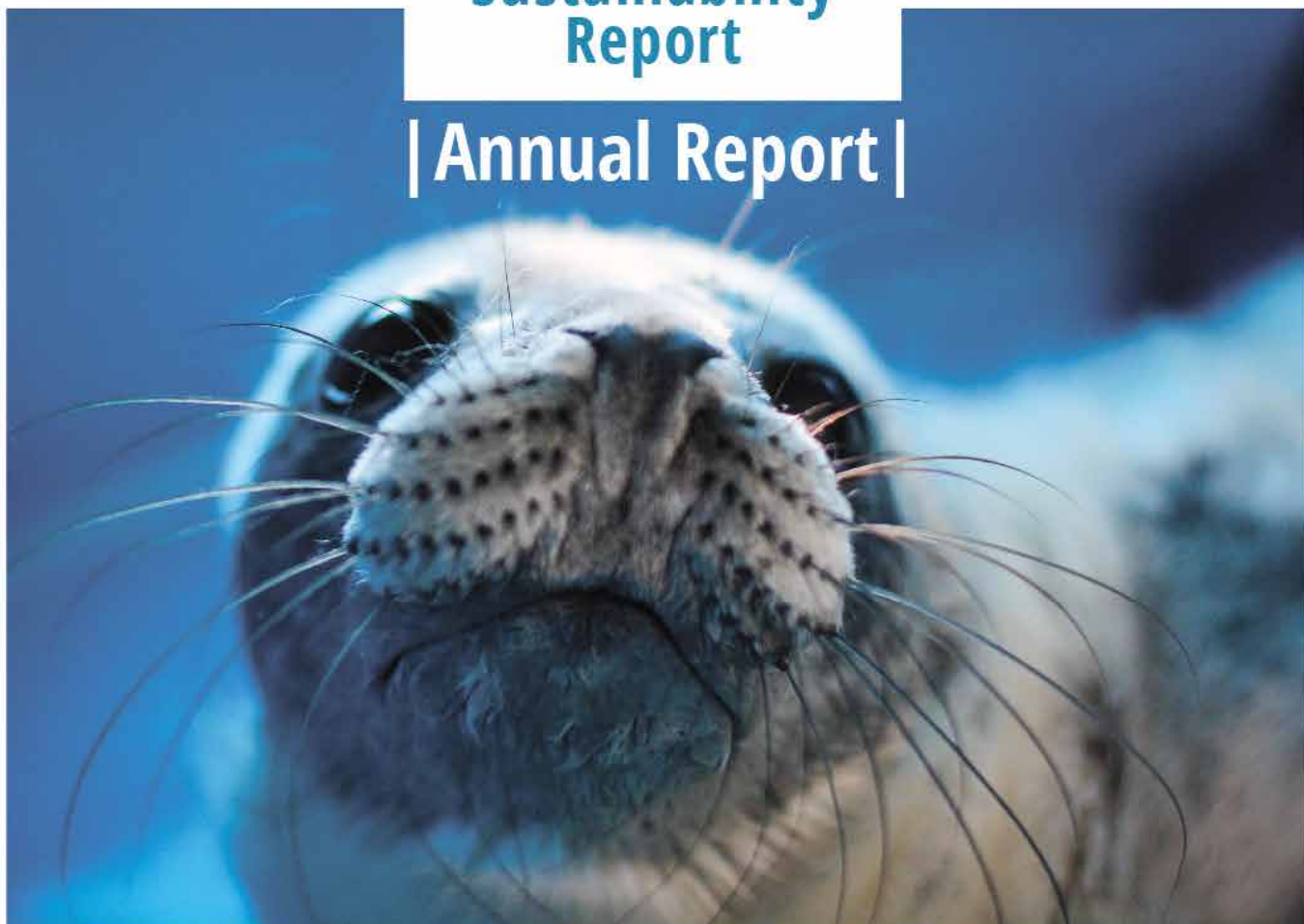




Sustainability Report

| Annual Report |



SUE "Vodokanal of St. Petersburg"

DIRECTOR GENERAL'S ADDRESS	4
CALENDAR OF EVENTS	6
ABOUT THE COMPANY.....	10
Vodokanal history	12
Mission and values	16
Corporate management system	18
Vodokanal today	28
Risk management	40
Participation in external initiatives	48
Interaction with stakeholders	74
RESULTS OF ACTIVITIES IN 2014.....	102
Water supply	104
Wastewater disposal.....	118
Specialized vehicles and equipment	134
Customer service	140
City fountains	152
Public toilets	156
Permanent snow-melting stations	160
INNOVATIONS	164
Implementation of new water and wastewater technologies	166
Development of hydraulic simulation	174
Development of the geoinformation system	176
Energy-saving and energy efficiency projects	182
Patents	183
Development of information infrastructure.....	184
SOCIAL RESPONSIBILITY	186
Awareness-building	188
Environment protection	202
Labour safety	208
Personnel.....	212
Social policy	220
TARIFF POLICY	232
FINANCIAL STATEMENTS	240
Main financial indicators	242
Balance sheet	244
Income statement	248
CONTACT INFORMATION	250



Preservation of the Baltic Sea is an integral part of Vodokanal's mission. I refer not only to the implementation of new production-related projects aimed to block the ingress of pollutants into the Baltic and to improve the quality of wastewater treatment. Traditionally, Vodokanal focuses its attention on environmental awareness-raising and development of responsible and respectful attitude to water in our society.

Dear All,

THE PAST YEAR 2014 WAS
ANNOUNCED THE GULF OF FINLAND
YEAR IN THREE COUNTRIES:
RUSSIA, FINLAND AND ESTONIA.
PETERSBURG IS THE BIGGEST CITY
AT THE BALTIC SEA, AND OUR CITY
BEARS A SPECIAL RESPONSIBILITY
FOR THE CONDITION OF THE BALTIC
AND THE GULF OF FINLAND

In 2014, the first two-day festival "Gulf of Finland – Area of Cooperation" was held in Petersburg with Vodokanal as an active participant. At the festival, a joint meeting of the public councils from Russia, Finland and Estonia, was conducted, where schoolchildren from the three states presented the Youth Declaration on the Gulf of Finland Protection. The Festival programme also included exhibitions, concerts and other events open to all visitors.

Throughout the Gulf of Finland Year, Vodokanal continued its work aimed to stop the discharge of untreated wastewater. Thus, in December 2014, the discharge of untreated wastewater from Petrovskiy Stadium was eliminated, prior to that, 19 direct discharges at Petrogradskaya embankment were closed. In autumn 2014, the construction of sewage collector at Admiralteyskaya embankment began: with the collector in place, six direct discharges in the city centre can be closed.

In 2014, Vodokanal

modernized its wastewater treatment plants: the works were carried out at the plants in Kronstadt, Kolpino, Pushkin and Pontonniy, and at the bigger plants – Northern and Central WWTPs.

Another important activity of Vodokanal St. Petersburg directly related to the improvement of the Baltic Sea is interaction with industrial wastewater producers. As Vodokanal has repeatedly mentioned, municipal treatment plants are not designed to remove specific industrial pollutants from wastewater (such pollutants must be removed before the discharge to the centralized sewer system). In 2014, Vodokanal came up with a new approach to the monitoring of composition of industrial wastewaters discharged into the municipal sewerage. On the one hand, the approach aims to identify the sources of specific pollutants discharged into the sewerage, and on the other hand, to deal with each industrial producer of such specific pollutants. It means, in particular, assistance to industrial companies in the development of action plans for reduction of pollutants, e.g. in selection of optimal local treatment technologies.

The "Help the Pinnipeds" project is one of Vodokanal activities for the protection of the Baltic Sea. The objective is to save the seal pups from a tough situation. Vodokanal joined this activity in 2013 by giving its support to the zoologists Vyacheslav Alexeyev and Elena Andriyevskaya, authors of the unique sea mammals' rehabilitation method. Today, specialists are particularly concerned about Baltic ringed seals: the population size is very small now – not more than two hundred animals remain in the Russian part of the Gulf.

In September 2014, the unparalleled-in-Russia Marine Mammals Research and Conservation Centre was re-opened after reconstruction at Vodokanal's treatment plant in Repino.

In the same autumn 2014, the Baltic Ringed Seal Friends Fund was officially registered. Today, everyone interested can join the rescuers of Baltic ringed seals and other marine mammals by transferring a voluntary donation to the Fund account (for details see the website of the Baltic Ringed Seal Friends: www.balticseal.org).

One of the most remarkable events in 2014 was the completion of a new water intake facility and a new first-lift pumping station at Main Water Treatment Plant (producing 500,000 m³/day of water). The reliability of water supply greatly depends on proper and fail-safe operation of the first-lift pumping station, and today Main WTP supplies approximately 400,000 m³/day of drinking water to Central, Vasileostrovskiy and Petrogradskiy city districts and partly to Admiralteyskiy, Primorskiy, Kalininskiy, Krasnogvardeyskiy and Vyborgskiy districts.

Incidentally, unique home-manufactured headwall filters were used for the construction of the new water intake.

Construction of the first-lift pumping station is the initial phase of a bigger project: all-around reconstruction of Main WTP. A new, 500,000 m³/day water treatment facility will be built there in the next few years. In future, products

of national (including the St. Petersburg) manufacturers will be used for the Main WTP project in the first place.

In 2014, Vodokanal continued to develop its water supply management system for the southern districts of the city ("the Southern Zone"). The area is about 195 square kilometers, its population is roughly 1.3 Mio. people. The Southern Zone water supply management system will be put into a full-scale operation in 2015. With the system in place, we will be able to cut down our energy costs, improve the reliability of water distribution networks and reduce water losses.

In 2014, rehabilitation of water networks and sewers using cutting-edge technical solutions was in full swing.

IT SHOULD BE NOTED THAT,
IN 2014, VODOKANAL
PREPARED A NEW INVESTMENT
PROGRAMME TO BE IMPLEMENTED
IN 2015 AND NEXT YEARS

Felix V. Karmazinov,
SUE "Vodokanal of St. Petersburg"
Director General

Calendar of Events 2014

January

The Gulf of Finland Year was officially opened in Helsinki on 21 January. The year 2014 was declared “the Gulf of Finland Year” by the decision of three countries: Russia, Finland and Estonia. The initiative was suggested both by official persons and by the academic community.

The curators of the Gulf of Finland Year were: the President of the Russian Federation Vladimir Putin – on the Russian side, the President of the Republic of Finland Sauli Niinistö – on the Finnish side and the President of the Republic of Estonia Toomas Ilves – on the Estonian side.

The Governor of St. Petersburg Georgiy Poltavchenko paid a visit to the Da-Voda Portal (da-voda.com) created and functioning with the support of Vodokanal St. Petersburg. Georgiy Poltavchenko summarized the results of the previous Environment Protection Year and told about the plans for 2014.

The first business game “Water and Cities” was organized under the Water+ Project at the Youth Environmental Centre. Several teams, including the students of the Technical College of Management and Commerce, played the game.

February

The Governor of St. Petersburg Georgiy Poltavchenko bestowed the desktop medal “In honour of 70th anniversary of the lifting of the Nazi blockade in Leningrad” on Vodokanal. The company veterans, Vasily I. Bogachenkov and Evdokiya Z. Glyadchenko,

who had worked at Vodokanal during the siege, participated in the awarding ceremony.

The Workers Palace hosted the official awarding ceremony for the prize-winners of the St. Petersburg Workers’ Spartakiad 2013. Vodokanal team was a winner in the team event. Moreover, Vodokanalers gained the lead in the ski race, tourist jamboree, darts and women’s volleyball; and took second and third place in biathlon, cross-country race, gorodki, five-a-side, soccer and rifle and pistol shooting.

Vodokanal participated in the Fifth International Forum “Ecology” in St. Petersburg. The Forum was Russia’s first official event in the framework of the international Gulf of Finland Year 2014.

March

Vodokanal hosted the plenary session dedicated to the implementation of the St. Petersburg Initiative Project. Among the participants of the session were the Director of the International Cooperation Department at the Russian Ministry of Natural Resources and Environment N.R. Inamov, the Chairman of the BSAG Fund Board I. Herlin, the Director General of SUE “Vodokanal of St. Petersburg” F.V. Karmazinov, and representatives of public authorities and business community.

The first two patients – Baltic grey seal pups, were admitted to the Pinnipeds Rehabilitation Station located at Vodokanal’s treatment plant in the town of Repino. Since 2013, Vodokanal has supported the efforts of zoologists Vyacheslav Alexeyev and Elena Andriyevskaya to save rare animal species of the Baltic Sea Region: ringed seals and grey seals.

Vodokanal's Youth Environmental Centre hosted the round table "Environmental Education for the Gulf of Finland Year". The event was organized in the framework of the Baltic Sea Days International Environmental Forum. Representatives of the three countries united by the Gulf of Finland Year participated in the round table.

The winners of the Crystal Drop Competition for the title of the best customer of SUE "Vodokanal of St. Petersburg" in the nomination "Best Customer among Providers of Municipal Services" were awarded at the official ceremony at Lenexpo Exhibition Complex in the framework of the International Professional Exhibition and Conference "Russian Public Utilities".

On 22 March, the main character of Da-Voda website (da-voda.com), the Neva Crayfish, celebrated its birthday which coincides with the World Water Day and the Baltic Sea Day.

A new page dedicated to the Help the Pinnipeds Project was added to the website of SUE "Vodokanal of St. Petersburg".

April

The working season of permanent snow-melting stations was over. All in all, nearly 111,000 m³ of snow were processed at 10 stations in the 2013–2014 seasons.

Vodokanal St. Petersburg announced the winners of the third annual Crystal Drop Competition for the title "Vodokanal's Best Customer". The results were voiced at an official ceremony in the Universe of Water museum complex.

Vodokanal opened the fountain season. Traditionally, the Globe fountain in 56, Nevskiy, and the fountain in Manezhnaya square (in Novomanezhniy Garden) were the first to open. In total, 43 fountains and fountain complexes were in operation during the season.

The Russian-German project "ECOvision" was launched at the Youth Environmental Centre. Under the project, young people from St. Petersburg and Hamburg discussed urgent environmental problems and produced videofilms to be presented at ECOvideniye Festival in December.

May

The first "discharge" took place at the Pinnipedian Rehabilitation Centre. A pup of Baltic grey seal (female seal, C-1 by name) was released into the Gulf of Finland in Kurgalskiy reserve.

The Environmental Installation Festival was held in the exhibition hall of the Universe of Water museum complex. The Festival was the last event under the Russian-Finnish project "Awareness-raising of the young as an activity of the International Advanced Water Technologies Centre". It was a joint project of Vodokanal's Youth Environmental Centre and Lahti Region Business Development Centre (LADEC).

A night programme, the Gulf of Finland Night, arranged to coincide with the Gulf of Finland Year was held at the Water Museum in 56, Shpalernaya str. The programme was implemented in the framework of the international Museums at Night event on 17–18 May. This time, nearly 7,000 people visited the Universe of Water museum complex.

SUE "Vodokanal of St. Petersburg" got the international management award "Energy of Efficiency". The award aims to encourage the managers who implement, at the national level, international management standards, norms and requirements for business and social activities.

Vodokanal St. Petersburg provided support for a traditional in-line skater race organized in the framework of XII Festival "Honorable Citizens of St. Petersburg". The race was devoted to the Gulf of Finland Year, its emblem being the Baltic ringed seal. It was the most mass-scale race ever: the number of participants was over 6,000.

June

Vodokanal St. Petersburg participated in 11th International Water Forum ECWATECH-2014 "Water: Environment and Technology" in Moscow.

Vodokanal St. Petersburg won the First National Water Sector Award "Russia's Water" in the nomination "Best awareness-raising project aimed to develop respectful attitude to water in the society". Vodokanal applied for the award by presenting its project "Fostering careful attitude to water at the household level".

Vodokanal's Youth Environmental Centre became a winner in the nomination "Environmental Education and Awareness-Building" under the international project "Environmental Culture. Peace and Harmony". The project organizers were: the Non-Governmental Environmental Fund named after V.I. Vernadskiy and the International Environmental Public Organization GREENLIGHT. The project "Water + I = Friends" was declared the best one in the nomination "Environmental Education and Awareness-Building".

Vodokanal confirmed the compliance of its Energy Management System to the international standard ISO 50001:2011. The audit was made by the Russian Register

Certification Association in the presence of auditors from the American Accreditation Council.

Vodokanal began to use a new mobile diagnostic system for the examination of tunnel collectors. The system provides timely and reliable data about the condition of onshore and offshore parts of deep tunnel collectors.

Vodokanal St. Petersburg started two fountains in the eastern and western raypaths of the 300th Anniversary of St. Petersburg Park.

A mass release of 10 animals, the patients of Vodokanal's Pinnipedian Rehabilitation Centre, took place. Ten Baltic grey seals were released to the wild after successful treatment.

July

All summer sessions at the children recreation camp Zvyozdnyy (town of Luga in the Leningrad Region) were dedicated to the Gulf of Finland Year. The Acting Governor of St. Petersburg Georgiy Poltavchenko visited Zvyozdnyy camp to look at its activities.

A new section "Scheduled Works" was added to Vodokanal's website. Any information on the scheduled works performed by Vodokanal on its water and sewer networks can be found there, such as addresses of work sites, completion dates, etc. The capability of retrieval by street or district name is provided for the user convenience. Moreover, a special service, interactive map of scheduled works, is created.

Vodokanal is implementing a computerized information system project to monitor atmospheric precipitation. The system will enable Vodokanal to perform online control of sewerage fill rate during rainfalls and to make exact calculations of runoff volumes for relevant city areas. The project scope covers installation of 34 rain gauges and weather stations to measure atmospheric pressure, wind velocity and direction, and air temperature and humidity in an automatic mode. The instruments will be equally distributed throughout the area of St. Petersburg and its nearest suburbs.

In late July, the last six patients of Vodokanal's Pinnipedian Rehabilitation Centre went to freedom. The release of five Baltic ringed seals and one grey seal marked the official closure of the season 2014 during which the specialists cured and released to the wild their 29 wards including five Baltic ringed seals.

August

Vodokanal began to use a new technology to repair sewers without interrupting their operation and to strengthen their structures. In this technology, a plastic strip is spirally wound inside a sewer. Then a special mortar is pumped into the space between the strip and the tunnel wall.

A new 500,000 m³/day first-lift pumping station was put into operation at Main Water Treatment Plant. The official ceremony was attended by the Acting Governor of St. Petersburg G.S. Poltavchenko. Construction of a new water intake facility and the first-lift pumping station at Main WTP was the first phase of the Main WTP Reconstruction Project.

September

The official opening of Marine Mammals Research and Conservation Centre was held at Vodokanal's treatment plant in Repino. The event was attended by the Acting Governor of St. Petersburg G.S. Poltavchenko. Registration of the Baltic Ringed Seal Friends Fund was announced.

Vodokanal participated in the citywide festival "Gulf of Finland – Area of Cooperation" dedicated to the Gulf of Finland Year. An official meeting of the public councils from Russia, Finland and Estonia devoted to the trilateral cooperation project "Gulf of Finland Year 2014" was conducted in Tavricheskiy Palace. At the meeting, the participants watched the video-diary of the Gulf of Finland Year and the Water Lesson given at Vodokanal's Youth

Environmental Centre (YEC); school students from Russia, Finland and Estonia presented the Youth Declaration on the Protection of the Gulf of Finland and delivered it to official representatives of the three countries.

October

During October, Vodokanal St. Petersburg put the fountains and fountain complexes out of operation. Traditionally, the fountain complexes in Moskovskaya and Lenina Squares were the first to be stopped.

The Da-Voda website won the regional round of the First All-Russian ENES competition of projects implemented in the field of energy conservation and energy efficiency in the nomination "Best Internet-media in dissemination of energy-saving lifestyle and organization of energy-efficient production". Another YEC project, "Water +", was the finalist of the competition.

Vodokanal St. Petersburg took a second place in the city competition "Best Work Site" organized by the State Administrative and Technical Inspection (GATI). Vodokanal's site in Tarasova str.

between Sredneokhtinskiy ave. and Bolsheokhtinskiy ave., where scheduled reconstruction of water distribution networks had been performed, was highly appraised by the jury.

The management systems implemented at Vodokanal were inspected. The audit was made by two independent companies: the Russian Register Certification Association and the international company Sai Global Limited. The auditors concluded that the existing management systems fully complied with the ISO standards and thus confirmed the validity of the Certificates of Conformity issued to Vodokanal St. Petersburg.

November

On the eve of the World Toilet Day celebrated on 19 November, a special service, Toilet Map, appeared on Vodokanal's website. All public toilets managed by Vodokanal are marked on the interactive map and accompanied by notes specifying its type (modular or permanent), working hours, and whether it is open around-the-year or only in summer.

The collector construction began under Admiralteyskaya embankment. The collector is needed to divert six untreated wastewater discharges into the Neva equivalent to approximately 1000 m³/day in total.

The video works presented by Vodokanal's Youth Environmental Centre at the International Environmental Film Festival "Green Vision" reaped an impressive bunch of awards. Eleven videos shot by the participants of the Russian-German ECOvision Project (a traditional YEC project) were commended in different nominations at the festival.

December

The Baltic Seal Friends Fund established in 2014 on the initiative of the Governor of St. Petersburg Georgiy Poltavchenko opened its website: www.balticseal.org. With the website in place, all those who are concerned about the fate of seal pups in the region get a chance to learn more about the animals and give help to them.

Vodokanal closed nine direct discharges from Petrovskiy Stadium. Before, the untreated wastewater was discharged into the Neva, and now it is diverted to the collector and treated at Northern WWTP. Likewise, 19 direct discharges at Petrogradskaya embankment were closed (the wastewaters were also diverted to Northern WWTP).

At 47th Meeting of the HELCOM Heads of Delegations, sub-spot no. 18.1, "Collector Construction", was deleted from the list of hot spots (sources of pollution). With the Northern Tunnel Collector in place, 76 direct discharges into the Neva equivalent to 334,000 m³/day of untreated wastewater

could be closed. At present, the wastewater is diverted to Northern WWTP where it undergoes a full treatment cycle in compliance with the HELCOM recommendations. After the completion of the Northern Tunnel Collector Project in October 2013, the wastewater treatment volume in St. Petersburg reached 98.4%.

The official awarding of the All-Russian National Environmental Prize named after V.I. Vernadskiy was held in Moscow. Vodokanal's project "Marine Mammals Research and Conservation Centre" won in the nomination "Environmental Initiatives".

Vodokanal St. Petersburg ranked first (in the category "companies with the staff number exceeding 2,000") in the review competition 2014 among the St. Petersburg companies, institutions and organizations – supporters of mass physical culture and sports events. The awarding took place in the Workers Palace.

Vodokanal team won the final phase of the Weekend League Championship 2014 among the CFI (Club of the Funny and Inventive) teams of St. Petersburg companies and organizations. Vodokanal team was awarded the first prize in the CFI Championship in 2013, too.





About the Company

Vodokanal History

1858–1917

THE HISTORY OF THE CITY'S
CENTRALIZED WATER SUPPLY GOES
BACK TO 10 OCTOBER, 1858,
WHEN THE CHARTER
OF "ST. PETERSBURG WATER
PIPELINES JOINT-STOCK COMPANY"
WAS APPROVED BY THE RUSSIAN
EMPEROR ALEXANDER II.
AMONG THE FOUNDERS
OF THE JOINT-STOCK COMPANY
WERE ENGINEERS, SUCH
AS A.N. ERAKOV, P.I. PALIBIN,
A.A. PERETZ, E.I. OKEL,
AND PROMINENT BUSINESSMEN –
I.I. GLAZUNOV, M.I. YAKUNCHIKOV,
I.N. KUSHINNIKOV

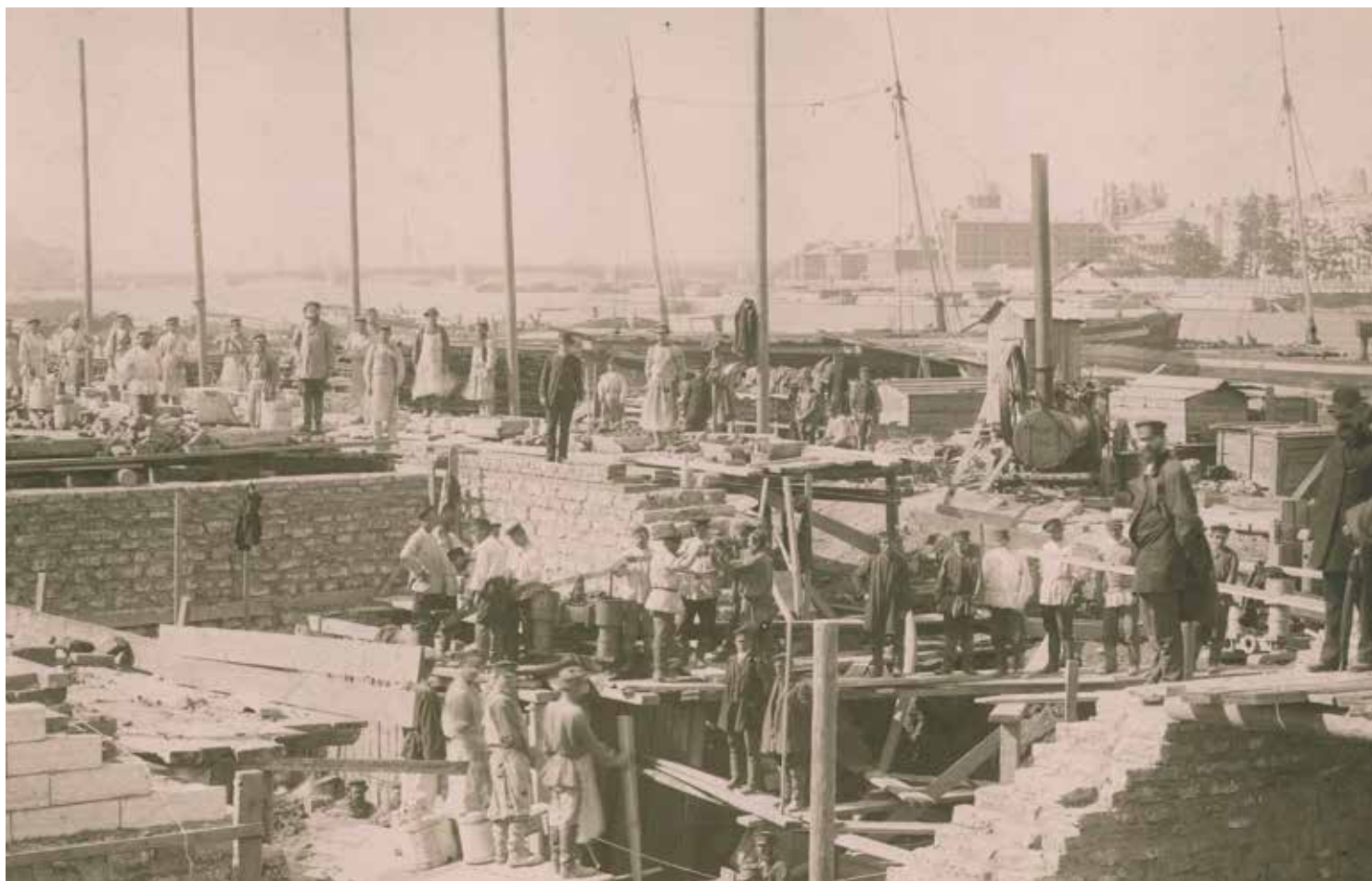
The JSC faced huge financial and technical problems at the initial stage. In early 1863, the construction of water networks was, practically, suspended. By then, the water tower in Shpalernaya str. (architects I.A. Merz and E. Shubersky) has been built and several kilometers of water distribution networks have been laid. The JSC's registered capital was spent, the shares sold badly, and even the government subsidy could not alter the situation. In March 1863, the 1 Guild merchant A.I. Kron from St. Petersburg joined the JSC, contributed the lacking sum (approximately, 900,000 Roubles) and took up completion of the long-drawn works.

Water supply to the first customers started by the end of 1863.

Some modifications were made to the initial design during the construction period. At first, it was decided to take water from a sort of a "ladle" – the artificial water body near Tavrichesky Palace connected with the Neva. However, the "ladle" proved to be unsuitable for this purpose, and the JSC had to arrange water intake from the Neva.

Before mid-1870es, the water network was only used by the citizens on the left-bank side. The new joint-stock company (Partnership) was established in 1873 (to be managed by English contractors) to supply water to Peterburgskaya (Petrogradskaya) and Vyborgskaya areas.

In 1890 the State Duma took a decision to buy out the assets owned by the St. Petersburg Water Pipelines Joint-Stock Company, and in 1892 – to buy out also the assets of the New Water



Networks Partnership. The City Executive Commission for water supply of St. Petersburg was established to manage the water networks and was subordinated to the city administration. The manager of city water networks was appointed on a submission from the chairman of the Executive Commission.

During the first decades of the centralized water supply operation in St. Petersburg all customers received water which passed only coarse mechanical treatment. In 1889 sand filters were put into operation at the Main Waterworks (the filters had been built by the St. Petersburg Water Pipelines Joint-Stock Company as strongly demanded by the city authorities).

In 1911 the filtration station with water ozonation was built in Peterburgskaya (Petrogradskaya) area. Chlorine disinfection of drinking water was implemented at the Main Waterworks (the first chlorination experiments were made in Kronstadt in 1909). The Executive Commission for sewerage construction and water supply rehabilitation in St. Petersburg established by the City Duma had worked since 1911 and took over most of the functions in relation to water supply development.

THE SOVIET PERIOD

World War I and the Civil War had a negative impact on the technical condition of the city's water supply system, including its plants, equipment and networks. In 1920s–early 1930s wood pipes were sometimes used for construction of water networks due to the lack of more suitable materials. It was only by 1935 that the pre-revolution level of water supply to the city network had been reached.

However, there were also some achievements at that time. First of all, construction of the Southern Waterworks (stage I was put into operation in 1933, a part of stage II – in 1940) and modernization of the Main Waterworks treatment facilities should be mentioned. In 1923–1924 construction of sewer networks was resumed. In 1925 the city authorities approved the major sewerage plans for Leningrad (separate system with four independent sewer basins). Vasilevsky Island was selected as experimental district for the construction of a new sewerage system. Construction of sewers in Vasilevsky Island (total length of street networks – 153.3 km) had lasted for 10 years. Vasileostrovskaya sewage pumping station was completed by 1930. Wastewater was discharged to the Neva Bay without any treatment.

In the 1930s more and more sewers were built in other city districts. The length of sewer networks in Leningrad reached 1130 km which exceeded twice the pre-revolutionary level. In 1940 a new sewerage scheme of Leningrad was adopted. It was also based on a separate sewerage system. The scheme envisaged mechanical treatment and precipitation followed by discharge to four channels of the Neva Bay. Stormwater ought to be discharged to all watercourses in the city. It was planned to use the tunneling method to build the main sewers.

A special page in Vodokanal's history is related to World War II and the blockade of Leningrad. The waterworks and facilities, clean water tanks, treatment plants, water networks and sewers were subject to intensive bombings and shelling. As many as 955 shells exploded within the area of the Southern WTP alone. The personnel of the most important facilities were put on a war footing. Destruction of networks caused the flooding of basements, streets and squares and sometimes even the whole city districts. Nevertheless, both the city water networks and the sewerage system were working without interruption except 25–26 January 1942 when the electricity supply was cut off.

Over the period between 1950 and 1970 the annual average water supply to the city has grown more than twice – from 912,800 m³ to 2,057,600 m³. The Southern WTP stage II was put into operation in 1948, Volkovskaya WTP – in 1964, and the Northern WTP stage I – in 1971. Wide-scale construction of water pumping stations was underway too. In 1952 the State Committee of the Council of Ministers of the USSR approved the project of sewerage construction in the central part of Leningrad where a combined sewerage system was proposed instead of separate sewerage. The first stage of sewerage in the city centre including the Main Pumping Station was put into operation in 1958.

In 1966 the General Scheme of Leningrad Sewerage was approved which included,

among other things, three big complexes of wastewater treatment facilities. The first one – Central WWTP – was put into operation in 1978 (stage I). Before that, all city wastewater was discharged to the water bodies almost without any treatment. The Central WWTP, stage II, was put into operation in 1984, and the Northern WWTP, stage I, – in 1987. The construction of the South-West WWTP started in 1986.

CONTEMPORARY HISTORY

In the 1990s, SUE "Vodokanal of St. Petersburg" developed and implemented a novel-for-Russia concept of strategic planning of the public utilities' financial operations and business. Creation of a management system based on the corporate development planning was a crucial step to implementation of this concept in the company.

It is the implementation of the strategic planning concept that ensured sustainable development of SUE "Vodokanal of St. Petersburg". In 1992 the company was able to become self-sufficient and raise the necessary investments for reconstruction and development. In 2004, the St. Petersburg Water and Wastewater Systems Reconstruction and Development Programme for 2004–2011 was worked out. The South-West WWTP was inaugurated on 22 September 2005 in the presence of the President of the Russian Federation V.V. Putin, the President of Finland Tarja Halonen and the Swedish Prime-Minister Göran Persson.

Alongside with the construction of new facilities using the best advanced technologies, wide-scale reconstruction of the existing WWTPs was implemented. By 2006, three "hot spots" in the Baltic Sea catchment basin have been eliminated. The reconstruction of the Central WWTP in 2007 made it possible to meet, and even surpass the HELCOM standards of nutrient concentrations. By commissioning two sludge incineration plants – at the Northern WWTP and South-West WWTP – in 2007, St. Petersburg became the first megalopolis to fully solve the problem of sewage sludge utilization.

In 2008, Vodokanal St. Petersburg celebrated its 150th anniversary. One of the biggest events of the jubilee year was the commissioning of the first section of Northern Tunnel Collector extension.

The year 2009 was marked by the 20th anniversary of cooperation with the Ministry of the Environment of Finland. "The Baltic. Common Sea. Common Concern" Conference was dedicated to this date.

In June 2009, the official ceremony of the last chlorine container removal from Northern Water Treatment Plant symbolized that Vodokanal stopped using liquid chlorine for water disinfection replacing it with hazard-free sodium hypochlorite.

In December 2009, the second stage of Northern Tunnel Collector Extension was completed which enabled to reach 91% of wastewater treatment.

In June 2010, one of the biggest plants – Southern WTP started pre-commissioning of its new water treatment block designed for 350,000 m³/day of potable water production (water supply to the city from this block began in January 2011).

In 2010, Vodokanal summarized the results of the pilot project aimed to create a water supply management system and started to implement the system in the southern districts of the city.

By the end of 2010, the next stage of Northern Tunnel Collector Extension has been completed, and the official ceremony of connecting 12 more direct discharges to the Collector was held in January 2011. As a result, the wastewater treatment level in the city reached 93%.

In 2011, Vodokanal could already treat 94% of all wastewater having re-channeled five direct discharges to Northern Tunnel Collector and closed down seven small WWTPs (the wastewater formerly collected by them was re-channeled to Northern WWTP). The ceremony dedicated to

this event was attended by the Governor of St. Petersburg G.S. Poltavchenko.

In 2011, St. Petersburg was finally crossed out from the list of Baltic Sea polluters. Since then the city has fully met the HELCOM recommendations on wastewater treatment quality: phosphorus concentrations in the total wastewater volume discharged in St. Petersburg do not exceed 0.5 mg/l. The official ceremony marking the completion of the Clean Baltic Sea Project was held at Northern WWTP in June in the presence of the President of Finland Tarja Halonen.

In 2011, Vodokanal expanded its biomonitoring system by implementing it at wastewater treatment plants: since the beginning of the year the composition of flue gases at the South-West incineration plant has been monitored by African snails, and since July the effluent quality at South-West treatment plant has been checked by Australian red-claw crayfish.

In 2011, Vodokanal St. Petersburg became one of the finalists for the prestigious award of the European Foundation for Quality Management (EFQM) – Excellence Award-2011.

Since 2011, the International Advanced Water Technologies Centre, a joint project of Vodokanal and Lahti Science and Business Park (Finland), has been working at the premises of SUE "Vodokanal of St. Petersburg".

Since 2012, Vodokanal St. Petersburg has started a new type of activity: construction and operation of snow-melting stations.

In 2012, the next-to-last stage of the Northern Tunnel Collector was completed (the wastewater streams was diverted to the collector and then to Northern WWTP for treatment) which resulted in the closure of five direct discharges and the treatment of as much as 97% of all wastewater.

In autumn 2012, the cooperation between St. Petersburg and the Leningrad Region got a new impetus:

the joint meeting of the city and region took a decision to establish the Steering Committee of St. Petersburg and the Leningrad Region in the sphere of social and economic development. In particular, the Committee would deals with the provision of water supply and sewerage services to the fast-growing developments at the border line between the city and the Leningrad Region.

The first result of the joint environmental actions was diversion of wastewater in the town of Sertolovo (in the Leningrad Region) to Northern WWTP (in St. Petersburg). Due to that, the discharge of pollutants into the Lake Razliv could be reduced by 58.8%.

In 2013, Vodokanal celebrated its 155th anniversary. Besides, this year was announced the Environmental Protection Year in Russia. The main event of the year took place on Vodokanal's birthday, 10 October 2013: the large-scale environmental project, construction of Northern Tunnel Collector, was completed in Petersburg. Ten untreated wastewater discharges were closed. Since then, 98.4% of wastewater has been treated.

In 2013, Vodokanal put three more snow-melting stations in operation. The total number of such stations increased to ten. Snow is melted by the heat of wastewater fed into the melting chambers.

In 2013, Vodokanal launched a new social project: in cooperation with the not-for-profit partnership "Marine Mammal Rehabilitation Centre of Leningrad Region" and 2PR public relations agency, it was saving rare animals of the Baltic Sea Region, ringed seals and grey seals.

These activities were followed up in 2014. During the season, the specialists cured and released 29 patients, among them – five very rare Baltic ringed seals. In September 2014, the Marine Mammals Research and Conservation Centre was opened, and the Baltic Seal Friends Fund was established.

It was one of the most exciting events in the Gulf of Finland Year announced in 2014 by decision of Russia, Finland and Estonia. During the year, a wide range of events dedicated to the Gulf of Finland challenges were organized in Petersburg both for specialists and for the general public. In particular, the festival "Gulf of Finland – Area of Cooperation" was held with Vodokanal as an active participant. At the festival, an official meeting of the Gulf of Finland Year public councils from the three countries was conducted.

Pre-commissioning of a new 500,000 m³/day first-lift pumping station began at Main WTP. Construction of the first-lift pumping station and new intake facilities was the initial phase of the Main WTP Reconstruction Project.

IN 2014, THE CONSTRUCTION OF COLLECTOR BEGAN AT ADMIRALTEYSKAYA EMBANKMENT. THE COLLECTOR WAS NEEDED TO CLOSE SIX UNTREATED WASTEWATER DISCHARGES, EQUIVALENT TO APPROX. 1000 M³/DAY, INTO THE NEVA. IN THE SAME 2014 YEAR, DIRECT DISCHARGES WERE CLOSED NEAR PETROVSKIY STADIUM AND AT PETROGRADSKAYA EMBANKMENT

Mission and Values

MISSION

PROVISION OF HIGH-QUALITY
WATER AND SEWERAGE SERVICES
ENSURING GOOD QUALITY OF LIFE
FOR CUSTOMERS, SUSTAINABLE
DEVELOPMENT OF THE CITY, CREATION
OF WATER CONSUMPTION CULTURE
AND CONSERVATION OF THE BALTIC
SEA WATER ENVIRONMENT.

VISION

WE SEE VODOKANAL AMONG THE
WORLD'S BEST PROVIDERS OF WATER
AND SEWERAGE SERVICES DUE TO
THE QUALITY OF ITS SERVICES AND
ENVIRONMENTAL AWARENESS.

VALUES:

- Responsibility to future generations – careful and efficient use of natural resources including water, energy, forests, etc.
- Responsibility to the customers – continuous studies of the customers' expectations and requirements, improvement of customer interaction procedures to raise the level of satisfaction with the water and sewerage services.
- Responsibility to the staff – continuous improvement of labour safety, decent salaries and wages, social security for the company staff and their families and for the retired employees.

● Innovative approach – incorporation of international best practices in the company management, the use of advanced technologies and creation of know-how in different fields of activities – that is the only way to reach success and to be a leading company.

● Openness to the public and responsibility to the society – transparency of the company activities, access to reliable information on the company work and history, close contacts with the mass media, educational institutions and public and environmental organizations – all that constitutes the basis of our information policy.







Corporate Management System

Corporate Management System Building Philosophy

THE CORPORATE MANAGEMENT OF SUE "VODOKANAL OF ST. PETERSBURG" IS BASED ON THE FOLLOWING PRINCIPLES:

ACCOUNTABILITY. The company's executive body shall be accountable to the owner (City of St. Petersburg), the state authorities and control bodies in compliance with the applicable law.

TRANSPARENCY. The company shall ensure timely disclosure of reliable information on any material facts in relation to its activities, including its financial standing, social and environmental performance and operating results, as well as provide free access to such information (annual reports, Internet site, management addresses in the mass media, Internet portal, panel discussions, conferences etc.) for all stakeholders.

RESPONSIBILITY. The company shall acknowledge the rights of all stakeholders as provided by the applicable law and shall seek collaboration with the stakeholders to reach the company goals and to maintain financial sustainability and social stability.

EFFICIENCY. The company will only reach its goal if each employee – from director general to ordinary officer – works efficiently.

Vodokanal's corporate governance system is continuously developing and improving due to the strategic initiatives of the company management and its sole owner – City of St. Petersburg; benchmarking studies of the best peers in Russia, Europe and other parts of the world; participation of managers in international and Russian conferences, seminars and meetings; regular self-assessment of activities (since 2006 – against the RF Quality Award Model, since 2009 – against the EFQM Model); re-engineering of business processes; and internal audits.

The corporate governance system relies on the principles and approaches set by the international standards: ISO 9001 Quality Management System, ISO 14001 Environmental Management System, OHSAS 18001 Occupational Health and Safety System, ISO 27001 Information Security System and ISO 50001 Energy Management System.

At present, the corporate management system is built on the process-based approach aimed to implement a functional-zonal management principle for water supply and wastewater disposal. In 2013, the following production departments were included in the corporate structure: area water supply management offices and area wastewater disposal systems, each of them serving several city districts.

The company's strategic planning horizons are harmonized with perspective plans of municipal and regional development, more specifically, "St. Petersburg Water and Wastewater Master-Plan till 2025 with an outlook to 2030" approved by the resolution of the St. Petersburg Government; Resolution of the St. Petersburg Government "On St. Petersburg State Programme "Urban Land Improvement and Environment Protection in St. Petersburg in 2015–2020""; Federal Target Programme "Clean Water" for 2011–2017; "Water and Wastewater Investment Programme of SUE "Vodokanal of St. Petersburg" for 2015–2017" approved by the Order of the St. Petersburg Tariff Committee and others.

The Company strategy includes the targets in 5 areas: finance and investments; consumers; city/region/community environment; main business processes; and the Company personnel and development. Medium-term strategic and tactical goals for each of the strategic areas are set to achieve the targets. A special focus is on energy saving and improvement of energy efficiency.

The Company's strategic goals are achieved by training and motivating the personnel. In this way, key performance indicators are improved continuously and all personnel is involved in the process of continuous improvement of the Company management functions.

The key indicators framework is improving steadily to ensure better understanding of internal processes and to take the necessary managerial decisions at the Company. The KPI (key performance indicators) framework is a set of interrelated measurable indicators of actual results. The KPI framework helps achieve the efficiency of both business processes and each staff member at his work place, and, eventually, raise the efficiency of the Company. The indicators are cascaded to the structural unit level.

The information systems, such as IS "Water Balance", Favordata, IS "Baltika" and IS "Hotline", to support the keeping of daily statistics are implemented at the Company as a tool of continuous online performance monitoring.

Systematic satisfaction surveys of all stakeholders including the assessment of satisfaction among the main customer categories, satisfaction and awareness of the public, and staff satisfaction including assessments of commitment and loyalty, are an integral part of Vodokanal's continuous improvement. Together, the studies give an unbiased assessment of the company performance in respect of the key stakeholders.

The personnel are viewed by the leaders as a strategic potential for sustainable development of the Company. The ethical standards of the Company activities are set out in the Corporate Ethics Code that establishes the standards of ethical behavior, and the general principles determining internal relations of the Company staff and relations with customers, partners, public authorities, local self-government bodies and the society in general.

The corporate culture development approaches and the principles of corporate social responsibility are used by managers in their day-to-day activities at all management levels for the purpose of taking managerial decisions and providing social support for the Company employees.



Overview of Management Approaches

THE FOLLOWING MANAGEMENT APPROACHES ARE USED BY VODOKANAL TO IMPROVE ITS OPERATIONS:

- strategic planning;
- process-based approach to the Company Management;
- self-assessment according to the EFQM (European Foundation for Quality Management) Excellence Model;
- satisfaction surveys of all stakeholders including the internal process users;
- management systems are based on the standards ISO 9001, 14001, 50001, 27001 and OHSAS 18001; innovative management improvement tools are implemented;
- industry-specific benchmarking (comparison with the best European peers) and functional studies;
- sociological studies of public awareness and expectations;
- annual public reports.

Vodokanal management is built on the process-based approach. The processes required to implement Vodokanal's mission, vision and strategy are identified, the sequence and interaction of the processes are established. The processes together with their interrelations and interactions constitute the Company's process framework.

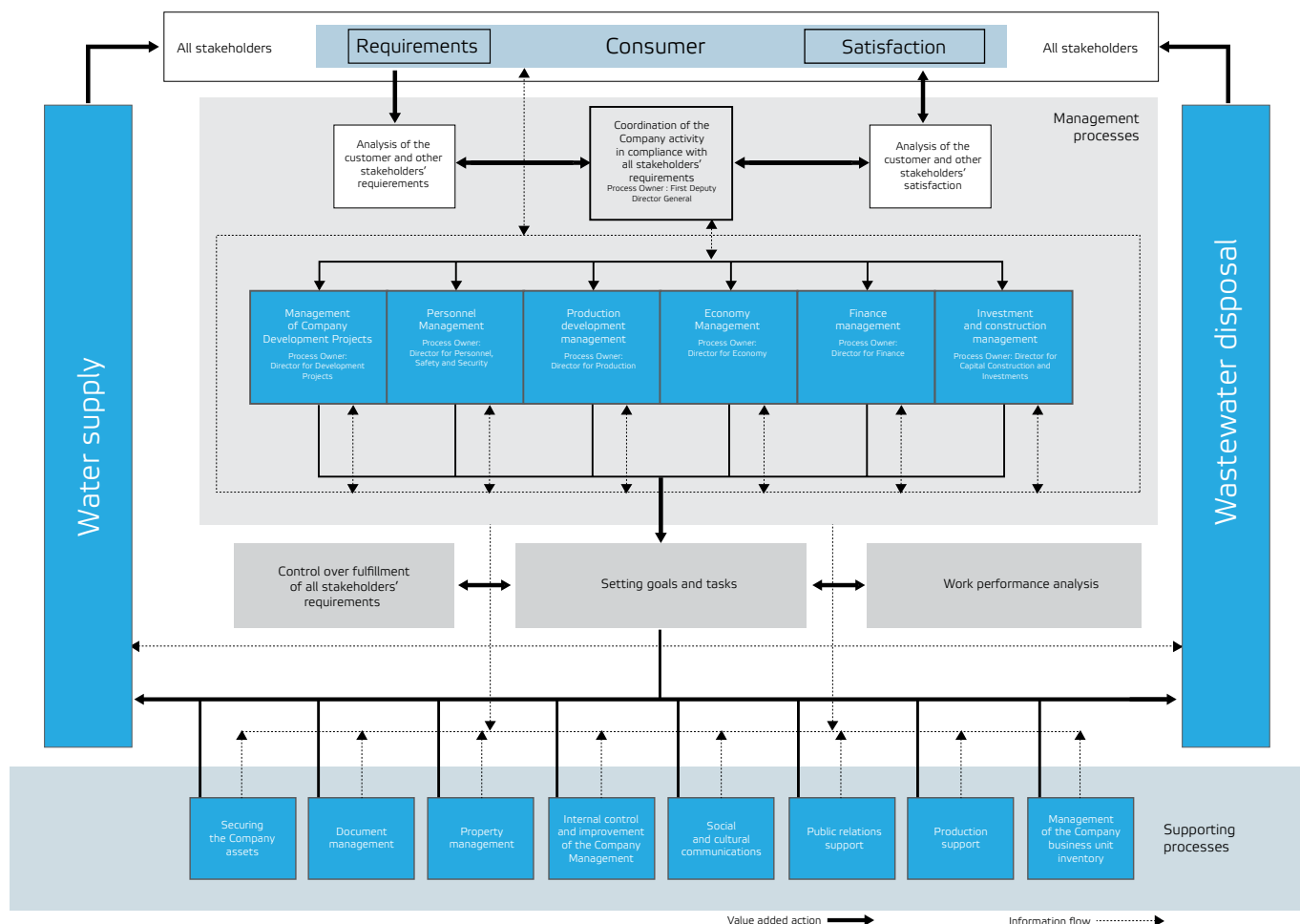
Annually, the Company management is evaluated by the senior executives, and annual operation analysis reports are issued. The internal audit process has been developed and implemented to assess the conformity of the Company management systems to ISO 9001, ISO 14001, ISO 50001, OHSAS 18001 and ISO 27001.

The audits provide reliable information about Vodokanal processes to the senior executives. Such information plays an important role in the improvement of management performance and efficiency at the Company.

Vodokanal passes successfully the management systems compliance audits made by the national Certification Association "Russian Register" and the international company SAI Global.

Since 2006, Vodokanal has self-assessed its activities against the Russian Federation Government Quality Award Model, and since 2009 – against the EFQM Model-based methodology developed in-house, and participated in regional and European competitions. Above all, regular self-assessments and participation in competitions promote the involvement of many employees in the process of continuous development and in the search for new paths of development and performance improvement.

In 2006, Vodokanal got the RF Government Quality Award. In 2009, the Company passed an independent expert assessment for compliance with the EFQM Recognized for Excellence level (5*); in 2010,

PROCESS INTERACTION PATTERN IN ST. PETERSBURG VODOKANAL
AS OF 9 OCTOBER 2014

it confirmed compliance with the Recognized for Excellence level (5*) at the CEEC Contest. As of the end of 2011, Vodokanal joined the ranks of finalists of the prestigious EFQM (European Foundation for Quality Management) Excellence Award-2011.

By using the operation self-assessment approach Vodokanal could integrate its management approaches and link them to strategic planning processes.

At present, Vodokanal intends to develop its own production system with a tentative name "4E: Efficiency, Environment, Economy, Evolution". 4E will be an integrating concept defining the place of each method, approach or standard. The production system will ensure a streamlined interaction of all process

owners at the Company and will create a transparent reporting framework based on the key performance indicators of each employee.

The Company's intention is to further develop its strengths, come closer to the model of ideal organization and participate in international quality-related events. We see Vodokanal ranging with the world's best companies.

Using its own experience and the experience of its foreign and domestic peers, Vodokanal is developing the "Ideal Water Company" concept. It is now formulated in the company's Strategic Plan and addresses all spheres of activity: interaction with customers; development and management of water services and infrastructure; environment and society; financial sustainability and investments; staff development; and social support. The Ideal Water Company Concept is revised in form and substance against the results of self-assessment for the previous year and in consideration of external factors, such as new regulatory acts, the outlook for city development, and customer expectations.

By applying the management approaches, we can:

- ensure continuous improvement of service quality and customer satisfaction;
- meet the challenges and solve the problems faced by Vodokanal;
- augment the company's contribution in the sustainable future.

Key Performance Management Processes

In parallel with the process improvements, Vodokanal is upgrading its set of indicators for strategic and day-to-day monitoring of processes. The assessment tools are: internal and external audits of management systems, self-assessment based on the EFQM Excellence Model, and corporate management rating criteria. Targets for the next three years and the form "Quality Targets for the Current Year Split by Months" have been developed to support regular monitoring of Vodokanal's progress to the (water supply and wastewater disposal) quality goals. Process performance is monitored at different management levels using relevant indicators.

The key performance indicators of the Water Supply process are:

- compliance of potable water quality at the plant outlet or in the distribution networks with the applicable regulatory values of physical and chemical parameters (expressed as a percentage);
- reduced number of cases where the microbiological limit values are exceeded at the plant outlet or in the distribution networks;
- reduced number of recorded reasoned complaints about low water head;
- reduced number of breakdowns on water distribution networks per 10 km of pipelines per year;
- reduction of water consumption and distribution losses.

The improvement of maintenance function alongside with reconstruction works lead to higher reliability of network operation and lower breakdown rates.

The key performance indicators of the Wastewater Disposal process are:

- percentage of wastewater treated at wastewater treatment plants;
- reduced number of blockages per 10 km of sewers per year;
- permitted concentrations of total nitrogen in the treated effluent;
- permitted concentrations of total phosphorus in the treated effluent;
- percentage of dewatered sludge to be incinerated.

The process performance management process is based on Deming-Shewhart-Taylor cycle (PDCA):

1. Plan (P) – key process performance targets are planned for the next year before it begins, on the basis of the strategic indicators, required resources and result analysis of the previous year. The cause-and-effect relationships between the approaches applied and the results we want to achieve are determined at this phase.

2. Do (D) – the service is provided and monitored at all process levels (management processes, life cycle processes and supporting processes); daily operational indicators are checked. At this phase, management is limited to ensuring the achievement of tactical (monthly) targets.

3. Check (C) – the progress in achieving the key performance indicators is checked using the daily and weekly data.

4. Act (A) – the progress in achieving tactical targets and the reasons for deviation from targets are analyzed, and the necessary corrective actions are worked out at weekly working meetings. Such actions help adjust the existing approaches to achieve the targets.

Process performance measurements are the basis of the integrated operation monitoring system maintained and developed in a systematic way, and used to identify the key problems to be analyzed. Performance indicators are monitored using special scorecards at all management levels.

Potential areas of process management improvement are identified in the course of self-assessment based on the company management systems, internal audit results and performance evaluation reports for EMS, QMS, OHSAS, EnMS and ISMS. Moreover, the analysis of process performance is on the agenda of monthly Board meetings where they discuss the progress in achieving the targets.

The results of analysis are used to identify areas for improvements and to work out the necessary corrective measures and actions for the existing approaches in order to achieve the strategic targets.



Main Provisions on Corporate Culture

The development of corporate culture at the company is based on the unity of personnel in achieving the strategic targets, identification and support of social standards and values. For this purpose, regular companywide professional and cultural events are organized.

Vodokanal management realizes the priority of social responsibility to the personnel. This realization is based on the company's internal standards and supported through the implementation of different social support programmes including the improvement of remuneration mechanisms, medical care and voluntary medical insurance, subsidized catering, recreation opportunities for the employees and members of their families, organization of corporate events, and support of the company veterans and pensioners.

The company has defined and is following its policy in the field of information and knowledge. This policy is based on the principles of openness, completeness, regularity, timeliness, objectiveness, reliability, the raising of staff competence and improvement of corporate culture.

Values and ethical standards have been defined and are followed to develop the corporate culture.

The leaders demonstrate to the staff, by personal example, the standards of ethical behaviour towards every stakeholder, support the learning of values by employees during the adaptation period, and promote corporate unity at different levels by initiating, and participating in, joint events.

The key approaches to the development of corporate culture and the principles of corporate social responsibility are used in the day-to-day activities at all company management levels for the purpose of taking managerial decisions, organizing recreation and providing social support for Vodokanal employees.

Internal communications are effected in the company's integrated information space including, on the one hand, a set of IT resources and the corporate newspaper and, on the other hand, individual meetings between the company managers of any level with the Company employees.

Disclosure of Information about Vodokanal Activities

The company employees adhere to the corporate values (see the section "Mission and Values" above), and maintain and develop the corporate culture as required to achieve the highest level of performance.

The corporate values are obligatory for all Vodokanal staff and are proposed to all those who cooperate with Vodokanal.

The company's ethical principles are based on the corporate values, compliance with law, and respect for the rights of Vodokanal employees and partners. They govern both in-company relations and the relations between Vodokanal and its partners and customers including behaviour in the situations where conflicts of interests arise.

The principles are (but not limited to):

- **FOCUS ON CREATION OF VALUE.** Vodokanal employees work in line with the company strategy and strive to fulfil important strategic tasks. When implementing various actions, Vodokanal employees realize what value they create for customers, their company and the society in general.

- **PROFESSIONAL SKILLS AND TEAMWORK.**

Vodokanal employees are good professionals. They build relations with their colleagues on the basis of confidence, collaboration, corporate solidarity and mutual assistance. The employees take a proactive approach in their teamwork focusing on the result of joint activities. Those who are capable of improving the company performance are offered career promotion, and, moreover, implementation of essential projects is entrusted to them.

- **STRATEGIC FLEXIBILITY.** Vodokanal operates in the environment where governmental regulation of tariffs and fluctuating prices for the suppliers' products are a reality and have a significant impact on the implementation of the company strategy.

- **SOCIAL RESPONSIBILITY.** The company bears responsibility for the social well-being of its employees. The value created by Vodokanal staff is a huge contribution to the improvement of the living standards in St. Petersburg, the Baltic Sea Region and society in general.

Until 30 January 2013, SUE "Vodokanal of St. Petersburg", as a public utility, had disclosed information on its regulated activities in the manner prescribed by the "Standards for Disclosure by Public Utilities", approved by the Decree no. 1140 of the Government of the Russian Federation dated 30 December 2009. The procedures and frequency of disclosure were approved by the Order no. 26-r of the St. Petersburg Tariff Committee dated 22 March 2010.

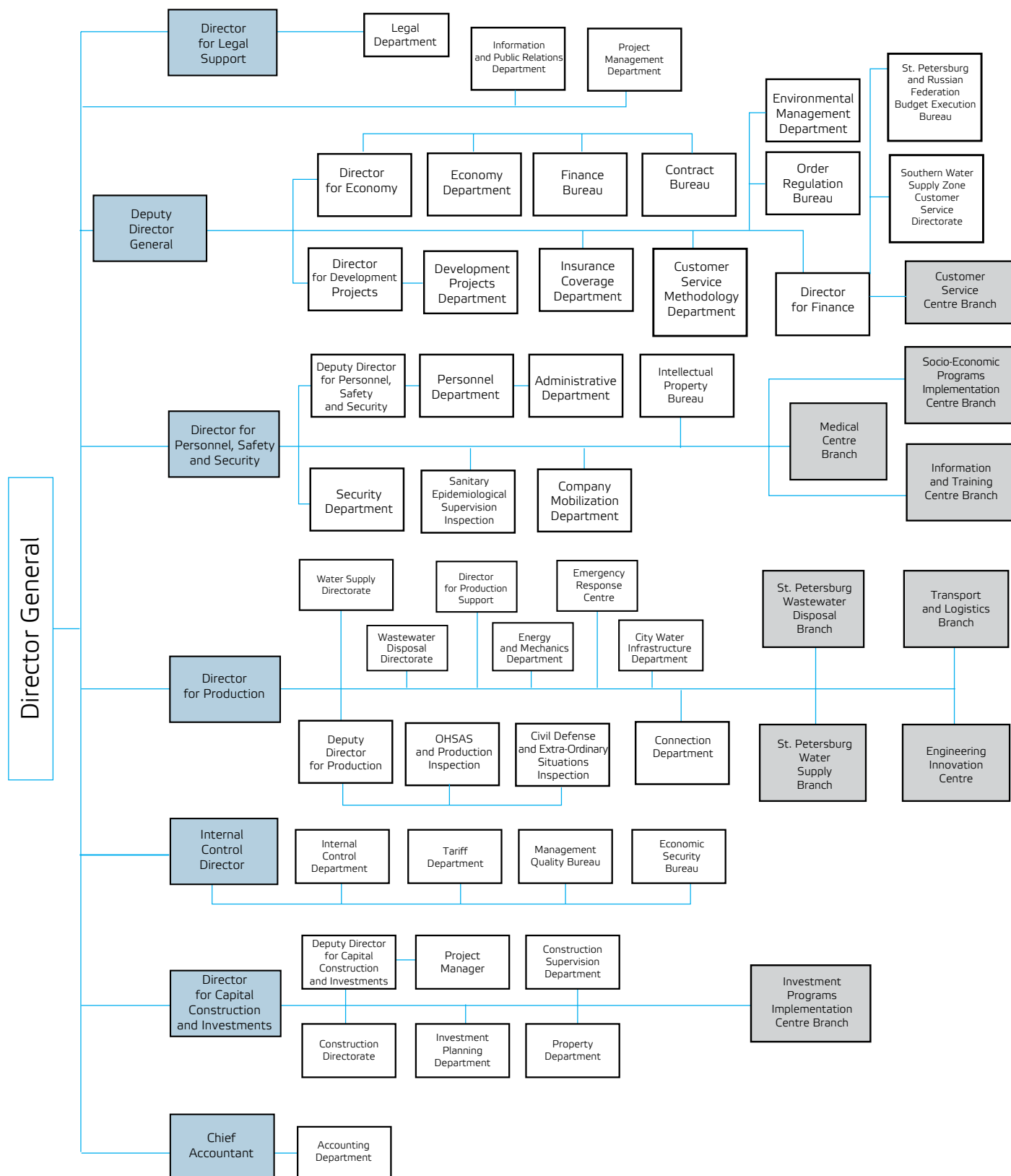
Due to changes in the Federal Law no. 416-FZ "On Water Supply and Wastewater Disposal" dated 7 December 2011, since January 30, 2013, any disclosure shall be performed in the manner prescribed by the "Disclosure Standards for the Water Sector", approved by the Decree no. 6 of the Government of the Russian Federation dated 17 January 2013. The procedures and frequency of disclosure were approved by the Order no. 129 of the Federal Tariff Authority dated 15 May 2013.

