeholder representatives were able to ask questions and state their opinions without any restric- tions. The following materials were given to us: draft and the final version of the 2017 Annual Report, and minutes of dialogs and hearings, including the table on consideration of suggestions made by stakeholders. As a merit of the 2017 Report, we should note that the international standards (GRI Standards, Institute of Social and Ethical Accountability AA1000 Series Standards, and the IIRC Integrated Reporting Standard) were applied during the procedure of preparation and public affirmation of the Report. However, this statement is not intended to evaluate the con- formance of the Report with the international reporting systems. We are unaware of any facts that would make us question any information contained in the Report. However, this public affirmation is not intended to confirm the authenticity of the ac- tual data contained in the Report. We have not received any remuneration from the Company for our participation in the public affirmation procedure. The text of this statement has been approved by all signatories. Rosenergoatom may use it for internal purposes and for communications with stakeholders, and publish it without any changes. EVALUATIONS, COMMENTS, AND RECOMMENDATIONS Based on all information we received and analyzed, including of the Report text, corporate website, and collective discussion, we confirm the following: • In the 2017 Report the Company disclosed all relevant subjects of its activity significant to stakeholders, including safe operation of nuclear power plants, sustainability manage- ment, including the impact made by Rosen- ergoatom on the environment, society, and economy in its areas of presence, and the management system efficiency. All material aspects of activities are disclosed with a reasonable level of detail. • The Report represents the Company’s stra- tegic development priorities to a sufficient extent, including innovative development and digital transformation, and describes its ap- proaches to implementation of responsible business practice principles. • The Report contains information significant for stakeholders. The priority subjects of the Report were selected taking into account the opinion of stakeholders after the dialogs held with them. We regard the format and scope of information represented in the Report favorably. • The Report is prepared in accordance with the GRI Standards, and the principle of selecting particular material aspects and in- teraction with stakeholders was implement- ed (in compliance with AA1000SES Stand- ard recommendations). The stakeholders actively participated in discussions during the dialogs, public consultations, and public affirmation. • During preparation of the Annual Report, the Company’s management enthusiastically responded to opinions, suggestions, and recommendations made by the stakeholders involved in the discussions and dialogs. Noting the advantages of the 2017 Report, we think that the following suggestions shall be taken into account in the subsequent report- ing cycles: • Continuing reduction of excessive use of ob- tuse professional terminology and presenting the Report materials in a reader-friendly way. • Ensuring comprehensive description of the Company’s contribution to economic devel- opment of the areas of presence, including creation and enhancement of infrastructure facilities in small towns and nuclear indus- try cities. • Focusing on a more accurate definition of the novelty and innovation terms as appli- cable to the Company’s activities and the nuclear industry in general. • As part of comprehensive and systemic de- velopment of the sustainable development practices, Rosenergoatom updates the com- position, channels and forms of interaction with stakeholders, and the ranging pattern of material aspects of the Company’s activi- ties and their boundaries. Most questions raised by representatives of stakeholders were answered in the course of dialogs and public consultations. We would like to make a special note about the active use of modern communication means (website, blogs, virtual tours, availability of feedback, etc.) by Rosenergoatom to keep the community and all stakeholders informed about the Company’s position. INTERACTION WITH STAKEHOLDERS, CONSIDERATION OF THEIR COMMENTS AND SUGGESTIONS During its activities that involved stakehold- ers between November 2017 and April 2018, Rosenergoatom made available extensive information about its strategic goals, de- velopment priorities, and operating perfor- mance. We would like to note the active role of participants who actually represented key stakeholders, and active role of the Company’s management in the discussions. Our experience shows that the Company’s management actively responds to stakehold- ers’ ideas, comments, and suggestions. In particular, it is confirmed by adjustment of the final version of the Report which contains clarifications and additional information in- cluded as per suggestions of the participants involved in the discussions. We conclude that during preparation of the final version of the 2017 Annual Report the Company’s management demonstrated a high level of availability, openness for dialog, and positive response to problems and sugges- tions indicated by stakeholders. In view of the
above, we favorably evaluate the Company’s Report, and support the Company’s commitment to the principles of responsible business practice. We also confirm that the 2017 Report of Rosenergoatom has successfully passed public assurance.

G.I. SKLYAR
Member of the Energy Committee under the State Duma of the Federal Assembly of the Russian Federation

V.V. RYAZANSKY
Chairman of the Social Policy Committee under the Federation Council of the Federal Assembly of the Russian Federation

V.I. AKSENOV
Director of the WANO Moscow Center

V.A. GRACHEV
President and CEO of the Nongovernmental Ecological Fund named after V.I. Vernadsky

A.K. NIKITIN
Head of Bellona Ecology and Law Center

A.V. KHASIEV
Chairman of the Oka Inter-Regional Environmentalist Movement

L.A. BOLSHOV
Research Advisor of the Nuclear Safety Institute under the Russian Academy of Sciences

YUM. SEMCHENOV
Deputy Director for Nuclear Energy and Nuclear Technologies, Kurchatov Institute

E.N. FEDOTISTOVA
Managing Director for Corporate Responsibility, Sustainable Development and Social Entrepreneurship of the Russian Union of Industrialists and Entrepreneurs

I.A. FOMICHIEV
Chairman of the Russian Trade Union of Nuclear Power Industry Employees

S.A. CHESTIKIN
Chairman of the Association of Areas of Presence of Nuclear Plants Fund (AAP NP Fund)
Appendices

Rosenergoatom Annual report 2017

Enforcement does not apply to forward-looking statements, as well as statements expressing the opinions, beliefs and intentions of Rosenergoatom to take any action relating to the future. The assurance on the statements which are based on expert opinion is not performed. Assurance is performed only in relation to the Russian version of the report which includes information to be published in a hard-copy form as well as in digital form on the Rosenergoatom website.

This statement is the translation of the Russian original. The Russian version prevails.

Conclusions

The following conclusions are based on the assurance work performed within the limitations of the engagement specified above.

Natural and extended compliance of Rosenergoatom with AA1000 APS 2008 principles

As a result and within the scope of our work, we did not identify material non-compliance with criteria of AA1000 APS 2008 in respect to adherence of Rosenergoatom to the principles (Inclusivity, Materiality, and Response/Responsiveness).

Compliance of the Report with the GRI Sustainability Reporting Standards (Comprehensive option)

Analysis of compliance with the GRI Standards requirements

In order to form a position on this issue, we have performed analysis of compliance with the GRI Standards requirements concerning principles and disclosures for the chosen 'in accordance' option.

General disclosures are reported in compliance with the requirements of the standard GRI 102 (2016) for the chosen 'in accordance' option. General disclosure 102:8 is reported with exclusions by GRI Standards breakdown of total number of employees by contract and gender is not reported.

Management approach disclosures are reported in compliance with the requirements of the standard GRI 102 (2016): explanations of why the topic is material and of how the organization manages the topics are reported for material topics as well as explanations of how the organization evaluates the management approach for some material topics.

N.Y. Khlekov

Moscow, May 21, 2018

4. In case of disclosure of emissions due to absence of a recording system, provide more specific information about plans to obtain data in future.

5. Take into account remarks in the foregoing sections of the statement.

Statement of competence and independence

"NP Consult" LLC is an independent audit firm, professionally rendering assurance services, is a licensed provider of assurance services in accordance with AA1000 Assurance Standard. "NP Consult" LLC is a member of Self-regulatory organization of auditors Association "Soderzhivayt'. "NP Consult" LLC complies with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Standards Board for Auditing and which is founded on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. "NP Consult" LLC applies international Standard on Quality Control and, accordingly, maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. "NP Consult" LLC employs a system of quality control of audit services, including control of compliance to ethical norms.