In addition, pursuant to Article 4, part 1, clause 5 of the Federal Law no. 190-FZ "On Heat Supply" dated 27 February 2010, since 15 July 2013, any disclosure of information in the field of heat supply shall be performed in accordance with the "Standards of Disclosure by Heat Supply Organizations, Heat Networks Organizations and Regulatory Authorities", approved by the Decree no. 570 of the Government of the Russian Federation dated 5 July 2013. The forms and frequency of disclosure were approved by the Order no. 282-r of the St. Petersburg Tariff Committee dated 9 October 2013.

Annually, the St. Petersburg Tariff Committee approves a reporting procedure for the organizations subject to governmental tariff regulation in St. Petersburg, in addition to the reports submitted under the above disclosure standards.

THE MAIN PROVISIONS OF CORPORATE CULTURE ADOPTED BY SUE "VODOKANAL OF ST. PETERSBURG" ARE SET OUT IN THE COMPANY STANDARD STO VODOKANAL SPB 1.4-2010 MANAGEMENT SYSTEM. CODE OF CORPORATE ETHICS

VODOKANAL ORGANIZATIONAL STRUCTURE AS OF 1 JANUARY 2015







Vodokanal Today

Company Profile

THE STATE UNITARY
ENTERPRISE (SUE)
“VODOKANAL
OF ST. PETERSBURG”
PROVIDES WATER SUPPLY
AND SEWERAGE
SERVICES TO THE CITY
OF ST. PETERSBURG.
IT IS THE COUNTRY’S
BIGGEST PUBLIC UTILITY
AND ONE OF THE KEY
MUNICIPAL COMPANIES
IN ST. PETERSBURG

Vodokanal’s assets are owned by the City of St. Petersburg represented by relevant public authorities. Vodokanal provides its services to the city inhabitants (5 million people) and to many thousands of companies and organizations in St. Petersburg.

As of 31 December 2014, the staff of SUE “Vodokanal of St. Petersburg” numbered 8,450 people.

The water supply system comprises:

- 6,938 km of water supply networks;
- 198 boosting pumping stations;
- 9 water treatment plants (the biggest are Southern WTP, Northern WTP and Main WTP);
- 2 sodium hypochlorite production plants.

The sewerage system comprises:

- 8,421.8 km of sewer networks;
- 264 km of tunnel collectors;
- 154 sewage pumping stations;
- 15 wastewater treatment plants including 13 – for municipal sewage and 2 – for surface runoff. The biggest are: Central WWTP, Northern WWTP and South-West WWTP;
- 3 sludge incineration plants.

MAIN ACHIEVEMENTS OF SUE "VODOKANAL OF ST. PETERSBURG" IN THE FIELD OF WATER TREATMENT:

- all potable water supplied to the city is UV-treated to ensure epidemiologic safety;
- liquid chlorine is not used for water disinfection, it is replaced by hazard-free, non-toxic sodium hypochlorite;
- hazard-free, non-toxic ammonia sulfate is used for water ammoniation instead of ammonia solutions;
- water condition in the Neva is checked by means of a biomonitoring system where crayfish act as chief "inspectors";
- PAC (powdered activated carbon) dosing is implemented to remove odors and oil.

MAIN ACHIEVEMENTS OF SUE "VODOKANAL OF ST. PETERSBURG" IN THE FIELD OF WASTEWATER TREATMENT:

- 98.5% of wastewater is treated in Petersburg now;
- Petersburg meets the HELCOM recommendations: phosphorus concentrations in the total volume of the city wastewater discharge do not exceed 0.5 mg/l, nitrogen concentrations – 10 mg/l;
- Petersburg has solved the sludge disposal problem: three sludge incineration plants are in operation in the city;
- biomonitoring technologies are implemented to check the quality of treated effluent (by means of crayfish) and concentrations of flue gases at the sludge incineration plant (by means of snails);
- a snow disposal technology is implemented in Petersburg: permanent snow-melting stations utilizing wastewater heat.



Moreover, Vodokanal is in charge of the city fountains and public toilets.

Vodokanal is strongly focused on awareness-raising activities. It has its Information and Training Centre including the Universe of Water Museum Complex and the Youth Environmental Centre.

The International Advanced Water Technologies Centre established by Vodokanal in cooperation with Lahti Science and Business Park, Finland, is working at the company premises.

Another social awareness-raising project implemented by Vodokanal is the web-portal da-voda.com which promotes the ideas of careful water use.

Vodokanal together with zoologists has been involved in the project on rescuing marine mammals of the Baltic Sea Region. The Marine Mammals Research and Conservation Centre was opened at Vodokanal premises. The establishment of the Centre was one of the key projects implemented in St. Petersburg in the Gulf of Finland Year.

**SUE "VODOKANAL OF ST. PETERSBURG"
HAS BUILT AN EFFECTIVE CUSTOMER
FEEDBACK SYSTEM. SINCE 2004,
A 24-HOUR HOT LINE SERVICE HAS BEEN
IN OPERATION PROVIDING ALL KINDS OF
INFORMATION ABOUT VODOKANAL WORK.
THE HOT LINE SERVICE PHONE
NUMBER IS +7 (812) 305-09-09**

The Most Important Events in 2014

1. THE UNIQUE MARINE MAMMALS' RESEARCH AND CONSERVATION CENTRE WAS OPENED AT VODOKANAL PREMISES



Vodokanal is involved in the rescuing of rare animals in the Baltic Sea Region – grey and ringed seals – together with the zoologists Vyacheslav Alexeyev and Elena Andriyevskaya.

In 2014, the rehabilitation season lasted from 14 March to 16 July. During that time, 29 animals were cured and released into the wild: 23 Baltic grey seals, 5 Baltic ringed seals and one Ladoga ringed seal.

When the season was over, the Marine Mammals Research and Conservation Centre closed for reconstruction. Today, it is a unique facility with no analogs in Russia or the Baltic countries. The Centre can admit up to 40 animals at the same time. Moreover, it offers opportunities for researchers. The official opening of the Marine Mammals Research and Conservation Centre in September 2014 was attended by Georgiy Poltavchenko, Acting Governor of St. Petersburg.

In the same period, September 2014, the registration of the Baltic Ringed Seal Friends Fund was announced. In December, the website of the Baltic Ringed Seal Friends Fund was launched: www.balticseal.org. Thanks to the website, those who are not indifferent to the fate of the baby seals inhabiting our region have a chance not only to learn more about these animals but also to help them. An account for donations was opened, so everyone can contribute to the preservation of marine mammals in our region.

Vodokanal's website now has a new section dedicated to the Help the Pinnipeds Project.

2. THE CONSTRUCTION OF A NEW WATER INTAKE AND A NEW FIRST-LIFT PUMPING STATION AT MAIN WATER TREATMENT PLANT (PRODUCING 500,000 M³/DAY OF WATER) WAS COMPLETED

The reliability of water supply greatly depends on proper and fail-safe operation of the first-lift pumping station, and today Main WTP supplies as much as $\approx 400,000$ m³/day of drinking water to Central, Vasileostrovskiy and Petrogradskiy city districts and partly to Admiralteyskiy, Primorskiy, Kalininskiy, Krasnogvardeyskiy and Vyborgskiy districts.

Water starts its way to consumers from water intakes. The water intake of Main WTP is located at the bottom of the Neva in the area of Smolnaya Embankment. The river water flows by gravity through pipelines from special water intake structures – headwalls – to the first-lift pumping station. From the pumping station, water flows to the waterworks where it undergoes a full treatment cycle and disinfection.

Construction of the first-lift pumping station is the initial phase of a bigger project: all-around reconstruction of Main WTP. A new 500,000 m³/day water treatment facility will be built there in the next few years.



3. DURING THE GULF OF FINLAND YEAR, VODOKANAL CONTINUED ITS EFFORTS TO MITIGATE THE NEGATIVE IMPACT ON THE CITY'S WATER BODIES. DOZENS OF UNTREATED WASTEWATER DISCHARGES WERE CLOSED, WASTEWATER TREATMENT PLANTS WERE MODERNIZED

In December 2014, the discharges of untreated wastewater from Petrovskiy Stadium were eliminated (9 direct discharges equivalent to $\approx 1,000$ m³/day were closed) under the Neva Untreated Wastewater Discharge Closure Program. To eliminate direct discharges from Petrovskiy Stadium, four sewage pumping stations were built and 2 km of pipelines of various diameters were installed (some sections were laid under the rivers Zhdanovka and Malaya Nevka).

Besides, in 2014, 19 direct discharges were closed at Petrogradskaya Embankment. Seventeen of them had been under the responsibility of Vodokanal (three combined sewerage discharges, 4,019 m³/day in total; and 14 rainwater sewerage discharges,

23 m³/day average), and 2 – under the responsibility of industrial companies. As a result, the Bolshaya Nevka River became cleaner: earlier, around 1.5 million cubic meters of untreated wastewater had been drained into the river, and now they are diverted to the Northern WWTP for treatment.

In November, construction of a new collector began at Admiralteyskaya Embankment. The collector is needed to close six direct wastewater discharges equivalent to $\approx 1,000$ m³/day in the city center. The collector project will be completed in May 2015.

In 2014, Vodokanal modernized wastewater treatment plants in Kronstadt, Kolpino, Pushkin, and Pionerskiy, and the bigger plants, Northern WWTP and Central WWTP.



4. AT 47TH HELCOM HEADS OF DELEGATION MEETING, SUB-SPOT NO. 18.1 “NORTHERN TUNNEL COLLECTOR CONSTRUCTION” WAS DELETED FROM THE LIST OF “HOT SPOTS”

The list of hot spots, the sites posing a threat to the Baltic Sea ecosystem, was approved by the Helsinki Commission in 1992. The countries which signed the Helsinki Convention (including the Russian Federation) took commitments to eliminate the sources of environmental hazard.

In early 1990s, Russia accounted for 18 out of 132 HELCOM hot spots, including the six hot spots located in St. Petersburg. Four of them were the responsibility of Vodokanal.

In 2006, thanks to the work done in St. Petersburg, the list of hot spots under Vodokanal responsibility was shortened from four to one. This hot spot (No. 18) was split into 19 sub-spots, 16 of which had been closed by 2014.

In December 2014, HELCOM experts took a decision to exclude one more sub-spot related to the completion of the Northern Tunnel Collector.

With the Northern Tunnel Collector completed in October 2013, 76 untreated wastewater discharges equivalent to 334,000 m³/day could be closed. Today, these volumes of wastewater are diverted to Northern WWTP where they undergo a full treatment cycle in line with the HELCOM recommendations.

Since the completion of the Northern Tunnel Collector in October 2013, 98.4% of wastewater has been treated in St. Petersburg.

5. VODOKANAL STARTED TO INSPECT TUNNEL COLLECTORS USING A UNIQUE MOBILE DIAGNOSTIC SYSTEM (MDS)

The inspection is needed to obtain current and reliable information about the condition of ground-based and underwater sections of deep tunnel collectors. The 2–5 m diameter collectors laid at a depth of 30–80 m are in operation. Special equipment is needed to examine their condition and identify potential defects.

Most of the collectors have no backup sewers, so they cannot be put out of the operation even for a short-time inspection or repair (if necessary).

For this reason, a diagnostic system was built to examine the whole channel profile and the condition of the reinforced-concrete lining of the underwater section while wastewaters keep passing through the collector. Besides,

there is no need for the inspector to get inside the collector.

The main tasks of MDS are to locate structural damage of reinforced concrete structures of collectors, and to investigate hydrodynamic and physical processes. Any engineering solutions related to the operation of collectors are underpinned with the results of overall investigation.

The MDS enables to avoid human contact with wastewater, to identify any damage of the tunnel collector lining and to decide about the need of capital repairs.

The MDS designer is LLC “TLAD” (St. Petersburg).

Today, Vodokanal is in charge of over 260 km of tunnel collectors including ≈1,300 units of equipment installed on them.

6. VODOKANAL LAUNCHED TWO FOUNTAINS IN THE EASTERN AND WESTERN RAYPATHS OF THE 300TH ANNIVERSARY OF ST. PETERSBURG PARK

Two years ago these fountains together with the fountain "Mayak" also located in the 300th Anniversary of St. Petersburg Park were included in the Municipal Program of general overhaul of fountains and fountain complexes in St. Petersburg for 2012–2015.

Several years ago, the out-of-order fountains in the 300th Anniversary of St. Petersburg Park were taken over by Vodokanal. The absence of proper technical documentation complicated the pre-repair works.

The renovation scope covered the replacement of all pumping and lighting equipment, and installation

of surveillance cameras and water refilling/overflow systems. The hydraulic systems were fully re-arranged, electrical works with replacement of control cabinets were performed, anemometers (protective mechanisms to prevent wind deflection of fountain jets) were connected, drainage and filtration systems were renovated. Finally, the granite bowls and ornamental structures of the fountains were renovated.

By summer 2014, the general overhaul of fountains in the eastern and western raypaths was completed. In June, they started functioning in a regular regime.

7. ON 19–20 SEPTEMBER 2014, THE CITYWIDE FESTIVAL "GULF OF FINLAND – AREA OF COOPERATION" TOOK PLACE

Vodokanal was fully engaged in its organization and implementation. An official meeting of the public councils from Russia, Finland and Estonia devoted to the trilateral cooperation project "Gulf of Finland Year 2014" was conducted in Tavricheskiy Palace. The Governor of St. Petersburg G.S. Poltavchenko, Vice-Governor of the Leningrad Region Yu.V. Pakhomovskiy, Chairman of the Finnish Public Council of the Gulf of Finland Year M. Vanhanen, Vice-President of Estonian Society for Nature Conservation J. Telgmaa participated in the meeting. Besides, various citywide activities were held in the framework of the Festival – a folklore fest, march of military orchestras, concert at the Spit of Vasilievskiy Island.



Investments in 2014

IN 2014, VODOKANAL INVESTED 8,536.2 MIO. ROUBLES IN THE DEVELOPMENT AND RECONSTRUCTION OF WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS. THE WORKS WERE PERFORMED UNDER THE ADOPTED INVESTMENT PROGRAMME

The investment programme objectives are grouped in line with the core production activities of Vodokanal.

THE TOTAL INVESTMENT IN WATER SUPPLY AND WASTEWATER DISPOSAL PROJECTS IN 2014 AMOUNTED TO 14,198.7 MIO. ROUBLES

The water supply objectives are:

- supply of safe potable water to the customers;
- provision of reliable water supply services;
- improvement of energy efficiency and implementation of energy saving measures at water supply facilities;
- access to centralized water supply services.

The main wastewater disposal objectives are:

- mitigation of wastewater system's negative impact on the environment;
- provision of reliable wastewater disposal services;
- improvement of energy efficiency and implementation of energy saving measures at wastewater collection and treatment facilities;
- access to centralized sewerage.

The investment programme was funded from the following sources:

- St. Petersburg budget – 507.9 Mio. Roubles
- corporate funds – 3,170.8 Mio. Roubles
- own funds (budget investments in the authorized capital) – 326.2 Mio. Roubles
- connection fee – 3,539.8 Mio. Roubles
- third-party financing – 991,5 Mio. Roubles

Vodokanal invested 3,669.3 Mio. Roubles in the water supply system under the investment programme, including:

- supply of safe potable water to the customers – 146.5 Mio. Roubles;
- provision of reliable water supply services – 351.8 Mio. Roubles;
- improvement of energy efficiency and implementation of energy saving measures at water supply facilities – 561.2 Mio. Roubles;
- access to water supply services – 2,073.9 Mio. Roubles;
- other items (production bases, procurement of equipment, security systems, development of fountain complexes) – 535.9 Mio. Roubles.

The amount of 4,866.9 Mio. Roubles was invested in the wastewater system, including:

- mitigation of wastewater system's negative impact on the environment – 1,797.2 Mio. Roubles;
- provision of reliable wastewater services – 589.8 Mio. Roubles;
- improvement of energy efficiency and implementation of energy saving measures at wastewater collection and treatment facilities – 139.6 Mio. Roubles;
- access to the sewerage – 1,951.8 Mio. Roubles;
- other items (production bases, procurement of equipment, security systems, development of public toilets) – 388.5 Mio. Roubles.

Moreover, 5,662.5 Mio. Roubles from the municipal budget were invested in the construction of water infrastructure in 2014 by order of GKU "Ordering authority for construction and capital repair projects in the engineering and energy sector".



Adoption of Investment Programme for 2015–2017

The Investment Programme will be financed from the following sources:

- St. Petersburg budget – 20,995.7 Mio. Roubles;
- corporate funds – 12,068.3 Mio. Roubles;
- connection fee – 12,747.7 Mio. Roubles;
- third-party financing – 611,0 Mio. Roubles.

The approved amount of financing will ensure the operation of water and sewerage systems in St. Petersburg at the existing level. However, an investment programme for, at least, five years has to be adopted to improve the existing situation and promote further development.

**IN 2014, VODOKANAL'S
INVESTMENT PROGRAMME
FOR 2015–2017 WAS APPROVED –
46,422.7 MIO. ROUBLES
(IN THE PRICES OF RELEVANT
YEARS)**

Vodokanal specialists have estimated the scope of work to be done in the period 2016–2025 at around 180.2 billion Roubles (in current prices).

With such programme in place, Vodokanal will be able to implement the solutions set out in the St. Petersburg Water and Wastewater Master Plan till 2025. There will be means for overall modernization of water and wastewater treatment plants, and for reconstruction of networks on a bigger scale. The results achieved under the programme will enhance the quality of life in the city and improve the environment.

Vodokanal Awards

THE ACHIEVEMENTS
OF VODOKANAL ARE
GENERALLY RECOGNIZED
BY BOTH RUSSIAN
AND FOREIGN EXPERTS



In 2014, Vodokanal won **the First National Award of the Russian water sector "Russia's Water"** in the nomination **"Best awareness-raising project aimed to develop respectful attitude to water in the society"**. Vodokanal applied for the award by presenting its project **"Fostering careful attitude to water at the household level"**.

The project **"Water + I = Friends"** presented by Vodokanal's Youth Environmental Centre became **a winner under the international project "Environmental Culture. Peace and Harmony"** in the nomination **"Environmental Education and Awareness-Building"**.

The awarding ceremony on 5 June coincided with the World Environment Protection Day (the Environmentalist Day). The competition was organized by the Non-Governmental Environmental Fund named after V.I. Vernadskiy and the International Environmental Public Organization GREENLIGHT.

Vodokanal's project dedicated to the Marine Mammals Research and Conservation Centre won **the XI All-Russian National Environmental Award named after V.I. Vernadskiy** in the nomination **"Environmental Initiatives"**.



Among other awards bestowed on Vodokanal in 2014 is **the international management award "Energy of Efficiency"** aimed to encourage the managers who implement, at the national level, international management standards, norms and requirements for business and social activities. The award promotes the development of international economic cooperation, and the involvement of specialists from different countries and public and commercial entities in the search for solutions to business-related challenges.

In 2014, Vodokanal St. Petersburg won the "Best Professional" skill competition of Russian water companies' emergency repair teams; it was also the prize-winner of the competition among the sewerage emergency repair teams, excavator drivers and maintenance technicians. Moreover, Vodokanal St. Petersburg was awarded the Honourable Diploma for in-house sports promotion and for its huge contribution to the sports achievements of the Inter-Regional Trade Union Committee at the International Workers' Sports Festival.

IN 2014, THE DIRECTOR GENERAL OF SUE "VODOKANAL OF ST. PETERSBURG" F.V. KARMAZINOV WAS AWARDED THE RUSSIAN PRESIDENT'S CERTIFICATE OF MERIT FOR HIS LABOUR ACHIEVEMENTS, MANY-YEAR FRUITFUL WORK AND LEGISLATIVE ACTIVITIES. AT THE END OF 2014, F.V. KARMAZINOV WAS HANDED A CERTIFICATE OF ACKNOWLEDGEMENT "FOR EXEMPLARY MAINTENANCE OF CIVIL DEFENSE PROTECTIVE STRUCTURES IN ST. PETERSBURG IN 2014" ON BEHALF OF THE GOVERNOR OF ST. PETERSBURG G.S. POLTAVCHENKO





Risk Management

Financial Risk Management

SUE "VODOKANAL OF ST. PETERSBURG" FOLLOWS A BALANCED FINANCIAL POLICY BASED ON THE STRATEGIC PLAN AND LONG-TERM PERSPECTIVE. TO MAKE A LONG-TERM FORECAST, THE COMPANY USES ITS FINANCIAL MODEL

The financial model evaluates Vodokanal's financial capabilities taking into account the big investment projects implemented with the company's own or borrowed funds. It takes account of macroeconomic factors and company development factors to identify potential sources of investments and to project development options under different scenarios.

The model provides instruments for comparative dynamic analysis and monitoring of Vodokanal's performance. The monitoring and analysis results provided by the financial model are promptly used by Vodokanal management to make the necessary amendments to the company's production and investment programs.

Risk management is integrated into the management system via strategic management and budgeting processes. Internal control procedures are implemented by the company to mitigate all risk types. Internal audits are made by a separate department within the Vodokanal administration. Scenario-based approach, industry analysis and SWOT analysis are used by Vodokanal as risk identification and assessment methods.

Furthermore, property insurance and third-party insurance of Vodokanal as the owner of hazardous production facilities are used as a risk reduction tool.

Manage

Financial Risk Management Status in 2014

IN JANUARY 2014, VODOKANAL SIGNED FORWARD CONTRACTS TO HEDGE FOREIGN EXCHANGE AND INTEREST RATE RISKS UNDER THE EXISTING LOAN AGREEMENTS

IN 2014, VODOKANAL KEPT USING A WIDE RANGE OF TOOLS TO MINIMIZE FINANCIAL RISKS

Continuous monitoring of financial situation and assessing its potential impacts on the key financial indicators enabled prompt updating of financial policy and helped maintain the company's financial sustainability.

In 2014, Vodokanal continued improving its financial model. The improved model corresponds to the European level and allows to predict and analyze Vodokanal's key financial indicators in accordance with IFRS.

In 2014, the project "Elaboration of SUE Vodokanal of St. Petersburg Corporate Development Concept for the period up to 2030" was launched. In particular, the Concept envisages the creation of a high-level financial and operational model of Vodokanal for the period up to 2030 determining the most effective ways to achieve the strategic goals of the company under different scenarios.

In 2014, in view of unstable rouble-to-euro exchange rate (Vodokanal's debt service obligations to international financial institutions, totaling over MEUR 123.2 as of the beginning of 2014) it was decided to hedge the company's interest rate and exchange risks.

The purpose of hedging transactions is to ensure financial security for a company faced with instability of exchange/ interest rates. Till 2020, SUE "Vodokanal St. Petersburg" will make fixed payments in roubles regardless of potential currency fluctuations, which is extremely important for the financial and economic planning of any company that raises revenues exclusively in the national currency of the Russian Federation.

Non-Financial Risk Management

VODOKANAL'S INTERNAL
CONTROL FUNCTION IS PERFORMED
BY A SPECIAL DEPARTMENT
THAT DEALS WITH
PREVENTIVE IDENTIFICATION
AND MINIMIZATION
OF THE COMPANY RISKS

The internal control department works to achieve the following objectives:

- ensuring the reliability of financial and managerial information;
- protection of the company assets and supporting the effective use of the company resources;
- assistance in optimization of the corporate organizational structure;
- compliance with the applicable laws of the Russian Federation and St. Petersburg and internal regulations.

The internal control department provides the management of Vodokanal with the information obtained:

- during inspections of the company departments;
- by analyzing the range and prices of goods and services procured by the company in the course of operations;
- during the examination of basic and supporting processes in the Company.

General procedures for internal control of departments and internal auditing are formulated and approved. Inspection reporting rules and requirements to the form and contents of reports are issued. The development of inspection and audit methods for different types of corporate activities is ongoing.

Risk Management

SEGMENTATION OF NON-FINANCIAL RISKS WAS MADE BY VODOKANAL AS A PART OF SELF-ASSESSMENT IN ACCORDANCE WITH THE EFQM EXCELLENCE MODEL. THE KEY ASPECTS OF THE COMPANY ACTIVITIES WHICH MAY LEAD TO RISKS WERE IDENTIFIED

The non-financial risks (see Non-Financial Risk Map, page 47) are systematically managed by the company using a process-based approach in order to restrain potential losses of SUE "Vodokanal of St. Petersburg".

1. To minimize the risks associated with the customer dissatisfaction with water and wastewater services, the quality management system based on the International Standard ISO – 9001 is continuously improved. Regular interaction with customers through the Hot Line Service in combination with the company's transparency policy (including active communication with the mass media), as well as questionnaires and customer satisfaction surveys, help mitigate this risk, too. Internal and external audits under the Quality Management System (EMS) promptly identify the management areas to be enhanced and help improve the processes at all stages of the service lifecycle. In this way, the company performance can be enhanced and customer satisfaction can be raised.

2. The risks associated with negative impacts on the environment are managed on the basis of the environmental management system ISO 14001 used by the company. Vodokanal enhances the reliability of water supply and sewerage, improves wastewater treatment and sludge management technologies, stops the discharge of backwash water from water treatment plants using it for process needs after a proper treatment, and addresses the environmental impacts of its vehicle fleet.

3. The ISO 50001 energy management system was implemented and certified in 2012 to raise energy efficiency at the plants in a systematic way. We aim to optimize energy consumption, select and procure energy-efficient equipment, design energy-efficient processes and facilities, and consider conversion to renewable energy sources.

4. Improved occupational health and safety management on the basis of OHSAS-18001 mitigates the risks associated with work-related accidents, emergency situations and consequently, leads to the improvement of service quality

and mitigation of the environment pollution risks. Currently, professional risks assessment is not only an important part of occupational health and safety management but also a part of the corporate management. This activity is implemented on the basis of OHSAS-18001 and national regulations.

5. To alleviate the risks associated with undesirable changes in legislation, the company makes a strong contribution to the development of regulations, makes suggestions and argues its position.

6. To prevent the risks associated with low culture of water use, Vodokanal widely implements environmental awareness-building programmes.

7. The risks associated with the pollution of potable water source (the Neva) are mitigated by early detection of pollution events. In particular, Vodokanal has implemented the river water biomonitoring by crayfish at all its water intakes. Oil spills in the river are detected by the monitoring system installed on one of the bridges across the Neva, upstream of the first city water intake.

8. To minimize the risks associated with accidents and hazardous working conditions Vodokanal is doing its best to improve working conditions, to reduce the injury rate and to prevent emergency situations at hazardous production sites.

9. To mitigate the risks associated with information security, the company implements measures

to identify risks, determine risk factors and risk probability; makes analyses and assessments of the risks that may affect the company's information security. The company's informational security management system in accordance with ISO 27001 was established and certified in 2012 to ensure a systematic approach to the information security.

At present, Vodokanal keeps improving its non-financial risk management. Particular attention is paid to the following areas:

- development of risk management;
- extension of both internal and external benchmarking;
- development of its own production system with a tentative name "4E: Efficiency, Ecology, Economy, Evolution". 4E will be a consolidating concept determining the place of each of the applied methods, approaches, and standards.

Sustainable use of natural resources, systematic approach to the corporate management, strong contribution to the development of regulatory acts, environmental awareness-raising, innovative technologies, and internal and external benchmarking – all that is integrated into the corporate management culture and leads to minimization of company risks.



Non-financial Risk Management Status in 2014

In 2014, the non-financial risk management process was under constant control based on ISO Standards and EFQM Excellence Model, thus ensuring an efficient combination of measures to alleviate the risks taken by the company and measures to minimize, avoid or redistribute the unacceptably high risks.

THE RISK MANAGEMENT
PROCESS IS DESIGNED
TO REDUCE THE
PROBABILITY
OF UNFAVORABLE
OUTCOME AND TO LIMIT
POTENTIAL LOSSES
OF SUE "VODOKANAL
OF ST. PETERSBURG"
WHEN ANY RISK
EVENT OCCURS

Non-financial risk control comprises:

- identification of all significant non-financial risks (risk map);
- monitoring of the progress of actions designed to mitigate any significant risks;
- immediate response to identified risks or to the situations where the identified risks are near threshold levels;
- effectiveness analysis of risk management actions by the top management.

KEY NON-FINANCIAL RISKS MAP OF SUE "VODOKANAL OF ST. PETERSBURG"

Risk	Risk factors	Degree of impact	Risk management measures
Political and regulatory risks			
Risk of economically unjustified restrictions in the state regulation of tariffs for water supply and wastewater disposal	State authorities decide to freeze or limit the growth of tariffs	High	Close interaction with the regulating authority (St. Petersburg Tariff Committee)
Country risk	Special features of the social, economic and political situation in Russia	High	Country risk is weakly managed by the Company, however, it is taken into accounts when strategic decisions are taken or updated
Operational risks			
Production-related and technical risks (risks of breakdowns or incidents)	Losses due to irrecoverable damage of production facilities	High	Company investment programme implementation; Control over the scope and time schedule of repairs
	Losses due to higher cost of providing water and wastewater services compared to the planned equipment operation scenario	High	
Shutdown of process equipment as a result of any terrorist act or natural disaster in the region	Terroristic or naturally-occurring threats	Above average	Implementation of antiterrorist measures in compliance with the law of the Russian Federation; Protection against potential consequences of accidents, catastrophes and natural disasters; Insurance of property and personnel;
Customer dissatisfaction with the quality of water and wastewater services	Lower quality of the services provided	Above average	Management system improvement on the basis of ISO 9001 and EFQM Excellence Model
Corruption risks (potential conflicts of interest)	Losses due to economically unjustified terms of transactions with counterparts and payments for nonexistent works	Above average	Enhancement of internal control to prevent conflicts of interest; Compliance with anti-corruption policy and the corporate ethics code
Risks of accidents at production sites	Negative impact on the life and health of the company personnel resulting from their operational activity	Average	Compliance with the Russian laws pertinent to occupational health and safety; improvement of the management system on the basis of OHSAS 18001
Risks of non-performance of obligations by contractors	Non-fulfilment of contractual obligations regarding the time schedule and quality of performed works, the supply of equipment and components	Below average	More detailed preliminary analysis of counterparty risks and control over performance of obligations by counterparties
Strategic risks			
Strategic risk	Incorrect long-term planning of the company development	Above average	Regular updating of the strategic development plan
Environmental risks			
Water quality deterioration and pollution of the Neva	Negative impact of ship traffic and agriculture on the Neva water	High	Maintenance and improvement of the Neva water monitoring system, incl. biomonitoring
Risk of negative impact on the environment	Negative impact on the environment resulting from the company activity	Above average	Management system improvement on the basis of ISO 14001 and ISO 50001

Annual self-assessment of the company activities in accordance with the EFQM Excellence Model enabled successful integration of the non-financial risk management approaches into a holistic system.

Strategic planning, key performance results, evaluation of customer/staff/internal process user satisfaction, and development of partnerships and corporate social responsibility – all these elements have become a part of the corporate management culture to reduce non-financial risks.





Participation in External Initiatives

The Gulf of Finland Year

2014 WAS DECLARED THE GULF OF FINLAND YEAR BY THE DECISION OF THREE COUNTRIES – RUSSIA, FINLAND AND ESTONIA

DURING THE GULF OF FINLAND YEAR VODOKANAL ST. PETERSBURG CONTINUED ITS WORK RELATED TO THE REDUCTION OF THE ADVERSE IMPACT ON THE CITY WATER BODIES. DOZENS OF UNTREATED WASTEWATER DISCHARGES WERE CLOSED, WASTEWATER TREATMENT PLANTS WERE MODERNIZED. THE PROJECT AIMED TO HELP THE PUPS OF MARINE MAMMAL GOT TO A NEW LEVEL. A NUMBER OF AWARENESS-RAISING PROJECTS WERE IMPLEMENTED

On the Russian side, the Gulf of Finland Year Project was under the patronage of the President of the Russian Federation Vladimir Putin; on the Finnish side, it was supervised by the President of the Republic of Finland Sauli Niinistö, on the Estonian side – by the President of the Republic of Estonia Toomas Ilves.

The Gulf of Finland Year was officially announced on 21 January, 2014, in Helsinki.

The objective of the Gulf of Finland Year Project was to collect and evaluate the information about the Baltic Sea, improve the level of knowledge of the managers and policy makers involved in protection and rehabilitation of the marine environment of the Gulf of Finland.

The activities under the Gulf of Finland Year 2014 were related to political goals of top circles of the Baltic Sea region: support of the HELCOM Baltic Sea Action Plan, EU Marine Strategy Framework Directive, EU Strategy for the Baltic Sea Region, etc.

In Russia, a wide series of actions as part of the Gulf of Finland Year were carried out to support sustainable development of natural resources and water areas of the Gulf of Finland and to improve environmental situation in the region, where political, economic, cultural and humanitarian interests of Russia, Finland and Estonia intersect.

For more active involvement of public organizations, environmental agencies and business communities to this project, the Public Council dedicated to the Gulf of Finland Year Project was organized. The Governor of St. Petersburg Georgiy Poltavchenko and the Governor of Leningrad Region Alexander Drozdenko became co-chairs of the Public Council. The Director General of Vodokanal Felix Karmazinov joined the Public Council.

Meetings of the Public Council were held at the premises of Vodokanal St. Petersburg.

In 2014, Help the Pinnipeds Project (rescuing of marine mammals' pups at Vodokanal's wastewater treatment plant in Repino) launched by the zoologists Vyacheslav Alekseyev and Elena Andrievskaya and Vodokanal St. Petersburg, was followed up.

On 10 April, the Public Council meeting dedicated to the trilateral cooperation project "Gulf of Finland Year 2014" was held, where the Governor of St. Petersburg Georgiy Poltavchenko proposed to support the Baltic ringed seal conservation project implemented with the support of Vodokanal and to consider establishment of a special fund.

In 2014, the rehabilitation season lasted from 14 March to 16 June. Within this time 29 animals were treated and released to the wild. Among them were 23 grey Baltic seals, 5 Baltic ringed seals and one Ladoga ringed seal.

**ON 5 SEPTEMBER 2014,
THE UNPARALLELED-IN-RUSSIA
MARINE MAMMALS RESEARCH
AND CONSERVATION CENTRE
WAS OPENED AT REPINO
WASTEWATER TREATMENT
PLANT AFTER RECONSTRUCTION.
THE CENTRE CAN ACCOMMODATE
UP TO 40 ANIMALS AT A TIME.
RESEARCH OPPORTUNITIES
ARE ALSO OFFERED THERE**

In December 2014, Vodokanal's project dedicated to the Marine Mammals Research and Conservation Centre won the All-Russian National Environmental Award named after V.I. Vernadskiy in the nomination "Environmental Initiatives".

In autumn 2014, the Baltic Ringed Seal Fund was established (www.balticseal.org). A donation account is opened, so now everyone can take part in the rescue of marine mammals in our region.

In particular, the members of the Public Council are: the Governor of St. Petersburg G.S. Poltavchenko, the Director General of Vodokanal St. Petersburg F.V. Karmazinov, and the Chairperson of the St. Petersburg Union of Journalists L.D. Fomicheva.



Vodokanal participation in the Baltic Sea inhabitants rescue campaign was a follow-up of its years-long effort to protect the Baltic Sea. In the beginning of 2014, Petersburg treated 98.4% of wastewater. Vodokanal's task is to reach 100% (as specified in the St. Petersburg Water and Wastewater Master Plan for the period up to 2025 with the outlook to 2030).

For this purpose, the remaining direct discharges should be closed. Although the volume of untreated wastewater discharged through these outlets is not significant, big projects should be implemented to close them.

In December 2014, **the untreated wastewater discharge from Petrovskiy Stadium was eliminated** (9 direct discharges equivalent to about 1,000 m³/day were closed, with the wastewater diverted to Northern WWTP). For this purpose, four sewage pumping stations were built and over 2 km of pipelines of different diameter were laid with inverted siphons constructed under the Zhdanovka River and the Malaya Neva River.

Also in 2014, **19 direct discharges at Petrogradskaya Embankment were closed**. Seventeen of them (3 combined discharges accounting for 4,019 m³/day of wastewater; and 14 rainwater discharges, 23 m³/day average) were under the responsibility of Vodokanal, and 2 were industrial wastewater discharges. As a result, the Bolshaya Nevka River became cleaner: earlier, about 1.5 million cubic meters of wastewater were drained into it, and now all the wastewater is diverted to Northern WWTP for treatment.

In November 2014, **the construction of collector at Admiralteyskaya Embankment began**. This collector is needed to close six direct discharges in the center of the city (next to the Bronze Horseman) equivalent to ≈1,000 m³/day of wastewater.

The length of the collector to be built under Admiralteyskaya Embankment is 550 m, the diameter is 1.2 m. Sewers should also be laid under Sennaya Square.

The works at Admiralteyskaya Embankment and Sennaya Square will be completed by May 2015.

AT THE END OF 2014, THE PROJECT “MODERNIZATION OF WASTEWATER TREATMENT PLANTS IN KRONSTADT, KOLPINO, PUSHKIN AND PONTONNIY” LAUNCHED IN MARCH 2012 WAS COMPLETED

The project objective was to improve the efficiency of wastewater treatment at the small WWTPs and to achieve stable phosphorus and nitrogen removal performance.

In particular, at Kronstadt WWTP, the biological treatment process was reconstructed using the enhanced nitrogen and phosphorus removal technology by Johannesburg university; grit channels were modernized; air blowers were replaced with modern energy-efficient turbo-blowers, etc. At Kolpino WWTP, four grit channels and four clarifiers were modernized and reequipped; the equipment of raw sludge pumping stations was replaced. At Pushkin WWTP, the old screens were replaced with modern perforated ones; the pumping equipment at raw sludge/waste activated sludge pumping stations was replaced; the raw sludge screen building was built; the old air blowers were replaced with advanced energy-efficient air blowers.



IN 2014, MODERNIZATION OF BIGGER WASTEWATER TREATMENT PLANTS, NORTHERN AND CENTRAL WWTPS, WAS ONGOING



The Northern WWTP project covered reconstruction and modernization of mechanical and biological treatment processes. Now, 3 primary and 6 secondary clarifiers are reconstructed; raw sludge pumping station and return sludge pumping station are built. Installation of the aeration tank equipment is near end.

At Central WWTP, reconstruction works are ongoing in the aeration tank sections 5 and 6 (sections 3 and 4 have already been modernized).

A major awareness-raising event of the Gulf of Finland Year was **the Night of the Gulf of Finland in the framework of the international Museums at Night event at the Universe of Water museum complex**. A special guided tour dedicated to the Gulf of Finland was organized for this purpose. The timeframe of the event was 17 May, 6 p.m. – 18 May, 6 a.m. The museum exhibitions were visited by 6,622 people by entire tickets. The outdoor folk performance dedicated to the Gulf of Finland Year was organized at Vodokanal's Information and Training Centre. Visitors got acquainted with cultural traditions of Russia, Finland and Estonia, learnt about special features of the Gulf of Finland, the activities of the Marine Mammals Rehabilitation Centre, and the achievements of Vodokanal. A special excursion to three museum exhibitions including an intellectual game, experiment with water, express tours and the exhibition of environmental installations "Youth for the Gulf of Finland Year", was arranged.

IN MAY, THE ANNUAL INLINE
SKATER RACE DEDICATED TO THE GULF OF
FINLAND YEAR WAS ORGANIZED
IN ST. PETERSBURG WITH THE SUPPORT OF
VODOKANAL. THE SYMBOL
OF THE RACE WAS THE BALTIC
RINGED SEAL. THE RACE COLLECTED
THE BIGGEST NUMBER OF PARTICIPANTS
IN ITS HISTORY – MORE THAN
6,000 PEOPLE TOOK
PART IN IT

The Baltic Cruise Program at the Universe of Water museum complex was launched to coincide with the Gulf of Finland Year. This program is still going on. It is designed for both children and adults. In the rooms of the Youth Environmental Centre participants get acquainted with the inhabitants of the Baltic Sea: seal, plaice, salmon, Arctic tern and many others, using the unique 3D-installation "The Nature of the Baltic Sea" with stereoholographic effects. The e-encyclopedia gives the participants new knowledge about the Baltic Sea, later, their knowledge can be checked by a video quiz equipped with an e-voting system. On a game table with a touch panel the visitors can move a virtual ship across the sea, piece together a jigsaw puzzle map of the Baltic Sea countries, and place the Baltic Sea inhabitants to their habitats. In addition to advanced technologies, a collection of aquarium fish helps learn more about the Baltic Sea.



Vodokanal's Youth Environmental Centre organized **the environmental awareness-raising project The Water Olympiad for 1–5 grade pupils**. Nearly 1,500 school students and preschoolers from 47 educational institutions of St. Petersburg and the Leningrad Region took part in the project.

Another environmental awareness-raising project (for high school students), Awareness Raising of the Young in the Framework of the International Advanced Water Technologies Centre, was implemented by Vodokanal together with the Lahti Region Development LADEC and culminated in **the Environmental Installation Festival “The Youth for the Gulf of Finland Year”**. The project participants learned about the current situation in the Gulf of Finland area and prepared environmental installations on the subject. At first, the students presented their works in schools and then in the Universe of Water exhibition hall.

The Water Museum and Youth Environmental Centre initiated **the “Children for the Gulf of Finland Year” competition of environmental drawings and posters made by children**. One of the Youth Environmental Centre rooms accommodated the exhibition of the works submitted to the competition.

ALL SUMMER SHIFTS IN THE CHILDREN RECREATION CAMP “ZVYOZDNIY” (THE TOWN OF LUGA, LENINGRAD REGION) WERE DEDICATED TO THE GULF OF FINLAND YEAR



In late July, the St. Petersburg students involved in the activities of the Youth Environmental Centre, including the YEC core team, **took part in the development of the Youth Declaration dedicated to the protection the Gulf of Finland**. Teenagers from three countries (Russia, Finland and Estonia) visited the environmental camps located in Meriharju and Harakka Nature Centres in Finland. They studied in mixed groups, and discussed the challenges and future of the Gulf of Finland from different points of view. The students discussed topics, such as navigation and fishing, water use in metropolitan cities and ways to reduce water consumption; talked about biodiversity of the Gulf of Finland, etc. The main task chosen by the students was to protect the Gulf of Finland, and to find a balance between the environmental, social and economic components now and in the future. The discussions led to the development of the Youth Declaration. It was made in two versions – in the form of a video message and a text document. The students involved in this activity got together at the official meeting of the Public Councils of Russia, Finland and Estonia dedicated to the trilateral cooperation project “The Gulf of Finland Year 2014” in Tavrichesky Palace, to deliver the Declaration to official representatives of the three countries.

On 19–20 September 2014, the citywide festival “The Gulf of Finland – Area of Cooperation” was held. Vodokanal was an active organizer and participant of the festival. The official meeting of the Public Councils of Russia, Finland and Estonia dedicated to the trilateral cooperation project “The Gulf of Finland Year 2014” was held in Tavrichesky Palace. The Governor of St. Petersburg G.S. Poltavchenko, the Vice-Governor of the Leningrad Region Yu.V. Pakhomovskiy, the Chairman of the Finnish Public Council for the Gulf of Finland Year M. Vanhanen, and the Vice-President of the Estonian Society for Nature Conservation J. Telgmaa attended the meeting. During the festival, different all-city events were arranged – a folk festival, march of military orchestras, concert at the Spit of Vasilyevsky Island.

Matti Vanhanen, Chairman of the Finnish Public Council for the Gulf of Finland Year who attended the event, called the festival the culmination of the Gulf of Finland Year. He also noted that the condition of the Gulf of Finland, in particular, in its eastern part, had improved significantly due to St. Petersburg achievements in wastewater treatment.

THE EVENTS RELATED TO THE GULF OF FINLAND YEAR WERE WIDELY COVERED IN MASS MEDIA

In addition, the information on the Gulf of Finland and the events of the year was posted on the Da-Voda website devoted to careful attitude to water (www.da-voda.com), and on the pages of the Neva Crayfish (the main character of Da-Voda website) in social networks. A special section dedicated to the Gulf of Finland was added to the website supported by Vodokanal.

On 22–27 September, 2014, Vodokanal hosted the VIII International Scientific and Practical Conference “Marine Mammals of Holarctic” organized by the Marine Mammals Council. The leading experts from Russia, Norway, Canada, the USA and other countries, who study seals, whales (also white whales and killer whales), walruses, polar bears and other representatives of the Holarctic fauna, participated in the conference. Prof. A.V. Yablokov, Chairman of the Marine Mammals Council, Deputy Chairperson of the RAS Scientific Council for Environmental Challenges and Emergency Situations, Adviser to RAS, pointed out that by opening the Marine Mammals Research and Conservation Centre Vodokanal wrote a new impressive page in the history of research and protection of marine mammals in Russia.



Compliance with HELCOM Recommendations

The Convention on the Protection of the Marine Environment of the Baltic Sea (Helsinki Convention) was signed by all Baltic countries in 1974. For the first time ever, the Convention addressed all polluters located in the catchment area of the Baltic Sea. After the collapse of the USSR and other geopolitical changes in 1990s, the new Helsinki Convention was signed in 1992 by the states located along the coast of the Baltic Sea and the European Communities. In October 1998, the Russian Federation joined the Helsinki Convention 1992.

In 1992, the Comprehensive Programme of environmental protection measures in the Baltic Sea Region adopted as a part of Helsinki Convention listed the biggest pollution sources of the region and named them “hot spots”. Initially, the Programme specified 132 “hot spots” located in all countries of the Baltic Sea Region.

Out of the 18 hot spots located in Russia, 6 were in St. Petersburg including the 4 hot spots with 19 “hot sub-spots” being the responsibility of SUE “Vodokanal of St. Petersburg”.

At that time, wastewater treatment in St. Petersburg was quite unsatisfactory, besides, the discharge of huge volumes of untreated wastewater into the local water bodies had to be stopped urgently.

The main tasks of Vodokanal with regard to the commitments taken by the Russian Federation under the Helsinki Convention were as follows:

- closure of untreated wastewater discharges;
- reduction of nutrient load on the Baltic Sea basin.

SINCE THEN, VODOKANAL ST. PETERSBURG HAS DONE A HUGE WORK TO PHASE OUT UNTREATED WASTEWATER DISCHARGE INTO THE WATER BODIES, TO BUILD WASTEWATER TREATMENT PLANTS AND TO UPGRADE TREATMENT PROCESSES. AS A RESULT, THE MEETINGS OF COMMITTEES AND HEADS OF DELEGATIONS OF HELCOM MEMBER-COUNTRIES RECOGNIZED THAT THE MAJORITY OF VODOKANAL'S HOT SPOTS WERE ELIMINATED



By 2014, only 3 sub-spots within hot spot "18" (18.1 – The Northern Tunnel Collector Construction; 18.11. – Kolpino WWTP; and 18.15 – Metallostroy WWTP) had remained.

With the Northern Tunnel Collector put into operation on 10 October 2013, Vodokanal could reach a very high wastewater treatment level (98.4%) and stop the discharge of 122 Mio. m³/year of untreated sewage into the Gulf of Finland.

Due to the results achieved by Vodokanal, Russia could apply for exclusion of hot sub-spot no. 18.1 ("sewerage

system development") from the HELCOM list.

The 47th Meeting of HELCOM Heads of Delegation on 16–17 December approved the exclusion of hot sub-spot no. 18.1 from the HELCOM list.

The closure of hot sub-spots 18.11 (Kolpino WWTP) and 18.15 (Metallostroy WWTP) is planned for 2018, after the reconstruction of Kolpino WWTP with the plant capacity increased to 140,000 m³/day, and closedown of Metallostroy WWTP with the wastewater diverted to Central Wastewater Treatment Plant.

No.	Hot sub-spot	Status
18.1	Sewage collectors	closed (2014)
18.2	Central WWTP	closed (2010)
18.3	Northern WWTP	closed (2006)
18.4	South-West WWTP	closed (2009)
18.5	Pargolovo WWTP	closed (2006)
18.6	Prigorodniye WWTP	closed (2006)
18.7	Torfyanyoye WWTP	closed (2006)
18.8	Zavodskiy WWTP	closed (2006)
18.9	Pushkin WWTP	closed (2006)
18.10	Petrodvorets WWTP	closed (2012)
18.11	Kolpino WWTP	Capacity will be increased to 140,000 m ³ /day and a sludge incineration shop will be built; hot sub-spot closure expected in 2020
18.12	Kronstadt WWTP	closed (2009)
18.13	Sestroretsk WWTP	closed (2006)
18.14	Pontonniy WWTP	closed (2009)
18.15	Metallostroy WWTP	WWTP closedown with the wastewater diverted to Central WWTP; hot sub-spot closure expected in 2019
18.16	Repino WWTP	closed (2009)
18.17	Zelenogorsk WWTP	closed (2006)
18.18	Pesochniy 1 WWTP	closed (2012)
18.19	Pesochniy 2 WWTP	closed (2012)

THE NEVA UNTREATED
WASTEWATER DISCHARGE
CLOSURE PROGRAMME
DEVELOPED IN 2001
IS BEING IMPLEMENTED
SUCCESSFULLY TO IMPROVE
WATER ENVIRONMENT
IN ST. PETERSBURG
AND PRESERVE THE BALTIC SEA
WATER RESOURCES

BY 2015, THE
WASTEWATER
TREATMENT LEVEL
IN ST. PETERSBURG
HAS REACHED 98.5%

Now the Programme is one of the most important environmental projects in the city. In the period 2003–2014 alone, 217 direct discharges of untreated sewage and rainwater equivalent to 479,000 m³/day in total were diverted, including 19 discharges (4,019 m³/day) at Petrogradskaya embankment and 9 direct discharges (approx. 1,000 m³/day) from Petrovskiy Stadium closed in 2014. Four sewage pumping stations, over 2 km of different-diameter

pipelines, and inverted siphons under the Rivers Zhdanovka and Malaya Neva had to be built to divert the wastewater from Petrovskiy Stadium.

Furthermore, the construction of sewage collector under Admiralteyskaya embankment began in 2014 to enable the closure of 6 more direct wastewater discharges (approx. 1,000 m³/day in total). The collector will be completed in the end of April 2015.

At the end of 2013, the St. Petersburg Government approved the St. Petersburg Water and Wastewater Master Plan till 2025 with an Outlook to 2030. The tasks to be fulfilled under the Master Plan include the closure of all untreated wastewater discharges. The remaining 103 direct sewage discharges in the city (they account for the 1.5% of wastewater still discharged untreated) must be closed by 2020. The discharge volumes are very small; however, interceptors and networks have to be constructed to divert them to treatment plants. In particular, the Okhta collector project should be launched to stop the discharge of untreated municipal and industrial wastewaters into the River Okhta.

The Master Plan envisages modernization of municipal wastewater treatment plants, such as the upgrading of the treatment processes and implementation of tertiary treatment and wastewater disinfection at all plants.

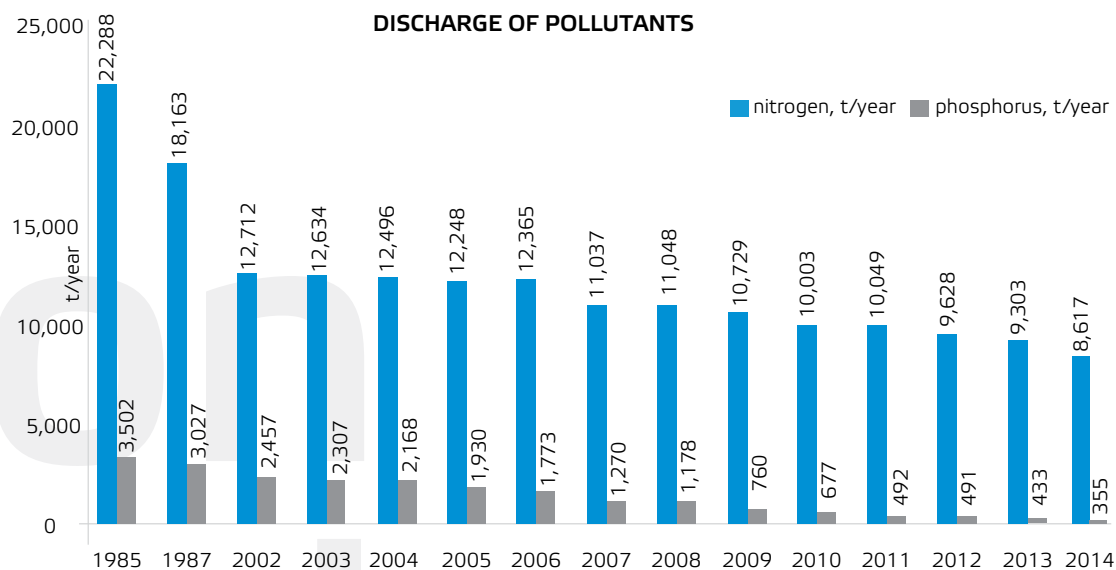
The treated effluent quality targets are strictly defined in the HELCOM recommendations.

In the 1990s, HELCOM adopted unified limit values for concentrations of nutrients, nitrogen and phosphorus, for all Baltic countries. The requirements grow increasingly stringent.

With the adoption of new recommendation (Recommendation

28E/5, substitutes for Recommendations 9/2, 16/9, and 7/3) for municipal wastewater treatment on November 15, 2007, the requirements to wastewater treatment quality became still more stringent. Concentrations of total nitrogen and total phosphorus in the treated effluent discharged into water bodies shall not exceed 10 mg/l and 0.5 mg/l, respectively.

Modernization of the biological treatment technologies (especially, for the purpose of reaching the phosphorus removal targets) is Vodokanal's ongoing process. Since 2005, enhanced biological treatment and chemical phosphorus precipitation methods have been applied at St. Petersburg wastewater treatment plants to meet new requirements and achieve stable nutrient removal performance. Since 2008, with the chemical phosphorus precipitation process implemented at all municipal WWTPs, the total phosphorus removal efficiency has grown to 89–90%. Compared to 2005, the volume of phosphorus discharged into the Gulf of Finland decreased 5.76 times, and the volume of nitrogen – 1.42 times. Phosphorus concentrations in the total discharged volume are 0.5 mg/l or less (even taking into account the minor percentage of wastewater still discharged untreated) and nitrogen concentrations – not higher than 10 mg/l.



In 2014, Vodokanal continued to implement the Northern WWTP reconstruction project designed by SWECO, Sweden, to improve the nutrient (also total nitrogen) removal efficiency. In particular, rehabilitation of concrete structures on primary clarifiers 5–8, secondary clarifiers 7–12, aeration tank 2, transformer sub-station 2 and return sludge pumping station 2, is completed. The construction of raw sludge pumping stations 1 and 2, and installation of equipment in aeration tanks and primary clarifiers are underway. Equipment is installed in secondary clarifiers. The old air blowers and piping

are dismantled, the air duct is reconstructed and relevant equipment is supplied.

In 2014, the Small Wastewater Treatment Plants Reconstruction Programme launched in March 2012 was ongoing. Works were performed at WWTPs in Pushkin, Kolpino, Kronstadt and Pontonniy. The Programme is financed by NDEP loan, FMOE technical assistance, BSAP Fund and Vodokanal's own funds. The objective of the Programme is to improve the treatment efficiency at small WWTPs and reach a stable phosphorus/nitrogen removal performance.

THE FOLLOWING HAS BEEN DONE AT WWTPS BY THE END OF 2014:

- **Kronstadt WWTP:** the biological treatment system was reconstructed to implement the enhanced nitrogen/phosphorus removal process designed by the Johannesburg University. The technology supports flexible process control making it possible to achieve proper performance at any change of influent wastewater parameters. Furthermore, grit channels were modernized; air blowers were replaced with advanced energy-saving turbo-compressors; reconstruction of secondary clarifiers and the sludge separation system for separate thickening of waste activated sludge and raw sludge are completed. All basic construction and installation works are finalized.

- **Kolpino WWTP:** the first reconstruction stage (without the WWTP capacity expanded) is completed, including modernization of four grit channels, two primary clarifiers and two secondary clarifiers, and replacement of equipment; moreover, the equipment of raw sludge pumping stations was

replaced. Repairs of reinforced concrete structures and the aerators on the first-stage aeration tanks are completed.

- **Pushkin WWTP:** the old screens are replaced with modern perforated screens; the pumping equipment is replaced at raw sludge/waste activated sludge pumping stations; a screen building is constructed; and the old air blowers are replaced with modern, energy-efficient ones.

- **WWTP Pontonniy:** mechanical and biological treatment facilities and sludge treatment facilities are modernized.

THE REALIZATION OF THE FACT THAT THE RECOVERY OF THE BALTIC SEA ENVIRONMENT IS ONLY POSSIBLE THROUGH JOINT EFFORTS IN THE FIELD OF INNOVATION AND AWARENESS-RAISING LED TO THE SIGNING OF THE MEMORANDUM OF UNDERSTANDING BETWEEN HELCOM AND SUE "VODOKANAL OF ST. PETERSBURG" ON APRIL 19, 2013

The subject of the Memorandum is the support to joint activities for the Baltic Sea recovery. The Memorandum provides for information sharing and collaboration in bringing treatment plants into compliance with the HELCOM recommendations.

Under the cooperation referred to in the Memorandum of Understanding between HELCOM and SUE "Vodokanal of St. Petersburg", a pilot project aimed to identify sources and types of the pharmaceuticals discharged from St. Petersburg into the Baltic Sea is launched (scientists from the Russian Academy of Sciences Environmental Safety Research Centre are involved in the project implementation). The test pharmaceuticals are diclofenac and ethinylestradiol, as their negative impact on the hemathermal species in the Baltic Sea has been reported.

In 2014, the methodology of diclofenac and ethinylestradiol detection in water was finalized, the first set of samples was taken, diclofenac/ethinylestradiol consumption and discharge patterns were analyzed. The results have shown that diclofenac removal at WWTPs is very poor, therefore it was recommended to make further studies to determine the maximum admissible concentration of diclofenac in the influent to WWTPs. As for ethinylestradiol, it was found that potential concentrations of the pharmaceutical in municipal sewage (0.004 ng/l) were lower than the most stringent environmental quality standards (0.007 ng/l).

ANOTHER PILOT PROJECT, DETECTION OF MICROPLASTICS IN WASTEWATER, IS AT THE IMPLEMENTATION PHASE

Microplastics and their impact on water environment is a new challenge raising concern worldwide, since such "litter" is not biodegradable and tends to accumulate in the environment.

On October 3, 2013, the Ministers of Environment and high-level officials from nine Baltic countries and the European Union adopted the HELCOM Copenhagen Declaration. In the Declaration all parties agreed that the "regional actions plan on marine litter shall enable ... development and testing of technology for removal of microplastics and nanoparticles in municipal wastewater treatment plants by 2020 and, inter

alia, interaction with industrial companies to ban the use of microplastics and to assess the use of nanoparticles in production processes (e.g. in cosmetics production)". Therefore, it is important to get reliable information on microplastics concentrations in wastewater.

In 2014, laboratory tests were made to detect microplastics in wastewater at Vodokanal's WWTPs. It was found that the removal efficiency of different modifications of microplastics at municipal WWTPs was rather high (96% average) as shown in the table below.

MICROSCOPIC LITTER PER 1 L OF WASTEWATER

Litter type	Influent wastewater to WWTPs	After mechanical treatment	After final treatment	Treatment efficiency, %
Textile fibers	467	33	16	96.57
Synthetic particles	160	21	7	95.63
Black particles	3,160	302	125	96.04

It was also found that microplastics (fibers and particles) concentrations were much higher in the treated effluent than in the Baltic Sea waters. It was recommended to continue

the studies to underpin a legislative initiative aimed at minimization of microplastics concentrations in industrial wastewater.

Participation in the UN Global Compact

THE UN GLOBAL COMPACT (UN GC) IS THE INITIATIVE THAT ENCOURAGES COMPANIES TO BRING THEIR ACTIVITIES AND STRATEGY IN COMPLIANCE WITH TEN UNIVERSAL PRINCIPLES IN THE AREAS OF HUMAN RIGHTS, LABOUR, ENVIRONMENT PROTECTION AND ANTI-CORRUPTION

Vodokanal St. Petersburg joined UN GC in April 2007 and became one of the first Russian companies to sign the relevant agreement.