"NP Consult" LLC states that the present assurance report is an independent auditor's opinion on the report. "NP Consult" LLC and its staff have no relations with Rosenergoatom that could result in the conflict of interest related to the independent assurance of the Selected Indicators.
APPENDIX 8. REPORT OF INTERNAL CONTROL DEPARTMENT OF ROSENERGOATOM

The internal audit of preparation of the public Annual Report of «Rosenergoatom» JSC (hereinafter – Rosenergoatom) is performed in virtue of the plan of control measures of the specialized body of Internal Control Department of Rosenergoatom for the first half of 2018 and in accordance with the Rules for Organization and Performance of Internal Audit as part of the Internal Audit process carried out by the Internal Audit Department of Rosenergoatom approved by order No. 9/300-P dated March 24, 2015 of Rosenergoatom (with changes).

In the course of the audit:

- the efficiency of the internal control system with respect to preparation of public reporting (including analysis of regulation and formal description of key processes related to preparation of public reporting) was assessed;
- compliance with the public report preparation procedure with applicable Russian legislation, international standards, and corporate standard requirements that regulate the public report building process was checked;
- recommendations on steps to improve the internal control system during preparation of public reporting were developed.

In general, the public report building process of Rosenergoatom was carried out according to the applicable Russian legislation, international standards, Rosatom State Corporation Public Reporting Policy and internal standard requirements of Rosenergoatom that regulate the public report building process. Meanwhile, the task force noted a derogation from the local regulations and standards that did not affect significantly the quality and accuracy of the Report.

TASK FORCE HEAD

U.S. FROLOVA

APPENDIX 9. ACCOUNTING (FINANCIAL) STATEMENTS

ACCOUNTING BALANCE SHEET STATEMENT AS OF DECEMBER 31, 2017

| Organization: | Rosenergoatom |
| Taxpayer ID: | 7701632827 |
| Type of economic activities: | Generation of electricity by nuclear power plants, including the activities related to their operability assurance |
| Form of incorporation/ownership: | Non-public joint stock company / state corporation ownership |
| Units of measurement: | thousand rubles |
| Location (address): | ul. Ferganskaya, d. 25, Moscow 109507 |

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<th>Comments</th>
<th>Item Description</th>
<th>Code</th>
<th>As of December 31, 2017</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
</tr>
</thead>
<tbody>
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<td>2.3, 6.1</td>
<td>ASSETS</td>
<td>1110</td>
<td>intangible assets</td>
<td>1,790,831</td>
<td>1,440,875</td>
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<td>2.5, 6.2</td>
<td>Results of research and development</td>
<td>1120</td>
<td>9,656,694</td>
<td>11,274,312</td>
<td>6,227,962</td>
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<tr>
<td>2.6.1</td>
<td>Intangible development assets</td>
<td>1130</td>
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<tr>
<td>2.4, 6.7</td>
<td>Fixed assets</td>
<td>1150</td>
<td>1,409,710,722</td>
<td>1,349,049,778</td>
<td>1,268,280,560</td>
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<tr>
<td>2.5, 6.3</td>
<td>Buildings, machines, equipment and other fixed assets</td>
<td>1151</td>
<td>740,149,175</td>
<td>608,857,823</td>
<td>471,032,147</td>
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<tr>
<td>6.4</td>
<td>Construction in progress invested in fixed assets</td>
<td>1152</td>
<td>603,416,911</td>
<td>681,769,555</td>
<td>74,185,217</td>
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<tr>
<td>6.5, 6.9</td>
<td>Advanced payments to suppliers and contractors for capital construction, suppliers of fixed asset items</td>
<td>1153</td>
<td>60,144,236</td>
<td>58,422,400</td>
<td>78,573,271</td>
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<tr>
<td>2.6, 6.8</td>
<td>Miscellaneous non-current assets</td>
<td>1190</td>
<td>81,457,920</td>
<td>69,949,702</td>
<td>35,881,039</td>
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<td>6.3</td>
<td>In-progress capital investments in R&amp;D</td>
<td>1191</td>
<td>15,580,841</td>
<td>15,287,550</td>
<td>21,941,181</td>
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<td>6.9</td>
<td>Non-current receivables</td>
<td>1192</td>
<td>6,607,829</td>
<td>7,360,058</td>
<td>5,350,552</td>
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<tr>
<td>6.7</td>
<td>Deferred expenses for electric grid connection</td>
<td>1193</td>
<td>58,501,456</td>
<td>45,556,226</td>
<td>9,624,826</td>
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</tbody>
</table>

| Section I subtotal | | 1,556,578,259 | 1,473,637,265 | 1,348,290,154 |
| 2.6, 6.6 | Financial investments | 1170 | 53,934,073 | 42,184,374 | 36,776,226 |
| 2.7, 6.7 | Deferred tax assets | 1180 | | | |
| 6.1 | Miscellaneous non-current assets | 1190 | 81,477,928 | 69,949,782 | 55,883,615 |
| 6.2 | in progress capital investments in R&D | 1191 | 15,580,841 | 15,287,550 | 21,941,181 |
| 6.3 | Non-current receivables | 1192 | 6,607,829 | 7,360,058 | 5,350,552 |
| 6.4 | Deferred expenses for electric grid connection | 1193 | 58,501,456 | 45,556,226 | 9,624,826 |
| 6.5, 6.9 | Non-current receivables | 1194 | | | |
| Section II subtotal | | 1,556,578,259 | 1,473,637,265 | 1,348,290,154 |

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<table>
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<tr>
<td>12267 61</td>
<td>12267 61</td>
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<table>
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<th>OKEI</th>
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</thead>
<tbody>
<tr>
<td>384</td>
<td>384</td>
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</tbody>
</table>
## Comments Item Description Code As of December 31, December 31, December 31, 2017 2016 2015

Miscellaneous debtors 1233 11,644,121 18,414,205 9,754,798
Underbillings 1234

2.7, 6.10 Financial investments (except cash equivalents) 1240 68,355,000 33,889,870 20,293,355
6.11 Cash and equivalents 1250 28,473,049 19,758,160 17,980,760
Miscellaneous current assets 1260 374,727 454,182 212,569

Section II subtotal: 1200 185,078,941 140,456,847 122,379,946

<table>
<thead>
<tr>
<th>Comments Item Description Code</th>
<th>As of December 31, 2017</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALANCE</td>
<td>1,741,657,200</td>
<td>1,614,094,112</td>
<td>1,470,670,100</td>
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</tbody>
</table>

## LIABILITIES

<table>
<thead>
<tr>
<th>Comments Item Description Code</th>
<th>As of December 31, 2017</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALANCE</td>
<td>1,741,657,200</td>
<td>1,614,094,112</td>
<td>1,470,670,100</td>
</tr>
</tbody>
</table>

### III. EQUITY AND PROVISIONS

- Registered capital (share capital, registered fund, partners’ contributions)
  - Treasury shares 1320

- Shareholders’ capital contributions before records of constituent documents 1330 22,719,019 98,075,834
- Revaluation of non-current assets 1340
- Surplus capital (not revalued) 1350 6,959

- Reserve capital 1360 222,664,844 244,382,900 251,825,792
- Provisions established under legal requirements 1361 219,263,587 241,511,688 249,650,660
- Provisions established under incorporation documents 1362 3,401,477 2,871,212 2,175,132
- Retained profits (unrecovered loss) 1370 469,959,983 350,524,071 275,394,723

Section III subtotal 1300 1,508,466,386 1,388,029,511 1,296,819,871

### IV. LONG-TERM LIABILITIES

<table>
<thead>
<tr>
<th>Comments Item Description Code</th>
<th>As of December 31, 2017</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
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<tbody>
<tr>
<td>BALANCE</td>
<td>1,741,657,200</td>
<td>1,614,094,112</td>
<td>1,470,670,100</td>
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</tbody>
</table>