Vodokanal's support of the UN GC initiative demonstrates its eagerness to comply with international standards in all areas of activity and confirms its intention to promote social projects.

On 17 December 2008, the UN Global Compact Network in Russia was launched at the General Meeting of UN GC members.

The Steering Committee is the executive body of the UN GC Network Russia. It consists of ten members elected for a one-year term. The permanent members of the Steering Committee are: one representative of the Russian Union of Industrialists and Entrepreneurs, one UN representative and one representative of the state authorities. Five representatives of the UN GC Network Russia member-companies and one representative of not-for-profit organizations – members of the UN GC Network Russia are elected by the General Meeting.

In the last three years, Vodokanal's Director for Personnel and Security Anatoliy K. Kinebas was voted into the Steering Committee by the members of the UN GC Network Russia.

In 2014, Anatoliy K. Kinebas was elected Vice-Chairman of the UN GC Network Russia Steering Committee.

In 2014, one essential activity of the Network, where the UN GC Network Russia member-companies and members of the Steering Committee were directly involved, was institutional development of the Network by establishing an independent legal entity. Eventually, the Steering Committee members approved the charter of the not-for-profit partnership "National Global Compact Network" and launched the official website of the UN GC Network Russia.



IN 2014, VODOKANAL WAS AN ACTIVE PARTICIPANT OF SPECIALIST CONFERENCES, SUMMITS, ROUNDTABLES AND SESSIONS DEDICATED TO THE KEY TOPICS OF UN GC, SUCH AS:

- March 2014 – Roundtable “Business and Human Rights: Challenges to Practical Application of the Guiding Principles for Business Activities in the Human Rights Aspect”.
- June 2014 – international inter-bank conference “Human Capital. Personnel Management. Reboot” dedicated to the latest best practices in staff performance management, new technologies and competences, incentive programs aimed to improve business efficiency and many more.
- December 2014 – annual conference “Labour Market and Social Investments: Interaction between Business and State” held in the framework of the Russian Business Week. The conference participants discussed a number of aspects, such as: the shortage of skilled personnel, problems of single-industry towns, social responsibility of business, assessment of staff qualifications and labour conditions, and systematic continuous staff training for big companies.

In 2014, Vodokanal retained the role of Environment Activity Coordinator for implementation of 10 UN GC principles.

As a part of the Environment Activity, Vodokanal organized events under the international Gulf of Finland Year 2014 Project, such as Help the Pinnipeds Project, Da-Voda website, Youth Environmental Centre projects, a roller race devoted to the Gulf of Finland Year, and the Gulf of Finland Night event.

On 2 April 2014, the World Autism Awareness Day, some buildings in St. Petersburg were illuminated blue in sympathy to the people suffering from this illness. Vodokanal took part in the Light It Up Blue event. The Universe of Water Museum building in 56, Shpalernaya str. was lighted blue in the morning and evening. On that day, the blue color also prevailed inside the former clean water tank where the museum is located now. Moreover, Vodokanal invited children affected with autism to visit the Universe of Water Exhibition.

After joining the Global Initiative in April 2007, Vodokanal submitted annual sustainability reports. The reports are posted on the Global Compact website in English and Russian. At the national level, Vodokanal participates in the activities of the Russian Community of Global Compact member-companies. Participation in the Global Initiative events offers scope for sharing best practices and searching for ways of incorporating responsible business principles into development strategies and everyday practices of Russian companies.

Involvement in the Development of Regulatory Framework

IN 2014, VODOKANAL
SPECIALISTS PARTICIPATED
IN THE DEVELOPMENT OF DRAFT
REGULATORY LEGAL ACTS AT FEDERAL
AND REGIONAL LEVELS AIMED
TO REGULATE RELATIONS BETWEEN
DIFFERENT ACTORS OF THE WATER
SECTOR AND WITH ASSOCIATED
SECTORS

More specifically:

- Order of the Russian Ministry of Construction dated 4 April 2014 no. 162/pr "On approving the list of reliability, quality and energy efficiency indicators for centralized hot water supply, cold water supply and/or wastewater disposal systems, and the rules to estimate target and actual values for such indicators".

- Decree of the Russian Government dated 24 April 2014 no. 368 "On approving the procedure of obtaining the antitrust authority's consent to the change of concession agreement terms and conditions".

- Order of the Russian Ministry of Environment dated 31 January 2014 no. 47 "On changing the Methodology of estimating the damage inflicted on water bodies by violating the water law, as approved by the Order of the Russian Ministry of Natural Resources and Environment dated 13 April 2009 no. 87".

- Ordinance of the St. Petersburg Government Committee for Energy and Engineering Support dated 04 July 2014 no. 81 "On amending the ordinance of the St. Petersburg Government Committee for Energy and Engineering Support dated 18 November 2012 no. 148".

- Guidelines on the estimation of production and distribution losses of hot, potable and utility water in centralized water supply systems (registered by the Russian Ministry of Justice on 17 February 2015, effective from and including 19 February 2015).
- Guidelines on the estimation of collected (disposed) wastewater volumes using the sewer throughput method (registered by the Russian Ministry of Justice on 25 February 2015, effective from and including 9 March 2015).
- Guidelines on the estimation of collected (disposed) rainwater volumes (registered by the Russian Ministry of Justice on 24 February 2015, effective from and including 10 March 2015).
- Draft federal law no. 500410-6 "On amending the Housing Code of the Russian Federation and some legal acts of the Russian Federation" (the draft law passed in a first reading at the Russian State Duma; now it is being finalized).
- Draft federal law no. 386179-6 "On amending the federal law "On water supply and wastewater disposal" and some legal acts of the Russian Federation (the draft law passed in a first reading at the Russian State Duma; now it is being finalized).
- Consolidated comments by Vodokanal regarding the draft decree of the Russian Government on approving the procedure of in-process potable water quality monitoring (the rules are enacted by Decree of the Russian Government dated 6 January 2015 no. 10).
- Draft federal law cancelling compulsory appointment of guarantor for centralized water supply and wastewater disposal systems (the law was drafted by the company employees in furtherance of the meeting held at the Tariff Committee on 26 June 2014). The idea of such law was supported by the Committee for Energy and Engineering Support.
- Consolidated proposals regarding the amendment to the federal law "On concession agreements" dated 21 July 2005 no. 115-FZ, namely, limitation of the list of centralized water supply/wastewater disposal facilities to be transferred to concession (the proposals are submitted to the Russian Ministry of Construction).

DUE TO THE WORK DONE IN 2014, THE REGULATORY FRAMEWORK REQUIRED TO FULLY IMPLEMENT THE FEDERAL LAW "ON WATER SUPPLY AND WASTEWATER DISPOSAL" DATED 7 DECEMBER 2011 NO. 416-FZ, COULD BE FINALIZED

Moreover, the rule-making effort created preconditions for changing the existing laws of water supply, wastewater disposal and environment protection, based on the practical implementation of some provisions of the above law. Thus, in December 2014, over 30 different proposals aimed at the improvement of the existing federal and regional regulatory frameworks

(in addition to the above-listed proposals) were prepared at the corporate level. The proposals were submitted for consideration of the Russian Ministry of Construction and the relevant federal and municipal authorities.

In 2015, the proposals are discussed at the meetings presided over by the officers of the Vice-Governor of St. Petersburg I.N. Albin.

Activities of the International Advanced Water Technologies Centre

IN 2014, ACTIVITIES OF THE INTERNATIONAL ADVANCED WATER TECHNOLOGIES CENTRE, A JOINT PROJECT IMPLEMENTED BY ST. PETERSBURG VODOKANAL AND LAHTI REGION DEVELOPMENT LADEC LTD. (FORMER LAHTI SCIENCE AND BUSINESS PARK LTD., FINLAND), CONTINUED

The history of the International Advanced Water Technologies Centre began in 2010 with the signing of the Memorandum of Understanding between SUE "Vodokanal of St. Petersburg" and Lahti Region Development LADEC Ltd.

Since that time, the Centre has passed a long way: arranged practical work of the Centre, carried out the state registration of the Centre as a non-commercial partnership, made contacts with Russian and foreign partners, developed efficient mechanisms to arrange training activities of different format, introduced and implemented the improved processes of receiving feedback from workshop participants, obtained substantial experience in taking part in large-scale international forums and exhibitions.

As before, in 2014, the Centre activities pursued the following objectives:

- provide training in the field of innovative water supply and wastewater disposal technologies;
- enhance the proficiency of St. Petersburg Vodokanal employees as well as the employees of Russian and foreign companies operating in water and wastewater sectors;
- share experience in the technologies applied in water supply, wastewater disposal, environment protection and rational use of natural resources;
- accumulate, generalize and promote knowledge of innovations both in the sphere of the applied technologies and in water and wastewater management;
- contribute to the promotion of innovations both in the sphere of the applied technologies and in water and wastewater management for further dissemination of innovative solutions among Russian companies;
- perform environmental awareness-raising activities.

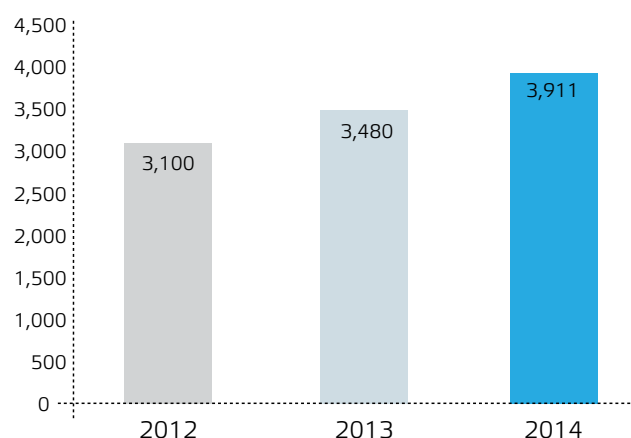
In 2014, the Centre operated in line with its annual programme which included activities in the form of workshops, conferences, environmental awareness-raising projects, interactive and laboratory classes, lectures and on-the-job training.

Vodokanal experts, leading specialists from reputable European institutions and companies were engaged as lecturers and teachers for conducting training activities of the Centre.

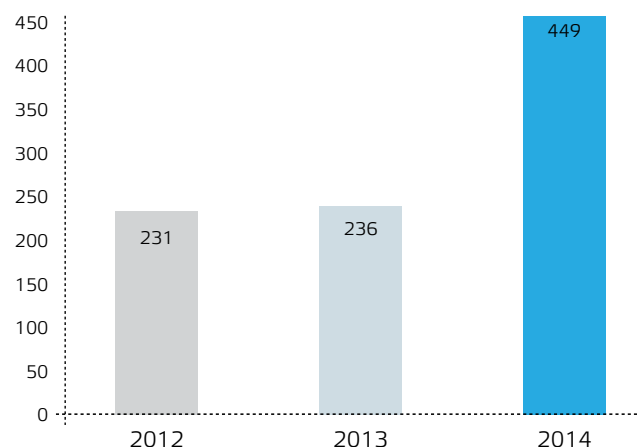
During 2014, a total of about 40 training and environmental awareness-raising activities (including 12 workshops and 2 conferences) were conducted by the Centre for representatives of the water sector as well as students and schoolchildren. Activities took place both in Russia (St. Petersburg, Moscow) and in Finland (Lahti).

ABOUT 4,000 RUSSIAN AND FOREIGN REPRESENTATIVES, INCLUDING MORE THAN 800 WATER AND WASTEWATER EXPERTS, PARTICIPATED IN THE TRAINING ACTIVITIES OF THE CENTRE IN 2014

TOTAL NUMBER OF PARTICIPANTS IN THE CENTRE ACTIVITIES (PE.)



NUMBER OF WORKSHOP AND CONFERENCE PARTICIPANTS (PE.)



Representatives of 38 Russian Vodokanals, 48 Russian and foreign companies and 5 higher education institutions participated in workshops and conferences organized by the Centre in 2014.

The objective of the workshops and conferences, on the one hand, is the exchange of experience and promotion of the advanced technologies among Russian and foreign experts of the water sector and, on the other hand, – training and enhancement of proficiency of the Company's own employees. This is precisely why about half of the participants of the activities in 2014 were employees of St. Petersburg Vodokanal.

The Centre continued to conduct environmental awareness-raising activities for students and schoolchildren. A great impact on environmental awareness-raising activities is made by experts of the Youth Environmental Centre of St. Petersburg Vodokanal. Due to the high-proficiency and creative approach of YEC experts it became possible to build up a sense of responsibility and respect for water resources among the younger generation.

IN 2014, THE CENTRE ORGANIZED ACTIVITIES FOR MORE THAN 3,000 RUSSIAN AND FOREIGN SCHOOLCHILDREN AND STUDENTS

Implementation of large-scale interschool projects targeted for the promotion of rational and solicitous attitude to the ecosystem of the Baltic Sea became a new area of activities.

The grand prize – a trip to Finland for exchanging knowledge with Finnish peers – is a great incentive that attracts schoolchildren into the projects.

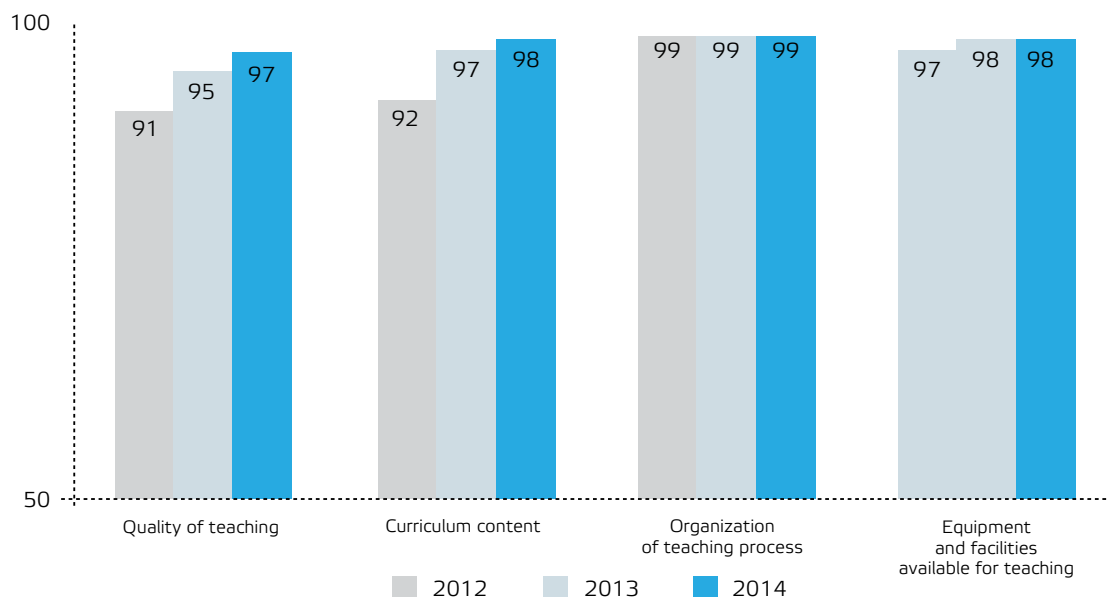
In 2014, one of the most important aspects of environmental awareness-raising activities was the work with students of relevant professions and other professions. Lectures and interactive lessons devoted to water supply and wastewater disposal fundamental concepts, influence of man-made factors on the environment were conducted for those students. Within the framework of the training programme

the Centre organized visits to St. Petersburg Vodokanal production facilities for students where future water experts had an opportunity to learn about water/ wastewater treatment as well as the used equipment in practical terms.

Of vital importance for the development of the Centre is its participation in international exhibitions and forums. In June 2014, the Centre represented its activities in the exhibition booth of St. Petersburg Vodokanal at the international forum ECWATECH-2014 in Moscow.

A cornerstone of success is continuous improvement of the Centre activities. It pays special attention to the maintenance of contacts with participants of the Centre activities and consideration of participants' opinion for further work. The Centre conducts opinion survey based on questionnaires and analyzes the level of satisfaction.

SATISFACTION LEVEL (%)



The Centre is open for cooperation with all stakeholders. It is a unique platform which gives birth to new ideas and develops new trends by means of the joint work based on long-term experience of the experts involved. Thanks to the wide-range and relevance of topics of the training activities, they may attract not only managers and experts of water and wastewater companies but also representatives of allied industries, higher educational institutions, secondary schools, scientific and research institutions and other interested persons.

Membership in Associations, Unions and other Organizations

VODOKANAL ST. PETERSBURG GIVES MUCH ATTENTION TO PARTICIPATION IN PROFESSIONAL ASSOCIATIONS AND UNIONS

In 2014, Vodokanal continued to work within the framework of the non-commercial partnership National Union of Vodokanals (NUV) uniting companies of different ownership which account for almost two-thirds of the total water supply in Russia. The main activity of NUV is the improvement of interaction between water companies and governmental authorities for the purpose of introducing new operational standards and technical regulations as well as improving investment prospects of the sector. The NUV was established in 2009 and Felix V. Karmazinov, Director General of Vodokanal St. Petersburg, was elected its President.

Vodokanal St. Petersburg maintains partner relations with Russian water companies in the framework of other professional associations. The Company is a member of the Russian Association of Water Supply and Wastewater Disposal (RAWW); Felix V. Karmazinov, Director General of Vodokanal, is a member of the RAWW Board.

Baltvod Association of North-Western Water Companies initiated by Vodokanal (more than twenty years ago) actively participates in promotion of the advanced water and wastewater technologies in water sector of the North-West Federal District. President of the Association is also Felix V. Karmazinov, Director General of the Company.

Moreover, St. Petersburg Vodokanal is involved in the work of the Non-Commercial Partnership "Russian Water Association".

In 2014, Vodokanal together with Lahti Region Development LADEC Ltd. (Finland) continued to promote the Non-Commercial Partnership "International Advanced Water Technologies Centre" which activities are aimed at the provision of training in the field of the advanced water and wastewater technologies for the Company's employees, water companies from other regions of Russia and abroad.



SINCE 1 DECEMBER 2011, ST. PETERSBURG VODOKANAL HAS BEEN A FULL MEMBER OF THE EUROPEAN FOUNDATION FOR QUALITY MANAGEMENT (EFQM)

Vodokanal St. Petersburg is a member of two self-regulatory organizations: the Non-Commercial Partnership "Association of Builders of St. Petersburg" (the competency certificate for a particular type of works influencing the safety of permanent facilities no. 0064.04-2009-7830000426-C-003 dated 9 April 2015) and the Not-For-Profit Partnership "Interregional Union of Design Engineers" (the competency certificate for a particular type of works influencing the safety of permanent facilities no. 0176-2011-7830000426-P-30 dated 28 December 2011).

Membership of Vodokanal in the listed organizations was approved by the City Property Committee pursuant to the Federal Law no. 161-FZ dated 14 November 2002 "On state and municipal enterprises".

The fact that Vodokanal has relevant competency certificates enables the Company to perform its daily operation on a full scale and in line with applicable law of the Russian Federation.

The European Foundation for Quality Management (EFQM) is a not-for-profit membership organization. It was established in 1987 by 14 leading European companies with the support of the European Commission to increase the competitiveness of the European economy by promoting new management approaches, stimulating the learning of management basics and creating opportunities for recognition of success in this field.

Currently, EFQM members number over 800 European organizations totaling several millions of employees. More than 30,000 companies all over the world use principles and instruments developed by EFQM. EFQM was established to assist organizations in achieving sustainable success by giving them relevant recommendations.

There is a set of key principles upon which the EFQM's fundamental concept of Excellence is based:

- adding value for customers;
- sustainable achievement of the distinguished results;
- leading with vision, inspiration and honesty;
- developing organization capacities;
- succeeding through the talent of people;
- using creativity and innovation;
- managing with flexibility;
- creating a sustainable future.

One of the top-priority tasks of St. Petersburg Vodokanal is the improvement of the Company's management system aimed to raise responsibility for sustainable future of the region, including:

- the increase of the reliability and efficiency of water supply and wastewater disposal systems through the introduction of up-to-date management and metering systems, improvement of water and wastewater treatment processes;
- rational use of water resources in the course of treating, distributing and provision of drinking water to consumers;
- protection of the environment at water intakes, during transportation, treatment, handling and incineration of wastewater sludge;
- guaranteeing to consumers the quality of water supply and wastewater disposal services that meet and exceed the requirements of Russian and European standards;
- keeping the investment attractiveness to implement reconstruction and building programs;
- effective resource management to optimize costs.

All of the above will guarantee the quality of services, customer confidence in the safety of drinking water and customers' right to the healthy environment not only today but in the following years.

The Foundation organized the EFQM Excellence Model Competition to motivate organizations, which introduce self-assessment according to EFQM Excellence Model, share experience and assess the company management by experts from companies that are the most successful in management improvement, namely, by EFQM acting assessors.

A company that complies to the maximum with the EFQM Excellence Model becomes a winner of a prestigious prize – the EFQM Excellence Award (there are also Prize Winner and Finalist Nominations). But before a company starts to compete for the Excellence Award, it should pass, as a rule, several regional levels ("Committed to Excellence" Level and "Recognized for Excellence" Level) and receive relevant certificates as well as win the International Quality Tournament of Central and Eastern Europe. Such multi-level structure assumes a stage-by-stage introduction of the Excellence Model.

Since 2005, Vodokanal has started self-assessment of its activities on the basis of the Excellence Model to improve its management framework. At first the Company used the Russian Federation Government Regional Quality Model that harmonized with the EFQM Model. Since 2009, Vodokanal has conducted the self-assessment on the basis of the EFQM Model and participated in the competition.

MAIN STAGES OF INTERACTION WITH EFQM:

- in 2009, Vodokanal received the certificate confirming compliance of the Company's management with the "Recognized for Excellence" 5 stars level of the EFQM Model;

- in 2010, Vodokanal won the International Quality Tournament of Central and Eastern Europe;

- in 2011, St. Petersburg Vodokanal became a finalist of the EFQM Excellence Award. The Company was the first to achieve such a result among European water companies;

- in 2012, St. Petersburg Vodokanal won the best practice competition in creative use of social media organized by the European Foundation for Quality Management (EFQM).

Vodokanal presented at the competition its video-film "The Neva Crayfish and His Friends" telling about the da-voda website (www.da-voda.com) – the project aimed to disseminate the ideas of careful attitude to natural resources;

- in 2014, Vodokanal's employees participated in the events aimed at learning about the best practices of EFQM members; after the training workshop in Brussel the Company changed its approach to the self-assessment procedure;

- since 2010, Vodokanal's experts acting as EFQM assessors (experts) have been engaged in examining Russian companies for nomination to "Recognized for Excellence" Level.



Support of Regional Initiatives

ST. PETERSBURG VODOKANAL
IS ENGAGED
IN VARIOUS REGIONAL
INITIATIVES INCLUDING
ENVIRONMENTAL
AWARENESS-RAISING

In 2014, experts of the Information and Training Centre, the Universe of Water Museum Complex and the Youth Environmental Centre participated in regional events devoted to the Gulf of Finland Year and targeted to environmental awareness-raising among children, the youth, population and city guests.

Those events included:

- organization of the city contest "Fundamentals of Safe Water Use" in the framework of the All-Russian School Olympiad in Life Safety, the city round;
- organization of the interactive programme "ECO-School" in the framework of the Youth Ecological Forum;
- co-organizing of VI All-Russian Scientific Environmental Conference "Water – Source of Life on Earth";
- preparation and implementation of the programme for International Event "Museums at Night";
- co-organizing of children programme at the International Environmental Film Festival "Green Vision";
- participation in the environmental festival and research-to-practice conference "Krasnoselskaya Rainbow";
- participation in the city festival "ECOokhta";
- participation in the City Festival "Children Days in St. Petersburg" (development and implementation of the environmental programme "Baltic Expedition");

- participation in the International Professional Forum of Museum Workers "Museum and Kids Culture"; organization together with the All-Russian Museum Association of the panel discussion and training workshops;
- organization of the round-table discussion "Environmental Education and Awareness-Raising" dedicated to the Gulf of Finland Year;
- greeting by the core team of the Youth Environmental Centre addressed to the delegates of XV International Forum "Baltic Sea Day";
- development and organization of the youth group in the framework of XV International Forum "Baltic Sea Day" in the premises of YEC;
- participation and organization of UN Model International Youth Conference;
- participation in the Fifth St. Petersburg Educational Forum; organization of the round-table discussion "Professional interests as a factor of choosing and mastering the profession" together with the Committee for Education;
- organization and participation in the International Environmental Camp within the framework of the Trilateral Cooperation under the Gulf of Finland Year 2014; development of the Youth Declaration;
- participation of the core team of the Youth Environmental Centre as part of the international youth group in the development and presentation of the Youth Declaration on the Protection of the Gulf of Finland to the participants of the Official Meeting of the Public Council within the framework of the Trilateral Project "Gulf of Finland Year 2014";
- organization of the Open Water Lesson in the Youth Environmental Centre within the framework of the City-Wide Festival "Gulf of Finland – Area of Cooperation";
- organization of the educational campaign "Water Lessons" dedicated to the Gulf of Finland Year among city educational institutions together with the Committee for Education;
- participation together with St. Petersburg Committee for Education in the All-Russian Workshop of the Russian Federation Ministry for Education and Science;
- participation in the Festival of Broadcast Journalism for Children "TELESTART" (the YEC team received the Grand Prix for its video film "Be caught, a fish!");
- organization of XII Regional Creative Work Exhibition of senior citizens and disabled people "Good Hands Craft" together with the Committee for Social Protection of the Population of the Leningrad Region;
- organization of the programme "Eco-Kids on their Way towards Goodness and Love for Nature!" for children from orphanages of Moscow and St. Petersburg together with the All-Russian Public Help to Children Movement "Angel –

Childhood – Guardian" and the Council for the Conservation of National Natural Heritage;

- organization of the Children's Drawings Exhibition together with the Regional Public Organization "Marine Mammals Council" within the framework of the Gulf of Finland Year 2014 and organization of VIII International Conference "Marine Mammals of Holarctic".

Moreover, Vodokanal helps to ensure comfort for participants of different city and district events by way of providing toilets.

In 2014, Vodokanal on the request of various organizations provided mobile toilets for more than 790 public events, including city events celebrating the New Year, Christmas, Victory Day and Day of the City. Vodokanal helped to arrange comfortable conditions for the participants of such a large-scale event as Scarlet Sails School-Leaving Festival.







Interaction with Stakeholders

Partnership Concept

VODOKANAL ST. PETERSBURG
MAINTAINS LASTING,
MUTUALLY BENEFICIAL
RELATIONS WITH ITS PARTNERS
ON THE BASIS OF MUTUAL TRUST,
RESPECT AND OPENNESS IN LINE
WITH THE EFQM EXCELLENCE MODEL
CONCEPTS AND ACKNOWLEDGES THAT IN
THE DYNAMIC ENVIRONMENT
OF THE MODERN WORLD
THE COMPANY SUCCESS AND
SATISFACTION OF ALL STAKEHOLDERS
STRONGLY DEPEND
ON THE DEVELOPMENT
OF EFFECTIVE PARTNERSHIP

Vodokanal St. Petersburg divides its partners into segments – by types of activities or services and by significance and importance of the partnership in terms of creating value for the stakeholders.

Vodokanal adheres to the multilateral partnership concept including the interaction with its local and foreign partners and suppliers on technical, process-related, financial, organizational and tutorial aspects of activities.

As for its international partners, in 2014 Vodokanal continued to cooperate successfully with such organizations as:

- the Ministry of the Environment of Finland;
- the John Nurminen Foundation;
- Nordic Environment Finance Corporation (NEFCO);
- Swedish International Development Cooperation Agency (Sida);
- Northern Dimension Environmental Partnership (NDEP);
- foreign partners-suppliers of equipment and technologies.



The international cooperation enables Vodokanal to study and implement into its own operations experience of the best foreign companies. One of the most long-term partners of the Company is the Ministry of the Environment of Finland which participated in over 50 innovative projects of Vodokanal. Among long standing business partners of Vodokanal there are about 20 Finnish companies and organizations. Vodokanal maintains close partnership with water companies of the Baltic Region. The Company has partner relationships with water companies of Helsinki, Stockholm, Tallinn, Hamburg and Berlin. International cooperation assists the Company to solve issues related to efficient benchmarking, investments, environmental protection, technical upgrade and environmental awareness-building.

Since 2009, St. Vodokanal has been the member of the National Union of Vodokanals and interacted with water companies and governmental authorities for the purpose of introducing new operational standards and technical regulations as well as increasing investment opportunities of the sector. The Company is engaged in reviewing and developing new drafts of water legislation for public utilities, conducts consultations with legislative and executive bodies, exchanges experience with leading housing and public utilities as well as water unions. At present Vodokanal is involved in promoting innovative approaches in housing and public utilities of the Russian Federation and CIS. Vodokanal production branches conduct working meeting with experts from housing and public utilities of the Russian Federation and CIS and arrange visits to Vodokanal reference plants, where such innovative projects and best practices have been implemented.

Among Russian partners in the field of innovative technologies there are such companies as Kreal, Arsenal and AViV. Together with these companies Vodokanal obtained 10 documents of title for new technologies.

The partnership with the Russian and European banking community as well as with different investors is successfully implemented by Vodokanal. Investments implemented by means of the public-private partnership model are an example of sophisticated and consistent partnership concept of the Company. For instance, the Northern Tunnel Collector construction, reconstruction and upgrading of small wastewater treatment plants of St. Petersburg were financing from several sources including budgets of the Russian Federation and the City of St. Petersburg, own funds of Vodokanal and proceeds provided by IFIs (including Northern Dimension Environmental Partnership (NDEP)).

To attract young water and wastewater experts Vodokanal cooperates with the following educational institutions: St. Petersburg State University of Architecture and Civil Engineering, St. Petersburg State Technological Institute, St. Petersburg State Transport University, St. Petersburg State University of Maritime and Inland Shipping and others.

THE BASIC PRINCIPLE OF THE PARTNERSHIP APPLIED BY VODOKANAL IS THAT EACH PARTNER FULFILS ITS OBLIGATIONS IN DUE TIME AND AT A GOOD QUALITY LEVEL AND UNDERSTANDS THAT PARTNERSHIP IMPLIES JOINT WORK AIMED AT LONG-TERM, SUSTAINABLE CREATION OF VALUE FOR BOTH PARTIES. OVER DECADES OF COOPERATION WITH FOREIGN AND DOMESTIC PARTNERS, VODOKANAL HAS NEVER FAILED TO FULFIL ITS OBLIGATIONS

Well-defined partnership concept and mutually beneficial cooperation with the partners help the Company to implement innovative technologies, modernize plants, improve the company management and, eventually, raise the stakeholders' satisfaction with Vodokanal services.

Interaction with Customers

ONE OF THE MOST IMPORTANT
ASPECTS OF VODOKANAL ACTIVITIES
IS MAINTAINING EVERYDAY
CONTACTS WITH CUSTOMERS

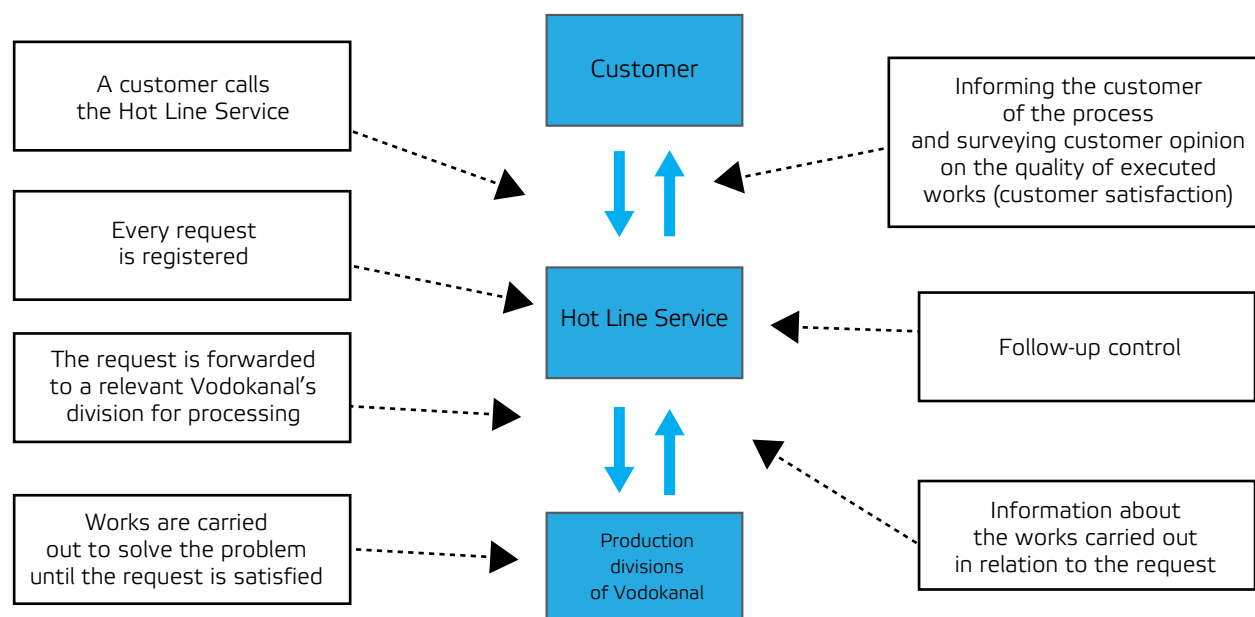
The Company communicates with customers in several ways: in the course of services provision, in the course of interaction initiated by Vodokanal (interviews, focus groups), by discussing various problems in the mass media, in newspapers, magazines and by organizing different meetings with citizens.

Quick response to the customers' complaints of deficiencies in water and sewage networks operation is an important aspect for Vodokanal.

SINCE 2003, VODOKANAL
OF ST. PETERSBURG
HAS BEEN OPERATING THE
HOT LINE SERVICE WHICH
RECEIVES CUSTOMER CALLS
ROUND THE CLOCK.
TEL.: +7 (812) 305-09-09

Besides, Vodokanal
receives requests
via the Internet (there
is a separate section
"Feedback" on the
corporate website
www.vodokanal.spb.ru).

VODOKANAL-CUSTOMERS INTERACTION THROUGH CALLS



All incoming requests are recorded in the information system of the Hot Line and forwarded to the relevant production division responsible for examination of the network, remediation of relevant section of network and informing the customers of the works performed. All the call processing stages – from the call to remediation – are under the control of a body independent from the production division which performs the works. The monitoring of the request processing may only be stopped after the customer confirms that the works are completed. Thus, it is a customer who evaluates the final results of works in relation to every call.

Moreover, the above system enabled citizens, customers and clients to receive information and consulting services from the Hot Line operators.

To develop the call reception system, the time distribution of calls during 24 hours was analysed. The results of the analyses ensured efficient arrangement of work process with

a sufficient number of skilled operators available at any time of the day or night.

The customer call management includes computer registration of all incoming calls. Codification of calls supports efficient evaluation of service quality and helps determine the areas for improvement in order to eliminate the causes of complains preventively.

Processing of customer calls is based on the information obtained by means of up-to-date technologies, in particular, the Call-Centre – automated call recording and distribution system. The information obtained through this system enables us to ensure reception of all incoming calls and to optimize both the call processing time and the waiting time required for the caller to get the operator's answer.

All these factors contribute to the improvement of the customer service quality.

The contest procedure is implemented according to the Provision "On Contest for the Best Customer Title – Crystal Drop" that came into force by the Decree no. 159 dated 9 November 2012. Major criterion for the selection of nominees is the fulfilment by the customer of contractual obligations including first of all timely and fully payment by the customer of water and wastewater services.

In 2014, Crystal Drop Contest was conducted in two stages. The first stage was organized within the framework of X International Exhibition and Conference "Housing and Public Utilities of Russia". The winners of the title "Best Public Utility" were announce on 19 March 2014 in Lenexpo Exhibition Complex.

The second stage of the contest was finalized on 19 April 2014 in the Universe of Water Museum.

Vodokanal conducts the Annual Contest for the best customer title – "Crystal Drop" to build up close interaction between customers and Vodokanal on the grounds of mutual openness and good partnership as well as to search ways for further enhancement of water and wastewater services provided to customers.

THE WINNERS OF CRYSTAL DROP CONTEST WERE ANNOUNCED AS FOLLOWS:

THE TITLE "THE BEST CUSTOMER AMONG HOUSING COMPANIES" WAS AWARDED TO:

- **The best customer among managing companies:**

I place: Housing agency of Petrodvorets town;

II place: ZAO "Stiles".

- **The best customer among Housing Construction Cooperatives, Housing Companies and Condominiums:**

I place: Housing Construction Cooperative "Sea Facade".

THE TITLE "THE BEST CUSTOMER AMONG HEAT SUPPLY COMPANIES" WAS AWARDED TO:

I place: OOO "Peterburgteploenergo";

II place: JSC "St. Petersburg Heating Grid".

THE TITLE "THE BEST CUSTOMER AMONG ORGANIZATIONS WHICH ARE FINANCED THROUGH ST. PETERSBURG BUDGET" WAS AWARDED TO:

- **Among customers served by the Centralized Accounts Department:**

I place: Nursery school no. 83 of Nevskiy District, St. Petersburg;

II place: Nursery school no. 11 of Admiralteyskiy District, St. Petersburg.

- **Among customers not served by the Centralized Accounts Department:**

I place: St. Petersburg Lensoviet Theatre;

II place: Lyceum no. 387 named after N.V. Belousov, Kirovskiy District, St. Petersburg.

THE TITLE "THE BEST CUSTOMER AMONG ORGANIZATIONS FINANCED THROUGH THE FEDERAL BUDGET" WAS AWARDED TO:

I place: St. Petersburg State University of Aerospace Instrumentation;

II place: The Institute of Experimental Medicine of the North-West Branch of the Russian Academy of Medical Sciences.

THE TITLE "THE BEST CUSTOMER AMONG INDUSTRIAL COMPANIES" WAS AWARDED TO:

- **Among customers with water and wastewater consumption up to 10,000 m³/day:**

I place: The B.E. Vedeneev All Russia Institute of Hydraulic Engineering;

II place: ZAO "Petrodvorets Zavod Mashrybprom".

- **Among customers with water and wastewater consumption 10,000–30,000 m³/day:**

I place: OOO "North-West Technopark";

II place: St. Petersburg State Unitary Enterprise for Foreign Mission Services "Inpredservice".

- **Among customers with water and wastewater consumption over 30,000 m³/day:**

I place: Arsenal Machine-Building Plant;

II place: ZAO "Malthouse Soufflet St. Petersburg".

IN THE NOMINATION "CLEAN WATERS OF THE BALTIC SEA" (FOR IMPLEMENTATION BY THE CUSTOMER OF NATURE AND WATER PROTECTION MEASURES):

I place: OOO "Unilever Rus".

IN THE NOMINATION "LET'S SAVE WATER FOR NEXT GENERATIONS" (FOR INSTALLATION BY THE CUSTOMER OF METERING INSTRUMENTS TO ENSURE RATIONAL WATER USE):

I place: Housing Company "Fort".

IN 2014, VODOKANAL CONTINUED WORK RELATED TO CONSULTATIONS AND EXCHANGE OF OPINIONS WITH DIFFERENT CATEGORIES OF CUSTOMERS

Within the working group with the participation of St. Petersburg authorities, Vodokanal actively cooperated with the Union of Industrialists and Entrepreneurs of St. Petersburg (with regard to wastewater disposal norms, construction of local wastewater treatment plants and installation of water and wastewater meters).

Vodokanal organized working meeting with St. Petersburg Association of Industrial Companies (with regard to wastewater disposal norms, construction of local wastewater treatment plants).

In 2014, Vodokanal conducted working meetings with St. Petersburg International Business Association (SPIBA) with regard to wastewater disposal norms, wastewater treatment quality, standard form contracts for water and wastewater services and installation of local wastewater treatment plants.

Meetings of the working group organized by the Concierge Newspaper with the participation of the public services providers were held to discuss issues of water supply for apartment houses, including drinking water quality, installation of house meters, estimation of public service consumption by an apartment house if there are no metering instruments and interaction with owners (right holders) of non-residential premises of apartment houses.

Vodokanal conducted consultations with the Association of Housing Construction Cooperatives, Housing Companies and Condominiums, discussed issues related to estimation of wastewater service consumption by an apartment house if there are no limits for wastewater services consumed for the apartment house management needs and boundaries of operating responsibilities of the public service providers toward wastewater network within apartment houses.



Interaction with Suppliers

VODOKANAL ST. PETERSBURG
IS STRIVING TO BUILD
LONG-TERM, MUTUALLY
BENEFICIAL RELATIONS
WITH SUPPLIERS

Pursuant to the Federal Law "On procurement of goods, works, services by certain types of legal entities" no. 223-FZ dated 18 July 2011, when procuring goods, works and services St. Petersburg Vodokanal shall comply with the principle of transparency. According to this principle the contracting authority is obliged to post the information about pursued procurements on the official web-site www.zakupki.gov.ru

In compliance with the Law no. 223-FZ, the following information is to be posted on the official web-site:

1. Procurement plan.
2. Procurement regulation.
3. Procurement information.
4. Amendments made to a contract during its conclusion and performance.
5. Data on the number and total value of contracts concluded.

To use the Company's own funds in an effective way, Vodokanal carries out procurements applying regulated procedures, including:

- tender – a bid process where the winner is a person bidding the best contract terms evaluated in line with tender criteria, evaluation procedure and bids comparison;
- auction (open or closed) – a bid process where the winner is a person bidding the lowest price or, if the contract price is reduced to zero in the course of the auction and the auction participants compete for the right to make the contract, – a person bidding the highest price for the contract;
- request for quotation – a method of order placement where the information about the purchase of goods, works or services is made available to unlimited range of persons by posting the call for quotations on the company website; the participant which offers the lowest contract price becomes the winner. The maximum contract price in this procedure is 1,000,000 Roubles, and the procedure may only be launched by the company (including its branches) once in three months for the same product;
- single source (supplier, contractor) procurement – a procedure other than tender where the purchaser sends

an offer of contract to one supplier (contractor) only. The use of this procedure is limited to strictly defined cases where other procurement procedures are not feasible or reasonable;

- competitive dialogue – a method of order placement where the Order Placement Commission conducts negotiations with the participants of competitive dialogue and upon the completion of such negotiations participants of negotiations make their final proposals. Prior to the competitive dialogue the Order Placement Commission, on the grounds of evaluation criteria and procedure set forth in the Competitive Dialogue Documents, selects the participant of the competitive dialogue offering the best contract terms.

Prior to the above-mentioned procedures the prequalification may take place in case of procurement of goods, works and services for production needs and if untimely and poor quality of goods, works and services may impair customers.

Prequalification means selection of contenders for participation in the procurement procedure in compliance with the requirements and criteria set by the contracting authority.

The following selection criteria are commonly used for prequalification:

- bidder's experience in the area relevant to the subject of the tender;
- plants and equipment;
- qualifications of managers and specialists;
- company ratings;
- certificates, diplomas, self-regulating organization documents;
- other criteria enabling to assess the bidder.

With such approach, goods and services can be procured on optimal terms and conditions. The published information on bidding and requests for quotations includes contracting authority's contact persons for inquiries regarding the tendering/technical issues. Those who wish to submit their bids (requests for quotations) can receive clarifications on various issues in the course of preparing their tender proposals either by addressing the contact person specified in the documentation over the phone or in a written form by sending an inquiry.

The Order Regulations Bureau is responsible for clarification of issues concerning preparation of bids while the initiator-department is responsible for clarification of issues related to the terms of reference and draft contract provisions.

In 2014, within the framework of the Provision "On the procurement of goods, works and services through Vodokanal own funds" the Company conducted over 2,000 procurement procedures and awarded contracts for the total amount of over 25 billion Roubles.

Pursuant to the Regulation of the Government of the Russian Federation no. 616 dated 21 June 2012 "On approval of the list of goods, works and services, the procurement of which is made in electronic form", to procure goods (works, services) in electronic form, as well as to computerize the process of procurements made at the Company's own funds, Vodokanal entered into the contract with the company operator of electronic tendering platform B2B (B2B-VODOKANALSPB) and OTC-tender (www.otc.ru).

E-procurement reduces labour costs of the bidders and the contracting authority, facilitates the development of competitive environment, speeds up and simplifies procurement process.

In 2014, within the framework of the interaction with suppliers and implementation of import substitution programme Vodokanal made contacts with domestic suppliers of pumping equipment, pipes, chemical agents for water and wastewater treatment and other suppliers. To improve energy efficiency of the Company's facilities and ensure sustainable development of partnership relations targeted for the development of production operations, continuous modernization and upgrading of equipment, Vodokanal entered into the cooperation agreement with ZAO "Hydromashservice". Within the frame of that cooperation the Company has developed and has been implementing the action plan aimed at enhancing the quality of maintenance works, training of personnel in selection, operation and maintenance of equipment as well as at improving equipment acceptance procedure.

One of the most vital issues of import substitution for the Company is the introduction of new domestic submersible pumps at wastewater treatment facilities.

In October 2014, the Committee for Energy and Engineering Support hosted the meeting of the science and technology council to discuss current regional regulations for construction and operation of piping systems and the development of new regulations. In the course of the meeting several HDPE pipe manufacturers from St. Petersburg (OOO "Ikaplast", OOO "FTK ROST", OOO "Insulation Technologies", ZAO "Nordpipe" and others) established consent to upgrade their production processes with consideration for current Vodokanal requirements to pipe products. The Company cooperates with suppliers with regard to the development of quality control procedures for pipe products and establishment of test laboratory.

Vodokanal performed surveys to substitute import chemicals used for water and wastewater treatment.

All-in-all, during 2014 Vodokanal departments did great work interacting with local suppliers to find substitutes of import raw materials and equipment for each production stage of drinking water treatment and distribution as well as wastewater pumping and treatment.



Interaction with Financial Institutions

IN 2014, VODOKANAL CONTINUED TO IMPLEMENT THE NEVA UNTREATED WASTEWATER DISCHARGE CLOSURE PROGRAM

The Program is co-financed with the loans provided by the European Bank for Reconstruction and Development (EBRD), Nordic Investment Bank (NIB) and European Investment Bank (EIB), as well as the non-refundable assistance of the Northern Dimension Environmental Partnership (NDEP), Swedish International Development and Cooperation Agency (SIDA), the Ministry of the Environment of Finland (FMoE), EBRD Special Support Fund and the John Nurminen Foundation.

In addition to the provision of funds, Vodokanal's lenders and donors monitor the performance of financial obligations by Vodokanal, compliance with environmental requirements, conformity of tender procedures for procurement of goods, works and services with the international standards.

In 2014, Vodokanal continued the reconstruction of Northern Wastewater Treatment Plant within the frame of the Neva Program. The works were financed through the earlier attracted loan proceeds and non-refundable technical assistance. Equipment supply is ongoing. The completion of the Program is scheduled for 2015.

In December 2014, the hot sub-spot no. 18.1 "Northern Tunnel Collector Construction" was excluded from the list of hot spots (pollution sources) at the 47th Meeting of the HELCOM Heads of Delegation. Due to the Completion of the Northern Tunnel Collector 76 untreated wastewater discharges (channeling 334,000 m³ into the Neva) were closed. Today that wastewater is transported to Northern Wastewater Treatment Plant and undergoes full cycle of treatment in line with HELCOM Recommendations.

IN 2014, VODOKANAL WENT ON PERFORMING ITS OBLIGATIONS OF DEBT REPAYMENT AND SERVICING UNDER THE LOAN AGREEMENTS

In 2014, Vodokanal completed the Project for Upgrading Small Wastewater Treatment Plants in St. Petersburg, which included the works at Kronstadt WWTP, Kolpino WWTP, Pushkin WWTP and Pontonnyy WWTP. The objective of the project was to increase the efficiency of wastewater treatment at small plants and ensure stable removal of phosphorus and nitrogen from wastewater (the Baltic Marine Environment Protection Commission (HELCOM) pays great attention to the compliance with these parameters, since it is phosphorus and nitrogen that intensify the growth of blue-green algae in the Baltic Sea). Project implementation started in March 2012. The project was financed with the loan provided by Nordic Environment Finance Corporation (NEFCO), the non-refundable assistance granted by the Ministry of the Environment of Finland (FMoE), Baltic Sea Action Plan Fund (BSAP Fund) and the Northern Dimension Environmental Partnership (NDEP) as well as own funds of Vodokanal.

LLC Vodokanal-Finance (subsidiary of Vodokanal St. Petersburg) was paying, in a timely manner and in full, the accumulated coupon yield to the holders of Series 01 non-convertible interest-bearing documentary bearer bonds of LLC Vodokanal-Finance, with obligatory centralized care (state registration number 4-01-36398-R dated 16 November 2010). In 2014, the amount of the paid coupon yield was RUB 175,520,000.00.

The series 01 bond's coupons rate remained at 8.8% per annum.

Interaction with Industrial Enterprises

DURING 2013–2014, WATER
AND WASTEWATER REGULATIONS
WERE UNDER REVISION.
VODOKANAL INTERACTED
WITH REPRESENTATIVES
OF INDUSTRIAL ENTERPRISES,
CLARIFIED VARIOUS
PROVISIONS OF NEW REGULATIONS
AND GAVE NECESSARY
CONSULTATIONS

Over the last years, the Government of the Russian Federation approved the Cold water supply and wastewater disposal rules, Wastewater composition and properties control rules (defined customer categories subject to special discharge limits of pollutants), Rules for the determination of discharge limits of pollutants by customers, Provision on decreasing the discharges of pollutants. The RF Ministry for Natural Resources and Environment approved the Methodology for the development of discharge limits of pollutants by customers.

Vodokanal provided assistance to industrial enterprises in connection with:

- the development of declarations on wastewater composition and properties;
- the identification of pollutants discharge sources;
- planning of administrative and technical measures to reduce pollutants discharges;
- development of action plans to cut down pollutants discharges.

In 2014, the Company received from its customers for checking 43 declarations on wastewater composition and properties.

112 inspections of the customers' water and wastewater facilities were conducted during 2014 to check, among other things, the implementation by the customers of water protection plans.

Based on the results of the work performed in 2014, 53 customers developed and submitted to Vodokanal their

water protection plans, 13 customers installed local wastewater treatment units or reconstructed existing ones. Among those customers there were ZAO "Malthouse Soufflet St. Petersburg", OOO "Mondelēz Rus'", OOO "Unilever Rus'", St. Petersburg Automobile Operating Company no. 11, ZAO "Obyedineniye Soyuz", St. Petersburg Diary "Piskarevskiy", ZAO Construction Company "Dvadtsatiy Trest", ZAO "British American Tobacco Russia" and others.

In 2014, to increase the efficiency of work with customers and reduce discharge of pollutants in the municipal sewerage system Vodokanal began to implement, in line with the current laws, the sewerage area segmentation to plan the customers' wastewater quality control.

In compliance with it the customers' wastewater quality control will be planned based on monitoring wastewater quality in check points of 601 sewerage areas. That helps identify troubled areas and monitor, first of all, those customers that generate wastewater which quality does not meet the regulation requirements.

In 2014, International Advanced Water Technologies Centre hosted the workshop for industrial enterprises targeted for the exchange of experience in water and wastewater techniques. Participants of the workshop discussed the issues related to collection and treatment of surface water from the territories of industrial companies, treatment of industrial wastewater prior to its discharge to the centralized sewerage system, changes in the laws of the Russian Federation on water supply and wastewater disposal, experience of EU countries in norm setting and industrial wastewater treatment.

The working group, which task was to address issues related to enforcement of the Federal Law "On Water Supply and Wastewater Disposal" as well as related bylaws, was established under the jurisdiction of the Committee for Energy and Engineering Support of St. Petersburg. Representatives of the Union of Industrialists and Entrepreneurs of St. Petersburg, Association of Industrial Enterprises in St. Petersburg, St. Petersburg International Business-Association, the Committee for Energy and Engineering Support of St. Petersburg and St. Petersburg Vodokanal became members of the working group. As a result of the joint work, new wastewater composition norms were adopted in St. Petersburg.

Establishment of Water Cluster and Water Academy

VODOKANAL IS INVOLVED IN INTENSIVE WORK TO ESTABLISH THE SO-CALLED WATER AND WASTEWATER CLUSTER (HEREINAFTER REFERRED TO AS "THE WATER CLUSTER") TO INCREASE EFFICIENCY OF WATER COMPANIES IN THE RUSSIAN FEDERATION THROUGH THE DEVELOPMENT, DISSEMINATION AND IMPLEMENTATION OF TECHNICAL, MANAGERIAL, LEGAL, FINANCIAL AND ECONOMIC SOLUTIONS BY APPLYING THE INTEGRATED RESOURCES OF PRODUCTION, EDUCATION AND RESEARCH-AND-DEVELOPMENT SECTORS

The water cluster will create conditions to accelerate introduction and development of modern technologies and innovations in water industry by way of promoting the application of engineering solutions, advanced technologies and equipment.

Finally, the integrated, research-and-technology, innovative and production infrastructure will be created aimed to increasing the level of social and economic development of the region as well as to enhance the environmental condition of the Baltic Sea. Such infrastructure will contribute to the fulfilment of tasks set forth by the Resolution of St. Petersburg Government no. 989 dated 11 December 2013 "On the approval of St. Petersburg water and wastewater master plan up to 2025 with an outlook to 2030".

Under the leadership of O.A. Markov, Vice-Governor of St. Petersburg, a working group was established to address issues related to the creation and operation of the water cluster in St. Petersburg.

St. Petersburg Vodokanal together with the working group developed the draft Resolution of St. Petersburg Government "On approval of the concept to facilitate the creation and operation of the territorial water cluster in St. Petersburg".

Within the framework of the water cluster it is planned to establish the Water Academy – educational, scientific, research and methodological centre. A package of documents needed to create the Water Academy was developed in 2014. The Water Academy will be located at the following address: Lit. A and Lit. B, 4–6 Chernoretskiy per., St. Petersburg.



Interaction with Personnel

FOLLOWING THE PRINCIPLES
OF SOCIALLY RESPONSIBLE BUSINESS
VODOKANAL IMPLEMENTS ITS
PERSONNEL MANAGEMENT POLICIES
AIMING AT EFFECTIVE INTERACTION
BETWEEN EMPLOYEES AND MANAGERS

Implementation of personnel management policies covers the following areas:

- recruitment and occupational selection of personnel;
- regulation of labour relations;
- remuneration and motivation;
- social support of employees;
- development (training, refresher course and advanced training) of employees;
- occupational and health safety.

Personnel management policies are based on strict observance of the Labor Code of the Russian Federation. In terms of labor relations the Company is committed to the principle of equal opportunities and guarantees no discrimination in respect of gender, religion, political views, age, nationality, material situation, etc. In 2014, no violations of labor law by Vodokanal were reported.

Vodokanal considers its personnel as one of the main strategic resources that ensure competitiveness of the Company and contribute to the success in achieving its goals. In this regard, the most important goals of the personnel management policies are the maintenance of professional personnel in all areas of the Company activity and motivation of employees to productive and effective labour.

Interactions with employees are based on social partnership, common goals, respect for mutual interests, feasibility of the obligations taken by the parties and proper fulfillment thereof.

Opportunities of Vodokanal in terms of interaction with personnel are determined, on the one hand, by many years' experience in social program implementation, substantial material resources in this area, and on the other hand – by implementation of new techniques and strategic approaches in social development.

As of 1 January 2015, the actual number of the Company employees was 8,450 people. The gender and age personnel structure is as follows: the average age of the Company employees is 44.08, including managers – 43.57; specialists – 39.92; white collar workers – 58.22; blue collar workers – 46.56. The Company employs 5,171 men (61.2%) and 3,280 women (38.8%). The average record of service is 10 years.

38% of the Company employees have a higher education.

The number of candidates of science is 32; doctors of science – 4.

The personnel turnover reduced from 8.01% in 2013 to 6% in 2014 which corresponds to the standard staff turnover level of about 6% (when calculating the turnover percentage only the number of voluntary resignations and dismissals for violation of work discipline are taken into account according to orders of the RF State Committee for Labour). The total percentage of the Company personnel turnover is less than that in the North-West Federal District of the RF (20% in 2014).



INTERACTION WITH PERSONNEL IS ONE OF THE MOST IMPORTANT COMPONENTS OF STRENGTHENING AND DEVELOPMENT OF VODOKANAL'S CORPORATE CULTURE AND IS CARRIED OUT, AMONG OTHER THINGS, THROUGH THE INTERNAL COMMUNICATIONS SYSTEM INCLUDING:

- regular meetings of Company employees with managers to inform employees about Company future development;
- publication of the corporate newspaper "Vodokanal's News";
- corporate web-site available to every employee where the Company regularly places and updates information on its activities (policies, plans, procedures, etc.);
- wide-range surveys of opinions;
- placement of advertisements, boards and other information on special stands.

Vodokanal pays special attention to interaction with the youth.

As of 1 January 2015, the Company employed 2,748 young experts which accounts for 32.5% of the actual number of Company employees.

St. Petersburg Vodokanal implements projects targeted to the establishment of the younger experts' pool, recruitment of talented youth, creation of conditions for the youth professional growth and involvement in the Company's operations.

IN 2014, SOME PROJECTS WERE IMPLEMENTED AIMED AT:

1. Recruitment and effective adaptation of young experts in the Company:

- Welcome to Vodokanal Event for young new-comers. The objective of the event is to tell young employees about the Company history, traditions and innovations, inform about the career development opportunities, social programs. In 2014, over 190 young recruits took part in the event;

- Adaptation and Tutorship Procedures. 490 employees passed the adaptation procedure in 2014. 15 employees underwent the tutorship procedure.

2. Involvement of the youth (the Future Generation Project):

- work with students and graduates from higher and secondary education institutions (introductory, production and pre-graduation practices). In 2014, training practice was organized for 81 students from higher education institutions and 106 college students;

- work with students from the Water College (training practice and employment of graduates). In 2014, 28 students passed the training practice and 24 students were employed by the Company. In total, 754 Company employees are graduates from the Water College.

3. Recognition of services:

- in 2014, 15 employees under the age of 35 with a 5 year unbroken record of service were awarded the lapel badge "The Best Young Employee of the Company" and a monetary remuneration, as well as a free voucher to Burevestnik Sanatorium for 7 calendar days granted to the awarded person and a family member.

4. Improvement of conditions for professionalism development and career promotion:

- professional contests with an active participation of the youth;

- work with the Company personnel pool.

5. Development of commitment to the Company:

- the IV Youth Games Festival (25–27 April 2014) targeted to build up corporate unity among young employees, establish

conditions for creative initiatives and development of professional capacities of the youth;

- the event dedicated to the Youth Day (27 June 2014). The program included the training course – "Effective Management

Skills (Effective Interaction in Process Management)".

Young employees, members of the Group of Talents and the Youth Council of the trade union organization took part in the event;

- meetings of the youth and the Company managers held in all Company business units, where young people got an opportunity to have an informal talk with top managers of the Company and ask questions;

- mass sports events (seasonal sports tourist meetings, Spartakiada games) with an active participation of the youth.

6. Creation of the external image of the Company:

- participation of Company cross-function teams in amateur sports championships of St. Petersburg and Russia;

- participation in the Club of the Cheerful and Sharp-Witted Championship, held among St. Petersburg companies and enterprises;

- participation in the International Contest for the Best Youth Adaptation System held in the town of Yugorsk;

- thematic events for the youth including the business game "Feel the Value of Water", environmental quest "Water and Cities", intellectual game "The Rifleman of the Voroshilov Regiment" organized during All-Russian, city and corporate events;

- work with veterans, participation in events dedicated to memorable days;

- participation in the Museums at Night annual event dedicated to the International Museum Day; the event was organized by the Universe of Water Museum Complex.

The Youth Council of the Company works in cooperation with the Company administration and trade union.

The Youth Council unites young employees – members of the trade union under 35, who are interested in professional and cultural self-development, discussion of acute problems of the Company, dissemination of values and principles of St. Petersburg Vodokanal.

In particular, the Youth Council calls working youth to take part in trade union activities and public life of the Company, promotes the healthy life style, organizes sports and cultural events.

Interaction With Trade Unions

PARTNERSHIP WITH THE TRADE UNION PLAYS AN IMPORTANT ROLE FOR VODOKANAL ST. PETERSBURG

St. Petersburg Vodokanal recognizes the trade union as a major element of the effective system in terms of company management; occupational health and safety; raising personnel satisfaction level; organization of employees' leisure and rest, and other activities.

The main document defining the relationships between the employer and the trade union as the parties of social partnership is the Collective Employment Agreement – a legal act that regulates social and labour relations between employers and employees based on the congruence of interests of the parties in compliance with the laws of the Russian Federation.

The Collective Employment Agreement determines not only responsibilities of the employer and the trade union, but also social guarantees and privileges for Company employees and labour veterans.

On 1 January 2014, the new Collective Employment Agreement entered into force and it will be valid for the next three years.

It provides a well-developed corporate social responsibility base that comprises social support of the personnel's potential and motivation, healthcare and labor occupational safety systems, care for veterans, sports development, youth policies, interaction with trade unions, regular staff training.