### V. SHORT-TERM LIABILITIES

- Accounts payable 1520 56,642,576 26,696,308 57,411,598
- Suppliers and contractors 1521 41,917,810 50,038,466 41,768,906
- Advance payments received 1522 22,468 39,453 61,839
- Owed to employees 1523 1,121,859 988,885 1,141,588
- Owed to government off-budget funds 1524 465,228 498,486 505,805
- Debts in taxes and duties 1525 5,590,188 2,755,967 2,568,899
- Miscellaneous creditors 1526 7,525,823 8,591,593 11,364,561
- Deferred revenue 1530 102,963 83,911 308,092
- Appraisal-related liabilities 1540 9,015,050 7,978,096 8,394,872
- Special-purpose financing 1546 121,956 149,480
- Owed to customers 1547
- Miscellaneous liabilities 1550

Section V subtotal 1500 89,884,584 84,977,213 120,330,598

<table>
<thead>
<tr>
<th>Comments Item Description Code</th>
<th>As of December 31, 2017</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
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</thead>
<tbody>
<tr>
<td>BALANCE</td>
<td>1,741,657,200</td>
<td>1,614,094,112</td>
<td>1,470,670,100</td>
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</table>
## PROFIT AND LOSS STATEMENT OR YEAR 2018

**Comments**

<table>
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<tr>
<th>Item Description</th>
<th>Code</th>
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<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10, 7.1 Revenue</td>
<td>2110</td>
<td>360,385,842</td>
<td>282,035,779</td>
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<tr>
<td>2.11, 7.1 Sales costs</td>
<td>2120</td>
<td>(207,655,847)</td>
<td>(176,452,597)</td>
</tr>
<tr>
<td>2.2 Gross profit/loss</td>
<td>2100</td>
<td>152,729,995</td>
<td>105,583,182</td>
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<tr>
<td>2.3 Commercial expenses</td>
<td>2210</td>
<td>(17,955)</td>
<td>(21,775)</td>
</tr>
<tr>
<td>2.4 Administrative costs</td>
<td>2220</td>
<td>(75,955,089)</td>
<td>(78,224,142)</td>
</tr>
<tr>
<td>2.5 Profit/loss after sales</td>
<td>2200</td>
<td>76,759,141</td>
<td>27,337,265</td>
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<tr>
<td>2.6 Taxes and penalties</td>
<td>2230</td>
<td>384,505</td>
<td>356,145</td>
</tr>
<tr>
<td>2.7 Insurance compensation</td>
<td>2240</td>
<td>580,239</td>
<td>536,162</td>
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</table>

In the form of surplus of the value of property contributed to registered (sabre) capital, compared to the book value...

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Miscellaneous expenses, including</td>
<td>2340</td>
<td>5,689,424</td>
<td>5,131,289</td>
</tr>
<tr>
<td>3.2 Depreciation, repair, upgrade and reconstruction of fixed and current assets</td>
<td>2352</td>
<td>(6,949,946)</td>
<td>(4,510,866)</td>
</tr>
<tr>
<td>3.3 Bad debt provision</td>
<td>2353</td>
<td>(2,066,872)</td>
<td>(749,984)</td>
</tr>
<tr>
<td>3.4 Charity and subscriptions</td>
<td>2354</td>
<td>(3,332,704)</td>
<td>(1,338,043)</td>
</tr>
<tr>
<td>3.5 Other</td>
<td>2355</td>
<td>(1,246,035)</td>
<td>(1,482,462)</td>
</tr>
<tr>
<td>3.6 Profit/loss before tax</td>
<td>2300</td>
<td>65,527,755</td>
<td>20,192,494</td>
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</table>

**EQUITY DYNAMICS STATEMENT FOR YEAR 2016**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Miscellaneous expenses, including</td>
<td>2340</td>
<td>5,689,424</td>
<td>5,131,289</td>
</tr>
<tr>
<td>3.2 Depreciation, repair, upgrade and reconstruction of fixed and current assets</td>
<td>2352</td>
<td>(6,949,946)</td>
<td>(4,510,866)</td>
</tr>
<tr>
<td>3.3 Bad debt provision</td>
<td>2353</td>
<td>(2,066,872)</td>
<td>(749,984)</td>
</tr>
<tr>
<td>3.4 Charity and subscriptions</td>
<td>2354</td>
<td>(3,332,704)</td>
<td>(1,338,043)</td>
</tr>
<tr>
<td>3.5 Other</td>
<td>2355</td>
<td>(1,246,035)</td>
<td>(1,482,462)</td>
</tr>
<tr>
<td>3.6 Profit/loss before tax</td>
<td>2300</td>
<td>65,527,755</td>
<td>20,192,494</td>
</tr>
<tr>
<td>Item Description</td>
<td>Code</td>
<td>Registered Capital</td>
<td>Treasury Shares</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Additional issue of shares</td>
<td>3214</td>
<td>121,605,977</td>
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</tr>
<tr>
<td>Increase in par value of shares</td>
<td>3215</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reorganization of corporate entity</td>
<td>3216</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry-level provisions use for investment purposes</td>
<td>3217</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Shareholders' capital contributions before records of constituent documents</td>
<td>3218</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Decrement in capital, total:</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Including, loss</td>
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<tr>
<td>Revaluation of assets</td>
<td>3222</td>
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<tr>
<td>Expenses recognized directly as capital decrement</td>
<td>3223</td>
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<tr>
<td>Decrease in par value of shares</td>
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<tr>
<td>Decrease in number of shares</td>
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<tr>
<td>Reorganization of corporate entity</td>
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<tr>
<td>Dividends</td>
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<tr>
<td>Shareholders' capital contributions before records of constituent documents</td>
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<tr>
<td>Change in surplus capital</td>
<td>3230</td>
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<td>X</td>
</tr>
<tr>
<td>Change in reserve capital</td>
<td>3240</td>
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</tr>
<tr>
<td>Size of capital as of December 31,2016</td>
<td>3200</td>
<td>793,122,540</td>
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</tr>
<tr>
<td>For year 2017 Increment in capital, total:</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Including, net profit</td>
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<tr>
<td>Revaluation of assets</td>
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<td>X</td>
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<tr>
<td>Income recognized directly as capital increment</td>
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<tr>
<td>Additional issue of shares</td>
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<tr>
<td>Item Description</td>
<td>Code</td>
<td>Registered Capital</td>
<td>Treasury Shares</td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>--------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Increase in par value of shares</td>
<td>3315</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reorganization of corporate entity</td>
<td>3316</td>
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<tr>
<td>Industry-level provisions use for investment purposes</td>
<td>3317</td>
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<td>X</td>
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<td>Shareholders’ capital contributions before records of constituent documents</td>
<td>3318</td>
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<td>X</td>
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<tr>
<td>Decrement in capital, total:</td>
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<td>-</td>
<td>-</td>
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<tr>
<td>Including, loss</td>
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<td>Revaluation of assets</td>
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<tr>
<td>Expenses recognized directly as capital decrement</td>
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<td>X</td>
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<tr>
<td>Decrease in par value of shares</td>
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<tr>
<td>Decrease in number of shares</td>
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<tr>
<td>Reorganization of corporate entity</td>
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<tr>
<td>Dividends</td>
<td>3327</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Shareholders’ capital contributions before records of constituent documents</td>
<td>3328</td>
<td>X</td>
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<tr>
<td>Change in surplus capital</td>
<td>3330</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Change in reserve capital</td>
<td>3340</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Size of capital as of December 31, 2017</td>
<td>3300</td>
<td>793,122,540</td>
<td>-</td>
</tr>
</tbody>
</table>
## CASH FLOW STATEMENT FOR YEAR 2017

### Organization:
- **Rosenergoatom**

### Topper ID:
- **RDN**

### Type of economic activities:
- Generation of electricity by nuclear power plants, including the activities related to their operability assurance