Performance of the Agreement, where relations between the personnel and the company are specified, is annually verified by representatives of the parties. After considering the results of such verification a certificate is issued and made available to all employees. The Collective Employment Agreement is revised and amended on regular basis in compliance with performance analysis results. All amendments to the Collective Employment Agreement are aimed at optimizing social and labor relations between employees and the employer.



Interaction with Educational Institutions

VODOKANAL PAYS SPECIAL ATTENTION TO THE TRAINING OF WORKERS AND ENGINEERS FOR THE COMPANY

Cooperation between Vodokanal and the Water College (former Professional School no. 89) is an outstanding example of successful social partnership.

Advanced training facilities have been created in the College together with Vodokanal, among them:

- training set to simulate emergency repairs (at water and sewer networks) and a training ground;
- training simulators for welding, sanitary, ventilation and electrical works, small-size mechanical equipment, laboratory and workbench equipment;
- all equipment for the College classrooms to provide training and educational process.

The material and technical facilities are used not only for training of newcomers but for advanced training and retraining of regular employees.

College students study up-to-date production processes with the help of Vodokanal. For this purpose, annual on-the-job training for water and wastewater department students at the Company's facilities is organized. College representatives also participate in professional contests organized by Vodokanal.

In 2014, Vodokanal continued its partnership with the following specialized institutions of higher education: St. Petersburg Technological Institute, St. Petersburg State University of Water Communications, State University of Architecture and Civil Engineering, St. Petersburg State Transport University and others.

AN IMPORTANT FIELD OF VODOKANAL ACTIVITIES IS CLOSE INTERACTION WITH SCHOOLS OF ST. PETERSBURG, LENINGRAD REGION AND OTHER RUSSIAN CITIES UNDER DIFFERENT PROGRAMS AND PROJECTS OF THE YOUTH ENVIRONMENTAL CENTRE (YEC) AND THE UNIVERSE OF WATER MUSEUM COMPLEX

Relevant environmental information, various forms of work, active training methods applied in YEC allowed to attract over 600 educational institutions to the implementation of YEC projects and programmes.

YEC partners are kindergartens, schools, colleges, vocational schools, higher education institutions in St. Petersburg and the Leningrad Region.

Interaction with educational institutions is built on the basis of social partnership and in compliance with the main objectives of YEC:

- fostering the culture of water use in the city;
- fostering the responsible attitude of citizens to natural resources;
- development of social activity of the youth;
- promotion of ideas of efficient environmental education as well as education for sustainable development.

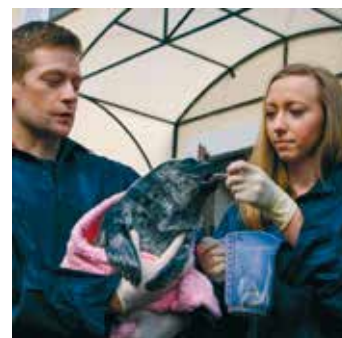
Work with educational institutions, kids and youth includes interactive activities and excursions; different projects; competitions, festivals and actions.

Besides, a lot of work with teachers is done on the premises of YEC including seminars, methodological support and dissemination of teaching aids.

Interaction with Environmental and other Non-Governmental Organizations

RESPONSIBILITY TO THE SOCIETY AND FUTURE GENERATIONS IS AMONG THE BASIC VALUES OF VODOKANAL ST. PETERSBURG. IN ITS PRODUCTION AND ENVIRONMENTAL AWARENESS-RAISING ACTIVITY THE COMPANY ACTIVELY INTERACTS WITH DIFFERENT PUBLIC ORGANIZATIONS AND CIVIL SOCIETY ACTIVISTS

A representative of Vodokanal is a member of the Environmental Council for Environmental Protection under the Government of St. Petersburg. In 2014, a draft of the state sub-program "Development and Environmental Protection for the period of 2015–2020" was discussed at the meetings of the Environmental Council. Members of the Environmental Council supported the proposal of the Committee of Natural Resources, Environment and Ecological Safety to amend the draft of the sub-program. In addition, the Environmental Council dealt with the issues of construction waste disposal, air quality and arrangement of state environmental monitoring of atmospheric air.



Since 2011, meetings of the working group on water supply and wastewater disposal in the residential sector of the city have been held at the premises of Vodokanal. The idea to organize such a working group started up during the IV Conference for Chairpersons of Homeowners Associations. It was also decided that the working group would comprise experts from Vodokanal, CEO of managing companies, chairpersons of housing cooperatives and construction associations, as well as representatives of the publishing house "Concierge". Regular meetings are dedicated to contractual relationship between customers, sub-customers and Vodokanal St. Petersburg, boundaries of responsibility for operation of water supply systems between customers and sub-customers, installation by Vodokanal of water filters at the inlets of the buildings, maintenance of water meter units, water heads in apartment houses, etc. At these meetings Vodokanal experts always answer specific questions on water supply and sewerage services asked by representatives of housing cooperatives and managing companies.

Vodokanal regularly participates in the meetings of the Union of Industrialists and Entrepreneurs and also in the meetings organized by the Industrial Committee of St. Petersburg International Business Association (SPIBA). Cooperation of Vodokanal and SPIBA began in March 2011. Members of the SPIBA Committee for Environmental Protection and Industrial Safety met with representatives of Vodokanal and approved the establishment of the SPIBA working group at Vodokanal in order to solve efficiently acute problems of water supply and wastewater disposal and to maintain a continuous dialogue with international business community.

Vodokanal is involved in work of the Public Council for improvement of environmental situation in St. Petersburg and enforcement of civil rights to healthy environment. In April 2014, the first meeting of the Public Council was held at the premises of the Information and Training Centre of Vodokanal. At that meeting Vodokanal represented a new area of its activities targeted to creation of the chemical balance of pollutants in the city sewerage system. Vodokanal intends to introduce the system, which will make it possible to identify the sources of specific pollutants entering the city sewerage system, as well as to deal directly with industries-sources of specific pollutants and provide them assistance in developing pollutants discharge reduction plans, including selection of optimal techniques for local wastewater treatment.

In 2014, Vodokanal also took an active part in a series of events organized by HELCOM. In particular, on 5 March 2014, Vodokanal participated in the International Conference dedicated to the HELCOM 40th Anniversary.

In 2014, cooperation between Vodokanal and "Ecology and Business" Company continued. Within the framework of that cooperation Vodokanal participated in the Baltic Sea Day International Forum on 19–21 March. During the forum Vodokanal hosted at its premises the panel discussion – "Environmental education and awareness-raising for the Gulf of Finland Year".

Partner relationships with the Northern Dimension Environmental Partnership are continued. In June 2014, the NDEP Steering Group meeting was hosted by the Company.

In 2014, the cooperation of Vodokanal and the Baltic Sea Action Plan Group (BSAG) continued and was targeted to the development of so-called "road map" to reduce the adverse impact on the Lake Ladoga – Lake Onega – Neva River – Gulf of Finland water system.

In 2014, Vodokanal also cooperated with different environmental and other public organizations to implement projects and programs of the Youth Environmental Centre.

IN 2014, THE COOPERATION OF VODOKANAL WITH SPECIALISTS OF THE NOT-FOR-PROFIT PARTNERSHIP MARINE MAMMAL REHABILITATION CENTRE OF THE LENINGRAD REGION CONTINUED

The main goal of the Marine Mammal Rehabilitation Centre is providing help to seal pups. The scientists and zoologists Vyacheslav Alekseyev and Elena Andrievskaya are qualified experts that have gained a wide experience in successful rehabilitation of marine mammals. In addition to the rehabilitation work they monitor populations of the Ladoga ringed seal, the Baltic ringed seal and the grey seal in St. Petersburg and the Leningrad Region. In late 2014, the Baltic Ringed Seal Foundation was established with the active support of Vodokanal.

IN LATE JULY 2014, REPRESENTATIVES OF THE INDEPENDENT AND NOT-FOR-PROFIT CIVIL MOVEMENT "BEAUTIFUL PETERSBURG" VISITED THE HOT LINE SERVICE OF VODOKANAL

Vodokanal has had the call center for over ten years. The telephone number +7 (812) 305-09-09 operates 24 hours per day. About 700–800 calls are received by the Hot Line Service daily. All calls can be divided into requests (regarding tariffs, technical terms, museum's working hours, etc.) and complaints. Any complaint will be immediately processed if it is within Vodokanal's competence or passed to other city services. Complaints submitted to the Hot Line Service are analyzed and studied. That helps identify the most problematic areas and take relevant measures.

The head of the Beautiful Petersburg movement Krasimir Wranski said that he got a most positive impression after visiting the Hot Line Service. "It was interesting to see how work with customers is organized in Vodokanal. According to opinions of St. Petersburg citizen, Vodokanal is one of the best city companies in terms of quality and efficiency of call processing", said K. Wranski. "The period between a call and solving the issue is several days or even hours, that is amazing".

Interaction with Federal and Regional Authorities

IN ITS ROUTINE OPERATIONS
VODOKANAL ST. PETERSBURG
CONSTANTLY COOPERATES WITH
BOTH FEDERAL AND REGIONAL
AUTHORITIES, AS WELL AS WITH
MANAGEMENT OF DIFFERENT
SUBJECTS OF THE RUSSIAN
FEDERATION

In order to implement the state policies in water supply and wastewater disposal aimed to protect health and improve life quality of the population, Vodokanal St. Petersburg and the Committee for Energy and Engineering Support developed the St. Petersburg Water and Wastewater Master Plan for the period up to 2025 with the outlook to 2030. The Master Plan was developed in compliance with the Petersburg Master Plan based on the results of technical survey of water supply and wastewater systems. On 11 December 2013, the Government of St. Petersburg adopted the resolution no. 989 "On the St. Petersburg Water and Wastewater Master Plan for the period up to 2025 with the outlook to 2030", which determines targets and ways of water supply and wastewater system development.

VODOKANAL REGULARLY HOSTS EVENTS ATTENDED BY REPRESENTATIVES OF FEDERAL AND REGIONAL AUTHORITIES

IN 2014, VODOKANAL WAS INVOLVED
IN ORGANIZATION OF DIFFERENT
CONFERENCES, MEETINGS, "ROUND
TABLES", SEMINARS, FORUMS AND
OTHER EVENTS HELD BY PUBLIC
AUTHORITIES OF THE RUSSIAN
FEDERATION AND ST. PETERSBURG AND
BY PROFESSIONAL COMMUNITY

On 11 March 2014, the Ministry of Natural Resources and Environment in conjunction with Vodokanal held a round table as part of the project "St. Petersburg Initiative". Co-chairs of the round table were the director of the International Cooperation Department of the Ministry of Natural Resources and Environment N.R. Inamov and Director General of Vodokanal St. Petersburg F.V. Karmazinov. On 23–24 October 2014, a plenary session under the St. Petersburg Initiative Project was held in Vodokanal. On 22 October 2014, an offsite meeting of the Working Group on Monitoring of Implementation of the RF State Council's decisions and its presidium under the supervision of Assistant to the President of the Russian Federation I.E. Levitin was held.

On 13 November 2014, a meeting of the specialized technical committee of the Federal Agency for Technical Regulation and Metrology (Rosstandart) TK-113 "Best available technologies" was organized in Vodokanal.

In February and April 2014, meetings of the Public Council under The Gulf of Finland Year Project co-chaired by the Governor of St. Petersburg Georgiy Poltavchenko and the Governor of the Leningrad region A.Yu. Drozdenko were held.

Vodokanal also hosted meetings of the Union of Industrialists and Entrepreneurs, the Association of Industrial Enterprises of St. Petersburg, the city Public Utilities Council and many others.

In 2014, delegations of the Khanty-Mansiysk Autonomous District, the government of Yaroslavl Region, Khabarovskiy Region Administration visited Vodokanal.

In particular, in 2014, Vodokanal employees participated in the All-Russian meeting "Effective management of public utilities sector for the purpose of creating favorable living conditions for citizens" (on 1–3 October 2014, Suzdal, Vladimir), held with the support of the Ministry of Construction, Housing and Utilities of the Russian Federation, the State Corporation "The Fund for Promotion of the Housing and Utilities Reform", NP "Housing and Utilities Sector Development" and regional authorities.

Vodokanal specialists prepared letters, reports, answers to inquiries and other materials for state authorities of the Russian Federation and St. Petersburg, regarding the situation in the water sector, the need to improve the existing legislation, ways to achieve more efficient interaction between the Company and its customers and other issues in relation to Vodokanal activities. Vodokanal's experts prepared an answer to St. Petersburg Committee for Energy and Engineering Support dated 24 March 2014 with regard to the Committees' request to declare a number of regulatory legal acts of St. Petersburg invalid due to their non-compliance with the Federal Law "On Water Supply and Wastewater Disposal" no. 416-FZ dated 7 December 2011. As a result, the regional legal regulations on relations between the users of wastewater systems continued in force.

Vodokanal participated in business meetings organized by executive authorities of St. Petersburg including St. Petersburg Committee for Energy and Engineering Support, St. Petersburg Tariff Committee. On 26 June 2014, representatives of Vodokanal's Legal Department took part in the meeting that was dedicated to the issue of determining a guaranteed supply company in St. Petersburg and organized by the Tariff Committee.

After that meeting it was decided to develop a legislative initiative aimed at excluding the mandatory appointment of the said company.

Vodokanal also took an active part in meetings held by the executive authorities of the Russian Federation. On 24 November 2014, representatives of the Company participated in the meeting organized by the Deputy Minister of Construction, Housing and Utilities of the Russian Federation A.V. Chibis dedicated to the entry into force of the environmental part of the Federal Law "On Water Supply and Wastewater Disposal" no. 416-FZ dated 7 December 2014. According to the meeting results it was decided that this document should be further adjusted and brought in line with the principles of technological standardization set forth in the Federal Law "On Environmental Protection" no. 7-FZ dated 10 January 2002. As a result of the implemented joint work, on 29 December 2014, the State Duma of the Russian Federation adopted in the third final reading the Federal Law no. 458-FZ "On Amendments to the Federal Law "On Production and Consumption Waste" and separate legislative acts on invalidity of some legislative acts (provisions) of the Federal Law no. 458-FZ. According to the Article 18 of the said law the entry into force of several articles of the Federal Law "On Water Supply and Wastewater Disposal" no. 416-FZ dated 7 December 2011 (the part related to the prevention of the negative impact on the environment) was postponed to 1 July 2015.

Vodokanal also participated in the meetings held at the Ministry of Construction, Ministry of Natural Resources and the State Duma.

In 2014, Vodokanal took part in legal proceedings of the claims against Vodokanal's customers under which the environmental and district prosecutor's offices requested to oblige them to install local wastewater treatment units at discharges to the municipal sewerage system (or to improve the existing local wastewater treatment units). Favourable award on such legal proceedings made it possible to improve the quality of customer's wastewater treatment, prevent damage to the centralized sewerage system and reduce the adverse impact on water bodies, which in its turn cut down the fees for the adverse impact on the environment to be paid by Vodokanal. In total, Vodokanal participated in 290 similar legal proceedings in 2014.

In 2014, Vodokanal took an active part in arrangement and work of different discussion panels dedicated to the legal regulation of water supply, wastewater disposal and environment protection activities. In particular, under the IV Petersburg International Legal Forum Vodokanal was the organizer of a panel discussion dedicated to issues of protection and sustainable use of water bodies.



Interaction with Mass Media

ACCESSIBILITY OF INFORMATION
IS ONE OF THE MOST
IMPORTANT VODOKANAL
VALUES. INTERACTION WITH
THE MASS MEDIA
IS A GOOD WAY TO MAKE THE
INFORMATION ACCESSIBLE

NUMBER
OF MASS MEDIA
PUBLICATIONS
ON VODOKANAL
ACTIVITIES

YEAR	NUMBER
2006	2,756
2007	3,177
2008	3,835
2009	4,364
2010	6,138
2011	8,108
2012	8,836
2013	9,254
2014	9,866



Vodokanal's information policy aims to create a positive company image, improve mutual understanding between the company, its customers and the society, and to foster the culture of water use and responsible attitude towards the environment. **Relations with the mass media are based on the principles of objectivity, reliability of information and quick response. The forms of interaction with the mass media are as follows:**

- response to the mass media's inquiries;
- interviews of Vodokanal's representatives in the mass media;
- press conferences, briefings, round tables;
- press-tours for journalists to Vodokanal's facilities;
- initiating publications in printed and electronic media, and TV/radio items;
- design and maintenance of websites describing the Company activities;
- work with mass media as part of the information support of projects.

The mass media's interest in Vodokanal activities is growing every year. Over 9,800 materials about the Company activities were publicized (in printed media, Internet, radio and TV) in 2014. In 2013, the number of such materials exceeded 9,000; in 2012 it was over 8,000.



MAIN EVENTS OF 2014 COVERED BY THE MASS MEDIA:

- **Center for Research and Conservation of Marine Mammals, release of treated animals to the wild, opening of the Centre after reconstruction, establishment of the Baltic Ringed Seal Foundation.**

5 press tours were organized to the Centre and animal release events. The project was widely covered by the mass media, including NTV, RTR, STO TV, Sank-Peterburg, Mir, OTV, DTV, TC of the Federation Council; in printed publications (newspapers "Metro", "Peterburgskiy Dnevnik", "Vechniy Peterburg"); on radio stations "Radio Rossiya", "Zenit", "Baltika", and the Russian news agency; and on the popular city web-resources Fontanka.ru and The Village.

Numerous journalists' requests were processed separately.

In total, over 700 publications on this theme were issued in 2014.

The information on the Centre was placed on the official Vodokanal's web-site (www.vodokanal.spb.ru), the Da-Voda web-site dedicated to the solicitous attitude to water (www.da-voda.com), in the social networks VKontakte and Facebook.

- **Pre-commissioning of the new 1-lift boosting pumping station at Main Water Treatment Plant (over 60 publications).**

- **Implementation of the automated information system for recording atmospheric precipitation (installation of precipitation gauges) (over 30 publications).**

- **Events under the Gulf of Finland Year Project (about 200 publications).**

- **Traditionally, opening and closing ceremonies of fountains and operation of snow-melting facilities are topics of interest among journalists. In total, mass media released over 900 publications about the fountains, approximately 300 publications about the snow-melting facilities.**

THE DIGESTS OF MATERIALS ON VODOKANAL ACTIVITIES ARE PRESENTED TO THE COMPANY MANAGEMENT ON A DAILY BASIS. IT HELPS RESPOND TO PUBLICATIONS PROMPTLY, PROVIDE COMMENTS AND CLARIFICATIONS AS NECESSARY AND PINPOINT NEW THEMES FOR INTERACTION WITH THE MASS MEDIA

Development of the Internet sphere was in Vodokanal's special focus in 2014. The information about the Company activities was regularly posted on Vodokanal websites (Vodokanal's official website www.vodokanal.spb.ru, and the Museum Complex's website www.vodokanal-museum.ru, Burevestnik Sanatorium's website www.vodokanal-zagorod.ru). In 2014, the web-site of Youth Environmental Centre www.vodokanal-ecocenter.ru was launched.

In 2014, the Company also continued to develop the awareness-raising Internet-portal about water (da-voda.com) made with the support of Vodokanal. A special website section was created on the Internet-portal to cover the events organized within the frame of the Gulf of Finland Year.

In 2014, over 370 news and 150 press-releases were posted on Vodokanal's official web-site. The Information and Public Relations Department of Vodokanal answered on average 35–40 media inquiries per month (requests for comments, interviews, shooting films).

Cooperation with Social Media

To communicate with the Internet audience, the most part of it being the youth, Vodokanal has chosen as its representative – the character of the Da-Voda.com portal – The Neva Crayfish. This character is directly associated with Vodokanal's activity.

Many people know that crayfish from the Neva River work at all Vodokanal's water intakes. They monitor the quality of water coming from the Neva River.

The Neva Crayfish gives video lessons on the Da-Voda.com portal, has its own accounts in social networks (VKontakte, Facebook, Twitter). It communicates with its friends, answers their questions, takes initiatives, tells interesting facts about water and animals; shares information on devices that help save water in everyday life, organizes environmental actions.

In total, the Neva Crayfish has over 11 thousand friends in the social networks. There is also the Da-Voda account in VKontakte, Facebook and Twitter. At the end of 2014, the number of subscribers was over 2,500 people.

The Neva River Crayfish constantly interacts with environmentally active Internet users. In particular, in 2014, users were nearly interested in the news posted by the Neva River Crayfish that seal and baby seal (seal pups

under 1 year) hunting may be permitted in Baikal Lake. Another remarkable poll by the Neva River Crayfish was dedicated to the initiative of one citizen who addressed deputies of the Leningrad Region with a request to withdraw the Ladoga seal from the Red Book of the RF and permit its shooting.

But the most headline-making poll was about dishes cooked from the Baikal seal: it collected a lot of responses and gave rise to lively discussions both on the Neva River Crayfish account and on web-pages of users who reposted the news.

Traditionally, a lot of attention is paid to all posts about the Center for Research and Conservation of Marine Mammals and the Baltic Ringed Seal Foundation. Such posts helped inform general public about a special nomination of the Foundation within the framework of the citywide creativity contest "I Love Gulf of Finland". Many contest participants learned about that nomination from social networks.

Users are also interested in drinking water and wastewater treatment, work of Neva river crayfish at Vodokanal's biomonitoring stations. In November 2014, the Neva River Crayfish explained the situation about untreated wastewater in Novoye Devyatino (Vsevolozhskiy District of the Leningrad Region) that flows into the Neva River and the Gulf of Finland. Vodokanal doesn't bear responsibility for the treatment of wastewater from the other RF subject, but citizens of St. Petersburg can safely drink water since water treatment plants are designed for even bigger pollution.

In early October, a group of bloggers from St. Petersburg visited South-West Wastewater Treatment Plant.

The initiator of the blog-tour was Eugeni Kochanov who addressed Vodokanal with a request to organize a tour to a wastewater treatment plant. Eugeni Kochanov writes about his walks around Petersburg and posts his stories and photos on LiveJournal (nickname – zydog). His post about his trip to SWWTP was quite popular with the internet audience. "I have reached the bloggers' Zen by this post. Besides it hung in the LiveJournal top for some hours last Friday, then it was taken to Fishki.net. What a success!" – said Eugeni.

One of the tour participants wrote in his blog after visiting SWWTP: "... I was fortunate to visit SWWTP. It is the plant of an amazing size. WELL DONE, Vodokanal!!!"

In December, a group of St. Petersburg photographers from PastFuture Project visited SWWTP. Vodokanal's specialists told about wastewater treatment stages, importance of nitrogen and phosphorus removal from wastewater (it is nitrogen and phosphorus that give a boost to the growth of blue and green

algae in the Baltic Sea), operation of the sludge incineration plant. The manager of the PastFuture Project Vadim Dubinin thanked Vodokanal's specialists for the interesting excursion and fast organization of the visit. The PastFuture creative team is engaged in architectural photography of industrial and historic buildings. Their goal is to make an art photo report of architectural masterpieces, industrial and other buildings in different styles of the 19–20th centuries.

In November, journalists and concerned citizens (in particular, representatives of Kanonerskiy Ostrov community, RPR-PARNAS in VKontakte) visited Central Wastewater Treatment Plant. They saw how wastewater comes to the plant, how it is treated by screens and sand traps at the mechanical treatment stage and how it becomes clean at the main biological treatment stage. Members of the public saw the treated effluent, visited the main pumping station, the control room and the sludge incineration plant.

Dmitry Gusev (the head of the public project "Do It RIGHT!") visited Central WWTP within a group of civil activists. In follow-up of the visit it was agreed that he would pass to Vodokanal's specialists his proposals about urban redevelopment, in particular on measures to provide effective wastewater collection from pavements and roads. D. Gusev gave Vodokanal his methodical album for identifying urban redevelopment issues and description of generic solutions for effective collection of wastewater from pavements and roads and for reduction of the city environment pollution (pollution of roads, pavements and air) (illustrated with examples). In December, D. Gusev had a meeting with Vodokanal's specialists to discuss his proposals.

Participation in Exhibitions and Conferences

IN 2014, VODOKANAL
ST. PETERSBURG TOOK AN ACTIVE
PART IN DIFFERENT RUSSIAN AND
INTERNATIONAL EXHIBITIONS
AT ALL LEVELS IN ORDER
TO OPTIMIZE INTERACTION
WITH ALL STAKEHOLDERS

In January 2014, a delegation of Vodokanal headed by Director General F.V. Karmazinov took part **in the International Conference in Helsinki dedicated to the opening of the Gulf of Finland Year.**

In late February, the Company participated **in the V International Ecology Forum in St. Petersburg.** In addition to being involved in theme-based sections and round tables discussions, Vodokanal organized its own booth where forum participants could learn about the latest technical solutions of the Company.

Vodokanal traditionally took an active part **in the organization and holding of the XV International forum "The Baltic Sea Day", which was held on 19–21 March 2014.**

In March and October, Vodokanal and the Ministry of Natural Resources and Environment of the Russian Federation organized some activities **under the St. Petersburg Initiative Project at the premises of Vodokanal.**



Vodokanal participated in the All-Russian Forum "Housing and Utilities 2014. Technologies, Investments and New Quality", which was held on 19–21 March in Nizhny Novgorod. The Forum was organized on the initiative of the Ministry of Construction, Housing and Utilities of the Russian Federation.

Vodokanal traditionally participated in the ECWATECH International Water Forum on 3–6 June 2014 in Moscow. The Company together with partner companies presented their exhibition stand and Vodokanal's specialists participated in some topic-based discussion panels.

On 18–21 June 2014, the IV St. Petersburg International Legal Forum took place. A special discussion subpanel dedicated to the environmental legislation was organized within the frame of the forum for the first time. **Vodokanal was the organizer of that subpanel.**

The most outstanding and significant environmental event (implemented as a part of the core program for the Gulf of Finland Year Project) was **the citywide festival "Gulf of Finland – Area of Cooperation" held in St. Petersburg on 19–20 September 2014.**



A number of outstanding all-city events were organized within the festival program, the key event being the formal meeting of the Public Councils of Russia, Finland and Estonia headed by its co-chairpersons in Tavrishesky Palace on 19 September 2014. In the follow-up of the meeting the Youth Declaration on the Protection of the Gulf of Finland was accepted.

In 2014, the project for the protection of marine mammals of the Baltic Sea that had begun a year before came to its logical end. **On 5 September 2014, the Opening Ceremony of Vodokanal's Centre for Research and Conservation of Marine Mammals was organized at the town of Repino. The Governor of St. Petersburg G.S. Poltavchenko attended the ceremony.**

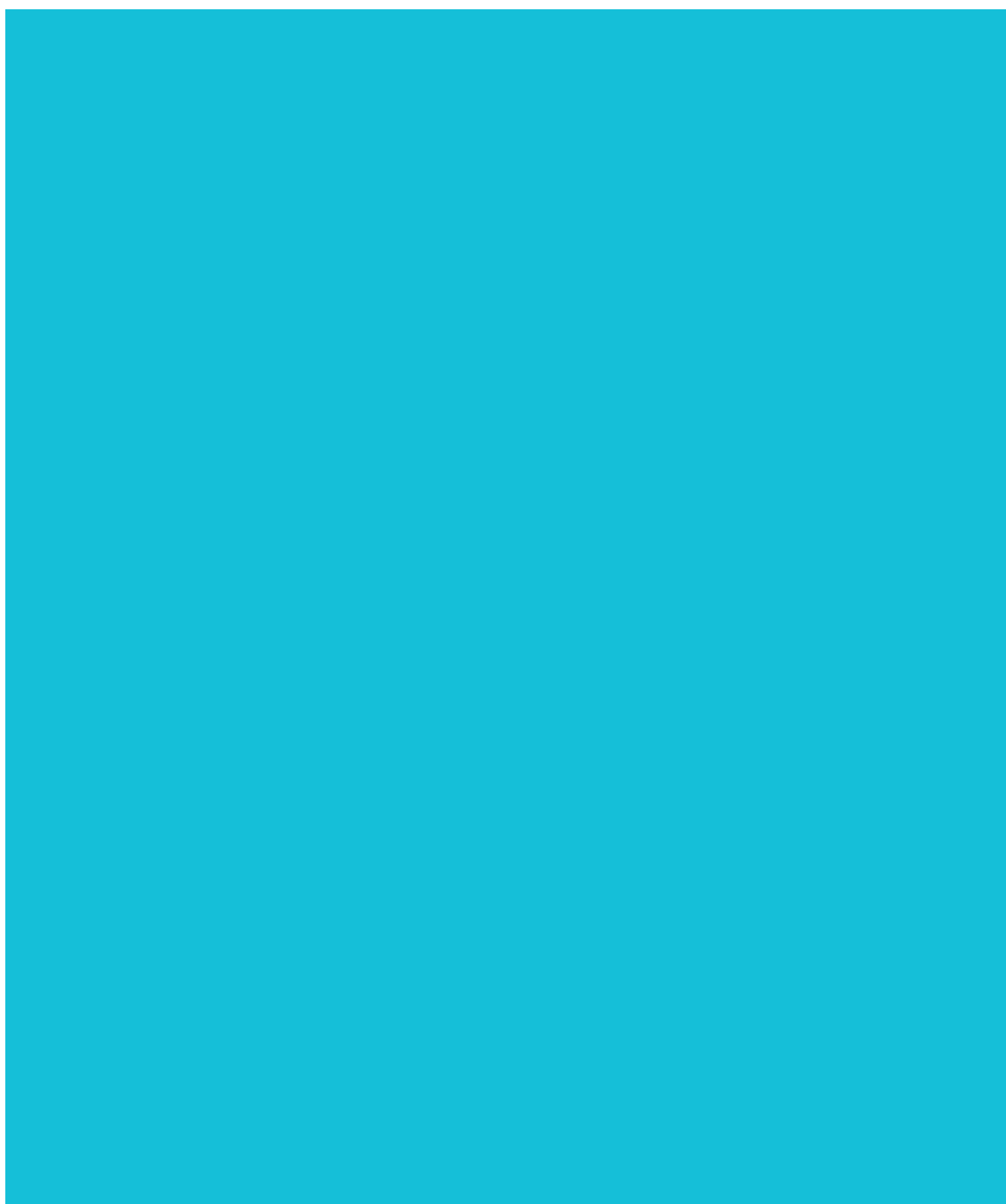
An outstanding international conference "Marine Mammals of Holarctic" dedicated to the marine fauna protection was held in cooperation with A.N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences at the premises of Vodokanal on 22–27 September.

Vital importance for environmental cooperation had the conference "Provision and Protection of the Civil Right of St. Petersburg Citizens to the Healthy Environment" that was organized on 18 December at Vodokanal. The conference was held in cooperation with the Human Rights Commissioner in St. Petersburg, Government of St. Petersburg and the City Environmental Prosecutor's Office.





Results of Activities in 2014





Water Supply

VODOKANAL ST. PETERSBURG PROVIDES POTABLE WATER TO THE INHABITANTS (OVER 5 MILLION PEOPLE) AND TO THE COMPANIES AND ORGANIZATIONS IN THE CITY (45,400 CUSTOMERS)

ADJUSTED CAPACITY OF WATER TREATMENT PLANTS:*

Southern WTP	900,000 m ³ /day
Northern WTP	608,000 m ³ /day
Main WTP	422,000 m ³ /day
Volkovskaya WTP	211,000 m ³ /day
Kolpino WTP	151,000 m ³ /day
Kronstadt WTP	18,000 m ³ /day
Zelenogorsk WTP	10,000 m ³ /day
Duderhof WTP	20,000 m ³ /day
Gantulovskaya Gora WTP	32,000 m ³ /day

* Adjusted capacity of WTPs means capacity of WTPs calculated in consideration of raw water quality deterioration, technical condition of water facilities and more stringent requirements to potable water quality in compliance with the Resolution of St. Petersburg Government no. 989 "On approval of St. Petersburg water supply and wastewater disposal systems for the period up to 2025 with an outlook to 2030" dated 11 December 2013.

DAILY AVERAGE SUPPLY OF POTABLE WATER TO THE CITY

2009	2,028,290 m ³
2010	1,994,690 m ³
2011	1,922,900 m ³
2012	1,853,300 m ³
2013	1,808,800 m ³
2014	1,712,700 m³

Water losses on the networks amounted to 12.9% in 2014 (13.7% in 2013); the breakdown rate of water networks (number of damages per 10 km) – 2.8 (2.9 in 2013).

Vodokanal activities related to the provision of water supply services include the following:

- water intake and water treatment;
 - water transportation.
- St. Petersburg takes water from surface and underground sources. The main water source is the Neva River; Vodokanal takes more than 98% of water from it.

The water supply system comprises:

- 9 water treatment plants;
- 194 boosting pumping stations;
- 6,938.2 km of water networks;
- 2 sodium hypochlorite plants.

Pipeline diameters of the municipal water network in St. Petersburg range from 50 mm (house connections) to 1.4 m (water pipelines).

The bigger part (59%) of networks in the St. Petersburg water supply system is made of cast iron. In recent times, pipes made of polyethylene have become increasingly common, especially in the spheres of capital repairs and rehabilitation of networks.

About 60% of water networks in St. Petersburg have been in operation for 15–50 years. The operating time of 25% of all networks is over 50 years, and such networks need reconstruction or replacement.

water

ST. PETERSBURG WATER SUPPLY SYSTEM IS BASED ON THE AREA ZONING PRINCIPLE

THE SOUTHERN WATER SUPPLY SYSTEM COMPRISES:

- Southern Water Treatment Plant (first-lift pumping stations, water treatment facilities, clean water reservoirs and second-lift pumping stations);
- Duderhof WTP (first-lift pumping stations, clean water reservoirs and second-lift pumping stations);
- Kolpino WTP (first-lift pumping station, water treatment facilities, clean water reservoirs and second-lift pumping station);
- Kronstadt WTP (first-lift pumping station, water treatment facilities, clean water reservoirs and second-lift pumping station);
- Petrodvorets WTP (first-lift pumping station, water treatment facilities, clean water reservoirs and second-lift pumping stations). Water from Southern WTP is tertiary treated here. The plant is also ready for use in case of need to take water from Nikolskiy pond;
- named boosting pumping stations of the third and fourth lift: Moskovskaya, Frunzenskaya, Uritskaya, South-Western, Rybatskaya, Kupchinskaya, Strelinskaya, Lomonosovskaya, LGU Petrodvortsovaya Waterworks, Petrodvortsovaya Waterworks, Pulkovskaya, Orlovskaya;
- boosting pumping stations of the third and fourth lift;
- water supply and distribution networks.

THE SYSTEM SUPPLIES WATER TO THE FOLLOWING ADMINISTRATIVE DISTRICTS:

70% of Moskovskiy district,
85% of Frunzenskiy district,
80% of left-bank part of Nevskiy district and 15% of right-bank part of Nevskiy district,
65% of Kirovskiy district,
100% of Pushkinskiy district,
100% of Petrodvortsoviy district and the town of Kronstadt,
100% of Kolpinskiy district,
100% of Krasnoselskiy district.

Supply

THE SYSTEM SUPPLIES WATER TO THE FOLLOWING ADMINISTRATIVE DISTRICTS:

100% of Kurortniy district,
65% of Primorskiy district,
90% of Vyborgkiy district,
80% of Kalininskiy district,
65% of Krasnogvardeyskiy district,
85% of the right-bank part
of Nevskiy district.

THE NORTHERN WATER SUPPLY SYSTEM COMPRISES:

- Northern WTP (first-lift pumping station, water treatment facilities, clean water reservoirs and second-lift pumping stations);
- Zelenogorsk WTP (first-lift pumping stations, water treatment facilities, clean water reservoirs and second-lift pumping station);
- Sestroretsk WTP (first-lift pumping station, water treatment facilities, clean water reservoirs and second-lift pumping station). Water from Northern WTP is tertiary treated here. The plant is also ready for use in case of need to take water from Lake Razliv;
- underground water sources of Kurortniy district;
- named boosting pumping stations of the third lift (Murinskaya, Kushelevskaya, Primorskaya, Severo-Primorskaya, Kolomyazhskaya, Ozero Dolgoe, Martynovskaya, Parnasskaya, Osinovaya Roshcha, Gorskaya, Pesochenskaya, Novoselovskaya, Shuvalovskaya WTPs);
- boosting pumping stations of the third and fourth lift;
- water supply and distribution networks.

THE CENTRAL WATER SUPPLY SYSTEM COMPRISES:

- Main WTP (first-lift pumping stations, water treatment facilities, clean water reservoirs and second-lift pumping stations);
- Volkovskaya WTP (first-lift pumping station, water treatment facilities, clean water reservoirs and second-lift pumping station);
- named boosting pumping stations of the third and fourth lift (Vasileostrovskaya, Gavanskaya, Petrogradskaya);
- boosting pumping stations of the third and fourth lift;
- water supply and distribution networks.

THE SYSTEM SUPPLIES WATER TO THE FOLLOWING ADMINISTRATIVE DISTRICTS:

100% of Petrogradskiy,
Vasileostrovskiy, Tsentralniy,
Admiralteiskiy districts,
10% of Vyborgskiy district,
20% of Kalininskiy district,
35% of Krasnogvardeiskiy district,
20% of the left-bank part
of Nevskiy district,
15% of Frunzenskiy district,
30% of Moskovskiy district,
35% of Kirovskiy district,
35% of Primorskiy district.

Water Treatment Technologies

TREATMENT OF WATER FROM SURFACE SOURCES

The water treatment process at the key WTPs taking water from St. Petersburg surface sources (the Neva River and the Gulf of Finland) includes the following stages:

- a two-stage water disinfection system;
- coagulation of pollutants (aluminium sulfate is used);
- flocculation (polyacrylamide-based cationic flocculant is used);
- sand filtration in the contact clarifiers (one-stage treatment scheme);
- sedimentation and sand filtration in rapid filters (two-stage treatment scheme);
- powdered activated carbon is dosed when necessary (if the Neva water quality becomes worse, or for odour and oil removal).

The process consists of chemical pretreatment with chloramines and secondary disinfection with ultraviolet. Chloramines are produced in the treated water by dosing of hazard-free chemicals,

ammonium sulfate and sodium hypochlorite, and can maintain the disinfecting effect not only in the process of water treatment at WTPs, but also during water distribution via the municipal networks.

The process solutions used to design and build K-6 block, a new 350,000 m³/day water treatment block at Southern WTP, in operation since early 2011, are as follows:

- pre-ozonation;
- clarification: coagulation, flocculation, sedimentation in lamella sedimentation tank, sludge thickening, sludge recirculation and removal;
- filtration through dual-media (sand/granular activated carbon) rapid gravity filters;
- air-and-water backwashing of filters;
- equalization, treatment and utilization of backwash water;
- sludge treatment;
- storage, preparation and dosing of chemicals;
- disinfection with chloramines.

THE TWO-STAGE
INTEGRATED PROCESS
OF POTABLE WATER DISINFECTION
GUARANTEES EPIDEMIOLOGICAL
SAFETY OF WATER SUPPLY
IN ST. PETERSBURG
AND FULL COMPLIANCE
OF THE MICROBIOLOGICAL
PARAMETERS WITH THE
CURRENT REGULATIONS

POTABLE WATER TREATMENT AT ZELENOGORSK WTP (GROUNDWATER)

Zelenogorsk WTP takes raw water from underground sources. The groundwater treatment process in Zelenogorsk aims at removing excessive concentrations of iron and manganese and consists of:

- aeration;
- removal of the sludge resulting from air oxidation of ferric hydroxide (III) by means of filtration through the gravel-sand media of the first-stage rapid filters;
- catalytic oxidation and separation of manganese as dioxide on the second-stage pressure filters.

Water is disinfected by sodium hypochlorite solution.

Oxidation of dissolved ferrous iron and blow-up of dissolved carbonic acid is performed in the aerator. To enhance the oxidation of iron and manganese compounds, sodium hypochlorite solution is injected into water. Chlorination is made after the aeration and the sodium hypochlorite dose is 4–5 mg/l of active chlorine.

The first-stage rapid filters are equipped with a drainage system: hemispheric channels located on the bottom and covered by slotted elements. These elements are produced by winding stainless steel wire and welding it to a guide frame of the element. The wire is profiled in such a way that slots widening inwards are formed between its rows. This solution ensures high reliability of the drainage structure, and the funnel-shaped slots prevent the clogging of filter elements and facilitate the backwashing process. Due to the drainage system, a dual-media bed could be used for the reconstruction of open filters without increasing the bed height. The lower filter bed is made of 0.6–0.8 mm quartz sand, the sand layer height being 800 mm. The upper filter bed is made of anthracite (0.8–2.0 mm); the height of the layer is 400 mm.

The second stage of Zelenogorsk WTP is designed for enhanced removal of iron and manganese and consists of six pressure filters, main-line pumps, flush-water pumps for pressure filters, stilling tanks, sodium hypochlorite dosing equipment, flow meters and a chlorine analyzer.

The water treatment process control is fully automated. The plant operation data are displayed on the monitors of the operators in the plant control room.

TERTIARY WATER TREATMENT TECHNOLOGIES USED AT PETRODVORETS AND SESTRORETSK WTPS

Electrochemical corrosion of steel pipes in the St. Petersburg water distribution system results in secondary pollution of potable water with iron.

Formerly, both Petrodvorets WTP and Sestroretsk WTP used their own surface water sources – the Nikolskiy pond and the Razliv Lake. Later, because of excessive pollution of these water bodies both plants were converted to tertiary treatment facilities to treat the water supplied by the city waterworks. The tertiary treatment uses the existing water treatment units, i.e. sand filters (one-stage treatment scheme).

To prevent corrosion of steel pipes and reduce iron concentrations in the tertiary-treated water from Petrodvorets and Sestroretsk WTPs, calcium chloride and soda ash are dosed into the water as anticorrosion agents.

Both plants have the equipment as required to receive, dilute and dose 32% solutions of calcium chloride, and the systems for preparation and dosing of 10% soda ash (sodium carbonate). The dosing of calcium salts and carbonic acid into the treated water and the resulting pH increase can slow down the corrosion process, and in some cases, fully stop oxidation of iron in steel pipes due to the formation of calcium carbonate film which isolates steel from water and the dissolved oxygen contained in it.

TERTIARY WATER TREATMENT TECHNOLOGIES USED AT BOOSTING PUMPING STATIONS AND HOUSE CONNECTIONS

To improve the potable water quality at remote sections of the network, tertiary treatment systems are constructed in the boosting pumping stations and house connections. Special filter media are used there to remove iron. 25 tertiary treatment systems were installed in 2014.



Water Quality Control

WATER QUALITY CONTROL
AT VODOKANAL ST. PETERSBURG
IS CARRIED OUT AT ALL STAGES –
FROM RAW WATER INTAKE
TO THE WATER METERING SYSTEM
AT THE HOUSE CONNECTION

Water quality control is implemented by the Company in accordance with the approved programs – the Working Program for Production Control of Potable Water Quality and the Production Program for Water Quality Control.

The Working Program for Production Control of Potable Water Quality in St. Petersburg for 2012–2017 has come into effect since 1 January 2012. It was developed in accordance with SanPiN 2.1.4.1074–01 "Potable water. Hygiene requirements to potable water supplied by centralized water supply systems. Quality control. Hygiene requirements to safety of hot water supply systems"; approved by St. Petersburg Department of Rospotrebnadzor and adopted by the Chairman of the Committee for Energy and Engineering Support.

The program covers 174 checkpoints where 86 water quality parameters are monitored.

Supply

The following parameters are used in water quality control:

- composite;
- organoleptic;
- chemical (organic and non-organic);
- microbiological;
- parasitological (Lambliа cysts);
- virological (presence of hepatitis A virus antigens and rotavirus antigens);
- hydro-biological (phyto- and zooplankton);
- radiation safety.

The main water quality parameter values for 2014 are posted, in a tabular form, on the corporate website www.vodokanal.spb.ru, section "Water supply. Water quality."

The Program for Production Control of Potable Water Quality covers 306 additional checkpoints allowing a more detailed assessment of the water supply system. Twelve most important parameters are short-listed for monitoring.

A systematic approach based on the principle: "WTP – water mains – city quarter network – customer" was used for selection of the checkpoints to be included into the Program for Production Control.

The monitoring results enable us to:

- trace the changes in qualitative characteristics of potable water at all stages of water production and distribution;
- identify hot spots and troubled sections of water networks;
- prioritize investments in implementation of technical solutions (selection of water treatment technologies; reconstruction of the existing facilities and capital repair of water networks, change of hydraulic regimes of water system);
- evaluate the efficiency of corrective actions.

LEVELS OF WATER QUALITY CONTROL:

- on-line process control using automatic analyzers and automated continuous monitoring systems;
- laboratory control;
- control by an independent organization – Water Research and Control Center;
- control by Rospotrebnadzor.

The automated analyzers are installed at all stages of water treatment, signals from the instruments are sent to the control room and process engineers, thus providing for the real-time control of the process.

29,722 water samples were analyzed in 2014. Minor deviations from regulatory requirements with regard to total iron content were identified in the distribution water network.

Water

THE MONITORING RESULTS SHOW THAT POTABLE WATER IN ST. PETERSBURG IS HARMLESS IN TERMS OF ITS CHEMICAL COMPOSITION AND SAFE IN TERMS OF EPIDEMIOLOGICAL AND RADIATION CONDITIONS

In 2013–2014, Vodokanal also additionally monitored water quality in the distribution networks of residential houses at the addresses not included into the list of checkpoints under the Working Program. As a result, a full picture was obtained to enable the Company to reconstruct the water networks first of all in the sections which will create a maximum effect for customers.



DURING 2014, THE QUALITY OF POTABLE WATER IN 415 APARTMENT BLOCKS (WHERE ABOUT 104,000 PEOPLE LIVE) IMPROVED

The water quality improvement was achieved thanks to implementation of tertiary treatment systems at house connections, cleaning of service pipes and replacement of valves. In 2015, this work will be continued.

In addition to the instrumental metering, the biomonitoring system designed by the St. Petersburg Environmental Safety Research Center of the Russian Academy

of Sciences is used at all city water intakes to control water quality in the water source, the Neva River.

Prior to the treatment process, water from the Neva

River is monitored by crayfish. Special sensors for on-line recording of the crayfish cardiac rhythm are attached to their carapaces. If there are toxic substances in water, the

cardiac rhythm of the crayfish changes and a relevant signal is transmitted to the control room.

This biomonitoring system is improved continuously.

Achievements of 2014

IN 2014, REHABILITATION AND CONSTRUCTION OF NETWORKS AND WATER SUPPLY FACILITIES WAS PERFORMED TO GUARANTEE SAFETY OF DRINKING WATER FOR THE CUSTOMERS, INCREASE OF SERVICES RELIABILITY AND IMPROVEMENT OF ENERGY EFFICIENCY

1. CONSTRUCTION AND COMMISSIONING OF A NEW WATER INTAKE AND A NEW FIRST-LIFT PUMPING STATION AT MAIN WATER TREATMENT PLANT

The water intake of Main WTP is located at the bottom of the Neva near Smolnaya Embankment. The river water flows by gravity through pipelines from special water intake structures (headwalls) to the first-lift pumping station. From the pumping station, water flows to the waterworks where it undergoes comprehensive treatment and disinfection processes.



The new first lift unit of the Main WTP includes the following:

- three parallel gravity pipelines (each 230 m long and 1.6 m in diameter);
- six up-to-date slot-type headwall filters installed on the gravity pipelines at the depth of 13.5 m (two on each pipeline);
- the first-lift pumping station (24 m deep, 8 powerful pumps installed underground).

The unique slot-type headwall filters were developed specially for the new water intake of the Main WTP.

It is through them that water from the Neva gets into the pipelines. Each headwall filter is a 3.8 tons structure, 10 m long, 2.5 m high and 2.5 m wide. Slot width in new headwalls is 2 mm. This means that no dirt, algae or fish get into the pipelines along with water.

The new first-lift pumping station is fully automated. Its operations are controlled from the control room of the Main WTP. Unattended operation of the pumping station is ensured.

2. DESIGN WORKS FOR RECONSTRUCTION AND CONSTRUCTION OF UV DISINFECTION SYSTEMS

Design works for modernization of UV disinfection systems at the water treatment plants were conducted.

UV disinfection system design works were completed and installation works commenced at Sestroretsk WTP and Gantulovskaya Gora WTP.

3. CONSTRUCTION AND RECONSTRUCTION OF WATER SUPPLY NETWORKS

In recent years, Vodokanal gives much attention to water networks rehabilitation.

In 2014, 79.8 km of water supply networks were rehabilitated, constructed and overhauled (72.4 km in 2013).

In 2014, works on replacing reinforced concrete pipelines continued including reconstruction of the water pipeline along Narodnogo Opolcheniya Ave.

Replacement of valves was carried out. Over 3,000 valves of various diameters were replaced.

4. CONTINUATION OF WORKS RELATED TO THE ESTABLISHMENT OF THE WATER SUPPLY MANAGEMENT SYSTEM

In 2014, works in the Southern Water Supply Zone (in particular – in the 2nd machine room of Southern WTP) continued. Full renovation of the 2nd machine room building was carried out including replacement of the main equipment (pumps, valves, process pipelines, power-generating equipment and automatic process control systems).

Under the project on the establishment of the water supply management system, design works for reconstruction of the pumping stations of the Northern and Central Water Supply Zones (including the big ones – Murinskaya and Kushelevskaya pumping stations and several boosting pumping stations) were going on.

5. DESIGN AND CONSTRUCTION OF WATER DISTRIBUTION NETWORKS AND WATER SUPPLY FOR SMALL COMMUNITIES

Construction of the centralized water supply system in Volodarskiy community was carried out. Construction of the centralized water supply system in Olgino community was completed.

Works related to the planning of water networks in Martyshkino, Molodezhnoye, Lisiy Nos, Toriki communities were going on.

6. IMPORT SUBSTITUTION UNDER REVISION OF THE PROJECT "DESIGN AND CONSTRUCTION OF A NEW TREATMENT BLOCK AT MAIN WTP INCLUDING RECONSTRUCTION OF PIPELINES TRANSPORTING RAW WATER FROM THE FIRST-LIFT PUMPING STATION"

In 2014, revision of the project "Design and construction of a new treatment block at Main WTP including reconstruction of pipelines transporting raw water from the first-lift pumping station" continued.

The project revision takes into account the requirements towards substitution of imported equipment envisaged in the original project in accordance with the Decree of the President of the Russian Federation "On National Security Strategy of the Russian Federation for the period up to 2020".

It is planned to ensure the maximum use of equipment produced by domestic manufactures, namely, process equipment, pumps, valves, electrical equipment, automation systems, hoisting devices, etc.

Prospects for Water Supply System Development

IN ORDER TO INCREASE THE
SATISFACTION OF ST. PETERSBURG
INHABITANTS WITH THE QUALITY OF
WATER SUPPLY SERVICES AND ENSURE
RELIABLE AND SAFE OPERATION
OF WATER SUPPLY FACILITIES, THE
FOLLOWING ACTIVITIES ARE PLANNED
TO BE LAUNCHED IN 2015 AND
CONTINUED IN 2016–2017:

- revision of the design and cost estimating documents (with due regard to import substitution), commencement of construction and installation works in the frames of the reconstruction of Main WTP, construction of a new treatment block to produce 500,000 m³/day;
- commencement of design works related to the reconstruction of Northern WTP to increase its capacity to 700,000 m³/day;
- design and reconstruction works at Kronstadt WTP including building of a container-type unit for two stage water treatment;
- reconstruction of the chemical plant at Southern WTP;

- modernization of waterworks at the Duderhofscoe Lake;
- commencement of modernization of underground water intake units (Gostilitskiye, Varvarinskiye, Vilpovitskiye);
- modernization of the sodium hypochlorite dosing systems at the facilities in Kurortny district (Zelenogorsk WTP, Sestroretsk WTP, Gorskaya WTP and Pesochnaya WTP);
- continuation of UV disinfection systems modernization at water treatment plants (Northern WTP, Southern WTP, Volkovskaya WTP, Main WTP, Kolpino WTP, Petrodvorets WTP, Moskovskaya PS, Frunzenskaya PS). Modernization of the existing UV disinfection systems will ensure safety of potable water supplied to the citizens and energy saving;
- preliminary design and detailed design works related to the modernization of Volkovskaya WTP including its transformation into a boosting pumping station;
- completion of UV disinfection system at Sestroretsk WTP and Gantulovskaya Gora WTP;
- commencement of construction of underground water treatment plant in Dyuny;
- construction of underground water intakes and water distribution networks to supply water to Krasavitsa and Reshetnikov communities;
- design works and commencement of the construction of the backwash water recirculation system at the Southern WTP;



- continuation of works related to design and construction of underground water intakes to ensure the reserve water supply;
- design works and commencement of works related to the modernization of Gantulovskaya Gora WTP;
- continuation of works related to the construction and reconstruction of water distribution pipelines that serve a large number of inhabitants and influence the development of urban areas:
 - completion of works related to the reconstruction of Lopatinskiy water pipeline which is important for water supply of the right-bank part of the city;
 - continuation of works related to the construction of the pipelines from Northern WTP to Murinskaya pumping station and from Main WTP to Vasilevskiy Island;
 - continuation of water network reconstruction;
 - continuation of valves replacement;
 - in 2015, from 1 March 2015 till 1 December 2015, it is planned to perform sector-by-sector commissioning of the management system in the Southern Water Supply Zone.
 - continuation of works related to the establishment of the water supply management system in the Northern and Central Water Supply Zones (including 1st and 2nd pump compartments of the Northern WTP, Petrogradskaya boosting PS, Murinskaya boosting PS, Kushelevskaya

boosting PS, Parnas boosting PS, Shuvalovskaya boosting PS, Primorskaya boosting PS). The pumping stations reconstruction projects envisage replacement of pumps, valves, process pipes, power-generating equipment and automatic process control systems;

- continuation of works related to design and construction of water distribution networks in Martyskhino, Molodezhnoye, Lisy Nos, Toriki communities;
- import substitution in water supply construction and reconstruction projects in accordance with the Decree of the President of the Russian Federation "On National Security Strategy of the Russian Federation for the period up to 2020".





Wastewater Disposal

ST. PETERSBURG SYSTEM
OF WASTEWATER DISPOSAL
AND TREATMENT IS A COMPLEX OF
INTERCONNECTED ENGINEERING
FACILITIES TO PROVIDE
COLLECTION OF WASTEWATER, ITS
TRANSPORTATION AND TREATMENT
AT WASTEWATER TREATMENT PLANTS
FOLLOWED BY DISCHARGE INTO
WATER BODIES AND WASTEWATER
SLUDGE UTILIZATION

St. Petersburg has a combined wastewater disposal system. 70% of the territory is connected to the combined sewerage system which collects domestic and industrial wastewater as well as surface (rainfall, snow-melt) runoffs. The rest of the territory – mostly new construction areas and suburbs – is sewered according to a separate scheme where rainfall and snow-melt waters are collected separately from other wastewater and discharged currently without any treatment.

As of 1 January 2015, 98.5% of all municipal sewage is treated. The remaining portion is discharged without any treatment into city water bodies.

Untreated wastewater is discharged through direct discharge points managed by Vodokanal and industrial organizations.

Every year Vodokanal reduces untreated wastewater discharges, eliminates direct discharge points and ensures transportation of sewerage to wastewater treatment plants.



THE WASTEWATER SYSTEM INCLUDES:

- **15 wastewater treatment plants comprising:**
 - municipal wastewater treatment plants – 13;
 - runoff treatment plants – 2.
- **154 sewerage pumping stations;**
- **8,421.8 km of sewerage networks including:**
 - gravity pipelines – 8,088.2 km;
 - pressure pipelines – 333.6 km.
- **264.4 km of tunnel collectors;**
- **21,843 dump wells;**
- **1,188 of direct discharges including:**
 - 100 discharges from the combined sewerage system,
 - 1,078 storm-water discharges including water basins;
 - 10 flushing water discharges from waterworks.
- **2 landfills: Severniy, Volkhonka-2 and sludge beds in Gorelovo community;**
- **3 sludge incineration plants;**
- **10 stationary snow-melting stations:**
 - 2, Oktyabrskaya Embankment (capacity – 7,000 m³/day);
 - 77 Peterhofskoe shosse (7,000 m³/day);
 - 20, Sevastyanova str., Kolpino (7,000 m³/day);
 - 45, Rizhskiy pr. (7,000 m³/day);
 - 83, Stachek pr. (3,500 m³/day);
 - Letter A, 69 Krasnopolitovskaya str. (3,500 m³/day).
 - 123, Volkhonskoe shosse (7,000 m³/day);
 - 2, Rybinskaya str. (5,000 m³/day);
 - Mebelnaya str. (7,000 m³/day);
 - Kuselevskaya road (5,000 m³/day).

Diameters of the sewerage network range from 100 mm (courtyard networks) to 1.5 m (water mains). Pipelines with diameters up to 500 mm make up 79% of the total length of all sewerage networks.

THE MAIN MATERIAL OF SEWERAGE PIPES IS AS FOLLOWS:

- reinforced concrete – 56.8% of the whole network;
- concrete – 18.8%;
- polyethylene – 12.5%;
- cast iron – 7.3%;
- ceramics and other materials – 4.6%.

About 46% of all the networks have been in operation for over 40 years.

Tunnel sewers are the basic mains for collecting and transporting wastewater to wastewater treatment plants. Currently, 264.4 km of tunnel sewers are operated in the city having 641 shafts and 450 bore wells. Internal diameter of tunnel collectors ranges from 2 to 4.7 meters, with laying depth of 15–80 meters.

The capacity of sewerage pumping stations ranges from 300 m³/day to 1 Mio. m³/day.

ADJUSTED CAPACITY* OF WASTEWATER TREATMENT PLANTS:

South-West Wastewater Treatment Plant	290,000 m ³ /day
Northern Wastewater Treatment Plant	690,000 m ³ /day
Central Wastewater Treatment Plant	1,050,000 m ³ /day
Sestroretsk Wastewater Treatment Plant	17,000 m ³ /day
Zelenogorsk Wastewater Treatment Plant	10,000 m ³ /day
Repino Wastewater Treatment Plant	10,000 m ³ /day
Petrodvorets Wastewater Treatment Plant	72,000 m ³ /day
Kronstadt Wastewater Treatment Plant	28,000 m ³ /day
Pushkin Wastewater Treatment Plant	71,000 m ³ /day
Kolpino Wastewater Treatment Plant	69,000 m ³ /day
Pontonnny Wastewater Treatment Plant	11,000 m ³ /day
Metallostroy Wastewater Treatment Plant	9,000 m ³ /day
Pulkovo-3 Wastewater Treatment Plant	690 m ³ /day
Kolpino Wastewater Treatment Plant	860 m ³ /day

* Adjusted capacity of wastewater treatment plants is calculated for rainy weather conditions taking into account wastewater treatment quality requirements.

ACCORDING TO THE RESULTS OF 2014 THE DAILY AVERAGE VOLUME OF TREATED WASTEWATER WAS 2,100,000 M³/DAY

The percentage of disinfected effluent was 19%

THREE SEWERAGE AREAS – NORTHERN, CENTRAL AND SOUTHERN – ARE ESTABLISHED IN ST. PETERSBURG

NORTHERN SEWERAGE AREA

covers the largest part of the city (mainly the right bank of the Neva River) including Nevskiy, Krasnogvardeyskiy, Kalininskiy, Vyborgskiy, Petrogradskiy, Primorskiy districts, a part of Central district, and also receives wastewater from adjacent areas of the Leningrad Region. The main sewer of this sewerage area is the Northern Tunnel Collector delivering wastewater to the Northern WWTP. Commissioning of the Northern Tunnel Collector section from Kantemirovskaya str. to Finlandskiy bridge significantly increased wastewater volumes entering the Northern WWTP. In addition, this area includes local sewerage areas of Kurortny district (Sestroretsk WWTP, Zelenogorsk WWTP, Repino WWTP, Molodezhnoe WWTP).

CENTRAL SEWERAGE AREA

covers the territory of the left bank of the Neva River i.e. Nevskiy (the left-bank), Vasileostrovskiy, Central, Admiralteyskiy, Frunzenskiy, Moskovskiy and a part of Kirovskiy and Pushkinskiy districts. The main collecting sewer is a sewerage collector delivering wastewater to the Central Wastewater Treatment Plant (on the Bely Island). The sewage pumping station no. 6 redistributes wastewater between the Northern and Central sewerage areas.

SOUTHERN SEWERAGE AREA

covers the southern territory of the city. Wastewater from a part of Kirovskiy and Krasnoselskiy districts and the town of Strelna of Petrodvorets district is transported to South-West Wastewater Treatment Plant through the system of tunnel collectors. Penstocks located in the shafts of tunnel collectors are used to regulate wastewater flow between the Southern and the Central sewerage areas.

Wastewater from Kolpinskiy, a part of Pushkinskiy, Petrodvorets and Kronstadt districts flows to wastewater treatment plants located in each of these districts through the pressure-gravity collectors.