### Form of incorporation/ownership:
- Non-public joint stock company / state corporation-ownership

### Units of measurement:
- Thousand rubles

#### CASH FLOW STATEMENT FOR YEAR 2017

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equity, total</strong></td>
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<td></td>
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</tr>
<tr>
<td>Before adjustments</td>
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<td></td>
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</tr>
<tr>
<td><strong>adjustment due to:</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>- accounting policy change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- correction of errors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other adjustments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>on Account of Net Profit/Loss</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>including retained profit/ uncovered loss</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before adjustments</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>adjustment due to:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- accounting policy change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- correction of errors</td>
<td></td>
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</tr>
<tr>
<td>Other adjustments</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Net assets</strong></td>
<td>5050</td>
<td>1,208,601,854</td>
<td>1,208,601,854</td>
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<tr>
<td><strong>Net Profit/Loss</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
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### CASH FLOW FROM CURRENT OPERATIONS

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<th>Code</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
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</thead>
<tbody>
<tr>
<td><strong>Revenues – total</strong></td>
<td>4110</td>
<td>376,659,720</td>
<td>286,977,416</td>
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<tr>
<td><strong>Including:</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>- from sold products, work, services</td>
<td>4111</td>
<td>318,997,891</td>
<td>270,189,615</td>
</tr>
<tr>
<td>- payments in lease, rent, royalty fees, conversion fees and similar amounts</td>
<td>4110</td>
<td>105,265</td>
<td>106,855</td>
</tr>
<tr>
<td>- refund financial investments</td>
<td>4117</td>
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<td></td>
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<tr>
<td>- Intangible revenue</td>
<td>4110</td>
<td>20,460,374</td>
<td>9,511,145</td>
</tr>
<tr>
<td><strong>Payments, total</strong></td>
<td>4120</td>
<td>(196,035,258)</td>
<td>(163,883,031)</td>
</tr>
<tr>
<td><strong>Including:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- to suppliers/contractors, for materials, products, work, services</td>
<td>4121</td>
<td>(120,709,551)</td>
<td>(99,261,651)</td>
</tr>
<tr>
<td>- to employees</td>
<td>4122</td>
<td>(40,434,721)</td>
<td>(39,228,584)</td>
</tr>
<tr>
<td>- interest payable on debentures</td>
<td>4123</td>
<td>(2,844,303)</td>
<td>(1,755,722)</td>
</tr>
<tr>
<td>- corporate profit tax</td>
<td>4124</td>
<td>(9,374,601)</td>
<td>(6,891,054)</td>
</tr>
<tr>
<td>- miscellaneous payments</td>
<td>4129</td>
<td>(22,672,082)</td>
<td>(16,746,020)</td>
</tr>
<tr>
<td><strong>Balance of cash flow from current operations</strong></td>
<td>4100</td>
<td>180,624,462</td>
<td>122,994,587</td>
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</table>

### CASH FLOW FROM INVESTMENTS

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues – total</strong></td>
<td>4210</td>
<td>646,757,954</td>
<td>410,543,109</td>
</tr>
<tr>
<td><strong>Including:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- from sold non-current assets (except financial/investments)</td>
<td>4211</td>
<td>1,051,860</td>
<td>1,059,580</td>
</tr>
<tr>
<td>- from sold corporate stocks or holdings in other corporate entities</td>
<td>4212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- from repaid loans issued, sold debentures (claim rights to third parties)</td>
<td>4213</td>
<td>608,650,462</td>
<td>322,098,597</td>
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<tr>
<td>- dividends, interest on financial debt investments, and similar revenue from holdings in other corporate entities</td>
<td>4214</td>
<td>8,945,873</td>
<td>6,705,748</td>
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<tr>
<td>- other equity items adjusted (per item)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net assets</strong></td>
<td>3600</td>
<td>1,509,615,000</td>
<td>1,389,224,758</td>
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### OTHER EQUITY ITEMS ADJUSTED (PER ITEM)

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
<th>December 31, 2016</th>
<th>December 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net assets</strong></td>
<td>3600</td>
<td>1,509,615,000</td>
<td>1,389,224,758</td>
</tr>
</tbody>
</table>

### MANAGER
- **A.YU. PETROV**

### CHIEF ACCOUNTANT
- **A.V. SHALIMOV**

### FEBRUARY 28, 2018
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>government budget allocations, and other government financing</td>
<td>4315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>miscellaneous revenues</td>
<td>4319</td>
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<td></td>
</tr>
<tr>
<td>Payments – total</td>
<td>4320</td>
<td>(147,722,713)</td>
<td>(71,143,771)</td>
</tr>
<tr>
<td>Including</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to incorporators/stakeholders to finance buyout of shares/stakes in the corporate</td>
<td>4321</td>
<td></td>
<td></td>
</tr>
<tr>
<td>capital, or their retirement from the corporation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid as dividends and otherwise to distribute profits among owners/stakeholders</td>
<td>4322</td>
<td></td>
<td></td>
</tr>
<tr>
<td>redemption/buyout of promissory notes and other securities, repayment of loans and</td>
<td>4323</td>
<td>(147,722,713)</td>
<td>(71,141,890)</td>
</tr>
<tr>
<td>credits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous payments</td>
<td>4329</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance of cash flow from financial operations</td>
<td>4300</td>
<td>2,171,919</td>
<td>30,491,063</td>
</tr>
<tr>
<td>Balance of cash flow for the reporting period</td>
<td>4400</td>
<td>8,742,209</td>
<td>1,807,054</td>
</tr>
<tr>
<td>Balance of cash and equivalents at the beginning of the reporting period</td>
<td>4450</td>
<td>19,750,160</td>
<td>17,980,002</td>
</tr>
<tr>
<td>Balance of cash and equivalents at the end of the reporting period</td>
<td>4500</td>
<td>28,473,049</td>
<td>19,750,160</td>
</tr>
<tr>
<td>Impact by change of foreign currency exchange rate to the ruble</td>
<td>4490</td>
<td>(19,328)</td>
<td>(36,876)</td>
</tr>
</tbody>
</table>

**MANAGER** A.YU. PETROV  
**CHIEF ACCOUNTANT** A.V. SHALIMOV  
FEBRUARY 26, 2018
APPENDIX 10. AUDITOR’S REPORT CERTIFYING ANNUAL ACCOUNTING STATEMENTS

AUDITOR’S REPORT

FOR STOCKHOLDERS
OF RUSSIAN CONCERN FOR PRODUCTION OF ELECTRIC AND THERMAL ENERGY AT NUCLEAR POWER PLANTS
(JOINT STOCK COMPANY)

OPINION


It is our opinion that the reviewed annual accounting statements reliably represent all relevant aspects of the financial situation in Rosenergoatom as of December 31, 2017, its financial and business performance, and its cash flows during 2017, in conformity with the Russian standards for accounting statements.

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditors’ Responsibilities for the Audit of the Annual Accounting Statements section of our report. We are independent of the audited entity in accordance with the Rules of Independence of the Auditors and Audit Organizations and The Code of Professional Ethics of the Auditors, which are in accordance with International Ethics Standards Board for Accountants’ Code of Ethics for Professional Accountants (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

AUDITED ENTITY’S MANAGEMENT AND MEMBERS OF THE BOARD OF DIRECTORS RESPONSIBILITY FOR THE ANNUAL ACCOUNTING STATEMENTS

Management is responsible for the preparation and fair presentation of the aforementioned annual accounting statements in accordance with Russian accounting standards, and shall enforce the internal control system as may be required to prepare annual accounting statements free of any material misrepresentation through either fraudulence or error.

In preparing the annual statements, management is responsible for assessing the audited entity ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the audited entity or to cease operations, or has no realistic alternative but to do so.

Members of the board of directors are responsible for overseeing the annual accounting reporting process.

AUDITOR’S RESPONSIBILITY FOR THE AUDIT OF THE ANNUAL ACCOUNTING STATEMENTS

Our objectives are to obtain reasonable assurance about whether the annual accounting statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor’s report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounting statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

a) identify and assess the risks of material misstatement of the annual accounting statements, whether due to fraud or error; design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;

b) obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the audited entity’s internal control;

c) evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the audited entity’s management;

d) conclude on the appropriateness of management’s use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the audited entity’s ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor’s report to the related disclosures in the annual accounting statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause the audited entity to cease to continue as a going concern;
APPENDIX 11. REPORT ON ROSENERGOATOM’S COMPLIANCE WITH CORPORATE GOVERNANCE CODE RECOMMENDED BY THE BANK OF RUSSIA

<table>
<thead>
<tr>
<th>Item</th>
<th>Corporate Governance Principle</th>
<th>Criteria for Assessment of Compliance with Corporate Governance Principle</th>
<th>Status of Compliance with Corporate Governance Principle</th>
<th>Explanation of Deviation from Criteria for Assessment of Compliance with Corporate Governance Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>The company shall be equal and fair in relation to all stockholders exercising their right to participate in corporate governance.</td>
<td>1. The company's internal document approved by the general meeting of stockholders is publicly available. The document governs the general meeting procedures.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.1 The company creates most favorable conditions for stockholders to participate in the general meeting, to take a reasonable stand on the items of the general meeting agenda, to coordinate their efforts, and to express their opinions on the considered issues.</td>
<td>1. The company's internal document approved by the general meeting of stockholders is publicly available. The document governs the general meeting procedures.</td>
<td>Partially compliant</td>
<td>Rosenergoatom did not establish the «hotline» in 2017. Meanwhile, the company provides accessible means of communication with two stockholders (through email, Unified Industry-Wide Document Management System). Therefore, all stockholders are treated in an equal and fair way in exercising their rights.</td>
</tr>
<tr>
<td></td>
<td>1.1.2 The procedure of general meetings arrangement and general meeting materials provision enables the stockholders to appropriately prepare for taking part in it.</td>
<td>1. A notice of the general meeting of stockholders is posted (published) on the website no later than 30 days before the general meeting date.</td>
<td>Non-compliant</td>
<td>Taking into account that Rosenergoatom has two stockholders, they were given due notice delivered by courier, and they are supplied with the required materials through available communication channels.</td>
</tr>
<tr>
<td></td>
<td>2. The company provides available ways of communication with citizens, such as a «hotline», email, or Internet forum allowing the stockholders to express their opinion and send questions regarding the agenda items during preparations for the general meeting.</td>
<td>2. The company provides available ways of communication with citizens, such as a «hotline», email, or Internet forum allowing the stockholders to express their opinion and send questions regarding the agenda items during preparations for the general meeting. Similar actions were taken by the company before every general meeting held during the reporting period.</td>
<td>Partially compliant</td>
<td></td>
</tr>
</tbody>
</table>

AUDIT TASK LEADER

N. Yu. Rodieko,
Auditor Qualification Certificate 06-000346 dated November 20, 2015, ORN2 (Primary Registration Number) 2150604735
Auditor’s Report date: March 1, 2018

AUDITED ENTITY

Corporate Name: Russian Concern for Production of Electric and Thermal Energy at Nuclear Power Plants (Joint Stock Company), hereinafter – Rosenergoatom.

Location: 109507, Moscow, ul. Ferganskaya, 44/1, str. 2A8.

Statutory Registration:
Registered by Moscow Chamber of Registration, on November 15, 1993, Certificate series UZ 3 No. 484.593 RR Record of July 24, 2002, in the Unified State Register of Legal Entities, Primary State Registration Number 1027700058286.

Membership in Self-Regulated Association of Auditors:
Self-regulatory organization of auditors Association «Sodruzhestvo».

ID Record in Registry of Self-Regulated Association of Auditors:
1.1.4. Execution of stockholders' rights to convene the annual general meeting and during the meeting itself the stockholders were provided with unhampered and timely delivery of information on the meeting agenda items, and the nominees for the company's board of directors and auditing committee.

1. During the reporting period the stockholders were given opportunities to ask questions (joint attendance by stockholders), enough time was allocated for reports on the agenda items, and certified by the vote count panel.

2. Nominees for the management and supervisory bodies were available for answering questions, which is economically unviable and may lead to unreasonable complications.

1.1.5. Each stockholder was able to seamlessly exercise its voting right in the manner it found most convenient.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. If the company's dividend policy uses the company's reporting indicators to determine the dividend size, then the respective provisions of the dividend policy specify consolidated indicators of financial statements.

1.3. The company does not allow for impairment of the dividends and liquidation value.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company does not allow for impairment of the dividends and liquidation value.

1.3.3. The company and practice of corporate governance ensure equal conditions for all stockholders – owners of stock of one category (type), including minority stockholders and foreign stockholders, as well as equal attitude to them on behalf of the company.

2. If the company's dividend policy uses the company's reporting indicators to determine the dividend size, then the respective provisions of the dividend policy specify consolidated indicators of financial statements.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company does not allow for impairment of the dividends and liquidation value.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company does not allow for impairment of the dividends and liquidation value.

1.2.1. The company developed and implemented a clear and transparent mechanism for determining the dividend size and their payment.

1. The company developed and disclosed the dividend policy, which were approved by the board of directors.

2. If the company's dividend policy contains the company's reporting indicators to determine the dividend size, the respective provisions of the dividend policy specify consolidated indicators of financial statements.

1.2.2. The company did not reject proposals on agenda items or calendar year.

1. The company developed and disclosed the dividend policy, which were approved by the board of directors.

2. If the company's dividend policy contains the company's reporting indicators to determine the dividend size, the respective provisions of the dividend policy specify consolidated indicators of financial statements.

1.2.3. The company does not resolve to pay out dividends, if such a measure, without violation of legitimate interests, is economically unviable and may lead to unreasonable complications.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company does not allow for impairment of the dividends and liquidation value.

1.2.4. Execution of stockholders' rights to convene the annual general meeting and during the meeting itself the stockholders were provided with unhampered and timely delivery of information on the meeting agenda items, and the nominees for the company's board of directors and auditing committee.

1.1. Each stockholder was able to seamlessly exercise its voting right in the manner it found most convenient and easy.

1. The company's internal document (internal policy) contains provisions entitling a part- ner entitled to dispose the votes (income) on the account of the company, except for the dividends and liquidation value.

2. If the company's dividend policy uses the company's reporting indicators to determine the dividend size then the respective provisions of the dividend policy specify consolidated indicators of financial statements.

1.1.5. Each stockholder was able to seamlessly exercise its voting right in the manner it found most convenient.

1. The company's annual general meeting was held in a meeting registration area, which is approved by the board of directors.

2. The procedure established by the company for the general meeting ensures equal opportunities for all stockholders, including minority stockholders and foreign stockholders, to express their opinions and ask questions.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company does not allow for impairment of the dividends and liquidation value.

1.2.3. The company does not resolve to pay out dividends, if such a measure, without violation of legitimate interests, is economically unviable and may lead to unreasonable complications.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company does not allow for impairment of the dividends and liquidation value.

1.1.6. The procedure established by the company for the general meeting ensures equal opportunities for all stockholders, including minority stockholders and foreign stockholders, to express their opinions and ask questions.

1. When general meetings were held in the reporting period the list of meetings (joint attendance by stockholders), enough time was allocated for reporting on the agenda items, and the discussion of the voting rights.

2. Notices for the management and supervision bodies were available for assessing the stockholders' questions at the meetings, when they were necessary.

1.3.1. The company created conditions for fair attitude to each stockholder on behalf of the company's management and supervisory bodies, including the conditions preventing abuse by majority stockholders (persons entitled to dispose the votes (income) on the account of the company, except for the dividends and liquidation value attached to voting stocks).

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

1.1.3. During preparations for the general meeting and during the meeting itself the stockholders were provided with unhampered and timely delivery of information on the meeting and the related materials, they were capable of asking questions to members of the company's management bodies and board of directors before the annual general meeting and during it.