RUNOFF SEWERAGE AREAS

The area in St. Petersburg with the separate sewerage system (separate collection of storm-water and domestic wastewater) accounts for about 1/3 of the whole sewered area of the city. The remaining 2/3 of the territory is served by the combined sewerage system. In Kolpino, Pushkin, Pavlovsk and Sestroretsk runoffs are discharged into the storm-water sewerage system (which is a completely separate system). In Petrodvorets and Kronstadt runoffs are discharged into both storm-water and combined sewerage systems. The area where runoffs are collected into the sewerage system has been defined and currently it accounts for 418 km².

IN THE COURSE OF WASTEWATER
TREATMENT THE PLANT
PRODUCES NOT ONLY TREATED
EFFLUENT, BUT ALSO SLUDGE
WHICH CONTAINS POLLUTANTS
REMOVED FROM INFLUENT

Before the commissioning of sludge incineration plants, all dewatered sludge was disposed for storage to landfills.

At the present time, three sludge incineration plants (SIP) constructed at the city's biggest WWTPs (Central WWTP, Northern WWTP and SWTP) are in operation. They incinerate sludge produced in the course of wastewater treatment at all WWTPs. This enabled the city to solve its primary task – to stop storing wastewater sludge and reduce the negative environmental impact.

Advantages of incineration:

- 10-times reduction of generated waste amount;
- no pathogenic microflora and unpleasant odor in ash;
- concentration of harmful compounds in treated flue gases generated in the course of sludge incineration meets the requirements of the Russian Federation and the European Union;
- use of heat for hot water supply and heating of buildings;
- energy production by means of steam utilization at SWTP and Central WWTP;
- possibility of ash utilization and industrial use.

The heat generated in the process of incineration is used for technical purposes, space heating and electric energy production, thus enabling Vodokanal St. Petersburg to achieve significant savings of energy resources.

Treated flue gases emitted into the atmosphere at all SIPs meet the requirements of the European Committee Directive 2000/76.

Gross emission of pollutants from all SIPs is within the limits of maximum permissible emission stated by Rosprirodnadzor.

On-line control instruments are used at all plants to analyze the composition of emitted flue gases. Besides, the independent organization – Water Quality Research and Control Center – performs expanded monitoring of gas composition.

Moreover, the SIP at SWTP is equipped with a unique biomonitoring system. The indicators of flue gas quality are the giant African snails which react not only to one-time emissions, but also to minimal amounts of concentrated hazardous substances, as well as to synergistic effect of various pollutants.



FLUE GASES OF ALL
SIPS UNDERGO
A THREE-STAGE
PURIFICATION
PROCESS

ST. PETERSBURG
IS THE FIRST
LARGE CITY
IN THE WORLD
TO SOLVE THE
PROBLEM
OF WASTEWATER
SLUDGE
UTILIZATION

Wastewater Treatment Technologies

CHEMICAL TREATMENT

is chemical removal of phosphorus phosphates. Previously, the wastewater treatment plants applied mechanical and biological treatment only; and the quality of effluent in terms of phosphorus concentration did not meet the requirements of Helsinki Commission. Thus, a chemical-biological treatment method was implemented at Vodokanal WWTPs. This method combines enhanced biological nutrient removal and chemical phosphorus removal. Today, all St. Petersburg WWTPs apply chemical phosphorus removal method using the most effective and cost-efficient chemical – aluminum sulfate.

The principle of chemical treatment of wastewater is that the addition of the chemical causes a reaction which results in formation of insoluble compound of aluminium and phosphates to be removed from the system along with sludge.

After the implementation of the chemical treatment method at all the WWTPs, the effluent quality meets HELCOM recommendations in terms of total phosphorus content (max 0.5 mg/l).

TERTIARY TREATMENT

. Given that almost all water bodies in St. Petersburg, where treated wastewater is discharged, are categorized as fishery water bodies, it predetermines the quality requirements to wastewater discharged into water bodies – suspended solids of less than 5 mg/l. Therefore, tertiary treatment (post-treatment)

TECHNOLOGIES TO ENSURE WASTEWATER TREATMENT IN COMPLIANCE WITH THE RUSSIAN NORMS AND THE REQUIREMENTS OF THE BALTIC MARINE ENVIRONMENT PROTECTION COMMISSION ARE IMPLEMENTED AT VODOKANAL'S WASTEWATER TREATMENT PLANTS

WASTEWATER TREATMENT QUALITY AT ST. PETERSBURG WWTPS IS REGULATED BY THE RUSSIAN REGULATIONS AND INTERNATIONAL RECOMMENDATIONS

The process flow of municipal wastewater treatment plants includes the following stages of wastewater and sludge treatment:

MECHANICAL TREATMENT is aimed at clarifying wastewater to ensure normal flow of further treatment stages. It includes screens, grit removals and primary sedimentation tanks. The screens retain coarse impurities; grit removal units separate mineral suspended solids (sand). In the following stage of primary sedimentation, there goes a process of mechanical and organic pollutants sedimentation.

BIOLOGICAL TREATMENT is the main wastewater treatment process before the effluent is discharged into a water body. This block includes aeration tanks and secondary sedimentation tanks. The biological treatment process is based on the activated sludge biocenosis in the presence of oxygen. The biocenosis of activated sludge is formed by various bacteria, protozoa and metazoa which clean wastewater through oxidation of pollutants present in it.

is needed to be introduced at all WWTPs of the city in order to stabilize treatment quality. Now it is implemented only at Repino and Petrodvorets WWTPs.

DISINFECTION. The Water Code of the Russian Federation and other regulations require disinfection of treated wastewater. Disinfection using ultraviolet radiation is introduced at Repino WWTP, Sestroretsk WWTP, Petrodvorets WWTP and South-West WWTP.

SLUDGE TREATMENT. The main purpose of the wastewater sludge treatment stage is to minimize its volume and eliminate negative environmental impact (smell, pathogenic microflora). Optimal solution for utilization of sludge produced in wastewater treatment plants is incineration.

IN ORDER TO ENSURE
THE COMPLIANCE
OF WASTEWATER TREATMENT
WITH HELCOM RECOMMENDATIONS,
VODOKANAL ST. PETERSBURG
HAS BEEN CONSTANTLY
UPGRADING BIOLOGICAL
TREATMENT BY MEANS
OF ENHANCED NUTRIENT
REMOVAL TECHNOLOGIES



The advanced UCT biological process (University of Cape Town) has been implemented at SWTP and Sestroretsk WWTP, and JHB process (University of Johannesburg) – at Petrodvorets WWTP, Repino WWTP and Pushkin WWTP.

These technological solutions enable to manage the biological treatment system in a flexible way, adjusting the recirculation volumes and supply of oxygen for aeration. As a result, with any changes of external factors affecting the treatment process (wastewater temperature, influent contaminant concentrations), it became possible to select the optimal mode and ensure the required quality of treatment.

The projects of the city wastewater treatment plants reconstruction are meant to upgrade biological treatment with effective solutions of UCT and JHB technologies.

Efficiency of wastewater treatment at Vodokanal WWTPs in 2014 was as follows: suspended solids and BOD – over 97%; total phosphorus – 94% and total nitrogen – 70%.

At the present time, Vodokanal is searching for efficient and cost-effective technologies of effluent tertiary treatment and disinfection to be implemented at all wastewater treatment plants of St. Petersburg.

Wastewater Quality Control

WASTEWATER QUALITY CONTROL AT
VODOKANAL'S FACILITIES
IS CARRIED OUT IN ACCORDANCE
WITH WASTEWATER
QUALITY ASSESSMENT PROGRAMS
APPROVED BY THE NEVA-LADOGA
BASIN WATER AUTHORITY
AND RSPOTREBNADZOR
AUTHORITY

Wastewater quality control is carried out by monitoring 21 physical and chemical parameters, 8 microbiological and parasitological parameters. Around 16,000 components are determined annually.

Wastewater quality control is regularly performed:

- in the inlet chamber of wastewater treatment plants;
- in the collection chamber in the outlet of wastewater treatment plants.

Besides, regular process control of all the stages of wastewater and sludge treatment is carried out at all WWTPs aiming at qualitative and quantitative measurement of the plant operations. These control activities ensure the operation of the facilities in compliance with the established regulations. To adjust the treatment mode of WWTPs the following parameters are monitored: temperature, biological oxygen demand (BOD), chemical oxygen demand (COD), phosphates, nitrogen, alkalinity, dissolved oxygen, properties of activated sludge and sediments.

Moreover, the South-West Wastewater Treatment Plant has been constantly using the system for biomonitoring the quality of effluent to be discharged into the Neva Bay of the Gulf of Finland. Crayfish play the role of bioindicators. Australian red-claw crayfish are used in warm seasons and narrow-clawed crayfish – in cold seasons. Only the organism of an animal-bioindicator is able to assess simultaneously a set of all the qualitative characteristics of water, where it lives, and its safety for the Neva Bay of the Gulf of Finland. Replacement of crayfish depending on the season is necessary to exclude false operation of bioelectronic monitoring system.

Wastewat

IN 2014, VODOKANAL INTRODUCED NEW APPROACHES TO MONITORING QUALITY AND COMPOSITION OF WASTEWATER FROM CORPORATE CUSTOMERS WHICH ARE BASED ON THE DEVELOPMENT OF CHEMICAL BALANCE OF POLLUTANTS IN THE CITY SEWERAGE SYSTEM

The new Vodokanal's activity was first represented, on 7 April, at the meeting of the Public Council for improvement of environmental situation in St. Petersburg and enforcement of civil rights to healthy environment.

The new approach to monitoring quality and composition of wastewater from corporate customers is focused on identification of sources of pollutants which cannot be removed at municipal WWTPs to the extent required by the norms.

Control of quality and composition of wastewater from corporate customers is based on wastewater quality monitoring by Vodokanal in junction points of sewerage areas. The city territory is conditionally divided into 601 sewerage areas. Each sewerage area is connected to a certain sewer shaft (junction point). Wastewater from customers of this sewerage area gets into this particular junction point.



Wastewater samples are taken in the junction points and analyzed. If the concentration of any pollutant exceeds the norms, Vodokanal takes wastewater samples from all the corporate customers of this sewerage area in order to identify the source of this pollutant. If there are no excessive pollutant concentrations in the sewerage area (junction point) there will be no further inspecting of corporate customers in such sewerage area.

In 2014, 601 sewerage areas were monitored. 6,476 samples were taken (about 10 samples in each shaft (junction point)). In 2014, no exceedance was identified in 4% of shafts, excessive concentrations of 1–2 substances were identified in 19% of shafts, excessive concentrations of 3–5 substances were identified in 30% of shafts, excessive concentrations of 6 and more substances were identified in 47% of shafts.

976 corporate customers were controlled within the frame of the chemical balance. Around 20% of such customers did not violate wastewater quality requirements.

When a company-polluter is identified, the next task is to help the company solve the problem (find the pollutant sources, give consultation on developing necessary action plans, advise on suitable process solutions, etc.). It is a usual practice for Vodokanal to help industrial companies select technologies of removal specific pollutants from wastewater.

During 2014, 112 corporate customers underwent relevant surveys. 53 customers developed and submitted to Vodokanal water protection actions plans, 13 customers installed local wastewater treatment plants or renovated the existing ones.

Future Activities with regard to Industrial Wastewater Treatment

In accordance with the Federal Law no. 416-FZ "On Water Supply and Wastewater Disposal", to prevent negative impact on water bodies, the Department of Rosprirodnadzor in the North-West Federal District will establish by 1 July 2015 discharge limits for pollutants, other substances and microorganisms for big industrial companies (producing over 200 m³ of wastewater per day). Since 1 July 2015, such customers will be subject to regulatory measures established by Rosprirodnadzor for the protection of water bodies.

It shall be noted that in accordance with the Federal Law no. 416 Vodokanal is obliged to control and evaluate the quality of customers' wastewater in terms of its compliance with the established norms and with the information contained in the customers' declaration on wastewater quality and composition.

In case of any violations of the established norms by big customers, Vodokanal is obliged in 24 hours to inform the local body of Rosprirodnadzor about this fact. This information will cause unscheduled inspection of the customer by Rosprirodnadzor.

In July 2014, Federal Law no. 219-FZ "On amending the Federal Law "On the protection of the environment" dated 21 July 2014 was adopted. New provisions of the law are targeted for a step-by-step transition to new principles of wastewater quality regulation which will be based on process parameters of the best available technologies (BAT) and applied, inter alia, to wastewater disposal companies and a number of their customers.

The process parameters will be established for the facilities which produce significant negative impact on the environment (1st category).

Wastewat

The regulatory acts adopted in furtherance of the Federal Law no. 219 make it clear that implementation of BAT will be obligatory for the following St. Petersburg industries:

- treatment of municipal wastewater by centralized sewerage systems;
- production of refractory ceramics and ceramic construction materials;
- production of synthetic dyes, inorganic colors and vanish materials, surfactants;
- production of pharmaceuticals;
- large-scale food processing companies;
- fuel-and-energy companies;
- municipal solid waste landfills;
- facilities having electroplating production lines and chemical processes.

The Federal Law no. 219 states that detailed norm setting for wastewater disposal companies and their customers is established by water and wastewater laws of the Russian Federation.

The water industry-based community has to do a solid piece of work on developing and agreeing the concerted position (also with industries) that will interlink law provisions with the environmental regulations and will be reflected in the following documents:

- reference guides of the best available technologies for water sector;
- amendments to the Federal Law no. 416 related to improving the principles of wastewater quality regulation for water companies and their customers (including regulations for the transitional period before BAT are implemented, i.e. for 7–12 years).

Vodokanal St. Petersburg plans to continue its cooperation with the Russian Association of Water Supply and Wastewater Disposal, National Union of Vodokanals, Ministry of Natural Resources of the Russian Federation, scientific and design organizations in this direction.

Besides, Vodokanal St. Petersburg will continue its interaction with businesses communities and industrial companies of St. Petersburg, the Union of Industrialists and

Entrepreneurs, Association of Industrial Companies, St. Petersburg International Business Association (SPIBA). Vodokanal will give consultations and organize workshops dedicated to the issues arising in connection with the application of the Federal Law "On Water Supply and Wastewater Disposal" and relevant by-laws as well as the issues related to the selection of BAT for local wastewater treatment and implementation of wastewater metering systems.

In 2015, the International Advanced Water Technologies Centre will continue its activities focused on providing assistance to the companies and exchanging international experience in the spheres of water supply, wastewater disposal and environmental protection. Vodokanal plans to hold a number of workshops for industrial companies dedicated to the best available technologies applied for industrial wastewater treatment and to the on-site treatment of run-off from industrial plants.

Achievements of 2014

IN 2014, VODOKANAL IMPLEMENTED THE FOLLOWING ACTIVITIES ENVISAGED BY THE WATER AND WASTEWATER MASTER PLAN FOR THE PERIOD UP TO 2025:

1. REHABILITATION OF NORTHERN WWTP (1ST STAGE) AND CENTRAL WWTP WAS CARRIED OUT IN ORDER TO IMPROVE WASTEWATER TREATMENT QUALITY AND TO COMPLY WITH HELCOM RECOMMENDATIONS

The main purpose of the rehabilitation is to ensure the quality of treated wastewater before discharging into water bodies in accordance with the Russian standards and HELCOM international recommendations.

THE MEASURES TO ACHIEVE THE OBJECTIVES IN 2014 WERE AS FOLLOWS:

- The following main process facilities were reconstructed at Northern WWTP:
 - four primary sedimentation tanks, six secondary sedimentation tanks;
 - construction and installation works, installation of process equipment in five aeration tank sections (2nd stage);
 - replacement of existing air blowers with the controlled ones (5 units);
 - construction of new raw sludge pumping stations and a pumping station for return and waste sludge.
- Rehabilitation of aeration tanks no. 5 and no. 6 at Central WWTP was started to implement JHB nutrients removal technology enabling enable flexible control of the biological treatment process and the achievement of target values in situations where the parameters of influent wastewater or other influencing factors are subject to change.

2. WASTEWATER SLUDGE TREATMENT WITH CHEMICAL AGENTS “AK-GF-R” AND “MMT-BD-A” AND PRODUCTION OF ORGANO-MINERAL COMPOSITION COMMENCED AT SEVERNIY LANDFILL

3. THE CLOSURE OF UNTREATED WASTEWATER DISCHARGES INTO THE CITY WATER BODIES AND DIVERSION OF WASTEWATER STREAMS CONTINUED

In 2014, the following discharges were closed:

- 19 direct discharges along Petrogradskaya embankment. Seventeen of them were the responsibility of Vodokanal (three combined discharges totaling 4,019 m³/day, and 14 stormwater discharges with the average flow of 23 m³/day), the remaining two discharges were from industrial enterprises. The wastewaters were diverted via

Northern Tunnel Collector to Northern WWTP to undergo a full treatment cycle. The discharge of untreated wastewater into the Neva equivalent to 1.5 Mio. m³/year was stopped.

- The domestic and stormwater discharges (9 direct discharges) from Petrovskiy Stadium on Petrovskiy Island were closed. Their connection to the municipal sewerage system allowed to divert, additionally, 370,000 m³ of wastewater to Northern WWTP and to mitigate the pollution load on the Neva.

- In 2014, construction of the tunnel collector on Admiralteiskaya embankment was launched, the works will be completed in early May 2015. With the collector in place, six untreated wastewater discharges in the city center equivalent to 1,000 m³/day can be closed.

- The project design was finalized and the expert opinion was obtained for the construction of sewer network from Zelenogorsk to Reshetnikovo and Krasavitsa communities. After the project completion, wastewater from the above communities will be diverted to treatment plants, reducing the load on Kurortniy district water bodies, and wastewater services will be provided to the local people.

- The design phase of the sewer network reconstruction project aimed to stop the discharge of municipal sewage into the Murinskiy Stream is ongoing.

4. DESIGN OF THE SLUDGE INCINERATION SYSTEM REHABILITATION PROJECT AT CENTRAL WWTP

The sludge incineration plant at Central WWTP is one of the largest in the world and has been in operation for 17 years. The useful life of basic SIP facilities is 10–12 years. To ensure reliable incineration of all sewage sludge and to avoid sludge disposal to landfills, two new sludge incineration lines at Central WWTP are designed.

5. REHABILITATION AND CONSTRUCTION OF TUNNEL COLLECTORS

Construction and rehabilitation of tunnel collectors was undertaken to ensure fail-safe wastewater service and to improve the reliability of sewerage system operation.

- In 2014, rehabilitation of the tunnel collector to Bely Island from shaft no. 43 (3 Gapsalskaya str.) to shaft no. 44b (Bely Island) with the length of 2,200m was at the design phase. The tunnel collector's concrete structures along this section are quite worn out because of long operation time (over 35 years). The renovated tunnel collector will improve reliability of wastewater transportation and it will be possible to use it for wastewater delivery to Central WWTP.

- The reconstruction of tunnel along Rizhskiy pr., the section between shaft no. 31 BIS (Rizhskiy pr.) and Bely Island (Gapsalskaya str.), was completed. The tunnel collector resumed its design characteristics and is now the main line for wastewater transportation to Central WWTP.

- The construction project of the TC ring tunnel along Basseytnaya str. with the length of 4,800 m was designed. The project will improve the reliability of wastewater disposal system and enable decommission of the tunnel collector in Blagodatnaya str. for reconstruction.

- The design of the connection line from shaft 1/27 (33, Obukhovskoy Oborony pr.) was completed.

6. ONGOING DESIGN OF AUTOMATED WASTEWATER DISPOSAL CONTROL SYSTEM IN ST. PETERSBURG

In 2014, the design terms of reference was formulated. The project design envisages a TC sluice gate control system and redistribution of flows at different hydraulic modes in order to optimize the loads on the wastewater transportation system and treatment plants. It also covers a wastewater volume/quality monitoring system. The automated control system will improve the reliability of wastewater disposal process and reduce energy consumption.

7. RE-LAYING OF SEWER NETWORKS

In recent years, Vodokanal gave much attention to the re-laying of sewerage networks. In 2014, 55.3 km of sewer networks were re-laid.

8. DESIGN AND CONSTRUCTION OF WASTEWATER NETWORKS AND FACILITIES FOR SMALL SETTLEMENTS

In 2014, construction of a centralized sewerage network was ongoing in Volodarskiy settlement. The centralized sewerage system in Olgino was completed. After the completion of the project, wastewater from the settlements will be directed to South-West and Northern WWTPs.

Design of sewerage networks in Martyskhino, Molodezhnoe, Lisiy Nos, and Toriki was underway.

Sewerage System Development Prospects

TO MITIGATE NEGATIVE IMPACTS
ON THE ENVIRONMENT AND REACH
STABLE TREATMENT QUALITY
PARAMETERS IN 2015 (WITH THE
WORKS FOLLOWED UP IN 2016–2017),
THE FOLLOWING SHOULD BE DONE:

- Divert the remaining domestic and combined direct discharges including the construction of Okhta Tunnel Collector (1st stage), completion of the networks and collectors in Admiralteyskiy district of St. Petersburg, and lay sewer networks from Reshetnikovo and Krasavitsa settlements to Zelenogorsk;
- Continue reconstruction works at Northern WWTP (1st stage) and Central WWTP (aeration tanks 5 and 6; air blower station);
- Develop design documentation and begin rehabilitation works at Zelenogorsk WWTP (1st stage);
- Reconstruct WWTPs of Zvyozdnyy camp and Burevestnik sanatorium in Luga;
- Build new wastewater treatment facilities in Molodezhnoe settlement;
- Finalize the design and start to build 2 new sludge incineration lines at the Central SIP;
- Continue to process sewage sludge making it environmentally safe and emptying sludge lagoons at Volkhonka and Severniy landfills.

Wastewater

The following projects are envisaged to improve the reliability of wastewater services:

- Construction of ring tunnel collectors and a system to divert wastewater flows between sewer basins:
 - preparatory works for construction of a 4,800 m ring tunnel collector along Basseyaya str. as required to stop the operation of the tunnel collector in Blagodatnaya str. for the purpose of reconstruction;
 - preparatory works for construction of a 608.2 m connection line from shaft 1/27 (33 Obukhovskoy Oborony pr.);
 - construction design of a 1.400 m ring tunnel from shaft no. 11 of TC no. 18 in 109 Fontanka Embankment, to shaft no. 3 of the TC in Ruzovskogo str. (at the corner of Vvedenskiy canal and 2 Lazaretniy pereulok).
 - installation of ventilation and gas cleaning system of the tunnel collectors.
- Rehabilitation of tunnel collectors and sewerage network:
 - commencement of reconstruction of the inlet collector to Zelenogorsk WWTP;
 - construction of sewerage network from Reshetnikovo and Krasavitsa settlements to Zelenogorsk;
 - construction of a system to switch wastewater flows between Metallostroy WWTP and Central WWTP sewer basin;
- Reconstruction of sewerage networks.



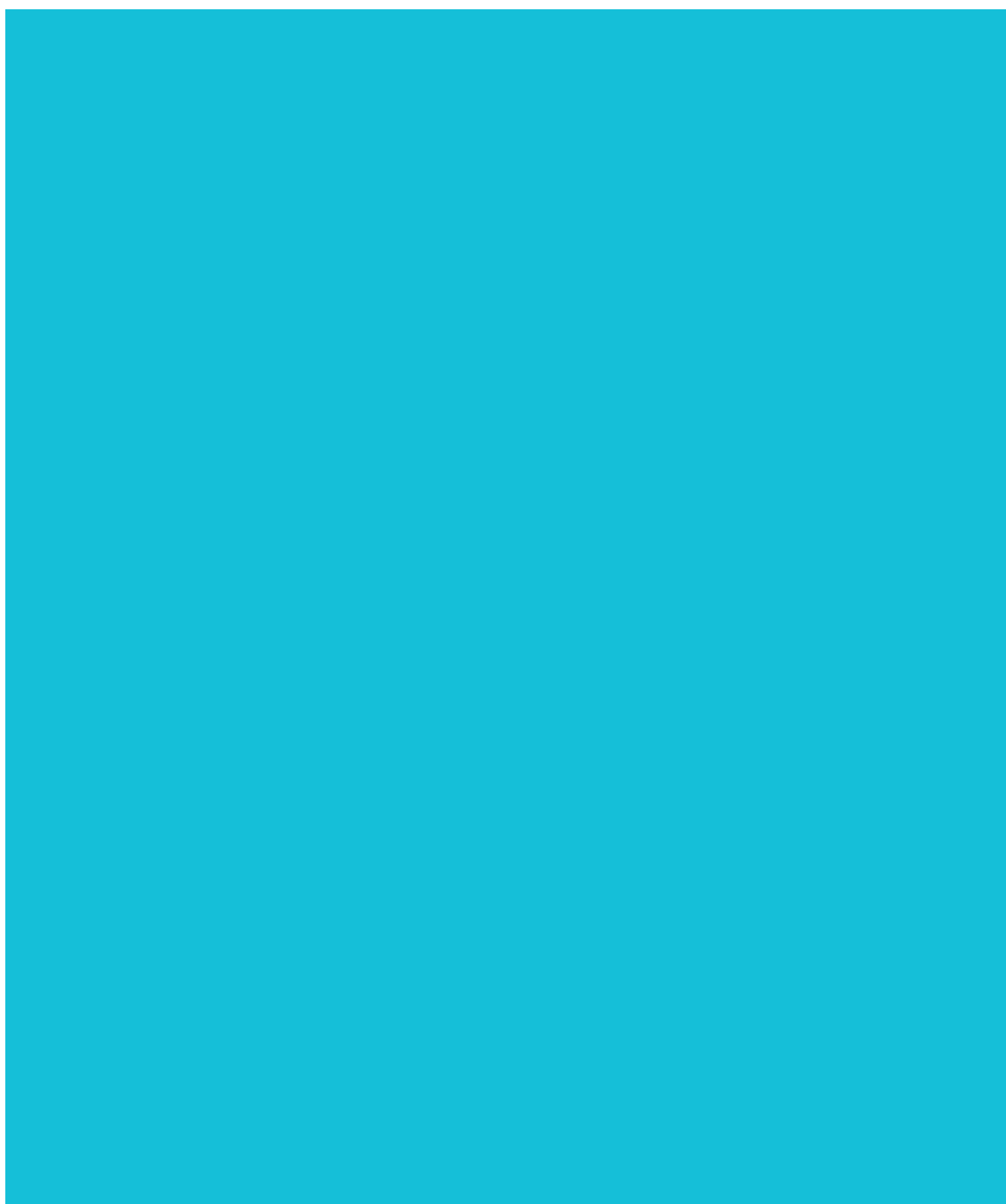
To improve energy efficiency and sustainable use of resources:

- Vodokanal proceeds with the establishment of St. Petersburg wastewater management system aimed to ensure optimal hydraulic control of the sewerage network and to raise the efficiency of the centralized wastewater disposal facilities. For this purpose it is necessary to:
 - install flow metering and wastewater quality monitoring instruments with automatic data transfer;
 - arrange customer service for each sewer basin;
 - develop chemical balance of wastewater disposal system;
 - optimize pollution load on wastewater treatment facilities and water bodies in consideration of the chemical balance data.
- The following activities are planned under the chemical balance development:
 - research works to determine the impact of specific pollutants on the activity of biocoenosis of the biological treatment at municipal wastewater treatment plants;
 - research works to investigate the impact of untreated surface runoff on water bodies;
 - continue interaction with industrial companies to develop action plans for reducing negative impacts on the environment.

To ensure the access of citizens to centralized wastewater disposal services, the following activities are planned:

- Continue the construction of combined sewerage system for "Konnaya Lakhta" facility.
- Build infrastructure in new industrial areas.
- Continue the design and commence construction of sewerage networks in Martyshkino, Molodezhnoe, Lisiy Nos, and Toriki.

FURTHER EQUIPMENT IMPORT SUBSTITUTION MEASURES IN THE FRAMEWORK OF WASTEWATER DISPOSAL SYSTEM CONSTRUCTION AND REHABILITATION WORKS WILL BE TAKEN IN COMPLIANCE WITH THE DECREE OF THE PRESIDENT OF THE RUSSIAN FEDERATION "ON NATIONAL SECURITY STRATEGY OF THE RUSSIAN FEDERATION FOR THE PERIOD UP TO 2020"





Specialized Vehicles and Equipment

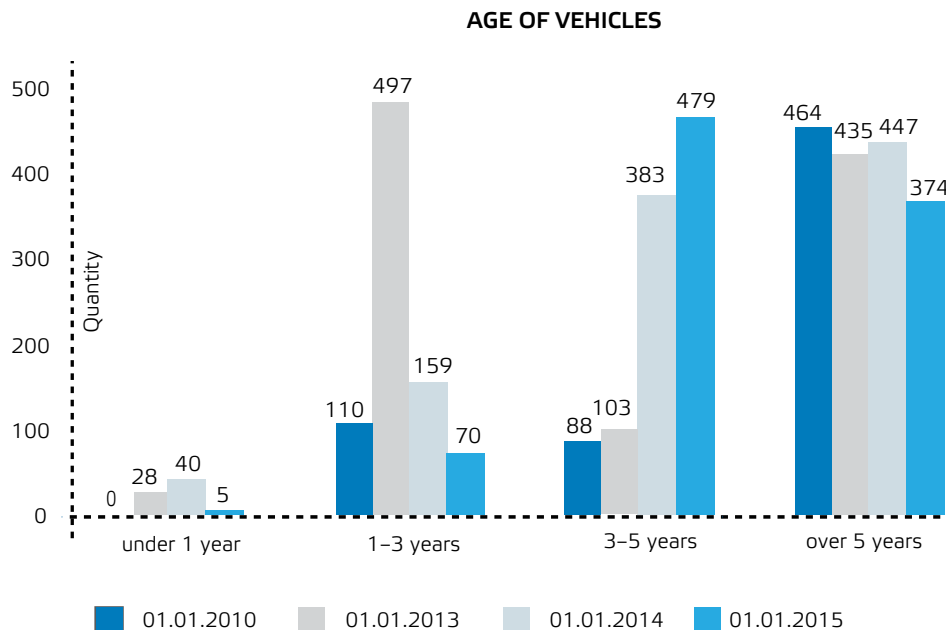
AS OF 1 JANUARY 2015,
VODOKANAL
ST. PETERSBURG
HAD 928 VEHICLES

VODOKANAL'S VEHICLE FLEET INCLUDES:

- 171 specialized van trucks to transport workers and equipment;
- 123 dump trucks;
- 121 units of road construction equipment including 45 loader-excavators;
- 55 specialized combined vehicles for sewer flushing;
- 29 MHT700 steam generators;
- 24 tank trailers for drinking water supply;
- 405 other vehicles.

TYPES OF VEHICLES

Types of vehicles	As of 1 Jan. 2015
Passenger vehicles	49
Freight vehicles:	321
Dump truck	123
Flatbed truck	46
Van truck	144
Other	8
Specialized vehicles:	327
Van trucks to transport workers	171
Vacuum-type	0
Sewage suction trucks	28
Combined trucks for sewer flushing	55
Other	73
Buses	25
Road construction machinery	121
Trailers, semi-trailers	85
Total	928



VODOKANAL IS PLANNING TO UPGRADE AND DEVELOP ITS VEHICLE FLEET

The Company is planning to convert to vehicles equipped with EURO-4 (or higher) diesel engines with improved technical capabilities, and to use multifunction transport units thus reducing the number of vehicles in its fleet.

Vodokanal has on its balance sheet 16 diesel power plants including 1,250/1,000 kVA/kW (prime rating) mobile diesel-electric container-type plants (3 units.). When cold water supply is interrupted during network repairs, trailer tanks are used to deliver drinking water to the citizens.

Vodokanal has the following equipment on the balance sheet:

- compact mobile boiler units (MNT700, MNS700) as a substitute for outdated ADU steam generators, to thaw out fire hydrants and stormwater tanks in the winter period;
 - 1 ASTEC DD2024 boring machine;
 - 2 UNIVERSAL HDD mod. UNI 60*70 horizontal directional drilling machines (truck-mounted);
 - 1 special van – Mobile Teleinspection Laboratory.
- The mobile laboratory for diagnostics and examination of networks using high-tech robotic video systems reduces the examination time and improves the accuracy of defect detection.

In 2014, Vodokanal purchased 9 vehicles including:

- 5 HIGER KLQ6129Q buses;
- 2 HIGER KLQ6928Q buses;
- 2 FREIGHTLINER CUSCO HYDRO TRENCHER 5327 vacuum plants. Due to the plants, fewer vehicles were needed for repairs of water networks and sewers (3 instead of 5 at one site).

The vehicles to be procured are the products of Russian manufacturers, including:

- 14 emergency vans with improved chassis capabilities, providing more comfort for the teams transported. The emergency vans will replace the outdated emergency vans on ZIL chassis;
- 2 wheel-mounted full-revolving shovels to replace outdated EK excavators;
- 2 full-revolving shovel crawlers;
- 4 Amkodor 333B front-end shovel loaders to replace outdated TO-28 loaders and EK excavators;
- 10 L2H2 310 cargo and passenger vans on Ford Transit chassis, with improved chassis capabilities, providing more comfort for the teams transported, – to replace outdated emergency vans on GAsel chassis;
- 5 KAMAZ 65115-6058-23 (A4) dump trucks equipped with EURO-4 (or higher) diesel engines, with improved technical capabilities, – to replace old dump trucks with EURO-1,2 engines (KAMAZ-55111S, KAMAZ-65,115);
- 5 Chassis Double Cab LWB EF 460 small dump trucks on Ford Transit chassis equipped with EURO-4 (or higher) diesel engines, with improved technical capabilities, designed for limited-space urban environments, – to replace outdated GAZ-330232 gasoline-fuelled trucks;
- 1 vehicle with a rope transfer, equipped with EURO-4 (or higher) diesel engine, with improved technical capabilities, – to replace outdated KAMAZ 53229S vehicle with Euro-1 motor;
- 1 PSS-121.28-02 manlift truck on KamAZ-65115 chassis with EURO-4 (or higher) diesel engine, with improved technical capabilities, – to replace outdated AGP-18.02E gasoline-fuelled manlift on ZIL-433362 chassis;
- 3 IS2KZ sludge suction vehicles on KAMAZ 65115-3082 chassis, with EURO-4 (or higher) diesel engines, with improved technical capabilities, – to replace outdated KO-510 gasoline-fuelled sludge suction vehicles on ZIL-433362 chassis;
- 1 mobile three-phase laboratory for testing (low and medium voltage) power and cable networks and locating failures, with high-tech equipment to perform water networks tele-diagnostics, – to replace 3990-0000010 laboratory on PAZ-320540 chassis with a gasoline motor;
- 1 track bulldozer TM10.10 GST90 – to replace outdated B10M.0111-EH bulldozer.

Backup Power Supply for Vodokanal's Facilities

A BACKUP POWER SUPPLY SYSTEM
CONSISTING OF MOBILE
AND STATIONARY DIESEL-ELECTRIC
POWER UNITS (0.4/6/10 KV)
HAS BEEN OPERATED
BY VODOKANAL SINCE 2013

With the backup system in place, Vodokanal can, if power outage occurs, ensure pump operation to maintain water head in the networks up to 10–15 m, stand-alone operation of WTPs to supply water from clean water tanks during 12 hours, and wastewater pumping to treatment plants.

In 2014, the installation of diesel-generators at WTPs led to a 600,000 kWh reduction of power consumption by pumps, because each diesel-generator was equipped with a continuously-operated variable-speed drive.

NEARLY 90 LONG-DURATION (OVER 30 MINUTES) POWER OUTAGES WERE RECORDED AT VODOKANAL FACILITIES, HOWEVER, THEY HAD NO SIGNIFICANT IMPACT ON THE CUSTOMER SERVICE QUALITY AS THE POWER DEFICIT WAS COMPENSATED BY THE BACKUP SYSTEM





Customer Service

Customer Service in 2014

CUSTOMER SERVICE IS ONE OF THE MOST IMPORTANT AND PRIORITIZED AREAS OF VODOKANAL ACTIVITIES

Given the positive experience of “one contact” customer centers in St. Petersburg and in consideration of customers’ calls and proposals, Vodokanal interacts with its customers through the Customer Service Centre using the same “one contact” principle.

The functions of the Customer Service Centre are:

- consultations on conclusion/amendment/termination of cold water supply and wastewater disposal contracts;
- conclusion of cold water supply and wastewater disposal contracts;
- receipt of meter readings; payments under cold water supply and wastewater disposal contracts;
- interaction with customers in arrears, including identification of the cause of debt, development and implementation of debt payment plan.

Throughout 2014, automation of the customer interaction process was implemented on a large scale. In particular, remote transfer of house meter readings to Vodokanal was implemented to ensure reliable recording of cold water volumes supplied to apartment blocks.

Installation of water meters with remote data transfer capability will enable to:

- manage water supply of apartment blocks in real-time, determine optimal parameters of cold drinking water supply to apartment blocks;
- ensure reliable recording of water consumption volumes in apartment blocks as of a certain date and time; the data can be used for settlement of accounts between Vodokanal and service providers and between service providers and residents.

Water meters with remote data transfer capability are installed by Vodokanal under the water supply management system project for the Southern water supply zone.

In 2014, Vodokanal provided consultations and exchanged opinions with different categories of customers and the customer association.

Within a working group with the participation of St. Petersburg authorities (Committee for Energy and Engineering Support, St. Petersburg Committee for Tariffs, Committee for Use of Natural Resources, Environment Protection, and Ecological Safety), Vodokanal actively collaborated with the Union of Industrialists and Entrepreneurs of St. Petersburg on the topics, such as: the change of wastewater disposal norms, construction of local wastewater treatment plants, and making amendments to relevant laws and regulations regarding water consumption – wastewater disposal balances.

In 2014, Vodokanal conducted several working meetings with St. Petersburg Association of Industrial

Enterprises (to discuss changes to wastewater disposal norms, installation of local wastewater treatment plants, and water consumption – wastewater disposal balances).

Vodokanal conducted working meetings with St. Petersburg International Business Association (SPIBA) (to discuss wastewater disposal norms, wastewater treatment quality, and installation of local wastewater treatment plants).

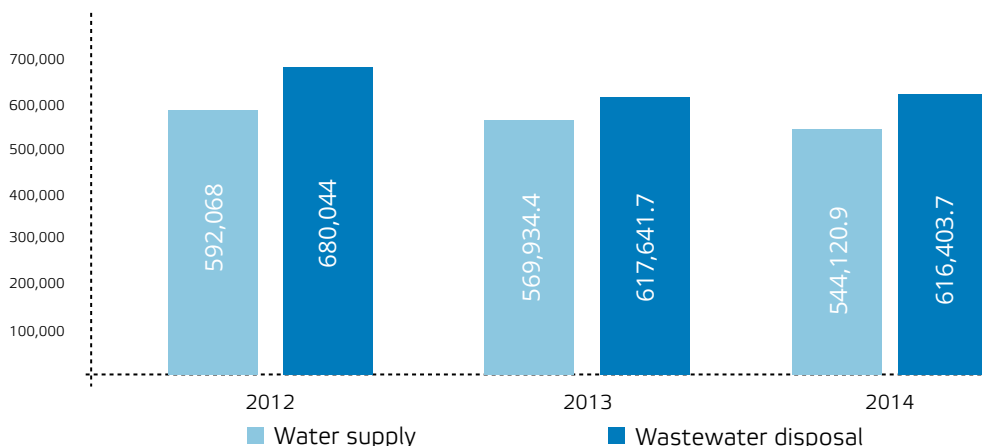
Meetings of the working group under the aegis of The Concierge Newspaper with the participation of municipal service providers were held to discuss water supply to apartment blocks, including drinking water quality, installation of house meters, estimation of water consumption by the apartment blocks not equipped with water meters, and interaction with owners (right holders) of non-residential rooms in apartment blocks.

Vodokanal held consultations with the Association of Housing Construction Cooperatives, Housing Companies and Condominiums to discuss installation of house meters, estimation of wastewater volumes produced by an apartment block in the absence of communal wastewater disposal norms, and battery limits of municipal service providers with regard to house sewer networks.

Volumes of Sales

THE RESULTS OF VODOKANAL
ACTIVITIES IN 2012–2014
SHOW A STABLE REDUCTION
IN COLD WATER
CONSUMPTION
BY CUSTOMERS

VOLUMES OF WATER AND WASTEWATER SERVICES SALES
FOR 2012–2014, IN PHYSICAL UNITS ('000 M³)



The diagram illustrates the reduction in water consumption over the last three years. Volumes of water consumed were reduced by 8.1% in the last three years.

Reduction of sales in 2014 amounted to 4.5%.

Water supply reduction trend may be observed for both "Service Providers to Households" category and Other Consumers category.

Reduction of water supply volumes for the "Service Providers to Households" category is a result of application

by housing organizations of comprehensive measures on energy-saving and energy efficiency increase, including minimization of water losses in in-house networks, rational water consumption by population and installation of water meters in apartment blocks.

The major factor that has impact on the reduction of energy resources consumption by customers is the obedience of the Federal Law no. 261-FZ "On energy-saving and energy efficiency increase, and on amending certain legislative acts of the Russian Federation" dated 23 November 2009.

Installation of cold and hot water meters by residents of apartment blocks leads to the decrease of water consumption due to rational water use.

Water sales reduction for "Other Consumers" category is caused by saving fuel and energy resources by the companies, application of resource-saving technologies (for instance, application of water recycling by industrial companies and other organizations), modernization of equipment of industrial companies and elimination of breakdowns and leakages in in-house networks.

In line with the Federal Law no. 261-FZ "On energy-saving and energy efficiency increase, and on amending certain legislative acts of the Russian Federation" dated 23 November 2009, organizations financed through the budget implement energy-saving measures, which also lead to the reduction of water consumption.

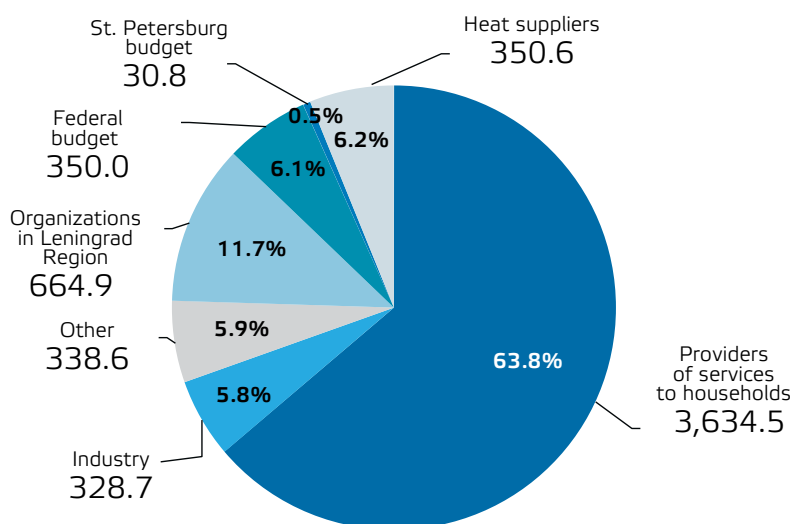
Accounts Receivable

IN ORDER TO IMPROVE THE COLLECTION OF PAYMENTS, SETTLEMENT OF ANY RECEIVABLES AND PREVENTION OF THE RECEIVABLES INCREASE, VODOKANAL ST. PETERSBURG HAS DEVELOPED AND IMPLEMENTED THE MECHANISM OF INDIVIDUAL INTERACTION WITH CUSTOMERS AIMED TO ENSURE TIMELY COLLECTION OF PAYMENTS FOR POTABLE WATER AND WASTEWATER SERVICES

The Company daily approves individual payment collection plans split by customer categories and monitors the observance of such plans on a weekly basis.

AS OF 1 JANUARY 2015 THE ACCOUNTS RECEIVABLE AMOUNTED TO RUB 5,698,109,600

STRUCTURE OF ACCOUNTS RECEIVABLE AS OF 1 JANUARY 2015 (MRUB)



Customer group	Accounts receivable as of 1 Jan. 2015 (000' RUB)	Less than 1 month (000' RUB)	Less than 2 months (000' RUB)	Over 2 months (000' RUB)	Share of accounts receivable in overall structure (%)
Providers of services to households	3,634,467.4	981,171.6	401,388.4	2,251,907.4	63.8
Heat (energy) suppliers	350,644.4	331,389.1	272.7	18,982.5	6.2
St. Petersburg budget	30,792.8	22,365.6	4,240.5	4,186.8	0.5
Federal budget	350,006.8	58,442.2	44,121.4	247,443.1	6.1
Organizations in Leningrad Region	664,900.7	45,928.9	25,038.8	593,933.0	11.7
Other	338,578.8	183,050.3	36,023.5	119,505.0	5.9
Industries	328,718.8	244,149.8	19,876.5	64,692.4	5.8
Total	5,698,109.6	1,866,497.5	530,961.8	3,300,650.3	100

The share of the customer category "Providers of Services to Households" accounts for 64% in the overall structure of accounts receivable, the share of the category "Organizations in Leningrad Region" is 12% and the share of customers financed by the Federal Budget (the Russian Federation Ministry of Defense including OAO "Slavyanka") is 6%.

The above table represents the overall structure of the accounts receivable as of 1 January 2015 split by time and shares in overall structure for each customer category.

TO AVOID DELAYS IN PAYMENTS AND OVERDUE ACCOUNTS RECEIVABLE VODOKANAL IMPLEMENTS A SET OF ACTIONS

Actions targeted to the prevention of delays in payments are as follows:

- telephone negotiations with customers to find out the reasons for non-payment and agree on possible repayment dates;
- reconciliation of actual volumes of the provided services including services for non-residential premises in apartment houses;
- written notifications to warn about the breach of contractual obligations and overdue payments;
- reconciliation of payments and clarifying to customers the reasons for debt accumulation;
- working meeting with representatives of customers in arrears to agree on payment due dates;
- notifications to customers that Vodokanal is entitled to limit and cease, on a temporary basis, the provision of cold water supply/wastewater disposal services; limitation and stoppage of water supply and (or) wastewater services;
- agreeing on the repayment of outstanding debt in installments;
- interaction with government authorities (exchange of information, working meetings), participation in the work of multiagency commissions (district administrations, governmental authorities of the Leningrad Region, local authorities, Housing Committee, main authorities responsible for distribution of budgetary funds);
- recovery of accounts receivable through the court proceedings.

THE LAWS OF THE RUSSIAN FEDERATION PROVIDE FOR TEMPORARY LIMITATION AND STOPPAGE OF COLD WATER SUPPLY AND WASTEWATER DISPOSAL SERVICES IN CASE OF CUSTOMERS' DEBT

Such measure is exceptional and is applied by Vodokanal when all other measures aimed at the settlement of a debt have been exhausted or when the customer breaches the agreed repayment of the outstanding debt.

In 2014, Vodokanal forwarded notifications about temporary limitation and termination of water supply/wastewater services to 747 customers.

Provision of water supply/wastewater services was temporary limited for 3 customers and cold water supply and/or collection of wastewater/pollutants was actually terminated for 79 customers.

Recovery of accounts receivable through the arbitration court and then through enforcement proceedings is one of the instruments to liquidate the accounts receivable.

In 2014, 2019 lawsuits were brought into the arbitration court to collect debt with total amount of RUB 2,514,320,000.

As of 1 January 2015:

- the arbitration court delivered judgments at 1302 lawsuits in favor of the Company at the amount of RUB 1,015,160,000 (RUB 429,150,000 were paid prior to the judgment);

- 227 lawsuits were paid in full prior to the court judgment at the amount of RUB 200,630,000;

- 22 amicable agreements were concluded for the total amount of RUB 211,640,000.

In 2014, 40 claims at total amount of RUB 34,810,000 were sent to the respondents and had been paid before the lawsuits were taken to the court.

In 2014, the lawsuits brought in arbitration court prior to 2014 were completed; as a result 300 judgments were made in favor of Vodokanal to collect RUB 215,090,000.

Thus, totally in 2014 (as of 1 January 2015), 1602 judgments on recovery of RUB 1,230,260,000 were issued.

As of January 2015, 472 lawsuits are pending in courts to collect debt and penalties with total amount of RUB 576,760,000.

Since August 2014, Vodokanal has started to apply to justice courts for the issuance of court orders with regard to physical entities

which debts account for less than RUB 20,000.

In the period ending on 31 December 2014, 306 notifications were forwarded to customers about the breach of money obligations under the agreements for the total amount of RUB 2,890,000. Upon such notifications Vodokanal received payments for the amount of RUB 1,850,000.

In the same period Vodokanal sent 25 statements of claim to justice courts for the issuance of court orders for the total amount of RUB 253,000 and received payment in the amount of RUB 122,000.

IN 2014, 1177 ENFORCEMENT ORDERS AT THE AMOUNT OF RUB 726,550,000 WERE RECEIVED. THE ENFORCEMENT ORDERS AT THE AMOUNT OF RUB 763,220,000 WERE PAID

Connection to Water Distribution and Sewerage Networks

VODOKANAL ISSUES AUTHORIZATIONS
FOR CONNECTION OF NEW
(RECONSTRUCTED) FACILITIES TO
MUNICIPAL WATER DISTRIBUTION AND
SEWERAGE NETWORKS

This includes the issuance of:

- specifications;
- conditions for connection (utility connection) to municipal water and sewerage networks;
- connection (utility connection) contracts to municipal water and sewerage networks;
- project validation;;
- certificates of conformity of built (reconstructed) facilities to connection conditions.

Customers' applications for authorizations are received by the Customer Service Centre at the address: Building 5, 103 Moskovskiy pr., from 9:00 till 17:00 (without lunch-break). The one contact principle is used.

Other visiting addresses for the customers are:

- Room 218, 15 Saperniy pereulok, Kolpino;
 - Room 12, 1 Pereulok Suvorovtsev, Petrodvorets
- Applications for obtaining specifications can be submitted via the Internet.

er Service

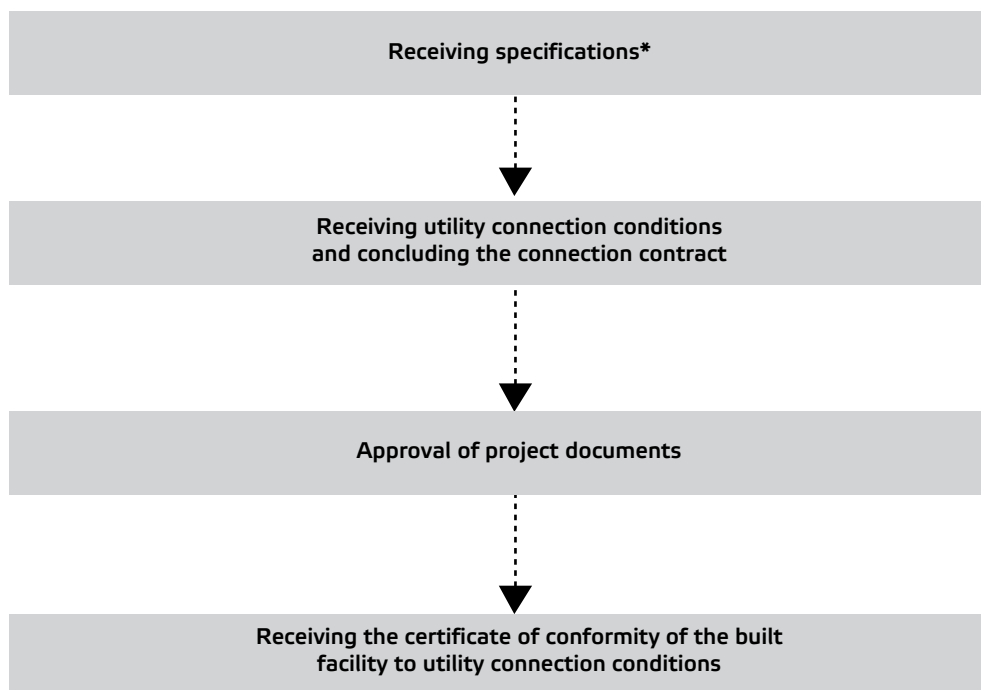
ANNUAL SUMMARY OF THE ISSUED PERMITTING DOCUMENTS FOR THE CONNECTION TO MUNICIPAL WATER SUPPLY AND SEWERAGE SYSTEMS

Type of works	Number of documents								The number of documents in 2013 compared to 2014
Year	2007	2008	2009	2010	2011	2012	2013	2014	
Technical specifications, utility connection conditions, initial data	6,281	7,250	6,987	8,623	5,143*	4,591**	5,333***	4,285****	-19.65%
Other documents					6,211	7,803	4,623	4,478	-3.14%
Reviewed design documents	3,045	3,169	2,950	3,456	3,794	4,120	4,211	4,372	3.82%
Prepared utility connection contracts			123	311	314	476	424	1,276	200.94%
Executed utility connection contracts			242	181	260	374	333	1,115	234.83%
Letters confirming the issuance of conformity certificates to utility connection conditions				489	466	489	363	370	1.93%
* Including technical specifications – 3,261; utility connection conditions – 1,663; initial data – 219									
** Including technical specifications – 2,761; utility connection conditions – 1,532; initial data – 298									
*** Including technical specifications – 3,792; utility connection conditions – 1,242; initial data – 299									
**** Including technical specifications – 3,566; utility connection conditions – 565; initial data – 154									

Time periods for issuing authorizations by Vodokanal:

- specifications – 7 working days (by law – 14 working days);
- utility connection conditions – 14 working days (by law – 30 working days);
- utility connection contracts – 5 working days (by law – 30 working days);
- project approval – 10 working days (the term of the project review is not regulated by law);
- certificate of conformity of built facilities to connection conditions – 7 working days (the term of issuing the certificate is not regulated by law).

THE SCHEME OF ISSUING AUTHORIZATIONS FOR CONNECTION OF FACILITIES TO MUNICIPAL WATER AND SEWERAGE NETWORKS

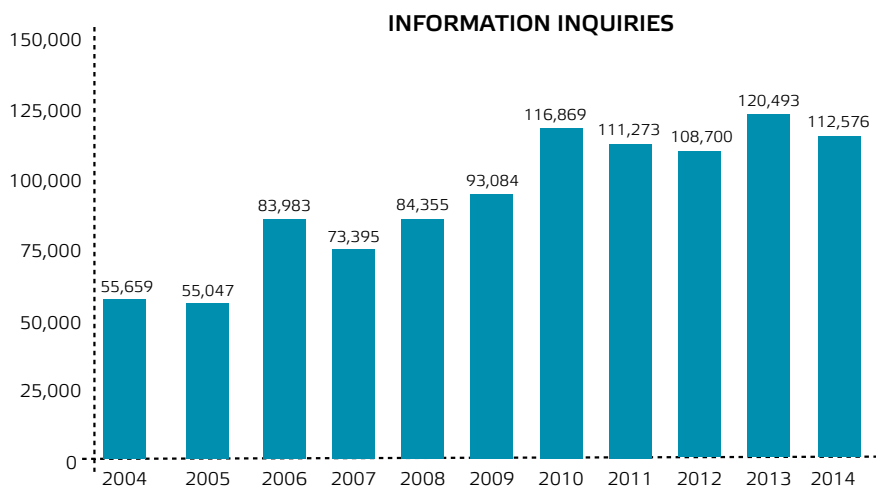


* – If the client has determined the required installed capacity, the receipt of specifications shall not be required.

Call Centre

VODOKANAL ST. PETERSBURG HAS ITS HOT LINE SERVICE TO RECEIVE CALLS FROM THE CUSTOMERS (PHONE: +7 (812) 305-09-09, SEE ALSO "INTERACTION WITH CUSTOMERS" FOR MORE DETAILS)

In 2004–2014, the implementation and use of the calls recording and handling system, as well as other improvements of this process, led to reduction of call duration from 12 to 2 minutes with the maximum waiting time of 2 minutes (in peak periods, when up to 200 calls per hour are received). At present, the average time of waiting for the operator's reply is 2–20 seconds. In 2004–2014, the number of calls (general inquiries or consultations) increased from 55,659 to 112,576.

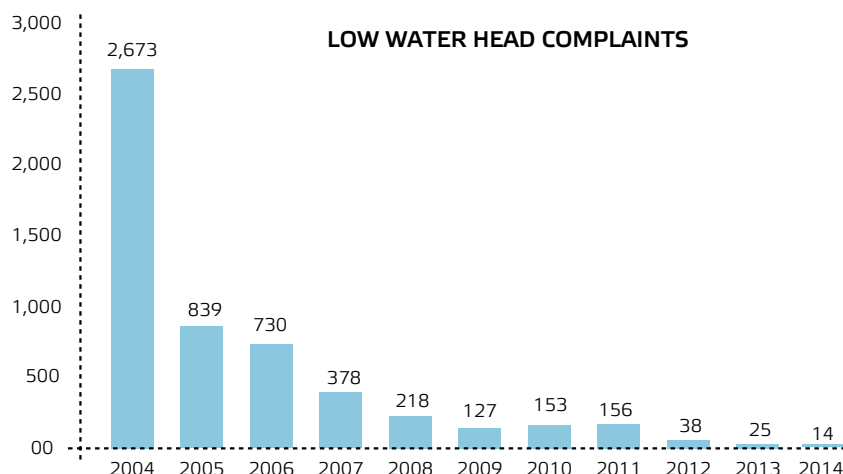


The number of inquiries related to Vodokanal activities has increased over these years. It can be explained by the increase of new customers and the growing interest of the citizens in the Company's operations.

The number of complaints received by the Hot Line Service reduced from 30,146 to 24,656 in 2004–2014.

The most serious complaints are those related to low cold water head and blockages in the yard sewers. In 2004, 2,673 complaints about low water head were received, and in 2014 there were only 14 legitimate complaints, i.e. the number of complaints has reduced by more than 190 times over 11 years.

The number of complaints related to blockages of the yard sewers has reduced by 2.2 times in 2004–2014.



Customers' Satisfaction Survey

END-CONSUMERS OF COLD WATER AND
WASTEWATER SERVICES ARE THE POPULATION
OF ST. PETERSBURG, INDIVIDUAL
ENTREPRENEURS AND LEGAL ENTITIES OF
DIFFERENT OWNERSHIP



Vodokanal actively involves consumers in discussing issues arising in connection with water supply and wastewater disposal. Such interaction is carried out on a regular basis in the form of an open dialogue (regular meetings, working groups, consultations).

The Company provides ongoing monitoring of satisfaction of both customers and end-consumers.

Questionnaires used to survey customers' satisfaction with water and wastewater services are approved by St. Petersburg Vodokanal's Standard no. 18.2-2010 "Interaction with customers (clients) during rendering of services. Information support to customers (clients)".

In 2014, St. Petersburg Vodokanal conducted selective polling of its customers (budgetary organizations, providers of services to households, tenants, industrial companies).

293 customers participated in polling. The polling results showed that:

- 85.2% of customers were satisfied in general with water supply and wastewater disposal services;
- 91.4% of customers were satisfied with Hot Line Service operation.

At the same time, 16.8% of respondents were not satisfied with the timeframe required for the conclusion of contracts for water supply, collection of wastewater and pollutants. 19.8% of respondents were not satisfied with the location of customer service offices.

IN 2014, VODOKANAL CONDUCTED ITS USUAL OPINION SURVEYS AMONG THE CITIZENS OF ST. PETERSBURG REGARDING THE SERVICES PROVIDED BY VODOKANAL, I.E. END-USER SATISFACTION SURVEY

The data was collected by street interviewing of 1000 persons of all age groups and different social status, living in different city districts.

Opinion surveys among citizens of St. Petersburg are carried out annually. The objective of such surveys is to find out to what extent the end-users are satisfied with the quality of services and social projects of Vodokanal. By analyzing the results of such surveys Vodokanal can identify problems, as the citizens see them, and improve its performance in relevant areas.

The sociological survey procedure is improved every year. Before 2008, opinion polls were made by phone only. In 2009, Vodokanal used two methods: telephone polling and outdoor polling.

According to the results of the surveys and on the grounds of the opinion given by marketing companies, it was decided that outdoor polling was more effective.

Since 2010, Vodokanal has conducted opinion surveys in the form of outdoor polling. Questionnaires are developed on the basis of a Likert-type scale (rating scale). Mathematical-statistical methods are used to analyze the collected data (e.g. scalogram analysis).

In 2014 the sample size was 1000 persons.

Respondents are grouped by age, gender, social status, district of residence, etc. to ensure representative sampling.

The survey demonstrated that about 85% of respondents were satisfied with cold water quality in 2014 (that parameter remained at the level of 2013). About 89% of respondents were satisfied with cold water odour (a year ago that parameter accounted for 87%). Satisfaction with tap water taste and transparency was 87% (a year ago – 85%) and 91% (a year ago – 88%), respectively.

90% of respondents were satisfied with cold water head (Over 2014, that parameter increased by almost 3%).

St. Petersburg citizens highly appreciated the operation of Vodokanal's Hot Line Service (telephone: +7 (812) 305-09-09). More than 95% of those who have ever called the Hot Line Service were satisfied with its performance.