1. The company developed and disclosed the dividend policy, which were approved by the board of directors.

2. If the company's dividend policy contains the company's reporting indicators to determine the dividend size, the respective provisions of the dividend policy specify consolidated indicators of financial statements.

1. The company's dividend policy contains explicit description of financial/economic circumstances, which shall prevent the company from paying out the dividends.

2. The company does not allow for impairment of the dividends and liquidation value.

1.2.1. The company developed and implemented a clear and transparent mechanism for determining the dividend size and their payment.

1. The company developed and disclosed the dividend policy, which were approved by the board of directors.

2. If the company's dividend policy contains the company's reporting indicators to determine the dividend size, the respective provisions of the dividend policy specify consolidated indicators of financial statements.
The board of directors defines the company’s core business lines.

2.1.5 The board of directors plays a key role in prevention, detection, and settlement of internal conflicts among the company’s bodies, stockholders, and employees. The company defined the persons responsible for implementation of the information policy.

2.2.1 Information on the activities of the board of directors is disclosed and provided to the stockholders.

2.2.2 Chairman of the board of directors is available for communication with the company’s stockholders.

2.3.1 The board of directors approved a provision on information policy approved in 2017.

2.3.2 The annual report contains information on major results of evaluation of the work of the board of directors during the reporting period.

2.4.1 The board of directors defines the company’s policy for remuneration and (or) reimbursement of expenses (compensation) of the board of directors members, members of the company’s executive bodies and other top executives.

2.4.2 The company developed and implemented, and the board of directors approved the policy for remuneration and (or) reimbursement of expenses (compensation) of the board of directors members, members of the company’s executive bodies and other top executives.

2.4.3 The board of directors considered the matters related to the paid policy (policies) during the reporting period.

2.1.6 The board of directors plays a key role in ensuring the company’s transparency, timeliness and completeness of its documents.

2.1.7 The board of directors exercises control of the company’s activities.

2.2.3 Chairman of the board of directors is responsible for making decisions related to appointment and removal of executive body members, particularly in case of misconduct. The board of directors also makes sure the company’s executive body acts according to the approved development strategy and the company’s core business lines.

1. There are no quasi-treasury stocks, or these did not participate in voting during the reporting period.

2. The board of directors considered the matters related to the said policy (policies) for remuneration and reimbursement of expenses (compensation) of the board of directors during the reporting period.

2.1.4 The board of directors approves a provision on information policy.

2.1.8 The board of directors defines the company’s strategy implementation.

2.2.4 The board of directors considered the report (reports) of the sole executive body and the corresponding decisions of the board of directors during the reporting period.

1. The board of directors approved a provision on information policy.

2. During the reporting period, the board of directors (or its committee for nominations) assessed the nominees for the board of directors in terms of required experience, knowledge, business reputation, absence of conflicts of interest, etc.

2.1.3 The board of directors performs strategic management of the company. The board of directors defines basic principles and approaches to organization of the company’s risk management and internal control system, supervises the activities of the company’s executive bodies, and exercises other key functions.

1. The articles of association provide the board of directors with powers to appoint and remove members of executive bodies, and define conditions of their contracts.

2. The board of directors considered the report (reports) of the sole executive body and members of the collegiate executive body on the company’s strategic implementation, and internal control system during the reporting period.

2.2.5 The company created an identification system for transactions related to conflicts of interest for the board of directors chairman questions, and express their opinions related to such matters.

2.2.6 The company adopted a transparent procedure enabling the stockholders to ask questions to the board of directors chairman, and express their opinions related to such matters.

2.3.4 The board of directors considers the matter of the board of directors chairman questions, and express their opinions related to such matters.

2.3.5 The board of directors conducted the review of the board of directors chairman questions, and express their opinions related to such matters.

2.2.7 The board of directors considers the report to the company’s stockholders.

2.2.8 The board of directors establishes the principles and approaches to organization of the risk management and internal control system of the company.

2.3.6 The board of directors considers the matters related to the said policy (policies) during the reporting period.

2.3.7 The board of directors approves a provision on information policy.

2.1.9 The board of directors defines the company’s approaches to organization of the risk management and internal control system of the company.

2.3.8 The board of directors approves the company’s risk management and internal control system during the reporting period.

2.4.4 The board of directors determines the principles and approaches to organization of the risk management and internal control system of the company.

2.4.5 The board of directors approved the company’s risk management and internal control system during the reporting period.

2.4.6 The board of directors determines the principles and approaches to organization of the risk management and internal control system of the company.

2.4.7 The board of directors determined the principles and approaches to organization of the risk management and internal control system of the company.

2.5.1 Only those persons who have spatial business, technical and personnel experience and having the vital and experience required for making decisions within the competence of the board of directors, and whose activities are not mandating the conditions for defining the remuneration of the board of directors members, are elected as members of the board of directors.

1. The board of directors chairman questions, and express their opinions related to such matters.

2. The board of directors considered the report (reports) of the sole executive body and members of the collegiate executive body on the company’s strategic implementation, and internal control system during the reporting period.

2.3.9 The board of directors performs strategic management of the company. The board of directors defines basic principles and approaches to organization of the company’s risk management and internal control system, supervises the activities of the company’s executive bodies, and exercises other key functions.

1. The board of directors performed by the board of directors during the reporting period.

2. The board of directors considered the report (reports) of the sole executive body and members of the collegiate executive body on the company’s strategic implementation, and internal control system during the reporting period.

2.3.10 The board of directors exercises control of the company’s activities.

2.4.8 The board of directors determines the principles and approaches to organization of the risk management and internal control system of the company.

2.4.9 The board of directors determined the principles and approaches to organization of the risk management and internal control system of the company.

2.4.10 The board of directors determined the principles and approaches to organization of the risk management and internal control system of the company.
2.3.2 Members of the Board of Directors are elected through a transparent procedure that permits stockholders to obtain information about nominees sufficiently to get an idea about their personal and professional qualities.

2.4.1 An independent director is a person possessing the following attributes: a person possessing at least one third of independent directors on the board of directors.

The board of directors is comprised of a sufficient number of independent directors.

2.4.2 Evaluation of nominees for the board of directors is accomplished during the reporting period. The board of directors analyzed its needs in professional qualifications, experience and business skills.

Partially compliant The quantitative composition of the company’s board of directors (or its committee for nominees) is determined on a regular basis. The content and scope, and a written consent of the nominees elected to the board of directors.

Partially compliant In 2017 the company provided the stockholders with biographies of each nominee for the board of directors, as well as information on compliance with independence criteria according to recommendations 102-107 of the code, and a written consent of the nominees elected to the board of directors.

2.4.3 Independent directors comprise at least one third of the elected board of directors.

Non-compliant There are no independent directors on the board of directors.

2.4.4 Independent directors play a key role in preventing internal conflicts in the company, and making significant corporate actions by the company.

Partially compliant The role, rights, and obligations of the chairman of the board of directors (and the chief independent director, if applicable) are duly defined by the company’s internal documents.

Non-compliant The board of directors has no committees.

2.5.3 Chairman of the board of directors takes measures required for timely provision of the board of directors members with the information needed to adopt resolutions on the agenda items.