Satisfaction with provision of information about forthcoming repair works increased substantially – by 8.6% and accounted for almost 87%. 10% of respondents were undecided. In 2014, St. Petersburg Vodokanal launched a new section devoted to the scheduled repair works on its website (www.vodokanal.spb.ru/presscentr/planovye_raboty). In that section Vodokanal places not only textual data about the forthcoming repair works at water and sewerage network but also continuously updates the repair works interactive map.

Satisfaction with reliability of water supply during repair works was 81% in 2014.

About 55% of St. Petersburg citizens were satisfied with current cold water and wastewater tariffs. 87.5% of respondents could not say what tariff they paid for cold water supply.

Almost 70% of the city residents installed water meters in their flats. The majority of those, who had the meters (87%), thought that they were worthwhile. Another 10% of respondents were undecided when they were asked to assess the efficiency of water meters. Those who were not satisfied with water meters (3%) listed among the reasons of their dissatisfaction, for instance, the need for regular meter verification as well as the fact that there was no difference whether you paid a fixed amount or by water meter readings.

The survey showed that citizens had positive attitude to social projects of Vodokanal. 99% of respondents were satisfied with the work of the Universe of Water Museum. St. Petersburg residents also evaluated positively the work of the Youth Environmental Centre (97%). Almost all respondents (over 98%) gave positive assessment of Vodokanal operation of fountains and fountain complexes.

THE SURVEY-2014 RESULTS SHOWED THAT THE OVERWHELMING MAJORITY OF RESPONDENTS (86%) RATED HIGH VODOKANAL'S WORK: 67% OF RESPONDENTS GAVE 4 SCORES (ACCORDING TO A 5–SCORE SYSTEM) AND 19% OF RESPONDENTS GAVE 5 SCORES

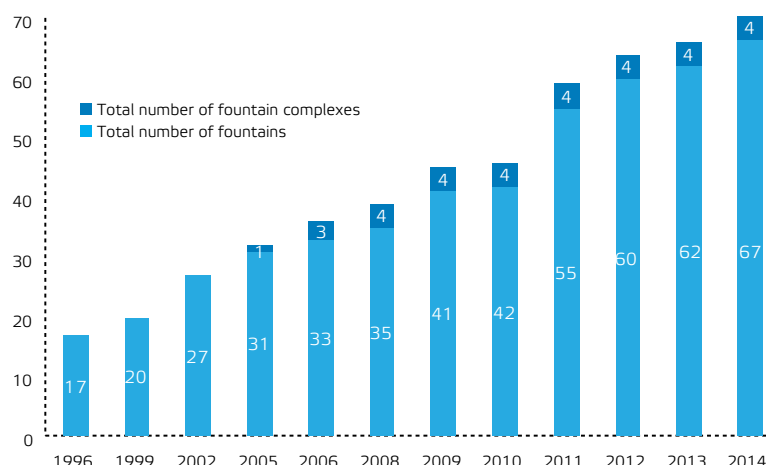




City Fountains

IN 2014,
VODOKANAL
ST. PETERSBURG
OPERATED
67 FOUNTAINS
AND 4 FOUNTAIN
COMPLEXES

AS OF 31 DECEMBER 2014, 67 FOUNTAINS AND 4 FOUNTAIN COMPLEXES WERE OPERATED BY VODOKANAL OF ST. PETERSBURG



Development of fountains is a precondition for maintaining the status of St. Petersburg as the Europe's cultural and historical center.

Fountains belong to the unique look of the "Northern Capital" created by great European architects who designed traditional palaces, parks and gardens where fountains played an important role. However, fountains had long been a kind of "luxurious ornament" that adorned private estates of St. Petersburg noblemen. The first public fountains appeared in St. Petersburg in the second half of XIX century, when public gardens and parks were opened. Moreover, the construction of fountains was facilitated by the development of water supply system. Thus, fountains in Alexandrovskiy, Rumyantsevskiy and Nikolskiy gardens were built.

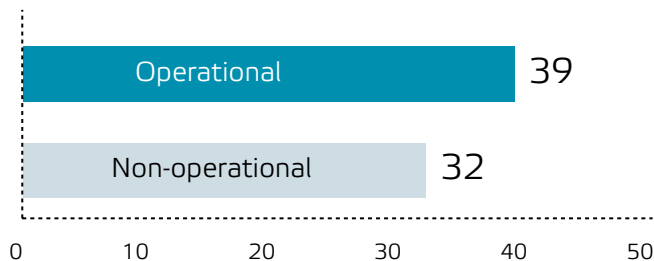
The interest in the city fountains amplified in the second half of XIX – beginning of XX centuries and in the 1930s and 1950s. At that time, full-flowing fountains

in Smolnii Garden (1934), the memorial fountain "Crown of Glory" in Moskovskiy Park of Victory (1949) and many typical little fountains in courtyards were built. The total number of these hydraulic engineering structures exceeded 300 in our city. However, by the end of XX century, the major part of fountains was in a critical condition (as no maintenance or repairs had been provided over a long time); fewer than 20 fountains were in operation.

In 1996, it was decided to transfer the fountains to Vodokanal to improve the situation.

IN 1996–2014, THE CITY TRANSFERRED 61 FOUNTAINS TO VODOKANAL FOR ECONOMIC MANAGEMENT; MOST OF THEM WERE NON-OPERATIONAL. VODOKANAL IS MAKING EVERY EFFORT TO RENOVATE THE CITY FOUNTAINS: IN 1996–2014 IT REPAIRED 35 FOUNTAINS. CURRENTLY, ONLY 32 FOUNTAINS TRANSFERRED TO THE COMPANY IN INOPERABLE CONDITION ARE OUT OF OPERATION

CONDITION OF THE CITY FOUNTAINS AND FOUNTAIN COMPLEXES OPERATED BY VODOKANAL ST. PETERSBURG



CAPITAL REPAIRS OF THE FOUNTAINS IN THE WESTERN AND EASTERN RAYPATHS OF THE ST. PETERSBURG 300TH ANNIVERSARY PARK (74, PRIMORSKIY PR., LIT. H, M) WERE COMPLETED IN 2014

Repair works included complete replacement of the pumping and lighting equipment, installation of CCTV cameras and refilling/overflow control systems. Radial fountains' hydraulic systems have been completely replaced; electrical works including replacement of control cabinets were performed; anemometers (protective mechanisms preventing wind drift of fountains jets) were connected, fountains drainage and filtration systems were

restored, granite bowls and decorative structures of fountains were renovated. The fountains were put into operation in June 2014.

The general overhaul of "Lighthouse" fountain in the St. Petersburg 300th Anniversary Park also began in 2014. With this fountain in operation, the St. Petersburg 300th Anniversary Park will feature a fountain complex complying with a single stylistic idea.

The reconstruction projects of the following fountains were designed:

- the fountains in Smolnii Garden (1, Smolnii Alley, bld. 1, lit. F and bld. 2, lit. F; 2, Smolnii Alley, bld.1, lit. F and bld.2, lit. F).
 - the fountain in Aleksandrovskiy Garden (3, Admiralteyskiy pr., bld. 1, lit. F).
 - the fountains in Rumyantsevskiy Garden (2, Rumyantsevskaya Square, lit. M, H).
 - the fountain "Crown of Glory" in Moskovskiy Park of Victory (188, Moskovskiy pr., bld. 1, lit. F).
 - the fountain in Zelenogorsk (559/1, Primorskoye shosse, bld. 1, lit. A).
- Capital repair project for the fountain "Globe" (56, Nevskiy pr., bld. 1, lit. F) was designed.

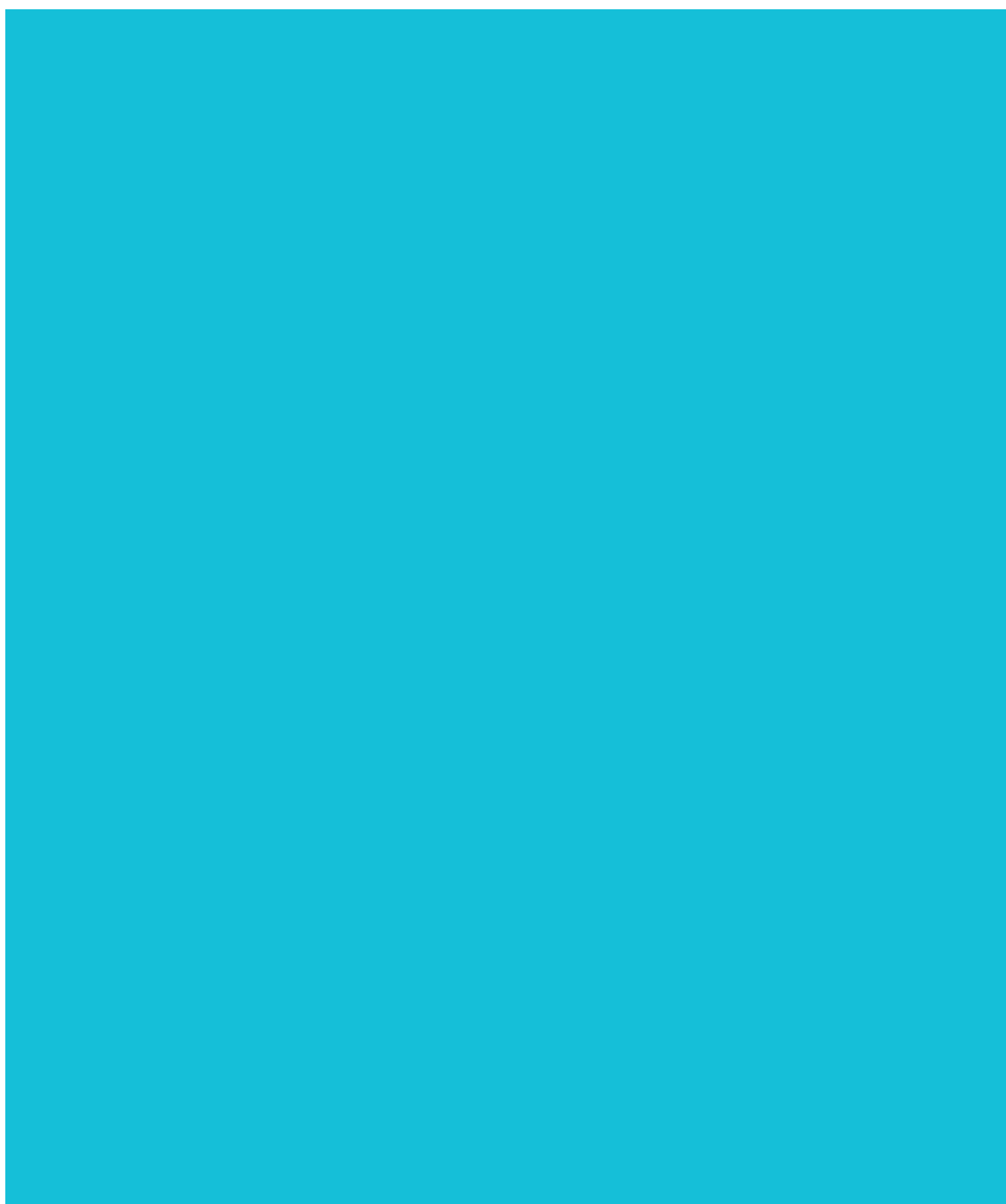
Besides, the following is planned for 2015:

- commencement of construction and installation works to renovate the fountain "Crown of Glory" in Moskovskiy Park of Victory (188, Moskovskiy pr., bld.1, lit. F);
- commencement of construction and installation works to renovate the fountain in Aleksandrovskiy Garden (3, Admiralteyskiy pr., bld. 1, lit. F);
- completion of construction and installation works under the capital repair project for the fountain "Lighthouse" in the St. Petersburg 300th Anniversary Park (74, Primorskiy pr., lit. L);
- commencement of construction and installation works to renovate the fountains in Rumyantsevskiy Garden (2, Rumyantsevskaya Square, lit. H, F);
- commencement of construction and installation works to renovate the fountain "The Birth of Aphrodite" (64-66, Ligovskiy pr., bld. 1, lit. F);
- completion of construction and installation works under the capital repair project for the fountain "Globe" (56, Nevskiy pr., bld.1, lit. F).

Moreover, detailed designs will be developed for reconstruction of the fountains at the addresses:

224 Moskovskiy pr., bld. 1, lit. G; 207 Moskovskiy pr., bld. 1, lit. G; 165 Moskovskiy pr., bld. 1, lit. G. Capital repairs of the following fountains will be performed: "Pearl" (Kronstadt, 2 Leningradskaya Str., bld. 1, lit. V), "The Water Carrier" (Kronstadt, 2 Leningradskaya Str., bld. 1, lit. D), the fountain at the entrance to the water tower (Kronstadt, 2 Leningradskaya Str., bld. 1, lit. E), "Fish" (Kronstadt, 5 Lenina Str., bld. 1, lit. B), "Swan Lake" (5 Kamennooostrovskiy pr., bld. 1, lit. A); and the fountain complex at Moskovskaya Square.

Fountains





Public Toilets

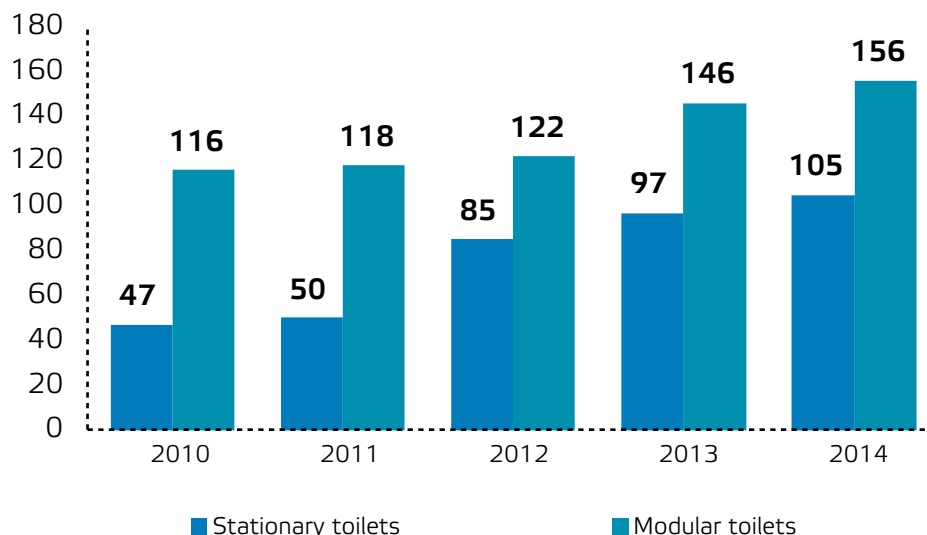
IN 2014, VODOKANAL OPERATED 613 PUBLIC TOILETS

There are 738 public toilets in the economic management of Vodokanal St. Petersburg, including:

- 216 stationary toilets;
- 137 networkable modular toilets;
- 33 modular toilets with storage containers to be installed in the gardens and parks;
- 20 mobile sanitary and hygienic complexes installed on vehicle chassis;
- 307 mobile cabins;
- 25 urinal-type toilets.

The following units are currently operated by Vodokanal:

- 156 stationary toilets repaired by the Company by means of the municipal budget funding;
- 105 modular toilets;
- 332 mobile cabins;
- 20 mobile bus-mounted sanitary and hygienic complexes.



According to the inventory made by territorial district authorities of St. Petersburg, there were about 300 toilets on the city balance sheet in early 1990s, some of them leased out for a long term, and the others either devastated or falling into decay. Vodokanal was assigned with the task to solve this problem.

Vodokanal has been operating public toilets since 2001. In December 2001, the Order of the Administration of St. Petersburg no. 1492-ra "On the development of St. Petersburg public toilet network" was issued. Vodokanal St. Petersburg assumed responsibility for the maintenance of public toilets owned by the city of St. Petersburg and for contracting repair, renovation or development works.

Moreover, Vodokanal issues technical specifications for mandatory construction of public toilets in newly-built shopping centers. Today, almost every big shopping center has free public toilets for all categories of visitors.

Since 2006, a lot of work has been done to install new-generation modular toilets next to underground stations and in the places approved by district administrations. The toilets are equipped with modern sanitary and hygienic facilities. They are more comfortable and look nicer. All in all, 137 new-generation modular toilets should be installed in the city by 2020.

Public

Vodokanal was the first to purchase mobile sanitary and hygienic toilet complexes installed on vehicle chassis. With such toilets, visitors can get services of better quality compared to mobile toilet cabins. Currently, Vodokanal intends to purchase improved models of such toilets.

The outsourced trained personnel work in every public toilet operated by the Company, and Vodokanal specialists supervise their work on a regular basis. The toilets have security systems to ensure the personnel security. Over 500 people are involved in the operation and maintenance of toilets.

Toilets are open from 9.00 a.m. till 09.00 p.m. On public holidays toilets are open according to a special schedule. Moreover, Vodokanal can extend the open hours if necessary, especially, during public events.

Vodokanal sets up mobile toilets during the city festivals, such as the New Year, Christmas, Victory Day, Day of the City and Scarlet Sails.

IN TOTAL, MOBILE TOILETS WERE PROVIDED FOR MORE THAN 790 EVENTS IN 2014 ON REQUESTS OF DIFFERENT ORGANIZATIONS

The St. Petersburg Government Decree no. 487 dated 17 June 2014 "On the State Programme of St. Petersburg "Improvement and Environment Protection in St. Petersburg" for the years 2015–2020" was adopted in June, 2014. The Programme envisages allocation of funds for reconstruction, capital repair and operation of toilets. In particular, it provides for overhaul of 32 toilets, preparation of design documentation for capital repairs of 29 toilets, reconstruction of 21 public toilets, design of reconstruction projects for 13 toilets, procurement of 11 mobile sanitary and hygienic complexes, and connection of 11 modular and 15 stationary toilets to utility networks.

In 2015, it is planned to overhaul 3 public toilets, reconstruct 9 toilets, initiate design works for 3 toilets, and procure 2 mobile sanitary and hygienic complexes.

The standards defined by the set of rules "Urban Development. Planning and development of urban and rural settlements" (SNIIP 2.07.01–89) are used to estimate the number of toilets required. In accordance with the rules, the number of toilets should meet the following requirement: one seat per 1000 people. At present, the number of all municipal toilets is equivalent to "1 seat per 557 people".

Vodokanal, in cooperation with the Committee for Press, took action to provide for the placement of the public toilets addresses on the city advertising media under the municipal advertising program. Under the program, locations of Vodokanal's toilets are indicated on billboards and signs. All Vodokanal stationary toilets have light boxes with the Company logo and are easily recognizable from afar. Modular toilets also have information on their proprietary. Information about public toilets is posted on Vodokanal website (www.vodokanal.spb.ru/kanalizovanie/tualety). In November 2014, Vodokanal website was updated with a new service – an interactive map of public toilets.

The Committee for Energy and Engineering Support Instruction no. 31 dated 28 March 2014 "On Implementing the St. Petersburg Government Order no. 213 dated 26 March 2014", sets the charge of 20 Roubles for the public toilets operated by Vodokanal.

The right of free use of public toilets is granted to:

- invalids and participants of the Great Patriotic War;
- disabled persons of 1, 2 and 3 group; disabled persons that have restrictions in labor activity of I, II and III degree;
- combat veterans;
- citizens awarded the "Resident of Sieged Leningrad" badge;
- heroes of the USSR, the Russian Federation, and holders of full set of Orders of Glory;
- home front workers;
- victims of political repressions;
- former prisoners of concentration camps;
- military conscripts;
- disabled children under 18;
- children under 7.





Permanent Snow-Melting Stations

Under the St. Petersburg Government Decree no. 1334 dated 16 October 2007, snow from sidewalks and roadways shall be disposed to specially equipped snow dumps.

CONSTRUCTION AND OPERATION OF PERMANENT SNOW-MELTING STATIONS IS AN IMPORTANT ACTIVITY OF VODOKANAL

THE OPERATING PRINCIPLE OF SNOW-MELTING STATIONS IS THE USE OF SEWAGE HEAT (THE AVERAGE TEMPERATURE IS 16–18°C) THAT MELTS THE SNOW FED INTO THE MELTING CHAMBER; IT TAKES ABOUT 3 MINUTES TO PROCESS 10 TONS OF SNOW

A permanent snow-melting station consists of an underground snow-melting chamber (snow is unloaded from trucks and melted there) with separator-crushers, a grit removal unit (for sedimentation of suspended solids and litter), a sewage pumping station, a crusher control panel and an entry control point. Wastewater can be pumped into the snow-melting chamber by the existing or newly-constructed sewage pumping stations depending on the location of the station.

Permanent snow-melting stations (PSMS) have important advantages over snow dumps:

- snow-melting stations divert all contaminated wastewater to WWTPs, while wastewater from snow dumps can partly infiltrate into the soil and produce adverse effect on water bodies and the environment;
- they require a much smaller land area than snow dumps;
- PSMSs process snow very quickly compared to snow dumps where accumulated snow keeps melting till June disrupting the landscape aesthetics and polluting the air with fine particles;
- due to snow melting in winter, smaller volumes of snow runoff are collected by the sewerage system in spring.

Before October 2012, St. Petersburg had only one permanent snow-melting station at 43, Rizhskiy prospect. It was quite outdated at the time when the station was transferred to Vodokanal for economic management.

Under the St. Petersburg Government Order no. 713 dated 12 July 2012 "On the action plan for design, implementation and modernization of permanent snow-melting stations in St. Petersburg in 2012–2013" Vodokanal obtained the approval for its PSMS design, implementation and modernization programme.

Pursuant to the Order, ten PSMSs were constructed in 2012–2013.

Ten PSMSs located at the following addresses were in operation in St. Petersburg in 2014, with the total capacity 59,000 m³/day of snow:

1. 2, Oktyabrskaya emb. – 7,000 cubic meters of snow per day;
2. 77, Peterhofskoye shosse – 7,000 cubic meters of snow per day;
3. 20, Sevastyanova str., Kolpino – 7,000 cubic meters of snow per day;
4. 45, Rizhskiy prospect – 7,000 cubic meters of snow per day;
5. 83, Stachek pr. – 3,500 cubic meters of snow per day;
6. 69, Krasnoutilovskaya str. – 3,500 cubic meters of snow per day;
7. 123, Volkhonskoye shosse – 7,000 cubic meters of snow per day.
8. Rybinskaya str. – 5,000 cubic meters of snow per day;
9. Mebelnaya str. – 7,000 cubic meters of snow per day;
10. Kusselevskaya road – 5,000 cubic meters of snow per day.

PSMSs are operated in compliance with the Operating Rules and Procedures for Permanent Snow-Melting Stations. This document sets out an action plan to ensure safe and reliable operation of PSMSs; description and periodicity of works to be performed in the operating and inter-seasonal maintenance periods; description and periodicity of maintenance and repair works; and performance standards.

The operation of snow-melting stations is divided into:

- the operating period;
- the inter-seasonal maintenance period.

The snow-melting stations work round-the-clock throughout the operating period. Each station is served by 16 operators (4 shifts, 4 operators each) who measure and keep records of the incoming snow, make visual inspections of the snow composition, arrange access to the separator-crushers for trucks, and control the operation of separator-crushers (processing of big-sized industrial and domestic garbage, etc.).

An automatic snow metering system is used to measure the volumes of received snow. The system collects, processes, stores, displays and transfers the data (tables, report forms, receipts, etc.), keeps records of vehicle traffic

and the volumes of snow delivered to the snow-melting stations. It is an integrated hardware-software system consisting of two levels: level 1: operator workstation, and level 2: hardware and software system in Belyi Island.

Operation Rules and procedures are developed to interact with the road services. The main customer of snow reception and processing works at PSMSs is the Municipal Landscaping Center.

In 2014 (January–April, and December), 148,401 m³ of snow were received and processed at the PSMSs. The biggest volume of snow (29,340.8 m³) was received by the station located at 2, Oktyabrskaya emb., lit. A.

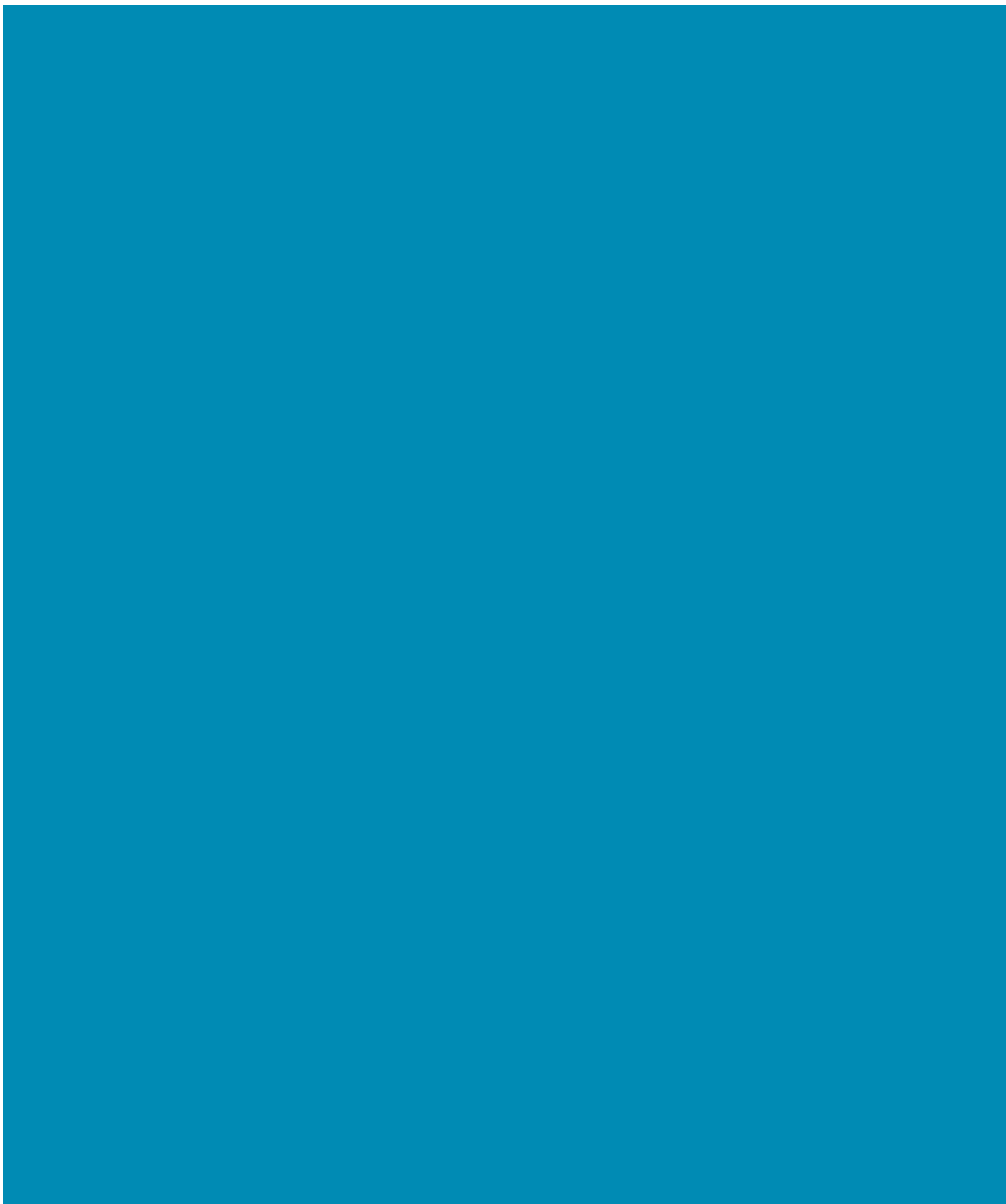
All in all, 111,091 m³ of snow were received and processed at the PSMSs during the season 2013–2014 (December 2013 – April 2014).

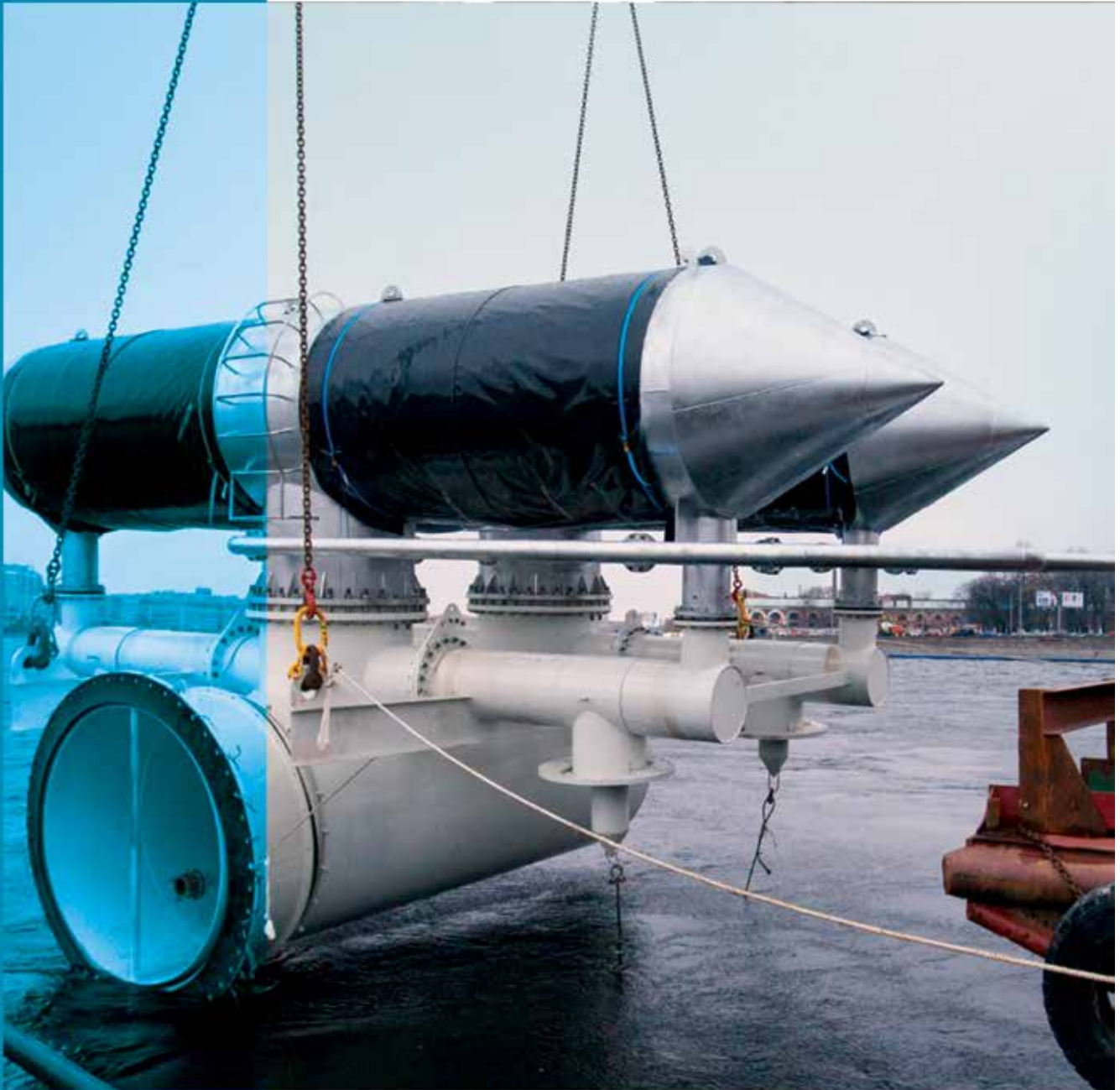
VOLUMES OF SNOW RECEIVED BY PSMS IN 2014

Item no.	PSMS address	Volumes of snow received, m ³							
		January	February	March	April	October	November	December	Total in 2014
1	2, Oktyabrskaya emb., Lit. A	8,175.5	11,841.5	569.0	–	–	–	6,200.8	29,340.8
2	83, Stachek pr., Lit. B	1,344.5	8,969.0	–	–	–	–	5,883.0	17,065.5
3	77, Peterhofskoye shosse, Lit. A	3,154.0	10,547.0	280.0	–	–	–	5,938.0	20,925.5
4	69, Krasnoputilovskaya str., block 3	102.5	7,271.5	50.0	–	–	–	1,938.0	9,404.5
5	20, Sevastyanova str., Kolpino	1,902.0	3,488.5	–	–	–	–	7,884.0	14,317.5
6	45, Rizhskiy prospect, Lit. A	1,151.0	9,562.5	20.0	–	–	–	1,081.0	12,359.0
7	123, Volkhonskoye shosse, block 2, Lit. A	487.0	987.0	20.0	240.0	–	–	615.5	2,349.5
8	2, Rybinskaya str.	2,670.0	15,356.0	230.0	–	–	–	2,622.5	21,359.0
9	Mebel'naya str., site 1	2,196.0	4,206.0	96.0	–	–	–	3,766.0	10,288.0
10	Kushelevskaya road, site 2	911.0	8,247.5	452.0	–	–	–	1,381.5	10,992.0
Total:		22,093.5	80,476.5	1,717.0	240.0	–	–	37,310.3	148,401.3

In 2014, the design of PSMS project at the address: Shkiperskiy protokol, site 9, was finalized and a positive Expertise Opinion no. 78–1–5–0413–14 dated 17 October 2014 was obtained.

The PSMS construction in Shkiperskiy protokol will be completed in 2016 in accordance with the funds allocated.





Innovations

Implementation of New Water and Wastewater Technologies

VODOKANAL ST. PETERSBURG IS IMPLEMENTING UP-TO-DATE TECHNOLOGIES ON A LARGE SCALE TO ENSURE PROVISION OF HIGH-QUALITY WATER AND WASTEWATER SERVICES TO ITS CUSTOMERS AND TO MINIMIZE NEGATIVE IMPACTS ON THE ENVIRONMENT

WATER SUPPLY

1. CONSTRUCTION OF A FIRST-LIFT PUMPING STATION AND WATER INTAKE FACILITIES AT MAIN WTP

In 2014, the construction was completed, and the pre-commissioning of the new water intake facility and a 500,000 m³/day first-lift pumping station began at Main WTP. Construction of the first-lift pumping station and intake facilities was the initial phase of the Main WTP Reconstruction Project.

Unique slot-type headwall filters (the Neva water gets into the pipelines through them) were custom-designed and specially manufactured for the water intake facility. Each headwall filter weighs 3.8 tons and the overall structure measures 10 m (length) x 2.5 m (height) x 2.5 m (width). The width of slots in the new headwalls is 2 mm. It means that no litter, waterweeds or fish can get into the pipelines together with water. Technically, the headwalls are complex structures designed to raise the water intake process to a totally new level and to make it very reliable. Incidentally, the headwalls are Russian-manufactured (they were assembled at a factory in the Leningrad Region).

The new first-lift pumping station is fully automated and controlled from the control room located in the Main WTP. The pumping station is designed for unattended operation.

The next phase of the Main WTP renovation will cover reconstruction of the existing water treatment facilities and the building of a new 500,000 m³/day treatment block.

Currently, Vodokanal is updating the project "Design and construction of a new treatment block at Main WTP including renewal of raw water intake pipelines".

The update will be done in consideration of the requirement to substitute home-produced equipment for imported products under the project. The equipment (process plant, pumps, valves, electrical equipment, automation systems, lifting machinery, etc.) produced by national manufacturers will be used to a maximum extent.

2. PILOT RESEARCH AND FEASIBILITY STUDY OF A NEW TREATMENT TECHNOLOGY TO BE USED FOR THE TREATMENT OF WATER FROM SURFACE SOURCES

In 2012, a novel technology was developed: a sequence of natural surface water treatment steps based on new equipment, new design solutions and new materials offered by national designers and manufacturers.

In 2013–2014, a mobile package plant based on this technology was implemented on a full scale: a 1200 m³/day potable water treatment/disinfection module was designed and constructed, and the pre-commissioning was completed.

The package plant operating regimes for different seasons were tested and adjusted throughout 2014.

Further tests of the package plant operating regimes for different seasons and the design of Kronstadt WTP reconstruction project using the water treatment technology in question are planned for 2015.

3. SOFTWARE MODULE FOR INTEGRATED EVALUATION OF POTABLE WATER QUALITY

In 2013, Vodokanal together with the Department of Preventive Medicine and Health Protection at the North-Western State Medical University named after I.I. Mechnikov designed an integrated risk evaluation model to assess the cumulative impact of chemicals and microbiological agents in raw and potable water on human health.

The integrated risk evaluation model was used to design a potable water quality data evaluation system based on the criteria, such as epidemiological safety, chemical safety and organoleptic advantages. The data system contains the following calculation software modules:

- Integrated evaluation of potable water in centralized water supply systems in terms of chemical safety.
- Calculation of overall epidemiological risk for human health arising from the use of raw and potable water.

- Calculation of tap water quality index based on combined epidemiological/chemical safety parameters.

The methods were tested at Vodokanal facilities and used to calculate the integrated chemical and epidemiological risk of potable water. The calculation results confirmed that potable water in St. Petersburg is non-hazardous, safe to drink and presents no negative impact on human health.

In 2014, a calculation software module was implemented to make integrated assessments of potable water quality. It passed the tests and can be used to calculate integrated risk assessments of the influence of chemical substances and microorganisms contained in raw/potable water on human health.

4. R&D PHASE OF THE WATER QUALITY MONITORING AND FORECASTING PROJECT INTENDED FOR THE WATER BODIES INFLUENCING THE QUALITY OF WATER IN THE LAKE LADOGA – RIVER NEVA SYSTEM

In 2014, Vodokanal together with the Russian State University of Hydrometeorology finalized the R&D aimed to implement practical monitoring and forecasting of water quality in the water bodies that influence the quality of water in the Lake Ladoga – River Neva System.

Such monitoring and forecasting system is intended to improve the performance of Vodokanal's water supply system (at the water intake) by monitoring and analyzing the condition of the water bodies influencing the quality of water in the Lake Ladoga – River Neva system, and by making short-term and long-term forecasts of potential water quality fluctuations at Vodokanal's water intakes.

A catalogue (list) of hydrometeorological, hydrochemical and hydrobiological monitoring data (concentrations of nutrients and pollutants) collected by governmental and departmental institutions in 2004–2011 was made and complemented by Vodokanal's data for 2000–2014. Moreover, a water quality monitoring flowchart (including locations of water quality checkpoints) and a special method of hydrometeorological forecasting of the Lake Ladoga – River Neva system condition were developed, including methods of short- and long-term forecasting of water quality; and technical specifications for a computer-based information system and its sub-systems were drawn up (the possibility of interface with Vodokanal's existing information systems was also envisaged).

A pilot-scale implementation of the Lake Ladoga – River Neva water quality monitoring project is planned for 2015.

WASTEWATER DISPOSAL

1. SEWAGE SLUDGE TREATMENT TECHNOLOGY USING CHEMICAL AGENTS AK-GF-R AND MMT-BD-A FOR SLUDGE LANDFILLS

To mitigate negative impacts of sludge landfills on the environment, Vodokanal together with LLC RusEkoTekh began, in June 2013, to test a new sludge treatment technology where chemical agents AK-GF-R and MMT-BD-A are added to get AMIDA organic-mineral composition (OMC) as an end product.

The technology is based on chemical treatment followed by sludge disinfection and detoxication, and can be used directly in sludge ponds.

The detoxicating component (AK-GF-R), made of potassium or sodium salts of amino acids, is used to bind movable metals. Ions of heavy metals are detoxicated without being extracted from sewage sludge.

The disinfection technology is based on the chemical agent MMT-BD-A: a complex copper compound of hydroxyl amino acids having the ability to bind with proteins in bacterial cell walls causing the death of cells. Copper was selected as the main component of the chemical agent because some of its properties determine protein strength, and it acts on pathogens as "poison". In this way, the landfilled sludge is detoxicated.

OMC AMIDA is an artificial soil-like composition and can be used as an organic fertilizer in compliance with GOST R 17.4.3.07-2001.

Currently, the treatment of sludge in ponds 5 and 7 is ongoing.

2. MOBILE DIAGNOSTIC SYSTEM FOR EXAMINATION OF TUNNEL COLLECTORS

The mobile diagnostic system (MDS) is intended for the examination of tunnel collectors to obtain timely and reliable data about the condition of above-water and underwater sections of deep tunnel collectors. Such 2m-5m diameter collectors laid at a depth of 30–80 m are in operation. Special equipment is needed to examine their condition and identify potential defects.

Most of the collectors have no backup sewers, so they cannot be put out of operation even for a short-time inspection or repair (if necessary).

For this reason, the tunnels are usually examined at night, when they are filled to a minimum level. However, one cannot be sure that all defects have been found in the section examined.

Now, a diagnostic system is built to examine the whole channel profile and the condition of the reinforced-concrete lining of the underwater section while wastewaters keep passing through the collector. Besides, there is no need for the inspector to get inside the collector.

The mobile diagnostic system (MDS) is a vehicle with an onboard diagnostic floating facility (DFF) which is, in fact, a boat equipped with measuring sensors and a video-camera connected via a conducting rope to the ground-based equipment: a cable drum to reel in the rope, and recording instruments.

The boat is descended into the collector shaft and moves along the tunnel by gravity and due to the MDS hydrodynamic resistance acting on the water stream while the drum drive ensures reel-out of the conducting rope and the movement of MDS at operator-defined speed. While moving forward through the collector, the video-camera shows the condition of the collector walls. The operator can see real-time data on the monitor installed in the vehicle.

The MDS measuring unit consists of sensors that make ultrasonic scan of the underwater part; and an omnidirectional TV camera with zoom and rotation capabilities to view defects in the above-water part at different angles. The MDS board computer correlates measurement data with the cross-sectional and axial position of the pontoon boat inside the collector.

The land-based part of MDS is a truck including a van with equipment and an articulated crane with outriggers, hook assembly and hydraulic pump.

The MDS enables to avoid human contact with wastewater, to identify any damage of the tunnel collector lining and to decide about the need of capital repairs.

3. IMPLEMENTATION OF COMPUTER-BASED ATMOSPHERIC PRECIPITATION MEASUREMENT DATA SYSTEM

At present, atmospheric precipitation data for St. Petersburg are provided by the observation stations of FGBU "North-Western Authority for Hydrometeorology and Environmental Monitoring" (Gidrometcenter). However, the number of observation stations is insufficient to obtain timely and reliable information on different city districts (the fallout is often non-uniform and differs by districts).

Thirty-four flowmeters will be installed under the project. The instruments are uniformly distributed throughout St. Petersburg and the nearest suburbs. Moreover, weather stations will be constructed to measure atmospheric pressure, wind velocity and direction, and air temperature and humidity in an automatic mode.

Currently, Vodokanal is in the process of creating and commissioning its automated precipitation data measurement system (AMIS "Osadki"). It is working in close collaboration with the Federal Department of Hydrometeorology and Environmental Monitoring ("Rosgidromet").

AMIS "Osadki" will measure and record (in 5min. intervals, around-the-clock and automatically) the amount of precipitation in St. Petersburg and the suburbs, and transfer the information to Rosgidromet system.

The new automated system with online data transfer capability will support accurate calculations of surface runoff for specific areas in the city and suburbs taking into account the non-uniformity of atmospheric precipitation.

In 2015, Vodokanal and Rosgidromet will put the system into full-scale operation.



4. COLLECTOR IN ZELENOGORSK

In 2014, hydrometeorological engineering surveys were made to forecast potential negative impact of abrasion (washout) on the inlet sewage collector to be laid to Zelenogorsk WWTP. The surveys were needed to decide whether the collector design should be changed (i.e. whether any steps should be taken to ensure safe operation) if the forecast of the coastline abrasion process was unfavourable.

The impact of the coastline abrasion was assessed under two climatic scenarios: maximum and minimum water levels in the Gulf of Finland.

Using the results of surveys, first-priority actions to prevent washout of the coastline were specified:

- rehabilitation of damaged parts of coast protection structures;
- stabilization of the coastline sections subject to washout to a greater extent;
- prohibition of building in the water body's buffer zone.

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NEW TECHNOLOGIES FOR RECONSTRUCTION OF WATER/SEWER NETWORKS

IN 2014, VODOKANAL USED NEW TECHNOLOGIES, E.G. NO-DIG METHODS, TO RECONSTRUCT ITS WATER NETWORKS

Annually, approx. 60% of water and sewer networks in Petersburg are renovated using trenchless technologies. With such technologies, pipes can be repaired with minimum disturbance to the surrounding area, and long-lasting disruption to traffic flow can be avoided.

Vodokanal uses different methods for network renovation. One is CemPipe liner: a plastic tube is pulled into a host pipe, and the space between the old pipe and the plastic tube is filled with cement mortar. Another technology, PipeWay, is a special method of applying epoxy resin on the inner surface of a pipe.

A 630 mm diameter pipeline in Pulkovskoye Shosse was renovated in 2014 by spraying the polymeric material Scotchkote Liner 2400 on cleaned inner surface of the pipeline. Scotchkote Liner 2400 is a rapidly solidified polyurea applied by centrifugal spraying. It enhances the structural strength of water pipes by forming a highly-effective corrosion-resistant coating. As a result, there is no deterioration of water quality

during distribution, and the probability of leaks through the holes, cracks or slits caused by corrosion of the pipe material, is lower.

Sunline technology (a wearproof polymer-impregnated sleeve) is often used for sewer reconstruction. Sometimes, a different method is chosen: an old pipe is pneumatically expanded and burst, and then a new pipe is pulled through it. Pipes made of fragile materials (asbestos cement, cast iron, or reinforced concrete) are renewed by means of pneumodrift.

In 2014, Vodokanal began to use the KANKOSEI technology which enables a company to repair the existing sewers without stopping their operation and to strengthen their structures. Originally, the new technology was developed in Japan and further upgraded together with LLC "Transspetsstroy" to adapt it to the North-West Russian conditions. The principle is as follows: a plastic strip is spirally wound inside a collector. Then a special mortar is pumped into the space between the strip and the tunnel wall.

There are several reasons why the technology is suitable for renovation of tunnel collectors in St. Petersburg.



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Firstly, it enables renovation of collectors laid at the depth of 5 m–50 m or deeper without putting them out of operation, i.e. works can be performed in the operating collectors. Secondly, it can be used for any tunnel diameter in the range 1.2 m–4.7 m, or any cross-section geometry (from circular to U-shaped), and the distance between shafts may be up to 550 m. Short radius bends (30 m or smaller) on some collector sections are no obstacle to this technology.

The new technology can be used for overall repair of tunnels and pipes including reinforcement of their structures (it is needed when dynamic or static loads increase) and renovation of the old pipe surface. Due to the technology advantages a tunnel can withstand additional loads or vibrations (for example, a tunnel collector may need structural reinforcement when deep excavation or construction of a high building is planned in this area, or when a collector is under heavy traffic loads).

With this technology, no additional construction (excavation) works are required on the surface or inside the structure. Therefore, repair works can be performed quickly and at a minimum price as compared to traditional technologies.

TESTS OF CONDUITS FOR OPTICAL FIBRE CABLES IN SEWER NETWORKS

Setup of microtubular optical fibre ducts in gravity sewers can be an optimal alternative to the existing telecommunication networks with traditional underground telecommunication facilities and overhead-underground junctions.

Under the tests, an optical fibre communication line was laid in the existing sewers (sections between 5, Omskaya str. and 41, Lanskoje shosse, and between 6, Omskaya str. and 20, Omskaya str.).

The trial operation results demonstrated that the tests were successful. The Scientific Technical Council at the Committee for Energy and Engineering Support decided to take further steps aimed at the implementation of this technology, such as amending the applicable regulatory documents and procedures.

IN 2014, VODOKANAL MADE
TESTS TO FIND OUT WHETHER
IT WAS POSSIBLE
TO LAY MICROTUBULAR
OPTICAL FIBER CONDUITS
IN GRAVITY SEWERS

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TECHNICAL SOLUTIONS TO TIGHTEN SEWER MANHOLES



The ground water level is high in St. Petersburg. To prevent penetrating of infiltration water into the sewerage system technical solutions to tighten sewer manholes are needed. Leakage of manholes leads not only to increase in the volume of pumped wastewater but also soil erosion around the pipeline and manholes that in turn results in sagging and destruction of pavement.

To solve the issue in 2014, Vodokanal St. Petersburg considered various options to tighten manholes; one of them is being applied now.

At its core the technology uses polymer inserts with anker elements to cover the inner surface of manholes and provide the system tightness. With anker elements reliable mechanical adhesion of polyethylene and walls of reinforced manholes occurs by coating the above surfaces with a special solution and fastening them together followed by welding of plastic elements.

INFORMATION AND ANALYTICAL SOFTWARE TO ASSESS THE RISKS OF WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS

The IAS is based on the Guidelines for express-calculation of risk evaluation matrix developed by the Engineering and Innovation Centre with the aim to identify the key actions to be included in the St. Petersburg water and wastewater plan.

With the software system implemented, any calculations of non-performance risks for the actions envisaged under Vodokanal's Investment Programme could be computerized. The IAS supports an integrated approach, systematic consideration of risk factors, and in-depth estimation of potential losses and benefits from implementation or non-implementation of development projects for Vodokanal's structurally complex facilities.

The IAS helps assess the consequences of non-implementation, or unreasoned exclusion from St. Petersburg water and wastewater plan, of any projects having social or environmental significance.

IN 2014, VODOKANAL BRANCH "ENGINEERING AND INNOVATION CENTRE" IMPLEMENTED THE INFORMATION AND ANALYTICAL SOFTWARE (IAS) AT VODOKANAL FACILITIES TO ASSESS THE RISKS OF WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS

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Development of Hydraulic Simulation

MODERN AND EFFICIENT HYDRAULIC
SIMULATION INSTRUMENTS
ARE USED TO SOLVE OPERATIONAL
AND DEVELOPMENT TASKS FOR WATER
SUPPLY NETWORK OF SUE "VODOKANAL
OF ST. PETERSBURG"

Hydraulic calculations are made for pressure zones, water supply districts or other territorial units depending on specific task.

Chiefly, schedules of service interruptions and diversion to other networks are calculated to forecast changes of water flows and pressures, and to select optimal operating modes of pumping stations.

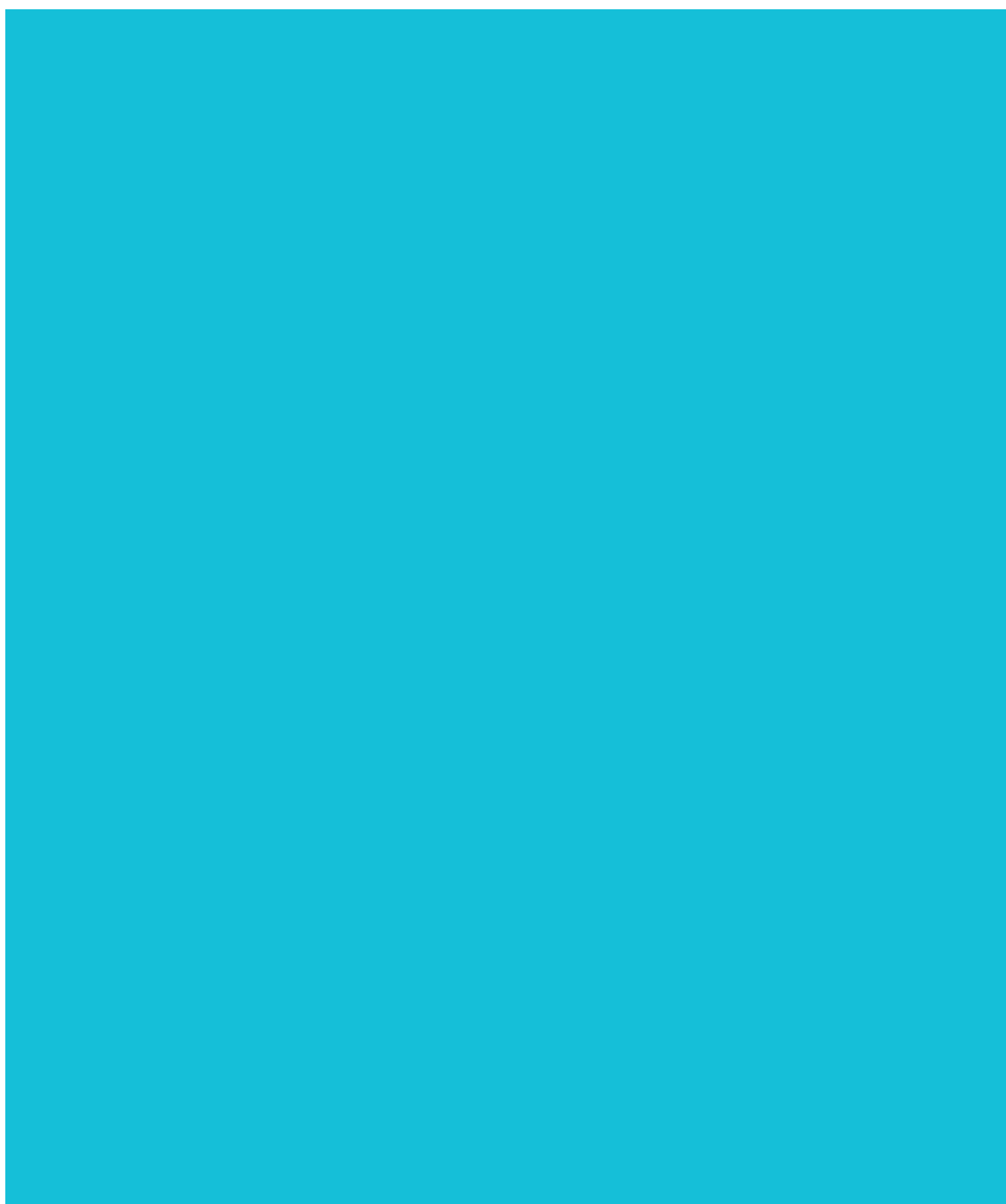
Hydraulic simulation is based on the PDCA cycle providing continuous improvement of models and simulation approaches.

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MOREOVER, CALCULATIONS ARE MADE TO SELECT THE BEST TECHNICAL SOLUTIONS FOR THE PROJECTS AIMED AT THE DEVELOPMENT AND IMPROVEMENT OF THE CITY'S CENTRALIZED WATER SUPPLY SYSTEM. FOR EXAMPLE, LIMIT VALUES (MINIMUM AND MAXIMUM) OF STREAM VELOCITY AT THE LOCATIONS OF INTER-SECTORAL FLOW METERS IN THE SOUTHERN WATER SUPPLY ZONE WERE DETERMINED USING HYDRAULIC SIMULATION. DUE TO THAT, INSTRUMENTS WITH OPTIMAL OPERATING PARAMETERS COULD BE SELECTED, AND THE LIST OF INSTRUMENT LOCATIONS COULD BE OPTIMIZED

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Geoinformation System Development

A GEOINFORMATION SYSTEM
(GIS) IS CREATED TO PROVIDE TO VODOKANAL
DIVISIONS TIMELY, RELIABLE AND
COMPREHENSIVE GEOINFORMATION
ABOUT THE COMPANY'S FACILITIES
AND THE CITY INFRASTRUCTURE,
TO CONSOLIDATE ALL TYPES OF ACCOUNTING,
TO REGISTER PROPERTY RIGHTS,
TO EXCHANGE INFORMATION WITH STATE
AUTHORITIES AND TO PROVIDE DATA SUPPORT
TO PRODUCTION PROCESSES

The GIS comprises hardware, software, Vodokanal's cartographic database and data communication channels.

IS "Baltika" is a distributed, MapInfo MapXtreme-based graphics and information system. It has an open-architecture core and a powerful graphics engine.

IS "Baltika" operation is based on 10 interacting subsystems and their software modules which support the following functions:

- **CARTOGRAPHY** – performs standard GIS operations with spatial objects, service cartographic operations, operations on technical record-keeping objects, supports vector and raster data sets, defines the coverage of territorial zones;
- **PROPERTY ACCOUNTING** – enables to manage Company's property; maintain a register of land parcels held on lease or leased out; issue reports on current or scheduled payments; update information about buildings, facilities, networks and movable assets;
- **TECHNICAL RECORD-KEEPING** – updates information about the status of water wells and network sections, records changes in technical parameters of engineering networks; network write-off, planning, renovation and preparation for cadastral registration; maintains thematic registers of housings, discharges, boosting pumping stations, sewage pumping stations, water meters, tunnel collectors, connection points, water wells, zones, etc.; supports the issuance, follow-up and closure of network cleaning requests on the basis of reporting documentation; supports inventories, drafting and making of contracts with customers; provides information support to electrochemical protection of steel pipelines;

- **WEB-ACCESS** – performs standard GIS operations with spatial objects, service cartographic operations; supports browsing through records of technical parameters, events, engineering networks, the Company assets and flow meters; processes sewer cleaning requests; provides a navigation function for line crews and emergency teams using a mobile working place;

- **ADMINISTRATION** – management of user accounts; editor lock of registers open to several users at a time, maintains lists of users, tasks, roles and news in IS “Baltika”;

- **INTEGRATION WITH EXTERNAL INFORMATION SYSTEMS AND RESOURCES** – updates information about facilities and their addresses; establishes primarily links between the accounting data and technical records; specifies the place of breakdown upon the request from IS “Hot Line”; interacts with IS “Customer Service Centre” and software module “Passport of the Facility”; on-line location and recording of an object position at the mobile workstation; builds and transmits to SYNERGEE WATER up-to-date models of engineering networks;

- **SIMULATION AND SHAPING OF WATER SERVICE INTERRUPTION AREAS, WITH OPTIMIZATION ANALYSIS OPTION** – shapes service interruption areas, makes lists of disconnected customers and passports of disconnected sites; simulates the shaping of disconnected areas, and automates the search for redundant valves;

- **MONITORING OF THE SOUTHERN WATER SUPPLY ZONE RECONSTRUCTION PHASES** – supports the monitoring of reconstruction works at required levels;

- **SUPPORT OF INTEGRATED WATER NETWORK SURVEY** – maintains and browses the register of the planned water network integrated survey, visualizes the works completed under the water network integrated survey.

- **NAVIGATION** – positions network elements on the map and visualizes them by means of double-frequency GLONASS/GPS receivers (accuracy in differential mode – 2m or more, and in RTK, real-time mode, – 0.20 m or more).

THE USE
OF CUTTING-EDGE
TECHNOLOGIES
FOR THE DEVELOPMENT
OF THE COMPANY'S OWN
INFORMATION SYSTEM
ALLOWED TO SOLVE THE
SECURITY RESTRICTIONS
PROBLEMS FACED BY USERS
WORKING WITH CARTOGRAPHIC
DATA, SUCH AS LOCATION
AND CHARACTERISTICS OF
ENGINEERING NETWORKS,
BY INSTALLING THE CERTIFIED
INFORMATION SECURITY
SOFTWARE WIN
7 PRO NO. 2180 STEK RS
ON THE WORKSTATIONS

ation
velopment

IS "Baltika" cartographic database contains over 150 regularly updated cartographic layers, including:

- existing cadastral plan of the St. Petersburg Committee for Land Resources and Land Management;
- data of St. Petersburg urban-planning information system from the Committee for Urban Development and Architecture;
- information about investment projects received from GU "Investment Management";
- the digital 1:10000 map of St. Petersburg dated 2005;
- raster tablets (1:500, 1:2000);
- orthophotomaps of St. Petersburg territory produced on the basis of the aerial survey conducted in April–May 2011 (resolution – 18 cm);
- digital surface map of St. Petersburg, where all types of surface (grass lawns, bushes, asphalt, tile, etc.) are presented in the form of areal objects (1:2000);
- digital map of the Leningrad Region within a radius of 30km from St. Petersburg and the map of the town of Luga;
- thematic information about engineering networks, land plots, buildings and facilities of the Company.



In 2014, IS "Baltika" was developed in the following way:

● **UPDATING OF THE EXISTING FUNDAMENTAL CARTOGRAPHIC BASE.**

The work is carried out under the data exchange agreement between the Committee for Informatization and Communication, Committee for Urban Development and Architecture, GU "Investment Management" and St. Petersburg Committee for Land Resources and Land Management.

● **DEVELOPMENT OF THE PACKAGE OF INTERRELATED INFORMATION-COMPUTING TASKS AND MODELS.**

The module "Quality of water in water bodies" was established to provide information support of water quality monitoring in water bodies, to enter the data on water quality checkpoints and the results of water quality monitoring, and to issue standard reports for a given period of time; groups of tasks for the module "Quality of water in water bodies" were built in WEB.

The module for informational support of the electrochemical corrosion protection of steel pipelines was set into operation to enter (edit, remove) cartographic data related to electrochemical corrosion protection into e-map layers, and to enter technical characteristics of each electrochemical corrosion element. A special register was built to list electrochemical corrosion protection units, steel pipeline defects and results of steel pipeline technical surveys.