Non-compliant Chairman of the board of directors ensures a constructive atmosphere.
<table>
<thead>
<tr>
<th>Item</th>
<th>Corporate Governance Principles</th>
<th>Criteria for Assessment of Compliance with Corporate Governance Principle</th>
<th>Status of Compliance with Corporate Governance Principle</th>
<th>Explanation of Deviation from Criteria for Assessment of Compliance with Corporate Governance Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6</td>
<td>Members of the board of directors act in good faith and reason for the benefit of the company and its stockholders on the basis of sufficient information, with due regard and consideration.</td>
<td>1. The company's internal documents stipulate that a member of the board of directors shall inform the board of directors in case there is a conflict of interest related to any agenda item at a meeting of the board of directors, or a committee of the board of directors, before discussion of the respective agenda item. 2. The company's internal documents stipulate that a member of the board of directors shall abstain from voting on any matter that he/she has a conflict of interest in. 3. The company adopted a procedure allowing for the board of directors to receive professional consultations on the matters within its competence, at the expense of the company.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>2.6.1</td>
<td>Members of the board of directors make decisions with due regard of all information, with no conflict of interest, with consideration of equal attitude to the company's stockholders as part of usual entrepreneurial risk.</td>
<td>1. The company's internal documents stipulate that a member of the board of directors shall inform the board of directors in case there is a conflict of interest related to any agenda item at a meeting of the board of directors, or a committee of the board of directors, before discussion of the respective agenda item.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>2.6.2</td>
<td>Rights and obligations of the board of directors members are explicitly formulated and specified in the company's internal documents.</td>
<td>1. The company adopted and published an internal document that clearly defines the rights and obligations of the board of directors members.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>2.6.3</td>
<td>Members of the board of directors have enough time for discharge of their obligations.</td>
<td>1. Individual attendance of the board and committee meetings, and the time devoted to getting ready for participation in the meetings were considered during assessment of the board of directors in the reporting period. 2. According to the company's internal documents, members of the board of directors shall inform the board of directors on their intention to become members of management bodies in other organizations (except for the company's subsidiaries and affiliates), as well as on the facts of such appointment.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>2.6.4</td>
<td>All members of the board of directors are equally entitled to access the company's documents and information. Newly elected members of the board of directors are provided with sufficient information about the company and the board of directors activities as soon as reasonably possible.</td>
<td>1. According to the company's internal documents, members of the board of directors are entitled to access documents and make inquiries related to the company and its subsidiaries, and the company's executive bodies shall provide the respective information and documents. 2. There is a formalized familiarization program in the company for newly elected members of the board of directors.</td>
<td>Compliant</td>
<td></td>
</tr>
<tr>
<td>2.7</td>
<td>Preparation for the meetings of the board of directors and participation in them by the board of directors members ensure efficient activity of the board of directors.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.7.1</td>
<td>Meetings of the board of directors are held as often as required, with due regard for the scale of activity, and the objectives faced by the company at the moment.</td>
<td>1. The board of directors held at least six meetings during the reporting period.</td>
<td>Compliant</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX 12. OPERATING NPP POWER UNITS

<table>
<thead>
<tr>
<th>NPP Name</th>
<th>PU No.</th>
<th>Reactor Type</th>
<th>Capacity (P), MW</th>
<th>Hook-Up Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balakovo NPP</td>
<td>1</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>28.12.1985</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>08.10.1987</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>24.12.1988</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>11.04.1993</td>
</tr>
<tr>
<td>Beloyarsk NPP</td>
<td>3</td>
<td>BN-600</td>
<td>600</td>
<td>08.04.1980</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>BN-800</td>
<td>885</td>
<td>10.12.2015</td>
</tr>
<tr>
<td>Bilibino NPP</td>
<td>1</td>
<td>EGP-6</td>
<td>12</td>
<td>12.01.1974</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>EGP-6</td>
<td>12</td>
<td>30.12.1974</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>EGP-6</td>
<td>12</td>
<td>23.12.1975</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>EGP-6</td>
<td>12</td>
<td>27.12.1976</td>
</tr>
<tr>
<td>Kalinin NPP</td>
<td>1</td>
<td>VVER-1000</td>
<td>1,000</td>
<td>09.05.1984</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>VVER-1000</td>
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APPENDIX 13. INSTALLED CAPACITY AND POWER OUTPUT OF NUCLEAR POWER PLANTS OF ROSENEGOATOM IN 2015-2017 BY RUSSIAN UES

<table>
<thead>
<tr>
<th>Item UES No.</th>
<th>Power Plant Name</th>
<th>Installed Capacity, MW</th>
<th>Power Output, bln kWh</th>
<th>Installed Capacity, MW</th>
<th>Power Output, bln kWh</th>
<th>Installed Capacity, MW</th>
<th>Power Output, bln kWh</th>
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<td>1 Central UES</td>
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<td>1.60</td>
<td>100.36</td>
<td>1.60</td>
<td>100.36</td>
<td>1.60</td>
<td>100.36</td>
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<td></td>
<td>Kursk NPP</td>
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<td></td>
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<td>3 Volga UES</td>
<td>Balakovo NPP</td>
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<td>28.90</td>
<td>4.00</td>
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<td>4 South UES</td>
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<tr>
<td>5 Urals UES</td>
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<td>European part</td>
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<td>6 East UES</td>
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<td>0.276</td>
<td>0.048</td>
<td>0.276</td>
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<tr>
<td>Total for Rosenergoatom NPPs</td>
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<td>27.00</td>
<td>180.68</td>
<td>27.00</td>
<td>180.68</td>
<td>27.00</td>
<td>180.68</td>
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</table>

1. Including installed capacity of the power unit No. 1 Novovoronezh NPP-2 (put into commercial operation 27.02.2017).

APPENDIX 14. MAIN PERSONNEL CHARACTERISTICS

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<tr>
<th>Indicators</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<tbody>
<tr>
<td>Total headcount by gender:</td>
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<td></td>
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</tr>
<tr>
<td>Men</td>
<td>815</td>
<td>836</td>
<td>813</td>
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<tr>
<td>Women</td>
<td>344</td>
<td>340</td>
<td>340</td>
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<tr>
<td>%</td>
<td>10.67</td>
<td>10.80</td>
<td>10.47</td>
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APPENDIX 10001
### Number of Fired Indicators

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<th>Year</th>
<th>Men</th>
<th>Women</th>
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<td>2015</td>
<td>47</td>
<td>164</td>
</tr>
<tr>
<td>2016</td>
<td>44</td>
<td>107</td>
</tr>
<tr>
<td>2017</td>
<td>44</td>
<td>107</td>
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</table>

#### Employee Turnover by Gender

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<thead>
<tr>
<th>Year</th>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td>2015</td>
<td>10.21</td>
<td>5.67</td>
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<tr>
<td>2016</td>
<td>13.79</td>
<td>10.13</td>
</tr>
<tr>
<td>2017</td>
<td>10.78</td>
<td>2.94</td>
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### Discussion

Automated radiation background control (ARBCC) – an automated system that measures strength of exposure to gamma rays within residential communities.

Automated radiation control system (ARCS) – an automated system including information and instrumentation systems, and equipment that enable its functioning. This system collects and processes information about controlled parameters that characterize the radiological status in NPP controlled areas, at industrial sites, in the buffer area and radiation control area, in all NPP operating modes, including design basis accidents and beyond design basis accidents, as well as the NPP condition during decommissioning of its power units.

Availability factor (AF) – refers to the capability of rated electrical load bearing of the power unit, expressed as the ratio of the sum of power generated by the unit, and power that wasn't generated by reasons unrelated to the power unit, to the power generated during this period of time under rated (installed) capacity. The standard value for a NPP is AF = 80%.

Beyond design basis accident – an accident caused by the initiating events that are not considered as such for the design basis accidents, or when a single failure of a design basis accident is accompanied by additional safety system failures, wrong decisions made by personnel.

Capacity factor – ratio of a power unit (power plant) output for a specific time interval to the power unit output at the nominal (installed) capacity for this time interval.

Closed nuclear fuel cycle – a nuclear fuel cycle (NFC) where spent nuclear fuel unloaded from the reactor is recycled to recover uranium and plutonium to be reused in nuclear fuel.

Commissioning – a process when the systems and equipment of the power unit or the entire NPP are launched, and their project compliance is checked. The process includes pre-commissioning, physical and power start-up, pilot operation, and finally commissioning of the NPP.

Core zone – part of the reactor that houses nuclear fuel, the moderator, beta absorber, heat medium, reactivity impact devices, and structural elements used to enable a controlled nuclear fission chain reaction and transmit the energy to the heat medium.

Emergency drill set – a set of exercise activities Rosenergoatom holds to train its NPP management, forces, and facilities to respond to an emergency.

Energy efficiency – efficient (rational) use of energy resources, to achieve economically justified efficiency at the existing level of engineering and technology, given compliance with environmental protection regulations.

Fast reactor (fast breeder reactor) – a nuclear reactor in which the fission chain reaction is sustained by fast neutrons (with an energy of >105 eV).

Floating nuclear power plant (FNPP) – a mobile nuclear power plant with small output capacity to be used in remote regions of Russia, and abroad, for the desalination of seawater, inter alia. The plant is a non-propelled craft with a nuclear power unit, transported to the region of operation via waterways.

Fuel element – the key structural component in a nuclear reactor’s core zone in which nuclear fuel is encapsulated.

INES – International Nuclear Event Scale, adopted to facilitate communication and understanding between nuclear industry experts, mass media, and the public, as regards the magnitude of events (incidents) at nuclear units in terms of safety. The Scale places all events into one of its seven levels: higher-level events (4-7) are known as ‘emergency’, lower-level events (1-3) are ‘incidents’. Events that are negligible in terms of safety are placed at Level 0 beyond the Scale, and are known as...
‘deviations’. Events irrelevant to safety are placed beyond the Scale, and are known to be ‘off-scale’.

**Intellectual capital** – organizational intangible assets, including development of potential of already hired personnel and prospective employees (university graduates).

**NPP life cycle** – all stages of evolution that a nuclear plant passes through during its existence; this includes design, construction, commissioning, operation, and decommissioning.

**NPP safety** – a nuclear plant’s ability, during normal and abnormal operation, including emergencies, to keep the radiation impact on its personnel, citizens, and the environment within specific required limits.

**Nuclear Energy Agency (NEA)** – dedicated agency under the Organization for Economic Cooperation and Development (OECD), an intergovernmental organization of developed nations, having its headquarters in Paris, France. To date 30 countries are part of OECD. NEA’s objective is to promote research and technological development and harmonization of national regulatory documents of member countries for safe, cost-effective, and ecologically clean use of nuclear power for peaceful purposes.

**Nuclear power industry** – section of the power industry that engages nuclear energy to produce heat and electricity.

**Nuclear power plant (NPP)** – nuclear equipment used to generate energy in preset operational modes and conditions, installed within project-defined boundaries that uses for that purpose one or more nuclear reactors and a set of related systems, devices, equipment, and buildings with personnel.

**Nuclear reactor protection shell** – a device in a nuclear reactor designed to hold radioactive nuclides within the volume of the shell, in the event of emergency decompression of the reactor equipment.

**Nuclear reactor shell** – a tight reservoir designed to hold the core zone of the nuclear reactor, neutron reflector, monitoring and experimental hardware, and to organize the cooling of the reactor using a heat medium flow.

**Radiation control** – collecting information about the radiation situation at NPPs, in the environment, and people exposure.

**Radiation dose** – in radiation safety, a measure of impact by ionizing radiation on a biological object, typically a human. Distinction is made among exposure, absorbed, and equivalent doses.

**Radiation safety** – condition when the existing and future human generations are protected against health-damaging impacts of ionizing radiation.

**Radioactive emission** – a substance (or mix) as a gas and/or aerosol, released into the environment (air) from emitting sources.

**RBMK (high-power channel reactor)** – channel-type, water-cooled graphite-moderated power reactor with the power capacity of 1 GW and above, where water boils in duct channels, and saturated steam is supplied from separators into the turbines.

**Reactor unit** – a set of NPP systems and components designed to convert nuclear power to heat, including a reactor and directly related systems that support its normal operation, emergency cooling, emergency protections, and safety assurance, and provide compliance with mandatory auxiliary and support functions from other systems of the power plant. The limits for the reactor unit are stated specifically for each NPP in its project pack.

**Rosenergoatom’s Crisis Center** – a key component within the structure of emergency support to NPPs, it monitors main parameters of production, radiation, environment, and fire safety.

**Safety culture** – culture where all individuals are trained, skilled, and psychologically prepared, ensuring that NPP safety becomes a priority and inherent need that results in understanding of own responsibility, and self-control during safety-related activities.

**Safety protections** – systems (components) designed to prevent or mitigate damage to nuclear fuel, fuel element jackets, equipment, and pipelines that contain radioactive substances.

**Situation Crisis Center** – a center that ensures technical, technological, information exchange, and analytic support to activities of the HQ of
Rosatom State Corporation, and involvement in information support to ongoing management of the industry both under routine conditions and in emergencies.

Spent nuclear fuel — nuclear fuel contaminated in the reactor’s core zone and withdrawn from it completely.

VVER-TOI — a typical, optimized and IT-based project for a two-unit NPP with VVER reactor, implemented in a modern IT medium in compliance with the requirements for nuclear and radiation safety.

WANO — World Association of Nuclear Plant Operators, whose mission is to maximize the safety and reliability of nuclear plant operations worldwide through exchange of information and encouraging contacts among its members, comparing their working results and promoting best practices.

Water-cooled water-moderated power reactor (VVER) — a shell-protected power reactor using water under pressure as heat medium, moderator, and neutron reflector.

APPENDIX 16. ABBREVIATIONS

ACPS – automatic control and protection system
APCS – automated process control system
CF – capacity factor
CNFC – closed nuclear fuel cycle
EDS – Emergency drill set
EF – efficiency factor
ESL – extended Service Life
FAs – reactor fuel assemblies
FAS – Federal Anti-Monopoly Service
FNPP – floating nuclear power plant
FPU – floating power unit
HIPC – high and intermediate pressure cylinder
HME – heating and mechanical equipment
HPC – high pressure cylinder
HPF – hazardous production facilities
IAEA – International Atomic Energy Agency
ILM – inventory and logistics management
IP – intellectual property
KMS – knowledge management system
KPI – key performance indicators
LTIFR – lost time injury frequency rate
NPP – nuclear power plant
NRPC – non-return protective containers
OSART – IAEA Operational Safety Review Team
RAW – radioactive waste
RBMK – high-power channel reactor
R&D – research and development
RPS – Rosatom Production System
SDGs – Sustainable Development Goals
SLE – service life extension
SLExp – service life expiry
SNF – spent nuclear fuel
STC – sci-tech council
TSC – technical service center
UES – unified energy system
UES – unified energy system (Russia)
UIEDMS – unified industry-level electronic document management system
VVER – water-cooled water-moderated power reactor
WANO – World Association of Nuclear Operators
WECM – wholesale electricity and capacity market
DEAR READERS,

We have been pleased to offer for your consideration the 2017 Annual Report of Rosenergoatom. It is important for us to ensure that the dialogue with all of our stakeholders is as transparent and as honest as possible.

Your comments and suggestions will help us to improve the quality of future reports and make them more informative and relevant.

Please send the completed form to: Rosenergoatom, ul. Ferganskaya, d. 25, Moscow 109507, or by email to: info@rosenergoatom.ru.

Contact person for Report content – Alexander Berenzon, Senior Specialist, Department of Information and Public Relations, tel. +7 (495) 647-46-36, email: berenzon-al@rosenergoatom.ru.

To which group of stakeholders do you belong?
- Stockholder / investor
- Employee of Rosenergoatom
- Representative of government structures/ public organizations
- Media representative
- Member of the expert community
- Other (please specify)

Did this Report answer your questions?
- Yes, all of them
- Yes, partly
- No

What other information would you like to see in the next Rosenergoatom Annual Report?

Please assess this report using the following criteria:

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<th>Poor</th>
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THANK YOU FOR TAKING PART!