Geoinformatic
System Development

The following functions were improved under the IS "Baltika" maintenance contract:

- Implementation of a new IS "Baltika" updating system at the Company.
- Introduction of new MapXtreme licenses, transferring of the WEB-access subsystem to new WEB-servers, the operating speed of IS "Baltika" WEB-client increased 4 times.
- Development and setting into operation of the sewer hydrodynamic flushing module. Visualization of telediagnosics results; enhancement of the sewer hydrodynamic flushing register; the flushing module is improved in WEB-client.
- Collection, analysis and systematization of the system software errors identified during the system operation; approval of error recovery algorithms and time schedules.
- Analysis, troubleshooting and remedy of IS "Baltika" malfunctions at the users' workplaces; development of recommendations for the client's system administrators on how to restore the client-side functionality.
- Development of IS "Baltika" database and WEB-interface to link house connections of IS "LIVS" in the Customer Service Center (CSC) with IS "Baltika" nodes.
- Network's mathematical graph forming and unloading function for a given zone is provided.
- Implementation of OrtoPhotoPlans 2013 display function.
- The layer of land parcels from Cadastral Chamber is included into the Object-Target System of the Committee of Natural Resources and Land Management.
- A photo saving function is developed for buildings and meters in WEB-subsystem.
- A map "Physical assets without CSC IS contract" is developed in WEB-subsystem.
- The work schedule register display for IS "Maintenance and Repair Management" is improved in WEB-subsystem.
- "Network Examination Register" module is improved.
- The GUION Inventory Module is put into operation.

THE SYSTEM MAINTENANCE EVALUATION HAS SHOWN A 25% INCREASE IN THE NUMBER OF REFERENCES TO IS "BALTIKA" AT VODOKANAL IN 2014

GIS supports development of calculation/modeling/simulation software modules, visualization of production processes, and thematic and situation simulation for decision-makers. The structure of distributed GIS is built using advanced methods of large information system design and surpasses standard ISs in terms of combining data storage and processing logics in a single information visualization unit. GIS has a wide range of functionality for the data management systems implementation making it possible to use the geographic information system as the core instrument for heterogeneous data integration and publication.

on
opment

Energy-Saving and Energy Efficiency Projects

VODOKANAL ST. PETERSBURG
IS ONE OF THE BIGGEST ENERGY
CONSUMERS IN ST. PETERSBURG.
IN 2014, THE ENERGY CONSUMPTION
OF THE COMPANY ACCOUNTED
FOR 691.1 MIO. KWH

The Company is strongly focused on energy saving and energy efficiency improvement.

In 2014, electricity consumption reduced by 4.3% as compared to the previous year. This result was achieved, among other things, due to the implementation of water supply management system, installation of energy-efficient equipment at the pumping stations in the Southern water supply zone of St. Petersburg, and renewable energy sources (heat and electricity produced by sludge incineration). Vodokanal's own electricity production reached 2.862 Mio. kWh.

In 2014, the reconstruction of machine room no. 2 at Southern Water Treatment

Plant and Moskovskaya Pumping Station was completed. Frequency converters were installed at Southern, Main, Northern, Volkovskaya and Kolpino WTPs. Pumps were replaced at Bogumilovskaya and Krasnaya Sloboda Pumping Stations. The Company started reconstruction of two biggest third-lift water pumping stations: Murinskaya PS and Kushelevskaya PS; reconstruction of the air blower station including substitution of variable air feed blowers for the existing blowers, was carried out under the Northern WWTP Reconstruction Project. The works will be completed in 2015.

Since 2012, Vodokanal has implemented and certified the energy management system (EnMS) under ISO 50001:2011 "Energy Management Systems. Requirements with Guidance for Use".

The Company's existing energy management system enables efficient control over sustainable use of energy resources as required for the provision of water and wastewater services, and supports timely decision-making aimed to increase the energy efficiency of Vodokanal operations.

In 2014, implementation of the 5th stage of the Automated Information-Measuring System for Commercial Metering of Electric Energy was completed at 34 facilities of Vodokanal. The system supports automated collection of readings from commercial electric counters and control of power grid parameters.

Since the completion of AIMS CMEE 5th stage, 95% of the Company's electric energy has been controlled automatically. It is planned to extend AIMS CMEE in 2015. In 2014, the implementation of automated system for commercial metering of thermal energy began.

In June 2014, Vodokanal's energy management system successfully passed the audit for conformity with ISO 50001:2011 made by the Russian Register certification association in the presence of American Accrediting Council auditors.

In 2014, Vodokanal experts participated in conferences, seminars and panel discussions dedicated to energy efficiency and energy management.

Patents

THE MAIN PRINCIPLES OF VODOKANAL INTELLECTUAL PROPERTY POLICY ARE:

- provision of timely legal protection of intellectual property in compliance with the intellectual property law;
- preventing any violation of the Company's exclusive rights to the intellectual property;
- monitoring of scientific and technical information, search for new cutting-edge technical solutions, determination of scientific and technological level of developments.

In order to improve the effectiveness of patent work, a number of regulatory and guidance documents were developed including, in particular, Vodokanal standards: "Procedure to identify protectable intellectual activity results from the results of research and development, design and experimental, technological activities" and "SUE "Vodokanal of St. Petersburg" regulations on production secrets (know-how)".

In 2014, Vodokanal began the trial operation of six utility models and lodged applications to obtain patents for 12 inventions and utility models including the sewer shaft repair method, the municipal water supply-wastewater disposal balance assessment method, the inflow diagnostic system, the drinking water treatment method and plant, etc.

Within the framework of scientific and technical information monitoring, the Company made patent research on 15 topics. The feasibility of the following novel technical solutions was verified based on such research:

- a challenging technology of flush water regeneration using a hollow fiber membrane reactor was successfully tested at Southern WTP, a technical solution for the ceramic membrane reactor was developed;
- test programs were developed, and the tests of new potassium monopersulfate-based chemicals for sewage/drinking water disinfection began;
- a challenging chemical-free technology of enhanced wastewater treatment using a membrane bioreactor was finalized;
- useful characteristics of Okkervil standpipe's ejector unit, shut-off valve and rod (operated by Vodokanal since 2012) were upgraded;
- a pilot "Device to prevent water hammers when Moscow-type fire hydrants are opened incorrectly" was designed;
- a "Device to remove small water volumes from hard-to-reach places" was developed;
- a conceptual model of direct water standpipe was developed.

Development of Information Infrastructure

VODOKANAL'S INFORMATION
INFRASTRUCTURE SUPPORTS
CORPORATE PRODUCTION,
FINANCIAL AND ECONOMIC
ACTIVITIES

Vodokanal's information infrastructure includes:

- communication systems and tools;
- production automation systems and tools;
- information systems;
- information security;
- technical and engineering support of IT infrastructure.

The key focus for Vodokanal in the field of information technologies is on automating the Company processes. It means, primarily, transition to a single standard of IT implementation, cross-cutting integration of information systems, and establishment of an integrated corporate management system.

ACHIEVEMENTS IN THE FIELD OF COMMUNICATIONS

The corporate communication systems and tools support process data transfer, process control automation, and the monitoring of emergency team operations; reduce emergency response times, etc. Thus, the first-priority task for this IT function is to expand the corporate information network and to improve the communication quality with due regard to general cost optimization targets.

The following was done in 2014:

- 8,225 m of main fiber-optic communication lines were laid;
- two new data channels were provided for the Company facilities and two existing channels were extended;
- 4,170 SIM-cards were activated to be used, mainly, for data transfer from house meters.

Innovative communication solutions were gaining momentum. In 2013, the feasibility of CableRunner™ hybrid micro-tube ducts for the construction of fiber-optic communication lines in the St. Petersburg underground sewers operated by Vodokanal, was evaluated. Additional trilateral agreements regarding the trial operation of two finished sections of fiber-optic communication lines were



signed in February 2014. Currently, the test program is completed, a positive decision regarding the feasibility of micro-tube ducts for fiber-optic communication lines is obtained, and amendments are being made to relevant sectoral regulatory documents in cooperation with the Committee for Information and Communication and other stakeholders.

ACHIEVEMENTS IN PROCESS AUTOMATION

In 2014, the milestones on the way to process automation were:

- pilot-scale tests of the innovative Nemo-Aqua Platform-based water supply management system for the south-western district of St. Petersburg were launched; in parallel, Vodokanal began work to create a citywide water supply management system;
- commissioning of an automated process control system for water intake from the Neva by Main WTP under the Main WTP reconstruction project;
- development of software and hardware for water supply automation complex.

Moreover, SIMATIC PCS7, a homogeneous and uniform process control system with a unique expandable architecture, was implemented at Southern WTP as an innovative process automation solution.

ACHIEVEMENTS IN THE DEVELOPMENT OF CORPORATE INFORMATION SYSTEMS

Vodokanal's all major information systems undergone qualitative changes in 2014 after amendments had been made to the Federal Law no. 416-FZ "On Water Supply and Sanitation". By modernizing the information systems in 2014, the existing business processes could be updated and extended in compliance with the law of the Russian Federation.

A computer-based metrological information system was developed and put into full-scale operation. Moreover, a huge work was done to upgrade the Billing and Collections System with the capability of data migration from related systems, thus eliminating the need for additional information systems and handling all relations with customers by a single information system.

The prototype IS "Water meter reading and maintenance information system" was developed to improve the process automation level, and presented to users.

Integration of corporate information systems into a single information space, Vodokanal's CISDN, is ongoing.

ACHIEVEMENTS IN INFORMATION SECURITY

Vodokanal's Information Security Management System (ISMS) was developed, implemented and certified according to the international standard ISO/IEC 27001:2005.

As a result, a plan of organizational and technical measures to improve the company information security was developed and adopted for implementation. The plan includes internal audits of information security, and acquisition of hardware and software systems designed to upgrade the technical level of information security and to mitigate identified and assessed risks.

The external audit conducted in 2014 by the "Russian Register" Certification Association and Sai Global confirmed that Vodokanal's Information Security Management System complied with ISO/IEC 27001:2005.

The advanced FSTEC RF- certified data protection tool "Certified Windows 7 Pro" was installed at 600 workstations.





Social Responsibility

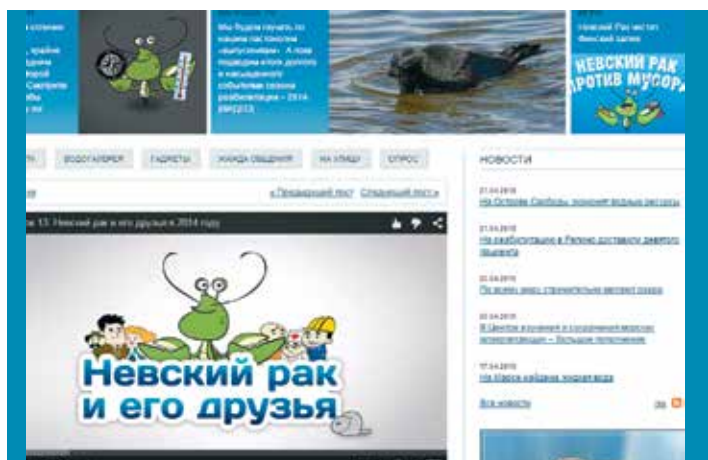
Awareness-Building

UNDERTAKING ITS MISSION,
SUE “VODOKANAL OF ST. PETERSBURG”
PUTS SPECIAL EMPHASIS
ON DEVELOPING CAREFUL
AND RESPONSIBLE ATTITUDE
TOWARDS THE ENVIRONMENT
IN GENERAL AND WATER
RESOURCES IN PARTICULAR

The recent years’ stable trend towards reduction of water consumption is, among other things, the result of Vodokanal’s awareness-building efforts.

For the purpose of disseminating the culture of water use and developing environmental thinking, Vodokanal widely collaborates with the mass media and uses the potential of different Internet-resources. In 2010, the Internet-portal www.da-voda.com targeted for the active part of Internet community was launched with the support of Vodokanal. The principal character of the Portal – the Neva Crayfish – has its own pages in social networks.

THE KEY INSTRUMENTS
OF THE COMPANY’S
AWARENESS-BUILDING
ACTIVITIES ARE THE YOUTH
ENVIRONMENTAL CENTER (YEC)
AND THE UNIVERSE OF WATER
MUSEUM COMPLEX – BOTH BEING
PART OF THE INFORMATION
AND TRAINING CENTER



Youth Environmental Center

IN 2014, TWENTY-
NINE ENVIRONMENTAL PROJECTS
AND PROGRAMMES WERE
IMPLEMENTED AT THE YOUTH
ENVIRONMENTAL CENTRE,
INCLUDING 19 CITYWIDE,
5 REGIONAL AND 5 INTERNATIONAL
ONES, WHERE NEARLY
37,000 PEOPLE WERE
INVOLVED

YEC is an advanced interactive centre offering interactive classes for pre-schoolers, schoolchildren, college students and families; it implements environmental projects, provides informational and methodological support to teachers and organizes festival thematic events.

YEC is an active participant of regional and international programmes and projects.

THE MAIN TASK
OF YEC IS TO HELP
THE YOUNGER
GENERATION
REALIZE THE
VALUE OF WATER,
TO RAISE THE
CULTURE OF
WATER USE IN
ST. PETERSBURG,
AND TO TEACH
CHILDREN SIMPLE
SKILLS OF USING
WATER RESOURCES
SPARINGLY.
CHILDREN
TRANSFER THE
KNOWLEDGE AND
EXPERIENCE THEY
GOT TO THEIR
FAMILIES
AND SCHOOLS

YEC ACTIVITIES ARE BASED ON THE IDEAS OF SUSTAINABLE DEVELOPMENT; IT MAKES GOOD USE OF INFORMATION TECHNOLOGIES AND ACTIVE LEARNING METHODS

Every day, YEC offers interactive programmes for children and young people of different age groups by request of educational institutions:

- for 5–7 year old children: “Droplet’s Journey”, “Sea Adventures on Your Birthday”;
- for 1–5 year schoolchildren: “Water on the Earth”, “Water in Everyday Life”, “Mysteries of Nature”, “Big, Little Sea”, “Learn from the Nature”, “Sea Adventures on Your Birthday”;
- for 6–10 year school students: “The Sea Nearby”, “Secrets of the Baltic”, “The City By the Sea”, “Proficient in the Baltic”, “Water Yesterday, Today and Tomorrow”, “Water – A Global Resource”, “Water, Environment and I”;
- for 8–11 year school students and college students: “Water Quality Test Lab”, “The Sea Nearby”, “Secrets of the Baltic”, “The City By the Sea”, “Water Yesterday, Today and Tomorrow”, “Water – A Global Resource”, “Water, Environment and I”.

In 2014, YEC specialists designed and tested a combined educational excursion “Looking for Mysteries” to the Universe of Water Museum and to the Youth Environmental Centre.

Projects are implemented by YEC the whole year round. In 2014, project teams were built by requests of educational institutions. They were trained at YEC workshops and then performed independent activities, made studies or creative works.



Key projects implemented by YEC in 2013:

- “Water +” – project for secondary school dedicated to the Gulf of Finland Year;
- “Children – for the Gulf of Finland Year” – project for 5–15 year old children;
- “ECOgames” project for secondary school dedicated to the Earth Day;
- “ECOsummer” project for participants of summer programmes at Children Recreation Camp “Zvyozdnyy”;
- New Year event “New Year in the Old Tower.”

International projects implemented by YEC in 2014:

- Russian-Finnish project “Training of the Young Through the International Advanced Water Technologies Centre”;
- Russian-German project “ECOvision” in partnership with the General Consulate of Germany.

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YEC PARTICIPATION IN REGIONAL AND INTERNATIONAL PROGRAMMES IN 2014:

- "Fundamentals of Safe Water Use" Programme in the framework of the All-Russian School Olympiad in Life Safety, the city round.
- VII All-Russian Scientific Environmental Conference "Water – a Well of Life on the Earth".
- The Gulf of Finland Night Programme in the framework of the international event "Museums at Night".
- Children programme at the International Environmental Film Festival "Green Vision".
- Environmental festival and research-to-practice conference "Krasnoselskaya Rainbow".
- Interactive programme "ECOSchool" in the framework of the city Youth Environmental Forum.
- City event "Children Days in St. Petersburg" (preparation and implementation of the environmental programme "The Baltic Expedition").
- International professional forum of museum workers "Museum and Children Culture" (Vodokanal organized and implemented a round table and master classes in cooperation with the All-Russian Museum Association).
- XV International Forum "The Baltic Sea Day" (welcome address by the YEC core team, preparation of the youth workshop).
- Round table "Environmental education and awareness-building – for the Gulf of Finland Year".
- UN Model International Youth Conference.
- The Fifth Petersburg Educational Forum (Vodokanal organized and implemented, in cooperation with the Education Committee, the round table "Professional interest as a factor of choice and profession mastering").
- International environmental camp in the framework of Trilateral Cooperation "Gulf of Finland Year 2014", formulation of the Youth Declaration.
- Awareness-raising campaign "Water Lessons" for the city's educational institutions, conducted in cooperation with the St. Petersburg Education Committee.
- Open Water Lesson at YEC in the framework of the All-City Festival "Gulf of Finland – Area of Cooperation".
- The St. Petersburg phase of the programme "Eco-Schoolers – Way to the Good and Nature-Loving" targeted to pupils of children homes in Moscow and Petersburg (in cooperation with the All-Russian Children Support Advocacy Group "Angel – Childhood – Guardian" and the Nation's Environmental Heritage Conservation Council).
- Joint exhibition of children's drawings in cooperation with the regional public organization "Marine Mammals Council" in the framework of the Gulf of Finland Year 2014 and VIII International Conference "Marine Mammals of Holarctic".

Moreover, YEC participated in the Children TV Journalism Festival "TELESTART" in 2014.

The YEC project team presented its videofilm "Wish You Fish!" and won in the nomination "Ecology"; it also won the grand-prix of the Festival.



In 2014, interactive workshops on "modern environmental education and education for sustainable development" were organized for teachers of educational institutions.

The workshops aimed to disseminate effective education methods and make the teachers more competent in selection of relevant topics for environmental lessons.

Twenty thematic workshops were delivered in 2014; in total, 782 people attended them.

**VODOKANAL'S
YEC ACTIVITIES
ARE APPRECIATED
BOTH IN RUSSIA
AND IN FOREIGN
COUNTRIES**

In 2004, YEC was awarded the National Environmental Prize of V.I. Vernadskiy Foundation for its contribution to the strengthening of environmental safety and sustainable development. In 2007, YEC was awarded the Certificate of the European Environmental Agency for teaching young people how to conserve the environment and the Baltic Sea. In November 2013, at the official closing of the Environmental Year in the State Kremlin Palace and at the "Russian Ecology" tele-marathon final held at RIA Novosti news agency, Vodokanal's Youth Environmental Centre was declared the winner of the Environmental Year First National Prize in the nomination "Eco-Leader of the Year 2013". The diploma states that YEC activities are highly commended "for persistent dissemination of environmental values and sharing best practices in the field of environment-friendly technologies and healthy life style".

In 2014, YEC's project "Water + I = Friends" won in the nomination "Environmental Education and Awareness-Building" under the international project "Environmental Culture. Peace and Harmony". The awarding ceremony took place on 5 June, the World Environment Protection Day (the Environmentalist Day). The competition organizers were: the Non-Governmental Environmental Fund named after V.I. Vernadskiy and the International Environmental Public Organization GREENLIGHT.

The Universe of Water Museum Complex

THE UNIVERSE OF WATER MUSEUM COMPLEX IN 56, SHPALERNAYA STR. IS AN OPEN SOCIAL PROJECT OF SUE "VODOKANAL OF ST. PETERSBURG".

THE MUSEUM COMPLEX NOT ONLY OFFERS A FULL PICTURE OF THE MAN'S VIEWS OF WATER AND ITS PROPERTIES, BUT ALSO SHOWS THE HISTORY OF ST. PETERSBURG, THE CITY WHERE WATER IS A CITY-FORMING ESSENCE AND THE SOURCE OF SCIENTIFIC, ENGINEERING AND CULTURAL ACHIEVEMENTS RATHER THAN JUST SOMETHING THAT IS USED FOR HOUSEHOLD OR INDUSTRIAL NEEDS

THE UNIVERSE OF WATER MUSEUM COMPLEX COMPRISES THREE EXHIBITIONS:

● **Classical museum exhibition "The Water World of St. Petersburg"** (in the former Water Tower). The exhibits – documents, pictures, objects, collections of sanitary equipment and hatches – show the history of water supply and sewerage origination and development.

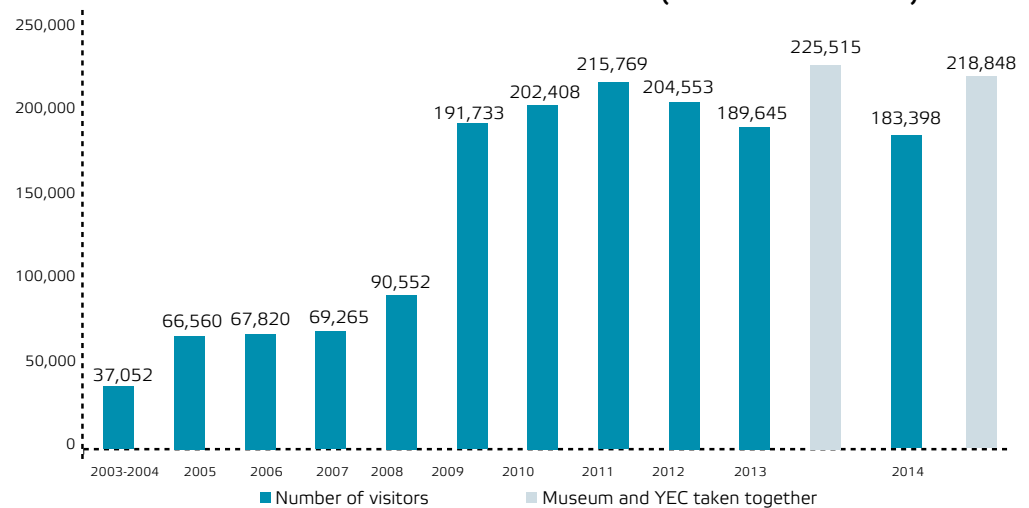
● **Multimedia exhibition "The Underground World of St. Petersburg"** (in the left annex to the Water Tower). Visitors can trace the route of water from the intake to treatment plants, then to the flats via distribution networks and back to wastewater treatment plants. Here, they can also look at a model of the historical center of St. Petersburg. The model was produced by the Institute of Architecture to Vodokanal's order.

● **Multimedia exhibition "The Universe of Water"** (in the former underground clean water reservoir). It is a unique storage of modern water knowledge. The exhibition is based on multimedia technologies, stereo effects and textual explanations. Over thirty video-films disclosing various aspects of the water element are demonstrated there.

The exhibitions in the Water Tower were opened in 2004 – it was Vodokanal's present on the 300th anniversary of St. Petersburg. The former clean water reservoir was transformed into the Universe of Water museum by the 150th anniversary of Vodokanal in 2008.

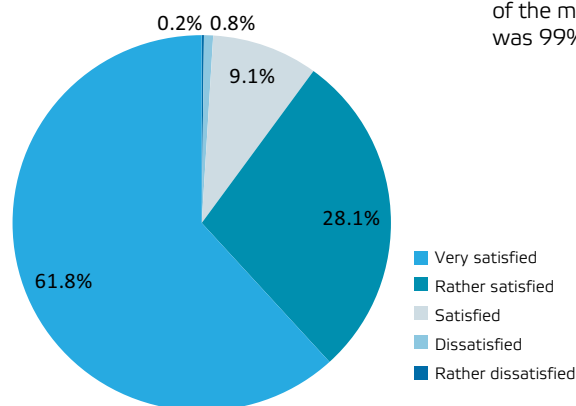
The Universe of Water museum offers new interactive activities for visitors of different age groups. Interactive programmes are developed for pre-schoolers and schoolchildren of different age; general and thematic excursions are offered for students and adults.

VISITORS OF THE MUSEUM COMPLEX (NUMBER OF PERSONS)



IN 2014,
THE UNIVERSE
OF WATER
MUSEUM
COMPLEX
AND YEC WERE
VISITED
BY 218,848 PEOPLE

THE UNIVERSE OF WATER MUSEUM COMPLEX



According to the opinion survey, overall satisfaction with the performance of the museum complex was 99% in 2014.



KEY PROJECTS

The Universe of Water museum complex is a long-term participant of the international event "Museums at Night". This event helps impart water knowledge and ideas to a wide audience.

The tour comprised:

- intellectual game;
- water experiment;
- express-excursions;
- exhibition of environmental installations "Youth – for the Gulf of Finland Year".

As many as 6,622 people visited the Universe of Water during the Museums at Night event.



A folk concert dedicated to the Gulf of Finland Year and an educational competition designed by YEC specialists were organized at YEC in the framework of the event.

The visitors could learn more about the cultural traditions of Russia, Finland and Estonia, special features of the Gulf of Finland, the activities of the Marine Mammals Rehabilitation Centre, and the achievements of Vodokanal St. Petersburg.

UNDER THE INTERNATIONAL EVENT "MUSEUMS AT NIGHT 2014" THE VISITORS WERE OFFERED A SPECIAL TOUR "THE GULF OF FINLAND NIGHT" ALLOWING TO SEE ALL THREE EXHIBITIONS OF THE MUSEUM COMPLEX WITH ONE MUSEUM TICKET

In 2014, the Universe of Water participated in big tourist exhibitions:

- The international exhibition of tourism and recreation in Northern Europe, MATKA-2014 Nordic Travel Fair (16–19 January 2014, Helsinki, Finland);
- IX International tourist exhibition Intourmarket (ITM)–2014 (15–18 March 2014, Moscow). It is one of the country's main exhibitions officially supported by the Russian Ministry of Culture and the Federal Tourist Agency.

Over 1,000 companies from 148 countries and regions of the world were the exhibitors. The total number of visitors was over 80,000.

In January-May 2014, the Universe of Water participated in the city's museum competition-voyage "The Big Regatta". Under the project, the Museum specialists developed a dedicated educational excursion to the historical exhibition "Water World of St. Petersburg".

In early autumn, the museum complex and YEC participated in the city's thematic environmental project "EcoOkhta" organized together with the Administration of Krasnogvardeyskiy District in St. Petersburg.

Traditionally, the museum complex participated in the Citywide Festival of children museum programmes "Children Museum Days in St. Petersburg" during the autumn school vacation, 30 October through 9 November 2014. YEC specialists developed an interactive family programme "The Baltic Expedition" for the Festival participants. The programme was run 36 times, for 1,026 participants in total.

Special interactive thematic programmes for schoolchildren and families were designed and offered by the museum specialists in 2014:

- Where Do Crayfish Winter? – during the first-graders' vacation in February;
- Make a Date At the Water Museum – for Valentine's Day (14 February);
- Fair Winds and Following Seas! – for the Fatherland Defender's Day (23 February);
- Cleanliness Is the Best Beauty – for the International Women's Day, 8 March;
- Tune In to the Baltic – for the World Water Day and the Baltic Sea Day;
- The Fountain Of Wishes – for the All-Russian Family, Love and Faithfulness Day;
- Old Salt – for the Russian Navy Day;
- The Odyssey of Water – dedicated to the Gulf of Finland Year – for secondary school students.

In 2014, temporary thematic exhibitions were organized at the museum complex:

- 19 September – 19 October: The Sea Nearby – exhibition of works of art from the Central Naval Museum (dedicated to the Gulf of Finland Year). The exhibition displayed 27 paintings by well-known marine artists dedicated to historical events in the Gulf of Finland, and 6 models of XVIII-, XIX- and XX-century ships.
- 6–30 November: The Gulf of Finland Wind – exhibition of watercolours dedicated to the Gulf of Finland Year. The exhibition displayed 270 works by Petersburg watercolorist and by artists from Finland, Estonia and Belarus.
- 17–28 November: Genial Handicraft – XII regional exhibition of creative works by elderly people and invalids. The exhibition was timed to coincide with the International Day of Older People and the International Invalids' Day. It was initiated by the Leningrad Region Committee for Social Protection.

IN THE PERIOD 19 DECEMBER 2014 – 5 JANUARY 2015, ENVIRONMENTAL AWARENESS-BUILDING INTERACTIVE NEW YEAR PROGRAMMES "THE NEW YEAR IN THE OLD TOWER OR LOOKING FOR A MAGIC KEY" WERE CONDUCTED AT THE MUSEUM COMPLEX FOR THE CHILDREN OF VODOKANAL EMPLOYEES AND STUDENTS OF PETERSBURG SCHOOLS. THE NEW YEAR 2014 PROGRAMMES WERE ATTENDED BY 4,833 PEOPLE



Da-Voda Website

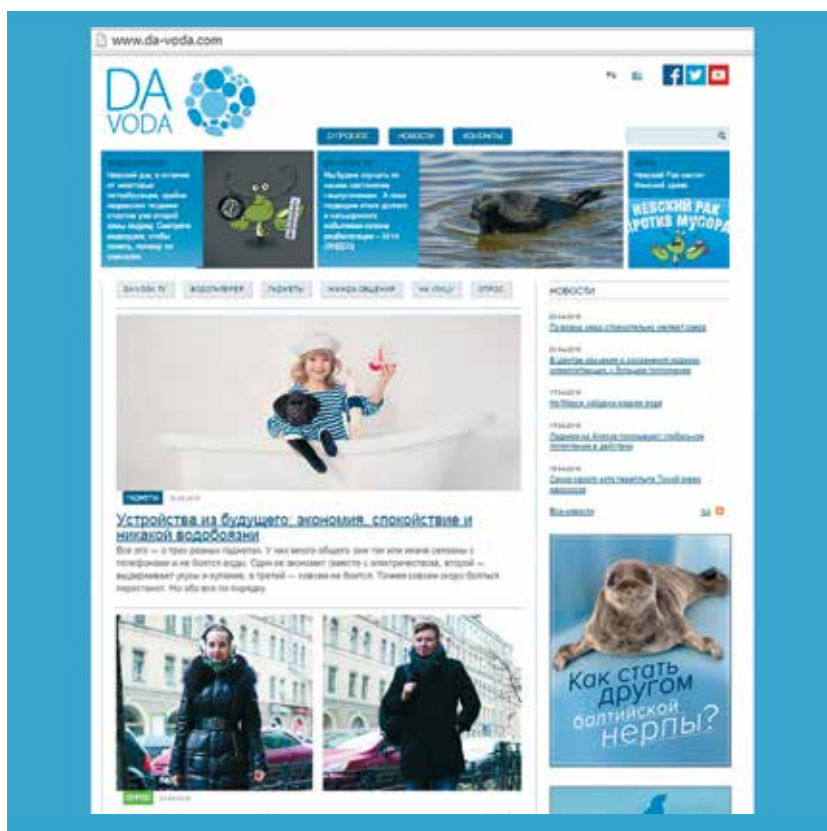
DA-VODA WEBSITE (DA-VODA.COM)
IS AN INTEGRAL PART OF VODOKANAL'S
BIGGER PROJECT AIMED TO DEVELOP
RESPECTFUL ATTITUDE TO WATER

The Neva Crayfish has his pages in the social networks, such as VKontakte, Facebook and Twitter. The Crayfish addresses his friends in Russian and English. His friends numbered over 11,000 at the end of 2014.

In summer 2014, Vodokanal won the First National Water Sector Award "Russia's Water" in the nomination "Best awareness-raising project aimed to develop respectful attitude to water in the society". Vodokanal applied for the award by presenting its project "Fostering careful attitude to water at the household level". Vodokanal used several key instruments for the project: Da-Voda website devoted to careful attitude to water including its accounts in social networks, YEC, and the museum complex.

In October 2014, Da-Voda website won the regional round of the First All-Russian ENES competition of projects implemented in the field of energy conservation and energy efficiency.

The project "Use of social media to develop careful attitude to water resources: example of Da-Voda website (www.da-voda.com)" won in the nomination "Best Internet-media in dissemination of energy-saving lifestyle and organization of energy-efficient production", in the category "Best project in dissemination of energy-saving lifestyle and organization of energy-efficient production".



Da-Voda website helps promote the culture of water use among the Web community. The main character of the portal, the Neva Crayfish, explains why a growing number of people avoid wasting water nowadays; what technical means are available to save water without impairing the comfort; how to face domestic water-related challenges; and what negligent attitude to water might lead to.

IN 2014,
A SPECIAL
SECTION
"THE GULF OF
FINLAND YEAR"
WAS ADDED
TO DA-VODA
WEBSITE WHERE
ONE COULD
GET MORE
KNOWLEDGE
ABOUT THIS
WATER BODY
AND LEARN HOW
TO HELP IT

This special section of the website contains information on geography, history, biology and ecology of the Gulf of Finland, – it is a sort of the Gulf encyclopedia. The section's columns "Animal (Plant) of the Month", "Project of the Year", "Word of the Month", "Change to Better", and "Events" were updated every month.

In particular, the animal of February was Baltic ringed seal announced the symbol of the Gulf of Finland Year in Estonia. According to the zoologists of the Marine Mammals Research and Conservation Centre, the local population of ringed seals in the Gulf of Finland is at a critical level: 200 animals only. For this reason, a wide-scale project is ongoing in Petersburg with the aim to save Baltic ringed seals. The Centre specialists formulated a public rescue service development programme to save ringed seals in the Gulf of Finland.

In 2014, the stars of the Word of the Month column were: the President of Finland Sauli Niinistö, the Russian Minister of Environment and Natural Resources Sergey Donskoy, the Governor of St. Petersburg Georgiy Poltavchenko, the President of Estonia Toomas Hendrik Ilves, the Finnish Minister of Environment Ville Niinistö, the HELCOM Executive Secretary Monika Stankiewicz, a representative of the Finnish Environment Institute Marine Research Centre SYKE Kai Myrberg, and the Russian President Vladimir Putin.

The column "Change to Better" focused on threats and consequences of oil spills and relevant preventive measures; studies of physical, chemical and biological processes in the Baltic Sea and the Gulf of Finland; and the geological diversity and its influence on the Gulf biodiversity.

The column "Events" was devoted to different events in the three countries that participated in the Gulf of Finland Year Project; the training course in spatial planning of the Gulf of Finland water area and coastline held in Petersburg and Helsinki; the Festival "Gulf of Finland – Area of Cooperation" in Petersburg, etc.

In 2014, senior school students (participants of the Environmental Installations Festival conducted by Vodokanal's Youth Environmental Centre) were involved in the compilation of website content. They prepared a video-lesson scenario dedicated to the problem of litter on the beaches. In this way, the awareness-raising effects of YEC activities and Da-Voda portal (high-school children are active Internet users) could be combined, and more feedback (on the problems the new generation is concerned with) could be obtained. As a result, a new video-lesson "The Neva Crayfish and a Clean Beach" was posted on the website last summer.

"Video-lessons" is a popular section on the portal where the Neva Crayfish acts as a teacher. The total number of views of short animated cartoons about careful attitude to water was nearly 92,000.

One of the most popular sections on the website is Da-Voda TV: videofilms on various environmental topics are often posted there. Last year, most of them were dedicated to the marine mammals' pups rescue project: the "kindergarten" for seal pups, and the release of recovered and healthy patients of the Marine Mammals Research and Conservation Centre.

Da-Voda website has several permanent columns. One of them, the Gadgets, presents information on different devices that help reduce water consumption (without impairing the comfort), evaluating their advantages and disadvantages. In 2014, the portal visitors learnt about Water&Time device and how it could save absent-minded inhabitants from being flooded; about a new invention – water-powered car engine, and how water could be effectively extracted from air.

In 2014, the column "Thirst for Companionship" presented interviews with stars of international standing, such as Charles Fishman, a well-known American journalist and writer; David Belle, developer of parkour; and Vivienne Westwood, one of the main symbols of British fashion industry. The Governor of St. Petersburg Georgiy Poltavchenko was also interviewed by Da-Voda.

The growing popularity of Da-Voda is evidenced by the site traffic data: in 2011, the average number of visitors was 135/day, while in 2014 there were 380–430 visits a day. Moreover, social networks provide 80% of links to Da-Voda by references.

Rehabilitation of Marine Mammals

SINCE 2013, VODOKANAL HAS RENDERED AID TO PINNIPED PUPS IN OUR REGION TOGETHER WITH THE PROFESSIONAL ZOOLOGISTS HAVING A UNIQUE EXPERIENCE IN REHABILITATION OF BABIES OF LADOGA RINGED SEALS, BALTIC RINGED SEALS AND GREY SEALS, AND WITH 2PR PUBLIC RELATIONS AGENCY

Seal pups are treated at the premises of Repino WWTP in Kurortniy District of St. Petersburg. After the animals improve in health and learn to get food on their own they are released into the wild.

Vyacheslav Alexeyev and Elena Andriyevskaya are experienced zoologists and Russia's only specialists in marine mammals of our region. They have practiced rehabilitation of seal pups since 2007.





IN 2014,
29 PUPS
(23 BALTIC
GREY SEALS,
5 BALTIC
RINGED SEALS
AND 1 LADOGA
RINGED SEAL)
WERE REHABILITATED
IN REPINO.
ALL OF THEM
RECOVERED,
LEARNED TO HUNT
AND RETURNED
TO THEIR NATURAL
HABITAT

When the seal pups rehabilitation season was over, the reconstruction of Marine Mammals Research and Conservation Centre began. In September 2014, the North-West marine mammals centre, unparalleled anywhere in Russia, was opened in Repino.

The Centre's three blocks can receive up to 40 animals. A quarantine isolation block was built for new arrivals. The quarantine block is divided into two sections: there are two kitchens, two examination rooms, and cubicles located so as to separate the animals that come from the Gulf of Finland and from Lake Ladoga. Next is located a laboratory diagnostics room. When the animals recover and put on enough weight they are transferred to a physical rehabilitation room. Healthy seals are kept at outdoor temperature, eat fish without human assistance, recover their motor function, foster adaptation to cold water gradually by staying in water for longer each time, and learn to catch live fish. The next block houses adaptation cages. The animals

get prepared to the release into the wild there. The seals usually attach themselves to humans during 1.5–2 months of rehabilitation, and it is undesirable: a wild animal must remain wild. It is for this reason that, practically, no people come in sight of the seals at the adaptation site. The seals stay in water most of the time and are given a possibility to lie "on the shore". They are given fish from behind a screen – for the animals not to associate the coming food with humans.

THE BALTIC RINGED SEAL FRIENDS FUND WAS ESTABLISHED IN SEPTEMBER 2014

For the first time, the need for such fund was voiced on 10 April 2014 at the meeting of the Public Council for the trilateral cooperation project "Gulf of Finland Year 2014". Then the Governor of St. Petersburg G.S. Poltavchenko proposed to support the Baltic ringed seal conservation project implemented with Vodokanal's assistance, and to consider establishment of a special Baltic ringed seal friends fund.

The Director General of the Fund is V.A. Alexeyev, zoologist and veterinary with a unique experience in seal pups rehabilitation.

Today, everyone can participate in the rescuing of Baltic ringed seals and other marine mammals. The website of the Baltic Ringed Seal Friends Fund. (www.balticseal.org) has a special section "How you can help us". The information on the Fund's current account and money transfer procedures can be found there.

Donations will be used to finance the rehabilitation of marine mammals' pups (purchase of fish, medicaments and other things) and the scientific research related to the conservation of marine mammals and their habitats.



Bank details for transfer of donations:

Fund for conservation of marine mammals –
The Baltic Ringed Seal Friends Fund
Account no.: 40703810490200000024
Bank name: additional office "Lesnoy"
OAO "Bank Saint Petersburg"
INN: 7831000027
BIK: 044030790
Payment function: for statutory activities
of the Fund

Vodokanal participation in the saving of the Baltic Sea inhabitants is a follow-up of the many-year work it carries out to protect the Baltic Sea. Over the recent years, Vodokanal has done a lot to improve the condition of the Gulf of Finland: the volume of untreated wastewater discharge is much smaller (98.5% of wastewater in Petersburg is treated now), phosphorus and nitrogen removal technologies are implemented at all WWTPs (it is phosphorus and nitrogen that cause intensive growth of blue-green algae). As a result, the habitats of ringed seals and other marine animals became more comfortable.

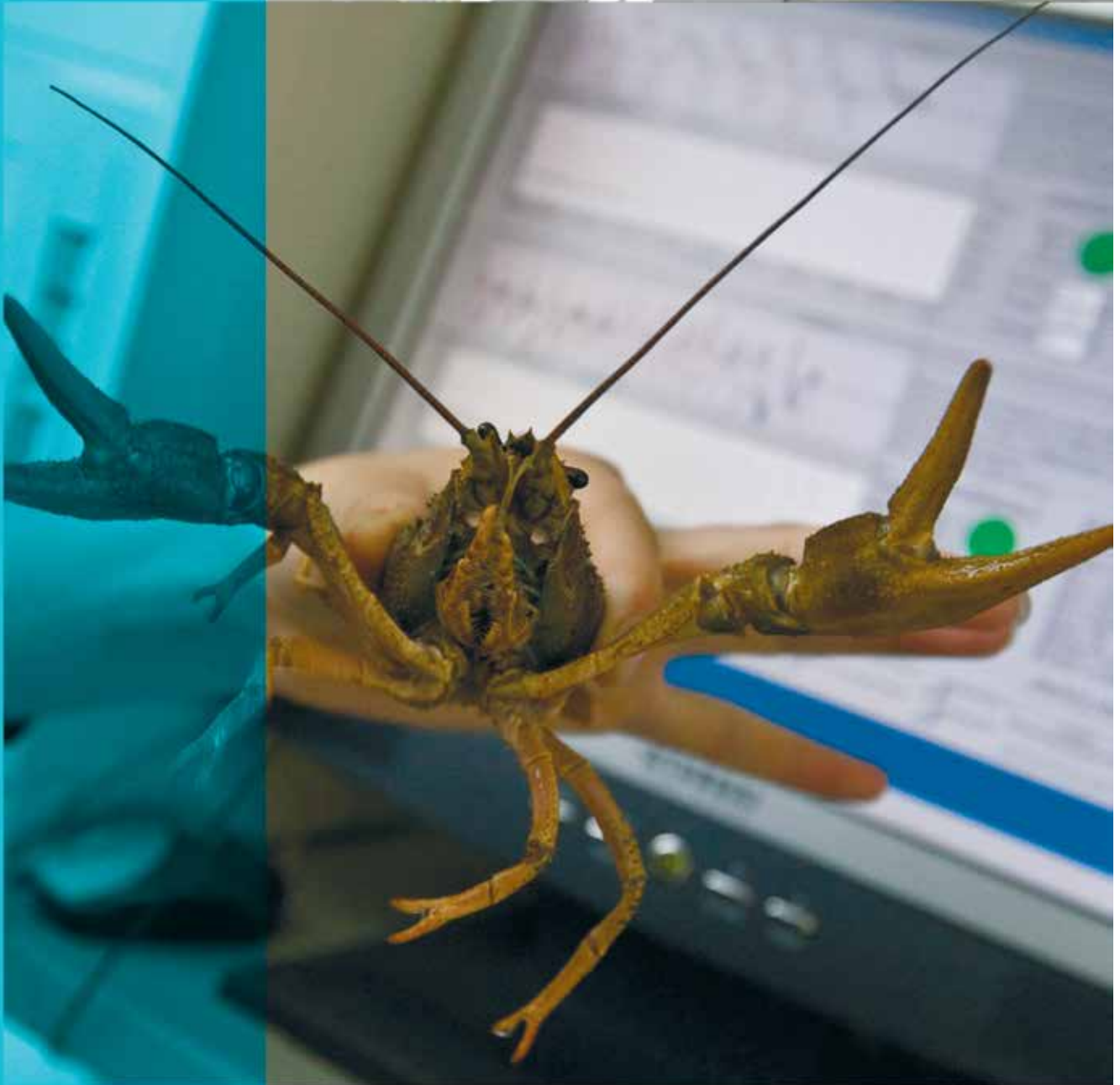


WHEN YOU FIND A BABY SEAL, DO THE FOLLOWING:

1. Do not disclose your presence and do not frighten the animal. Inform the Centre experts (hotline: +7 (812) 699-23-99) or the Emergency Response Service, of the animal you have found.
2. If necessary (if the animal has any open wounds, is exhausted or its limbs are in unnatural position), block the access to the open sea for it and take measures to protect it from birds or stray dogs.
3. Wait for the arrival of rescuers.
4. Do not try to feed the pups or give them any veterinary treatment.







Environment Protection

ST. PETERSBURG IS THE LARGEST CITY LOCATED AT THE BALTIC SEA COAST. OUR CITY AND, CONSEQUENTLY, VODOKANAL, BEAR A SPECIAL RESPONSIBILITY FOR THE BALTIC SEA CONDITION, FOR THE CONSERVATION OF THE BALTIC SEA BASIN

DURING 2014, VODOKANAL CONTINUED CONSECUTIVE DEVELOPMENT OF THE ENVIRONMENTAL MANAGEMENT AS AN INTEGRAL PART OF THE COMPANY MANAGEMENT

Protection of the environment and the Baltic Sea, sustainable use of natural resources and responsibility to future generations for the results of the Company activities are the key priorities of Vodokanal and constitute one of the Company's strategic targets.

Vodokanal's environmental concept is based on the understanding of its role in creating a positive environmental situation throughout the Baltic Sea Region. The key international area of leaders' activity is participation in social and intergovernmental structures of the Baltic Sea countries, particularly, in the framework of the International Convention of the Baltic Marine Environment Protection Commission (HELCOM) supporting the principle: "Baltic Sea – our common home".

To provide the efficient implementation of its environmental conception the Company introduced and certified the environmental management system according to ISO 14001 in 2003.

In 2013, the Company developed and improved the new Environmental policy, as the 2008 policy commitments had been fulfilled to a large extent.

Along with traditional approaches (protection of water bodies against wastewater pollution in the region, introduction of safe and effective wastewater disinfection methods, reduction of drinking water losses during its production and transportation, awareness-raising activity in ecology and resource saving) new approaches have been developed and implemented in the Company – reduction in power and heat consumption by optimizing processes, use of vehicles equipped with energy efficient engines.

Under the obligations undertaken by the Russian Federation to fulfill the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea, the Company makes a lot of efforts to reduce the untreated wastewater discharge and remove nutrients (nitrogen and phosphorus) from wastewater.

In 2014, at the 47th meeting of the HELCOM Heads of Delegation the sub-spot no. 18.1 "Northern Tunnel Collector Construction" was excluded from the list of "hot spots" (sources of pollution).

In order to manage the environmental safety Vodokanal St. Petersburg constantly develops norms of permissible environmental impact produced in the course of business (norms for permissible discharge of substances and microorganisms in water bodies, norms for emission of hazardous substances in the atmosphere, norms for waste production and waste disposal limits).

In addition, the Company performs continuous environmental monitoring of the quality of wastewater coming to wastewater treatment plants and discharged into water bodies, as well as discharges from industrial companies, atmospheric air in the sanitary protection zone, wastewater sludge, soil and waste management.



Reduction of Impact on Water Bodies in 2014

In 2014, Vodokanal carried out the following activities under the Neva Untreated Wastewater Discharge Closure Programme:

- in September 2014, the construction of the sewerage network along Petrogradskaya Embankment was completed. 19 untreated wastewater discharges were closed, 17 of them were managed by Vodokanal (three combined sewerage discharges with total flow of 4,019 m³/d; and 14 stormwater runoffs with an average flow of 23 m³/d), and the remaining two discharges belonged to industrial companies;
- in December 2014, the untreated wastewater discharge from Petrovskiy Stadium was eliminated (9 direct discharges with a flow of about 1,000 m³/d were closed);
- construction of the sewer along Admiralteyskaya Embankment is ongoing. Commissioning of the sewer will make it possible to close 6 untreated wastewater discharges located in the city centre (next to the Bronze Horseman);
- the first stage of design works for the construction of the Okhta tunnel is completed. The Okhta tunnel is needed to stop untreated wastewater discharge in the basin of the Okhta River,
- design of the pressurized sewerage network to divert; wastewater from Metallostroy WWTP to Rybatskaya wastewater pumping station and then to Central Wastewater Treatment Plant. Implementation of the project will allow to stop the discharge of insufficiently treated effluent from Metallostroy WWTP;
- design works under the project aimed to stop untreated wastewater discharge into the Karpovka River are completed;
- design work to modernize and develop the surface runoff transportation in the area of Murinskiy Ruchey is ongoing. Implementation of the project will make it possible to connect 7 surface runoffs to the sewer and channel them to Northern Wastewater Treatment Plant, thus improving significantly the environmental condition of Murinskiy Ruchey.

The impact on water bodies is mitigated in two ways:

- closure of untreated wastewater discharges;
- construction, modernization or rehabilitation of wastewater treatment plants to meet the HELCOM Recommendations and the Russian regulations on wastewater treatment and disinfection.

Vodokanal carried out the following activities to improve wastewater treatment at WWTPs:

- reconstruction of Northern Wastewater Treatment Plant including implementation of the UCT technology by SWECO (Sweden) for enhanced nutrients removal is ongoing;
- modernization of aeration tanks no. 5 and no. 6 at Central Wastewater Treatment Plant including implementation of the JHB technology for enhanced nutrients removal continues;
- the Programme for Rehabilitation of Small Wastewater Treatment Plants (Pushkin, Kolpino, Kronstadt, Pontonniy) is completed. The implementation started in March 2012. The project was aimed at increasing the efficiency of wastewater treatment at small WWTPs and provision of stable phosphorus and nitrogen removal parameters;
- design works for the construction of Molodezhnoye WWTP are completed. The positive opinion of the State Environmental Expertise was received from the St. Petersburg branch of the State Environmental Expertise. The effectiveness of Vodokanal's activities aimed at the elimination of untreated wastewater discharges and reconstruction of wastewater treatment plants is proved by reduction of pollutants discharge into water bodies of St. Petersburg.



Parameter	Unit	2007	2008	2009	2010	2011	2012	2013	2014
Suspended solids discharged into water bodies	t/year	19,418	21,845.4	15,826.9	14,120.8	13,706.9	12,382.2	9,353.6	8,289.3
Total BOD discharged into water bodies	t/year	26,074.3	28,627.3	18,718.2	17,677.9	15,635.6	13,311.7	11,271.2	9,573.6
Total nitrogen discharged into water bodies	t/year	11,037.3	11,048.2	10,729.6	10,003	10,048.6	9,627.7	9,303.4	8,616.7
Total phosphorus discharged into water bodies	t/year	1,269.7	1,177.8	759.9	677.7	492.4	491.8	433.6	355.2

**IN MAY 2014, THE SURVEY
OF WATER BODIES LOCATED
IN ST. PETERSBURG
WAS COMPLETED**

The result of the survey was the updated registry that includes the data about 851 water bodies, wastewater discharges managed by Vodokanal and other water users, as well as the data about other sources producing adverse impact on water bodies. The collected data was submitted to the Committee for Natural Resources, Environment and Ecological Safety. The information about violation of water protection laws was forwarded to the authorities of the prosecutor's office.

Reduction of Impact on the Atmospheric Air

THE IMPACT OF VODOKANAL FACILITIES ON THE ATMOSPHERE IS ESTIMATED BY MEANS OF INSTRUMENTAL CONTROL OF INDUSTRIAL EMISSIONS AND POLLUTANT EMISSIONS INTO THE ATMOSPHERE

According to the results of measurements of pollutants in industrial emissions and the atmospheric air in buffer zones and zones affected by Vodokanal facilities, no exceedance of limit values and maximum permissible values were recorded in 2014.

In 2014, the following measures were implemented:

- control of pollutants content at 165 sources of industrial emissions (2,237 analytical measurements);
- control of air quality and noise level in the buffer zones and the areas affected by 86 Vodokanal facilities (3,392 analytical measurements in 122 points);
- control of performance of 18 gas and dust removal facilities, including 6 flue gas treatment facilities at sludge incineration plants (SIP). At Central and South-West SIPs flue gases undergo a two-stage treatment in electrostatic precipitators and the scrubber systems equipped with acid and alkaline columns; at Northern SIP they undergo a two-stage treatment in electrostatic precipitator and are dry-cleaned in bag filters using chemicals (activated carbon and sodium hydrocarbonate).

One of the sources of the negative impact on the atmosphere is wastewater sludge landfills.

The negative impact of landfills on the atmosphere is controlled in two ways:

- full elimination of the negative impact produced by sludge landfills by way of processing the deposited sludge to the environmentally safe condition;
- prevention of odour nuisance spreading from sludge landfills.

The geotube method comprising chemical treatment and static dewatering of sludge in geotubes had been applied at Severniy landfill from 2010 till 2013. In 2014, testing of wastewater sludge processing and chemical disinfection technology started at Severniy landfill.

In 2013, the automatic deodorant spraying system for odour removal was put into operation at Severniy and Volkhonka-2 landfills. The length of the deodorant spraying pipeline is 3,800 m and 1,350 m at Severniy and Volkhonka landfills, respectively.

The automatic deodorant spraying system comprises a pumping station with a control unit and a pipeline with nozzles, through which the deodorant solution is sprayed (the pipeline is placed on poles along the landfill perimeter). The spraying system operation is adjusted according to the data of the connected meteorological station, which checks the wind direction. The bigger amount of chemical solution is supplied to the downwind side to produce the required odour removal effect.

The applied method proved to be highly effective according to the results of the assessment made by the Scientific Research Institute for Atmospheric Air Protection (OAO NII ATMOSFERA) in 2014. The content of mercaptans in the air reduced by 70%, and the odour intensity was cut down in total by 40%.

A range of devices and technologies are implemented and tested at Vodokanal facilities for the reduction of negative impact on the atmosphere and prevention of odour nuisance spreading.

The majority of sewage pumping stations are located in urban development areas near residential buildings and public facilities. Ventilation system of sewage pumping stations emits evil-smelling gaseous substances into the atmospheric air.

In 2014, a photo-sorption gas cleaning plant was selected for Vasileostrovskaya sewage pumping station to remove organic (aromatic hydrocarbon) and non-organic (ammonia, hydrogen sulfide, sulfur dioxide, mercaptans, etc.) substances. The air cleaning technology works in the following way: the contaminated air from the sewer comes into the UV chamber and is distributed throughout the chamber. Ozone is generated in the UV chamber and ensures initial reduction of evil-smelling substance; after that air flows to a coal filter where evil-smelling substances and the remaining ozone are fully destroyed. The pilot plant was delivered and installed at Vasileostrovskaya sewage pumping station.

The existing network of tunnel collectors is mainly located in residential areas and can cause discomfort to citizens with the odour spreading through manholes and shaft hatch covers. In order to eliminate unpleasant odors an air purification system has been installed at the shaft no. 31-bis. The air purifier is designed to remove harmful evil-smelling substances (hydrogen sulfide, ammonia, methyl and ethylmercaptans, aromatic hydrocarbons) from the air. Operation results showed that no unpleasant odour was observed near the collector shafts. It was found out that the purification system was easy to operate.

In 2014, a filter for unpleasant odor removal was installed under the hatch of the manhole located in the south-west of St. Petersburg. Filtering biomass is used as a filter medium and is placed in separate cartridges inside the filter box. Biofiltration is based on microorganisms' natural ability to form biofilm on the solid porous surface of the filtering material, to remove admixtures of organic and non-organic volatile substances from the air, to oxidize them and decompose to water and carbon dioxide.





Labour Safety

VODOKANAL'S OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM DEVELOPED IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL STANDARD OHSAS 18001–2007 AND APPLICABLE RUSSIAN LAWS GUARANTEES THAT THE IDENTIFIED HAZARDS ARE UNDER THE CONTROL OF THE COMPANY

The main purpose of the Company's updated occupational health and safety policy is to prevent industrial accidents and to create proper conditions at workplaces to achieve high performance. Complexity of production and diversity of technologies and equipment used are taken into account.

Vodokanal employees and all stakeholders (contractors, visitors) are informed about the Company's occupational health and safety policy.

The effective operation of the Occupational Health & Safety Management System at St. Petersburg Vodokanal also includes the employee's health safety management.

Programs for disease prevention and health improvement of employees, monitoring of working conditions and health of employees, as well as monitoring of efficiency of implemented measures are an important element of the Occupational Health & Safety Management System.

The monitoring system includes:

- monitoring of working environment (assessment of sanitary and hygienic conditions of labour, organization of labour and maintaining favourable social-psychological environment at work);
- monitoring of health status of employees (health survey for detection of early symptoms of diseases, biological monitoring, polling of employees).

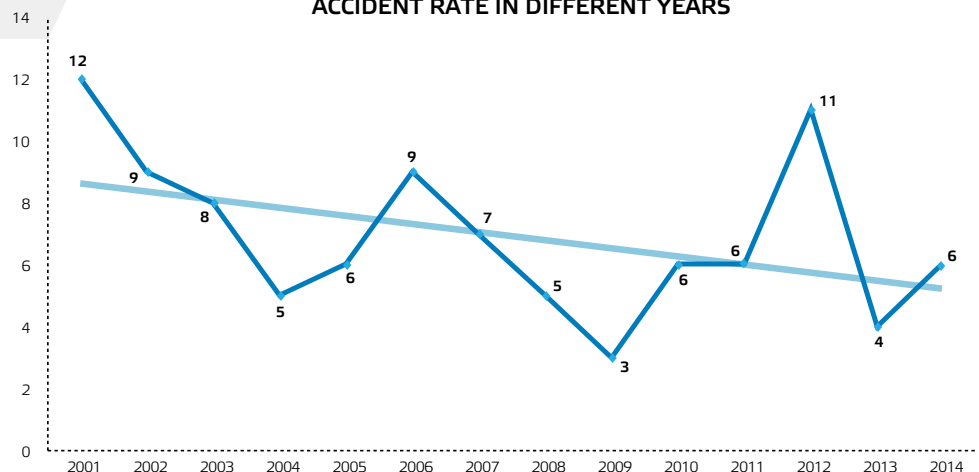
During 2014, Vodokanal carried out the following activities to achieve the goals of the Occupational Health & Safety Management System:

- working conditions at twenty seven production facilities of the Company were improved due to the introduction of new, safe practices and advanced technologies that ensure reliable and failure-free operation as well as reduce the rate of injuries and professional diseases;
- monitoring and assessment of safe working conditions at 398 facilities of the Company was organized and carried out by way of instrumental measurements of hazardous and harmful workplace factors;
- 100% of employees are provided with personal protective equipment;
- 6,424 employees of the Company underwent training and knowledge checks with regard to occupational health and safety issues.

DUE TO ACCIDENT PREVENTION THE AVERAGE VODOKANAL'S NUMBER OF INSURANCE EVENTS PER 1000 WORKERS IS SIGNIFICANTLY LOWER THAN THE SIMILAR INDUSTRY PARAMETER: VODOKANAL'S AVERAGE – 0.71, INDUSTRY AVERAGE – 1.48

THE INTERNATIONAL AUDIT CARRIED OUT IN OCTOBER 2014 CONFIRMED THAT THE OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM OF VODOKANAL FUNCTIONED IN COMPLIANCE WITH OHSAS 18001–2007 REQUIREMENTS

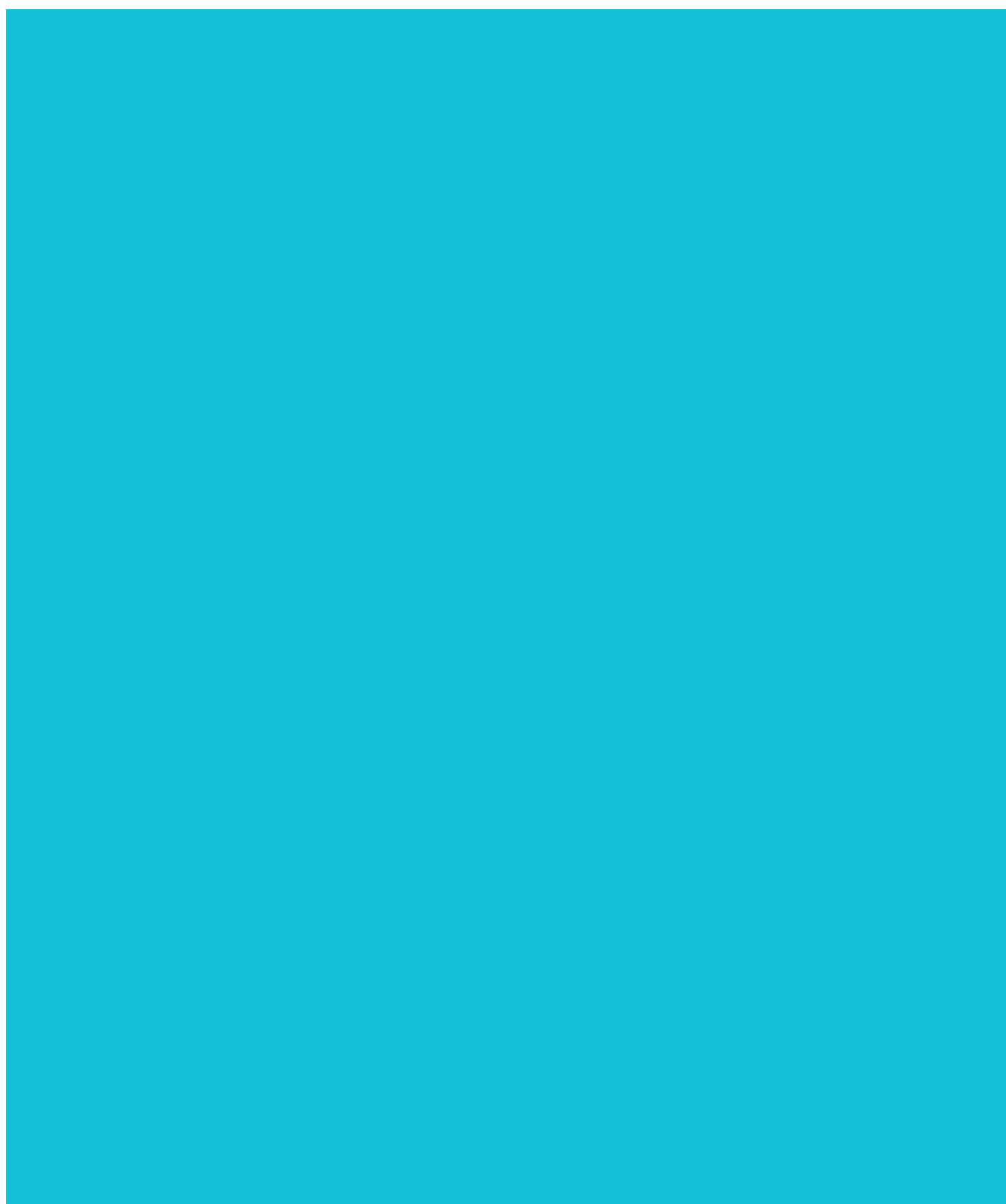
ACCIDENT RATE IN DIFFERENT YEARS



Industrial safety compliance inspection is organized and implemented in the Company in accordance with Article 11 of the Federal Law no. 116-FZ dated 1997 "On industrial safety at hazardous production facilities" and the Rules for Organization and Implementation of Control over Industrial Safety at Hazardous Production Facilities approved by the Decree of the RF Government no. 263 dated 10 March 1999. On the grounds of the Rules, the Company developed the Regulation "On control over industrial safety in the course of operation of hazardous production facilities of SUE "Vodokanal of St. Petersburg" approved by the Director General in July 2014.

The Orders "On control over industrial safety at the hazardous production facilities of the Company" were issued. Action plans are annually developed to ensure compliance with industrial safety requirements in the course of operation of hazardous production facilities. Information about the organization of control over industrial safety is

provided to the North-Western Department of Rostekhnadzor. As of December 2014, 39 hazardous production facilities were registered and operated by the Company. Vodokanal operates chemically hazardous facilities, explosive and fire hazardous plants according to relevant licenses issued by the North-Western Department of Rostekhnadzor.





Personnel

THE MAIN GOAL OF THE PERSONNEL MANAGEMENT IS TO ENSURE PROPER SELECTION, RATIONAL AND EFFICIENT USE OF THE PERSONNEL TARGETED FOR THE INCREASE OF VODOKANAL'S EFFECTIVENESS AND CUSTOMERS' SATISFACTION

As of 1 January 2015, the personnel of Vodokanal numbered 8,450 persons (1,613 managers, 2,492 specialists and white-collar workers, 4,345 blue-collar workers).

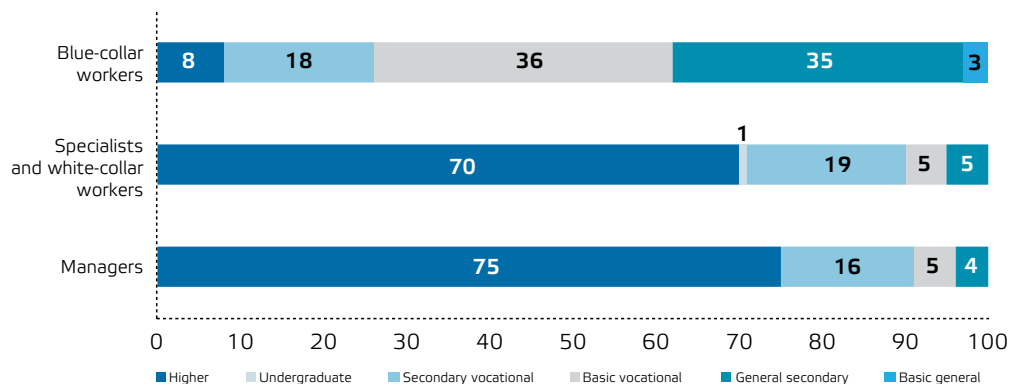
The average age of Vodokanal's employees is 44. The share of young employees (employees under the age of 35) accounts

for 32.5% in the total number of the Company's personnel. Vodokanal employs 32 candidates of science and 4 doctors of science.

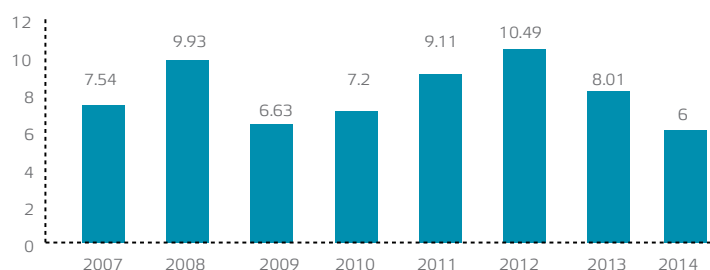
All main personnel management approaches are as follows:

- effective use of labour resources;
- strong managerial competence and qualification of personnel;
- improve basic remuneration and incentive systems, employees motivation;
- achieve global standards in labour and industrial safety;
- create favorable conditions for labour and recreation;
- social support of employees and former employees;
- raise personnel loyalty, maintain stable and positive social environment;
- create conditions for implementation of young employees' initiatives, for professional growth and self-realization;
- develop consistent system of training, promotion, development and evaluation of employees;
- develop dynamic corporate culture, which facilitates effective interaction of employees and accelerates integration of new assets and employees;
- maintain appropriate age/professional composition of the personnel;
- interact with the sector-related educational institutions in order to buildup external succession pool for the Company;
- develop social partnership.

EDUCATION OF THE PERSONNEL, %



PERSONNEL TURNOVER, %



To achieve the goals set, the work in these areas is carried out with due regard to the interrelationship of all personnel management processes. The recruitment cycle is deemed to be completed not at the moment when a new employee starts the work but after a successful adaptation procedure and it can't be isolated from the adaptation procedure.

One of the key areas of work with personnel is fast adaptation of newly employed persons including their professional development and optimization of their integration into the Company's social environment.

Adaptation procedure is organized for all newly employed persons. Vodokanal traditionally organizes the Welcome to Vodokanal Event for new employees as a part of the personnel adaptation and motivation.

Tutorship procedure is successfully used to develop the personnel, it is applied to young employees who were recruited by the Company for the first time and don't have work experience, as well as graduates from secondary and higher educational institutions.

The Company acts as a responsible employer that supports and develops social programs for its employees. This activity is carried out through the Centre for the Implementation of Social and Economic Programmes and the Medical Centre. The Company has a sanatorium where recreation and treatment of Company's employees and their families are organized, as well as rehabilitation of those employees who work in hazardous and dangerous working conditions.

Personnel Recruitment, Motivation and Appraisal

ONE OF THE KEY TASKS UNDER
THE PERSONNEL RECRUITMENT PROCESS
IS IMPLEMENTATION
OF THE EFFECTIVE TECHNOLOGY
OF RELATIVELY QUICK SEARCH
AND QUALITATIVE SELECTION OF ALL
CATEGORIES OF PERSONNEL

MODERN HR-TECHNOLOGIES
ARE USED FOR SEARCH AND
SELECTION OF CANDIDATES FROM
THE EXTERNAL LABOUR MARKET:
E-RECRUITMENT (WEB-RESOURCES),
CAREER FAIRS, THE OFFICIAL
COMPANY WEB-SITE, SPECIALIZED
AND NON-SPECIALIZED PRINT MEDIA,
TARGETED TRAINING IN HIGHER
EDUCATIONAL INSTITUTIONS

Personnel recruitment is performed in compliance with the Company standard "Recruitment and Employment Procedures" and is based on applications given by heads of structural units.

Under the recruitment process, work with the internal and external labor market is performed including the internal succession pool. The succession pool is formed on a regular basis during appraisal and training events in compliance with the standard "Work with a Succession Pool". This work is aimed at the retention and development of the Company's personnel. Employees included in the

Company's Succession Pool are assessed according to the Company standard "The Personnel Appraisal System". Goals and individual development plans are determined for employees from the succession pool, they are regularly trained. In 2014, the existing succession pool was 230 persons; the perspective succession pool was 72 persons.

Adaptation and tutorship procedures are applied to newly employed persons, which provide fast and effective entering into the position (profession). To improve employees' professional skills the ongoing from-worker-to-manager training is carried out. To achieve this goal, the professional skills contests "Best Professional" are annually organized in the Company. In 2014, Vodokanal held 21 professional skills contests for 19 professions, where 185 employees participated.

Motivation system for the Company personnel is targeted at highly-efficient work of personnel, continuous development and increase of personnel satisfaction. The motivation system includes both tools of financial incentives (bonuses, salary increments, lump-sum remunerations, extra paid holidays, material and targeted social assistance) and non-financial incentives (recognition of personnel services, medical support, rest and recreation, cultural events, insurance of employees and their families).

Assessment of Personnel Satisfaction

Vodokanal performs regular assessments of personnel satisfaction.

The main objectives of this procedure are to:

- increase the employee satisfaction with work;
- decrease the employees' turnover;
- determine motivation preferences of employees;
- identify the main problems of the personnel.

Achievement of these objectives leads to creation of the optimal conditions for maximum efficiency of each Company employee.

THE SYSTEMATIC ASSESSMENT ALLOWS TO CLARIFY AND TRACK DOWN THE ASPECTS OF COMPANY ACTIVITIES THAT ARE APPRECIATED BY EMPLOYEES, AS WELL AS THOSE THAT ARE UNPOPULAR, CAUSE DISCOMFORT, REDUCE EFFECTIVENESS AND LEAD TO THE LOSS OF VALUABLE SPECIALISTS



Personnel Training and Development

ONE OF THE KEY VODOKANAL'S
PRIORITIES IS EMPLOYEE
DEVELOPMENT AT ALL LEVELS
"FROM WORKER TO MANAGER"
AIMED TO CREATE AND MAINTAIN
A HIGH PROFESSIONAL LEVEL AND
PERSONNEL MOTIVATION, THAT
PROVIDES THE HIGHEST EFFICIENCY
OF WORK WITH THE MAXIMUM USE
OF EMPLOYEES' POTENTIAL

Vodokanal applies a comprehensive multi-module training programme that makes it possible in a short time to adopt the personnel to changes in legislation and business environment, optimize costs while maintaining the high quality of training. An important factor of successful training is accurate identification of training needs subject to short- and long-term targets of the Company.

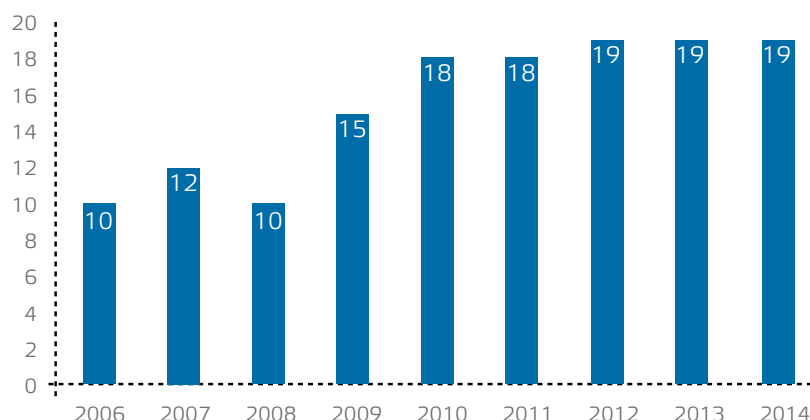
The training process in Vodokanal is implemented according to the Company standard "System of Planning, Organization and Control of Personnel Training", in compliance with the training schedule for current year, which is drafted subject to annual applications of the Company units.

Given a wide range of personnel training needs, the corporate training system should be highly flexible and mobile, which is achieved through the diversity of training: internal and external training, partnership training projects (Water College, International Advanced Water Technologies Centre), cooperation with scientific institutions and higher educational institutions. Due to the flexible approach, the training can have optimal content, scope, duration, cost, etc. in each specific case.

Personnel

A SPECIAL FORM
OF TRAINING ACTIVITIES
IS PROFESSIONAL SKILLS
CONTESTS
“BEST PROFESSIONAL” THAT
HELPS IDENTIFY
THE EMPLOYEES-
TRANSMITTERS
OF ADVANCED
EXPERIENCE AND
PROVIDE PROFESSIONAL
DEVELOPMENT OF OTHER
EMPLOYEES THROUGH
THE JOINT PRACTICAL
ACTIVITY IN PROFESSIONAL
CONTESTS

THE NUMBER OF PROFESSIONAL
SKILL CONTESTS “BEST PROFESSIONAL”



In 2014, Vodokanal held 19 professional skills contests, where 185 persons participated. The best specialists in the following spheres were identified: technicians of chemical and biological laboratories; pump operators; electricians for repair and maintenance of electric equipment; electric and gas welders; operators of excavators and truck-mounted cranes; nurses; drivers; repair and maintenance workers; instrumentation repairmen; operational engineers; specialists for occupational safety, industrial safety and production control; health and safety inspectors. Competitions for environmental management and quality management system auditors were organized. Best emergency repair teams in water supply and wastewater sectors were identified. Moreover, in 2014, Vodokanal representatives participated in interdisciplinary professional skill contests.

The majority of Vodokanal's professional contests is organized in the Water Utilities Department of the Water College, which is equipped in line with up-to-date requirements and has facilities that comply with difficulty level of professional contests. Professional re-training and qualification improvement of Vodokanal employees are performed at the Water Utilities Department of the Water College.

In the framework of cooperation with the Water College, Vodokanal provides hands-on training of the College students. In 2014, 28 students got hands-on training in Vodokanal. In addition, Vodokanal provides training for the College professors, PG students and foremen at the Company's production sites.

Succession pool establishment is one of the areas of the Company HR-management. Succession pool management is performed in accordance with the corporate standard "Succession Pool Management" and aims at personnel potential development. The succession pool comprises the existing succession pool and perspective succession

pool. In addition, the Talent Group is formed out of the employees included in the perspective succession pool. Persons with the highest development potential are included into the Talent Group.

In order to form the external succession pool the Company improves interaction with the sector-related leading educational institutions, holds events for the purpose of searching and recruitment of talented graduates. The following practices are organized in the Company: introductory, production and pre-degree practices. In 2014, practice was organized for 187 institute and college students (81 institute students, 106 college students).

Within the framework of the external succession pool establishment the Company cooperates (organizes practices) with the following higher education institutions:

- St. Petersburg State University of Architecture and Civil Engineering – in water and wastewater fields;
- North-West State Open University – in environmental safety;
- St. Petersburg State Transport University – in water, wastewater and hydraulics;
- St. Petersburg State University for Water Communications – in the field of integrated use and protection of water resources;
- St. Petersburg State Polytechnic University – in the field of construction and applied ecology.

In 2014, Vodokanal employed thirty six 2014 institute graduates and eleven 2014 vocational college graduates.

The Company actively cooperates with the Water College to form a pool of qualified specialists who have optimal industry-specific professional competences (potential employees of Vodokanal, housing and utilities sector and construction sector) for St. Petersburg labour market.

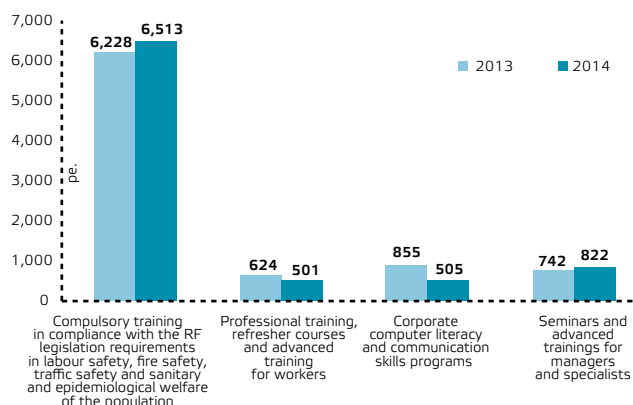
College students intern at the Company and are employed after graduation.

TRAINING AND QUALIFICATION IMPROVEMENT OF VODOKANAL EMPLOYEES IS AN ONGOING PROCESS THROUGHOUT THE WHOLE EMPLOYMENT PERIOD

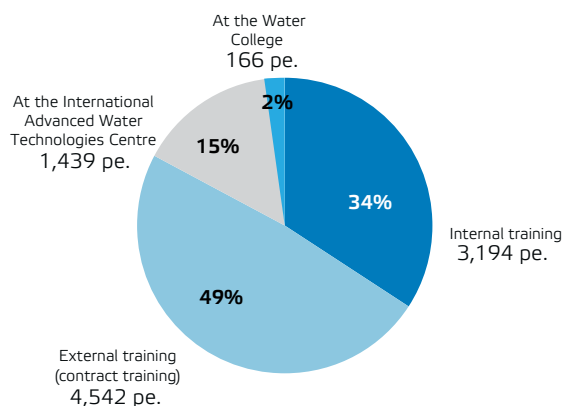
The Company creates a favourable training climate and considers the training costs to be investments in the fixed assets leading to optimal use of the employee potential.

In total, 8341 employees were trained in 2014.
(Company employees may take several trainings a year).

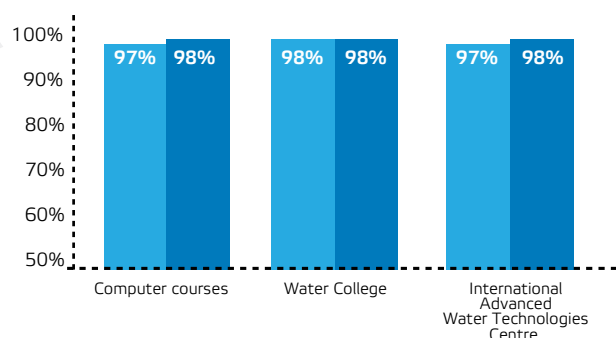
DISTRIBUTION OF TRAINEES BY TYPES OF TRAINING



DISTRIBUTION OF TRAINEES BY INTERNAL AND EXTERNAL TRAINING PROGRAMMES IN 2014



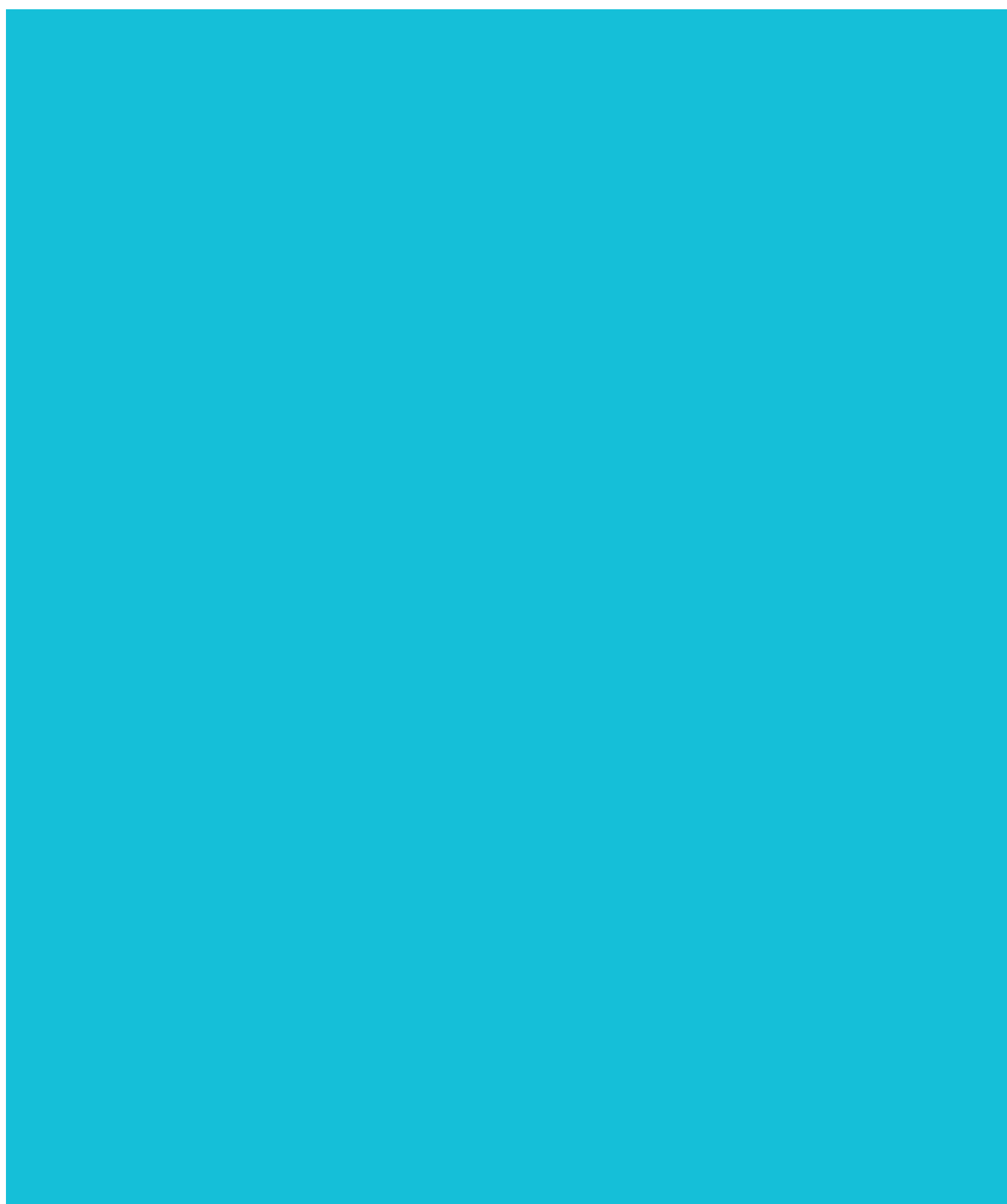
TRAINEES SATISFACTION WITH EDUCATIONAL ACTIVITIES IN 2014



In 2014, 501 Vodokanal employees underwent professional training, refresher courses and advance training for workers, among them 166 persons – at Water College premises. 6,513 employees took training in in compliance with the RF legislation requirements in labour safety, fire safety, traffic safety and sanitary and epidemiological welfare of the population. 505 persons underwent training in computer literacy and communication skills. 822 persons participated in seminars and advanced trainings for managers and specialists, among them 439 persons took the training course “Advanced water and wastewater technologies” within the frame of the workshop programme of the International Advanced Water Technologies Centre.

To date, Vodokanal focuses on optimization of personnel training, refresher courses and advanced training, improves the personnel education and development system that

accumulates professional experience of Vodokanal employees and partners and is inextricably connected with the sector development strategy in general.





Social Policy

Principles of Social Policy

VODOKANAL'S SOCIAL POLICY
IS AN IMPORTANT ELEMENT
OF ITS PERSONNEL, PRODUCTION
AND ECONOMIC POTENTIAL



The social policy is implemented in accordance with the current law and in compliance with social responsibilities specified in the Collective Agreement for 2014–2016 and regulatory acts of SUE “Vodokanal of St. Petersburg”.

The key principle of the corporate social policy is that of social responsibility according to which Vodokanal:

- builds its development strategy with due regard to the interests of the society as a whole;
- complies with the law;
- complies with generally accepted moral and ethical standards;
- respects human rights;
- is committed to ensure a balance of interests of the stakeholders including personnel, consumers and other groups which are linked in one way or another to the Company's activities;
- considers the interests of future generations aiming at maximizing prudent use of the natural resources and improving the living conditions for the population;
- works consistently on ensuring health and safety of the personnel.

Social

The current Collective Agreement of Vodokanal specifies a comprehensive corporate social responsibility framework which includes the following components: social support to personnel potential and motivation, occupational safety and health system, care for war veterans, physical fitness and sports promotion, youth policy, interaction with trade unions, continuous system of personnel training. The corporate social policy is implemented through social programs that are attractive for the employees and aim at engagement and retention of high-qualified personnel in the Company, development of high-quality labour resources, qualified management and corporate culture.

SOCIAL BENEFITS AND GUARANTEES TO THE COMPANY EMPLOYEES

Social benefits and guarantees to the Company employees and former employees are specified in the Collective Agreement of SUE "Vodokanal of St. Petersburg" for 2014–2016. Material assistance and compensations are provided:

- to employees, who reached jubilee age, and to retiring employees (403 people in 2014),
- to employees with an uninterrupted service in the Company for 25, 30, 35, 40 years (196 people in 2014),
- financial assistance for childbirth (265 people in 2014),
- financial assistance for medical treatment (169 people in 2014),
- payments after death of a relative (332 people in 2014),
- payments in other circumstances (122 people in 2014),
- targeted material assistance to the war veterans (354 people in 2014),
- quarterly targeted material assistance to retired employees (1,717 people in 2014).

CATERING FOR THE COMPANY EMPLOYEES

SUE "Vodokanal of St. Petersburg" has 17 canteens at its premises, where over 3,500 people a day can be served. Catering is an important factor and mechanism for implementing the Company's social policy. This contributes to increased efficiency and improvement of labour organization. In the night time, emergency teams and drivers working in 24-hour shifts are provided with free hot meals delivered to their work places in specially equipped vehicles.



Policy

Recognition of Employees' Achievements and Corporate Awards

SUE "VODOKANAL OF ST. PETERSBURG"
VALUES ITS EMPLOYEES AND RECOGNIZES
THEIR CONTRIBUTION TO ACHIEVEMENT
OF GOALS AND COMPANY DEVELOPMENT

In order to motivate personnel, increase the level of their satisfaction and involvement into business processes, Vodokanal nominates its employees for departmental and national prizes as well as prizes from regulatory and administrative authorities of St. Petersburg, and bestows corporate awards for service.

AWARDING THE TITLE "LABOUR VETERAN OF VODOKANAL ST. PETERSBURG"

The title "Labour Veteran of Vodokanal St. Petersburg" is awarded to employees who have the record of service of at least 20 years in the Company for personal contribution to management and production, introduction of advanced technologies to water supply and wastewater disposal processes. At the same time the winner is awarded a lapel badge and certificate, as well as a money reward in the amount of a month salary.

In 2014, the title "Labour Veteran of Vodokanal St. Petersburg" was bestowed on 291 Vodokanal employees.

AWARDING THE TITLE "HONORARY EMPLOYEE OF VODOKANAL ST. PETERSBURG"

The title "Honorary Employee of Vodokanal St. Petersburg" is bestowed on (at the request of managers and co-workers) the Company employees and other persons for contribution to development of the water supply and wastewater disposal systems of St. Petersburg. The title can be bestowed for development, adoption and implementation of cutting-edge equipment and technologies, application of forms and methods of labour organization leading to a significant economic impact, improvement of the positive image of the Company in Russia and abroad, mentoring, strengthening of corporate culture and high professionalism.

At the same time the winner is awarded a lapel badge and certificate, as well as a money reward.

An Honorary Employee has a right to receive a free voucher to Burevestnik Sanatorium for recreation and resort treatment.

In 2014, the title "Honorary Employee of Vodokanal St. Petersburg" was bestowed on 10 Vodokanal employees.

THE LAPEL BADGE “THE BEST YOUNG EMPLOYEE OF VODOKANAL ST. PETERSBURG”

The lapel badge “The Best Young Employee of Vodokanal St. Petersburg” is bestowed on the employees under the age of 35, who have a 5-year unbroken record of service, for personal contribution to management and production, introduction of modern technologies to water supply and wastewater disposal processes, improvement of the service quality, professional skills promoting the development of Vodokanal, active participation in the social life of the Company.

In 2014, the lapel badge “The Best Young Employee of Vodokanal St. Petersburg” was bestowed on 15 young employees.

CORPORATE PRIZES AND PRIZES FROM REGULATORY AND ADMINISTRATIVE AUTHORITIES OF THE RUSSIAN FEDERATION AND ST. PETERSBURG

In 2014, 39 employees were awarded departmental prizes as well as prizes from legislative and executive authorities:

- 2 employees were awarded departmental prizes,
- 29 employees were awarded prizes from executive authorities of St. Petersburg,
- 8 employees were awarded prizes from legislative authorities of St. Petersburg.

273 employees were awarded the Vodokanal certificate of honour and gratitude.



Organization of Recreation

ONE OF THE SOCIAL POLICY PRIORITIES
OF VODOKANAL IS ORGANIZATION
OF RECREATION FOR ITS EMPLOYEES
AND THEIR FAMILIES

8,652 VODOKANAL
EMPLOYEES WERE
ACCOMMODATED
IN BUREVESTNIK
IN 2014,
WHICH IS
4% MORE
THAN IN 2013

The Centre for the Implementation of Socio-Economic Programmes has been a branch of Vodokanal since 2008. It organizes cultural and leisure activities aimed at ensuring proper recreation for the Company employees in Burevestnik Sanatorium in Luga (Leningrad Region).

Burevestnik Sanatorium has three sites:

- Burevestnik;
- Omchino;
- Zvyozdny.

This is a comfortable, modern, well-equipped and advanced recreation and rehabilitation facility which can accommodate over 700 holiday-makers at the same time. The territory of Burevestnik is guarded around-the-clock. The rooms are cozy and comfortable.

Due to a well-developed infrastructure, the sanatorium provides a wide range of modern recreation services. Holiday-makers can use swimming pools, a Finnish sauna and a Russian steam room, fitness facilities, a gym, tennis courts, outdoor playgrounds for badminton, volleyball and basketball. There is a library, a café, cinema and concert hall. For those who prefer horseback riding there is a riding hall.

Burevestnik has an up-to-date Medical Centre with the diagnostic division.

It applies new methods of prevention, diagnostics and treatment of different types and forms of diseases. Burevestnik Sanatorium is specialized in prevention of heart diseases, diseases of the nervous system, digestive system, respiratory system, locomotor system.

In 2014, 585 health care vouchers were given to the employees and retirees (participants and veterans of the Great Patriotic War, residents of besieged Leningrad, homefront workers, former captives of Nazi camps).

A package of recovery treatment programs and diagnostic techniques is developed and implemented for Vodokanal employees working in harmful and hazardous labour conditions. Such employees are provided extra leaves (over-leaves set forth by the legislation of the Russian Federation). 151 Vodokanal employees had their rehabilitation holidays in the sanatorium in 2014.

In 2014, in accordance with the local normative acts, Vodokanal St. Petersburg provided its employees and their families with vouchers to Burevestnik Sanatorium at a partial cost depending on an employee's salary.

Besides, free vouchers to Burevestnik Sanatorium were provided to:

- former employees of Vodokanal – participants of the Great Patriotic War;
- employees of Vodokanal – veterans of the Great Patriotic War, residents of besieged Leningrad, homefront workers, former captives of Nazi camps;
- former employees of Vodokanal – veterans of the Great Patriotic War, residents of besieged Leningrad, homefront workers, former captives of Nazi camps;
- former employees of Vodokanal given the title "Honorary Employee of Vodokanal St. Petersburg";
- employees of Vodokanal given the title "Honorary Employee of Vodokanal St. Petersburg";
- employees of Vodokanal recognized as exposed to radiation after Chernobyl Accident;
- employees of Vodokanal recognized as combatants under the law of the Russian Federation;
- employees of Vodokanal who had serious illnesses and operations and needed health improvement as certified by the dispensary department of Vodokanal's Medical Centre;
- employees of Vodokanal being single parents;
- employees of Vodokanal with two or more children.

DURING SCHOOL HOLIDAYS THE COMPANY EMPLOYEES CAN SEND THEIR CHILDREN TO ZVYOZDNY CHILDREN'S HEALTH CAMP

All the conditions for children (comfortable and safe accommodation, leisure and cognitive activity) are arranged in Zvyozdny. The camp territory is guarded around-the-clock and illuminated at night, day-and-night video monitoring is provided. The camp has its own fire station. The fire station hosts regular training lessons for children who spend their holidays in Zvyozdny dedicated to the basics of fire safety.

The camp infrastructure includes the following:

1. The multipurpose sport facilities:
 - gyms: volleyball, basketball, mini football;
 - tennis and ping-pong;
 - gymnastics, trampoline and fitness facilities;
 - swimming pools for adults and children;
 - computer class;
 - classrooms for arts clubs;
 - discotheque;
 - library;
 - winter garden.
2. The indoor riding hall for horseback riding under the guidance of instructors. Children are given a full set of equipment.
3. Open playgrounds with up-to-date floors for playing tennis, ping-pong, basketball, volleyball, badminton and football.
4. The Svinechnoe Lake with comfortable beaches and bathing places for children.
5. The cinema and concert hall.
6. The zoo where you can find a family of camels, a brown bear, ostriches, peacocks, pheasants, mandarin ducks, Barbary wild sheep, donkeys, a reindeer and a silver fox in open air enclosures.
7. The petting zoo for children to take care of hamsters and chinchillas and to explore the natural diversity of the Luga region under the supervision of specialists.
8. The isolation ward and an ambulance.

A separate programme aimed at comprehensive development of children is elaborated for each shift in Zvyozdny.

Qualified teachers make children's leisure activities interesting and informative. Children participate in theme-based shifts and excursions.

In 2014, the camp's ecology centre organized unique programs dedicated to the Gulf of Finland Year. 5 ecological projects, 7 environmental games, 5 excursions of different types and 13 practical activities were carried out in 2014 during school holidays.

Spartakiada games, festivals and traditional winter and summer sports meetings are held annually for Vodokanal employees in the territory of Burevestnik Sanatorium (see more details in Support of Sports Section).

**2,710 children aged
6–15 spent their holidays
in Zvyozdny recreation
camp in 2014.**

Information about Vodokanal's Burevestnik Sanatorium can be found on the website www.vodokanal-zagorod.ru

Healthcare

VODOKANAL ST. PETERSBURG
HAS A SYSTEM OF MEDICAL CARE AIMED
TO INCREASE LABOUR PRODUCTIVITY,
PREVENT INDUSTRIAL ACCIDENTS,
SUPPORT OCCUPATIONAL
HEALTH AND LONGEVITY,
AND IMPROVE THE EMPLOYEES'
QUALITY OF LIFE

OBSERVATIONS OVER
THE HEALTH CONDITION
OF VODOKANAL EMPLOYEES SHOW
A POSITIVE TREND TOWARDS
THE REDUCTION OF DISEASE RATE
AND DAYS AWAY FROM WORK.
SINCE 2010, THE NUMBER
OF DAYS AWAY FROM WORK HAS
BEEN REDUCED BY 21–23%

The medical support for the Company employees is implemented by the Medical Centre Branch.

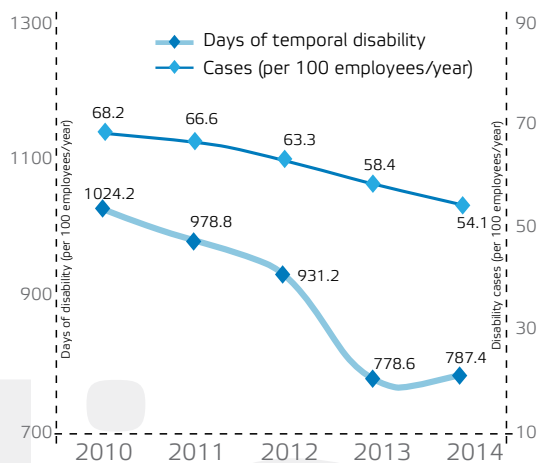
The branch staff consists of 375 specialists including 4 professors, 6 doctors and 14 candidates of medical sciences, 30 physicians and 51 nurses of the highest category. 44% employees have higher professional education.

In 2014, re-equipment of the Medical Centre structural units continued. The replacement of medical equipment ensured provision of much-in-demand medical services, increase of the number of patients served and introduction of new treatment methods based on high quality up-to-date medical devices.

For this purpose the following equipment was purchased and put into operation:

- physiotherapy equipment;
- laser devices and equipment for local cryotherapy;
- dental and endodontal devices.

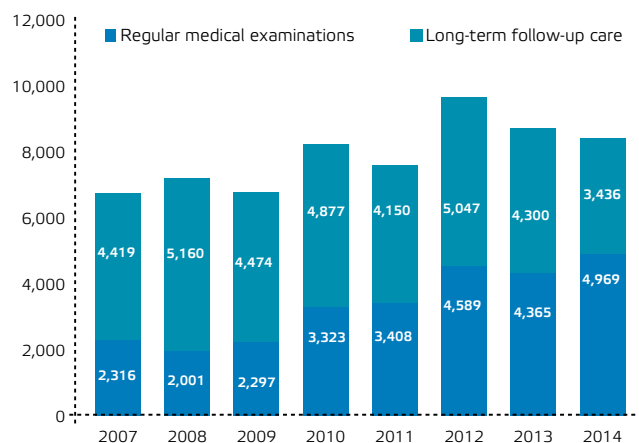
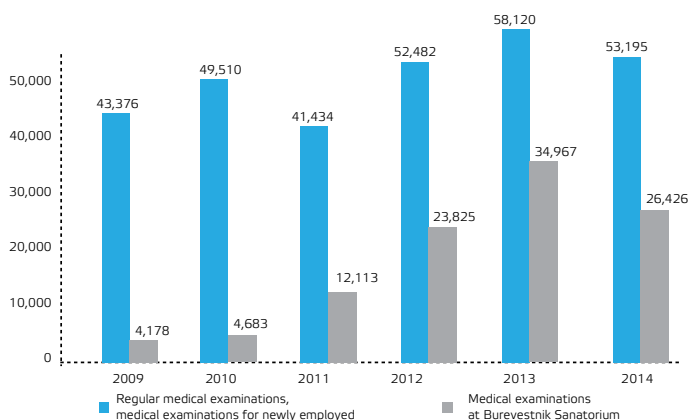
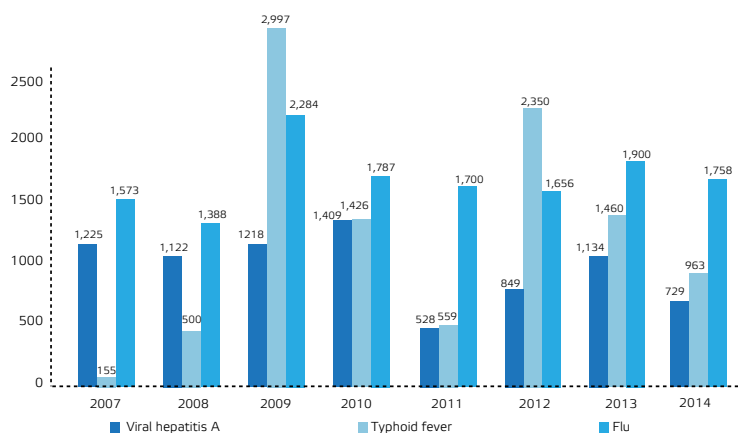
The Medical Centre implemented innovations including electroencephalography method and plasmolifting. Acupuncturist and chiropractic started to receive patients.

**DISEASE RATE WITH TEMPORAL DISABILITY
(PER 100 EMPLOYEES/YEAR)**

In 2014, the Medical Centre provided medical services to the Company employees under the obligatory medical insurance program as well as under the voluntary medical insurance program.

In total, over 300,000 medical services were provided to Vodokanal employees in 2014.

An important activity of the Medical Centre is a long-term follow-up care that includes medical and preventive measures with regard to socially significant diseases. Timely identification of such diseases allows providing proper medical services to this group of patients. In 2014, a great attention was paid to regular medical examinations and follow-up care. Over 8,405 employees were examined.

**REGULAR MEDICAL EXAMINATIONS
AND FOLLOW-UP CARE****REGULAR MEDICAL EXAMINATIONS VS MEDICAL
EXAMINATIONS AT BUREVESTNIK SANATORIUM****QUANTITATIVE INDICATORS OF THE COMPANY
EMPLOYEES' VACCINATION FOR VIRAL HEPATITIS A,
TYPHOID FEVER AND FLU**

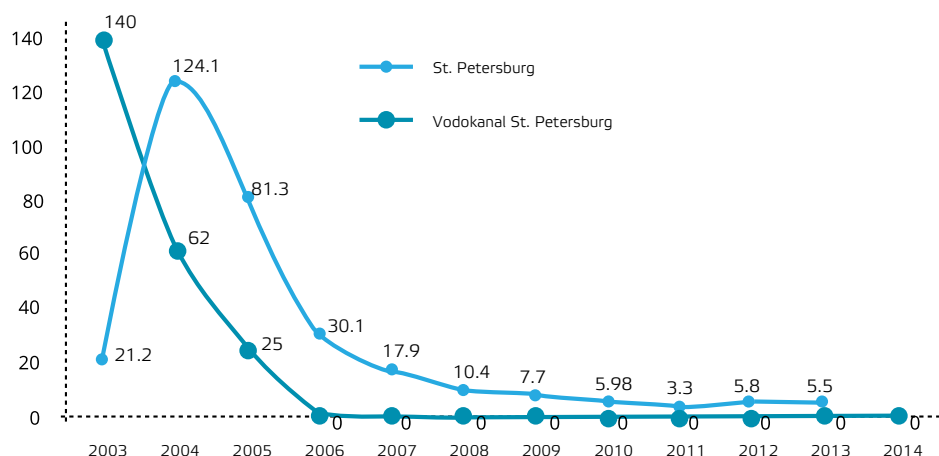
To guarantee effective regular medical examinations and follow-up care, the following standards were updated by Vodokanal: "Procedure of preliminary and regular medical examinations for Vodokanal employees engaged in heavy work and in work involving harmful and (or) hazardous working conditions" and "Provision of annual follow-up care to Vodokanal employees".

In 2014, "a roadmap" for interaction with Vodokanal production branches in view of the regular medical examinations was implemented.

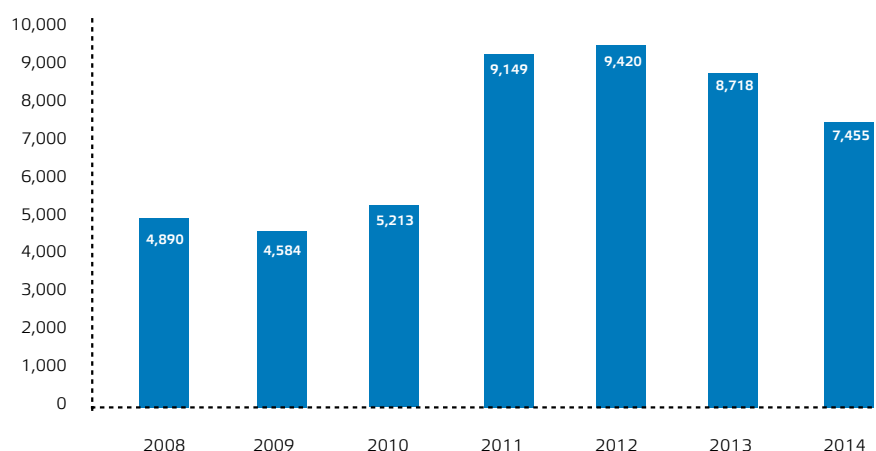
An important area of healthcare work of the Medical Centre is conduction of mandatory vaccination of employees of decreed categories.

DISEASE RATE OF VIRAL HEPATITIS A

Thanks to obligatory vaccination and revaccination for typhoid fever and hepatitis A no cases of these diseases have been recorded among Vodokanal employees for over 9 years.



To prevent tuberculosis and early detect respiratory diseases, all Vodokanal employees undergo thoracic organs examinations (chest fluorography, chest X-ray, computer tomography).



The performance indicator of the Medical Centre is the percentage of healthy and apparently healthy people (I-II health groups). In Vodokanal St. Petersburg, this indicator is 41%.

Conclusion of agreements with the Federal North-West Medical Research Centre of the Ministry of Health Care, the Russian Research Center for Radiology and Surgical Technologies, the Nikiforov All-Russian Centre of Emergency and Radiation Medicine of the RF Ministry for Civil Defense, Emergency Management and Natural Disasters Response provided effective interaction and timely high-quality medical assistance to Vodokanal employees.

In 2014, the Medical Centre continued to improve the integrated database on health condition of Vodokanal employees based on the medical information system "Avicenna" (MIS Avicenna).

The Avicenna system was integrated with the laboratory information system "Analytics" (LIS Analytics). The results of health surveys carried out in the clinical diagnostic laboratory of the Medical Centre are automatically transferred from LIS Analytics to MIS Avicenna.

As of the end of 2014, MIS Avicenna contained about 150,000 ambulatory medical records. All data are available in electronic form which makes it user-friendly. It should be noted that data privacy is observed.

Allocation and recording of patients appointed by district health centres for instrumental examination in the X-ray diagnostics department using quotas from Territorial Foundation of Obligatory Medical Insurance become automated.

Recording and issuing of final medical examination certificates and work incapacity certificates become automated.

In 2014, issuing of electronic medical records continued. Electronic memory of such records enables to process and store medical reports, results of instrumental examination, clinical-laboratory analyses.

To monitor the quality of medical treatment, the Medical Centre developed a standard "Medical treatment quality assessment system" which determines procedures of health care delivery and quality assessment, and establishes an internal commission on health care quality assessment.

An important element of Vodokanal social policy is the Collective Agreement envisaging the following services provided by the Medical Centre in 2014:

- delivery of health care under obligatory and voluntary medical insurance policies at the premises of the Medical Centre (the Diagnostic and Treatment Centre and the dental clinic);

- the right to use a voluntary medical insurance policy until its validity period expires, by an employee dismissed on grounds of redundancy, as well as by children of the dismissed personnel under 18;

- provision of certain types of medical and cosmetological services not included into the obligatory medical insurance and voluntary medical insurance programs;

- medical support during rehabilitation leaves for Company employees, specified in the List of Professions (Positions) enclosed to the Collective Agreement;

- medical care for the former Vodokanal employees – participants of the Great Patriotic War who have the certificate "The Participant of the Great Patriotic War", as well as Vodokanal employees and former employees who worked during the Siege of Leningrad at Company's facilities.

Support of Sports

IMPLEMENTATION OF THE COMPREHENSIVE CORPORATE REHABILITATION PROGRAM AND ARRANGEMENT OF SPORTS EVENTS CONTRIBUTE TO THE DEVELOPMENT AND SUPPORT OF HEALTHY LIFE, TEAM BUILDING, STRENGTHENING INTERPERSONAL RELATIONSHIP AND FRIENDLY TIES



Spartakiada games, festivals and traditional winter and summer competitions are held annually for Vodokanal employees in Burevestnik Sanatorium.

In 2014, the following events took place in Burevestnik Sanatorium:

- Vodokanal winter sports competitions with the participation of over 500 employees;
- sports contests "Fellowship" of the Russian water companies with the participation of teams from Nizhny Novgorod, Cherepovets, Vologda, Velikiy Novgorod, Vladimir, Ryazan as well as the partner-companies (over 350 people in total);
- the festival "Family Games" with the participation of around 350 people;
- the Youth Games Festival allowed more than 300 young employees to demonstrate their sports achievements;
- Vodokanal summer sports competition with the participation of over 600 employees.

Sports are one of the most important elements of Vodokanal corporate activities. Sports grounds, gyms and swimming pools are rented for sports activities and physical training. The trade union of Vodokanal leases 12 swimming pools in different districts of the city attended by more than 900 employees of the Company. Vodokanal has permanent sports teams in volleyball, football, table tennis, swimming, ski race and a football team of Vodokanal veterans.

Vodokanal teams took part in sports competitions arranged by the Society of Sports and Physical Training "Rossiya" (1st place winner), the Interregional Trade Union Committee (1st place winner), the Central District of St. Petersburg (1st place winner).

Vodokanal St. Petersburg organized sports competitions for the Company branches in 15 kinds of sports. Over 1,000 employees participated in such competitions.

In 2014, Vodokanal employees also participated in the following sports activities:

- Ping-Pong Club Championship organized by the Society of Sports and Physical Training "Rossiya";
- Mini Football Cup by Head of the Central District;
- Friendship Mini Football Cup organized by the Central District;
- Mini Football Championship among veterans;
- Russian Kayak and Canoe Paddling Championship among veterans;
- 1st League City Football Championship;
- Volleyball Championship (amateur league);
- World Championship among production companies in Bulgaria, where Vodokanal took 1st place in football and 3rd place in darts.

THE MAJOR ACHIEVEMENT OF 2014 WAS VODOKANAL'S VICTORY IN THE CONTEST FOR THE BEST SPORTS EVENT AMONG ST. PETERSBURG PRODUCTION COMPANIES





Tariff Policy

Legal Framework for Tariff Regulation

In 2014, water tariffs were regulated under the Federal Law no. 416-FZ "On Water Supply and Wastewater Disposal" dated 7 December 2011 and the Resolution of the Russian Federation Government no. 406 dated 13 May 2013 "On Government Regulation of Water Tariffs" which provide for:

1. pricing principles for water supply and wastewater disposal;
2. water tariff regulation rules.

In 2014, the Regulated Water Tariffs Calculation Guidelines were put into effect by the Order of the Federal Tariff Authority of the Russian Federation no. 1746-e dated 27 December 2013 (hereinafter, the Guidelines) finalizing the development of fundamental documents for water tariffs regulation.

If the Basic Principles of Water Pricing contain general provisions on tariff regulation, limiting indices, procedure for determining the required gross revenues, water tariff regulation methods, procedure for determining utility connection fee, then the Guidelines set specific formulae and tariff calculation forms including:

- procedure for determining volumes of supplied water and collected wastewater to be used for water tariffs calculations (water balance form);
- provisions regulating the calculation of the required gross revenues;
- procedure for calculating the required gross revenues by economically justifiable expenses methods; comparative methods, indexing method, return on investment;
- procedure for calculating hot water tariffs;
- procedure for calculating utility connection fee.

It is worth noticing that in 2014 the Ministry of Construction, Housing and Utilities of the Russian Federation put into effect the Order no. 22/pr dated 25 January 2014

"On approving the Procedure for maintaining separate accounting of expenses split by types of business activities for heat suppliers and water/wastewater companies and the integrated cost classification system" which set the procedure for maintaining separate accounting of income and expenses split by types of business activities.



THUS, THE MAIN TARGETS OF THE TARIFF POLICY, WHICH WERE DETERMINED AT THE BEGINNING OF THE TARIFF SYSTEM REFORMATION, REMAIN UNCHANGED AND INCLUDE THE FOLLOWING: IMPROVED AVAILABILITY OF CONNECTION TO WATER INFRASTRUCTURE FOR CONSUMERS, TRANSITION TO LONG-TERM TARIFF REGULATION, EXPANSION OF OFF-BUDGET FINANCING SOURCES FOR INVESTMENT PROGRAMMES, AND IMPLEMENTATION OF RELIABILITY/SERVICE QUALITY INDICATORS FOR THE PUBLIC UTILITIES THAT CARRY OUT REGULATED ACTIVITIES

Under the current law, tariffs for water companies are regulated by the Russian Federal Tariff Authority (FTA). The Federal Tariff Authority empowered to exercise legal control over the national regulation of prices (tariffs) for services and to monitor the use thereof, determines average price change limits for the subjects of the Russian Federation. At the level of St. Petersburg as a subject of the Russian Federation, any tariff-related activities of Vodokanal are supervised and monitored by the St. Petersburg Tariff Committee.

THE ST. PETERSBURG TARIFF COMMITTEE ISSUES SEPARATE ORDERS ESTABLISHING TARIFFS FOR VODOKANAL WATER SUPPLY AND WASTEWATER DISPOSAL SERVICES FOR EACH CUSTOMER GROUP AND FOR VODOKANAL'S THERMAL ENERGY FOR EACH REGULATED PERIOD

In addition, the Tariff Committee sets the fee for connection of newly built (reconstructed) real estate units (buildings, structures, and other facilities) to cold water and sewerage networks.

An important event, that influenced tariff decisions taken in 2014, was that Vodokanal sent to the Russian Federal Tariff Authority the statement of differences between the Company and the St. Petersburg Tariff Committee arising out of the government tariff regulation set under the Order no. 501-r dated 18 December 2013 "On establishing tariffs for cold water, technical water and sewerage services to be provided by St. Petersburg Vodokanal in the territory of St. Petersburg in 2014". The main point of the stated differences was the amount of Vodokanal's expenses in 2014 determined by the regulating authority. Upon the consideration of the statement the Russian Federal Tariff Authority issued the Decree no. 651-e dated 18 April 2014 "On consideration of differences between executive authorities of the Russian Federation subjects regulating tariffs for goods and serviced provided by public utilities, local government authorities regulating tariffs and surcharges of public utilities and public utilities, between St. Petersburg Vodokanal and the St. Petersburg Tariff Committee" and on the grounds of that Decree the St. Petersburg Tariff Committee adopted the Order no. 52-r dated 21 May 2014 "On amending the Order no. 501-r dated 18 December 2013 of the St. Petersburg Tariff Committee".

In 2014, thermal energy tariffs were regulated in line with the Federal Law of the Russian Federation no. 190-FZ dated 27 July 2010 "On Heat Supply", the RF Government Resolution no. 1075 dated 22 October 2012 "On Pricing in Heat Supply", Procedural Guidelines for Calculation of Regulated Prices (Tariffs) in Heat Supply approved by the Decree of the Russian Federal Tariff Authority no. 760-e dated 13 June 2013 and other by-laws.

Tariff Policy Principles

TARIFF POLICY PRINCIPLES ARE
DETERMINED BY PROVISIONS
OF THE FEDERAL LAWS REGULATING
WATER SUPPLY, WASTEWATER DISPOSAL
AND HEAT SUPPLY

The Law “On Water Supply and Wastewater Disposal” provides for basic principles of national water policy:

- provision of potable water and sewerage services to the citizens is a priority task;
- creating a good investment climate in the water sector, guaranteed repayment of private investments;
- the balance of economic interests between water companies and their consumers shall be achieved and maintained;
- water tariffs shall be based on economically justified expenses of water companies;
- creating stable and non-discriminatory conditions for business in the water sector;
- equal access to water services for all customers;
- transparent activities of water companies and the federal authorities, authorities of RF subjects and local administrations responsible for regulation of water sector.

The Federal Law no. 190-FZ dated 27 July 2010 “On Heat Supply” establishes the basic principles of national heat supply policy:

- availability of thermal energy (power) for customers;
- heat distribution costs of public utilities shall be economically justified;
- sufficient funding of any measures required to ensure reliable operation and development of heat supply systems;
- motivation of energy efficiency and cost-efficiency of heat supply;
- the regulation of heat prices (tariffs) shall be transparent and visible to any consumers including households;
- control over the observance of the legal requirements regarding the improvement of energy saving and energy-efficiency for the purpose of reducing energy losses, including requirements to the development and implementation of energy-saving/energy-efficiency programmes and to energy metering.

Tariff

Tariffs for Vodokanal Services in 2014

Water tariffs for 2014 were established by the Order of the Tariff Committee no. 501-r dated 18 December 2013 "On establishing tariffs for cold water, technical water and sewerage services to be provided by St. Petersburg

Vodokanal in the territory of St. Petersburg in 2014" as amended by the Order no. 52-r dated 21 May 2014.

In 2014 the tariffs were determined with the following calendar breakdown:

- since 1 January 2014, the tariffs have been maintained at the level determined on 1 July 2013;
- on 1 July 2014 the tariffs were raised for service providers (households) by 3.2%; for other customers – by 12%.

In 2014, the annual average tariff grew 8.4% compared to 2013.

The 2014 tariffs for thermal energy supplied by Vodokanal were determined by the Order of the Tariff Committee no. 585-r dated 20 December 2013 "On establishing tariffs for the thermal energy supplied by St. Petersburg Vodokanal to consumers located in St. Petersburg, for 2014".

TARIFFS FOR COLD WATER, TECHNICAL WATER AND SEWERAGE SERVICES OF ST. PETERSBURG VODOKANAL IN 2014

Item no.	Tariffs	2014	
		from 31 January 2014 till 30 June 2014	from 1 July 2014 till 31 December 2014
1. Tariffs for drinking water			
1.1	Service providers	17.27	17.82
1.2	Households (incl. VAT)	20.38	21.03
1.3	Other	19.58	21.84
2. Tariffs for technical water			
2.1	Service providers		
2.2	Households (incl. VAT)		
2.3	Other	3.54	3.95
3. Tariffs for sewerage services			
3.1	Service providers	17.27	17.82
3.2	Households (incl. VAT)	20.38	21.03
3.3	Other	22.76	25.60

Note: The tariffs are shown without the value-added tax except for the Household group.

TARIFFS FOR THERMAL ENERGY SUPPLIED BY ST. PETERSBURG VODOKANAL TO CONSUMERS LOCATED IN ST. PETERSBURG, FOR 2014

Tariffs for thermal energy						
Period	Tariff type	Pressurized extraction steam				Live and reduced steam
		1.2–2.5 kg/cm ²	2,5–7 kg/cm ²	7,0–13 kg/cm ²	over 13 kg/cm ²	
Consumers paying for thermal energy production (those who receive thermal energy from the producers' collectors)						
from 01.01.2014 till 30.06.2014	Single-rate tariff, RUB/Gcal	–	997.96	–	–	–
from 01.07.2014 till 31.12.2014	Single-rate tariff, RUB/Gcal	–	997.96	–	–	–

Note: The tariff is shown without the value-added tax.

Since 1 January 2014, the tariff has been reduced by 5.6%.
From 1 July 2014, the tariffs

have been maintained at the level determined on 1 January 2014.

Connection Fees

Fees for connection of newly built (reconstructed) real estate units (buildings, structures, and other) to Vodokanal's cold water supply and sewerage systems in 2012–2014 were established by the Order of the Tariff Committee no. 381–r dated 29 November 2011.

FEES FOR CONNECTION OF NEWLY BUILT (RECONSTRUCTED) REAL ESTATE UNITS (BUILDINGS, STRUCTURES, AND OTHER) TO VODOKANAL'S COLD WATER SUPPLY AND SEWERAGE SYSTEMS IN 2012–2014, RUB/M³/HOUR

Description	Contract demand < 4.17 m ³ /hour	Contract demand 4.17–41.67 m ³ /hour	Contract demand > 41.67 m ³ /hour
Cold water supply	714,000.00	711,600.00	709,200.00
Sewerage	738,000.00	735,600.00	733,200.00

Note: Connection fees are shown without the value-added tax.

Until the Rules of Cold Water Supply and Wastewater Disposal approved by the Decree of the Russian Government no. 644 dated 29 July 2013 came into effect, the amount of connection fee to Vodokanal's network had been calculated in compliance with clauses 14.1 and 14.2

of the Russian Government Decree no. 360 dated 9 June 2007 "On approving the Rules of making and performing public contracts for connection to municipal infrastructure", i.e. as the product of contract demand (in m³/hour) and connection fee.

The procedure for calculating connection fees remained valid until the expiry of the Order of St. Petersburg Tariff Committee no. 381–r dated 29 November 2011 with due regard to the provisions of the adopted Basic Principles of Water Pricing and the Procedural Guidelines.

The connection fees have not been raised since 2009.

Reasons for Tariff Growth

In the Financial Plan of St. Petersburg Vodokanal, the total expenditures comprise the material costs calculated on the basis of:

- state-regulated tariffs (prices) or their projected values officially communicated by a relevant tariff (price) – regulating authority;
- industry-specific forecasted price change indices;
- forecasted price change indices officially published by the Russian Ministry of Economic Development;
- macroeconomic forecast of social and economic development as approved by the government of relevant RF subject in consideration of the special features of regional development;
- actual price trends (the soundness of such calculation shall be confirmed by a relevant regulatory body).

Transparent Tariffs

Vodokanal discloses information related to water supply and wastewater disposal in accordance with the Russian Federation Government Decree no. 6 dated 17 January 2013 “On the Standards for disclosure of information in the water sector” (hereinafter, Information Disclosure Standards). In heat supply sector Vodokanal discloses information according to the Resolution of the Russian Federation Government no. 570 dated 5 July 2013 “On the Standards for disclosure of Information to heat suppliers, heat distribution network operators and regulating authorities”.

Vodokanal follows a consistent transparency policy aimed to facilitate access to the information that must be disclosed.

All information referred to in the Information Disclosure Standards, and any information regarding establishment and application of tariffs in St. Petersburg, can be found on the official websites of Vodokanal and the St. Petersburg Tariff Committee or in the official journal of the St. Petersburg Tariff Committee – “Vestnik Komiteta po Tarifam Sankt-Peterburga” (Order of the St. Petersburg Government no. 223 dated 21 February 2011; Certificate of Mass Media no. TU 7800675 dated 27 August 2010).

The above resources are convenient official platforms for centralized, consistent and timely disclosure of information in compliance with the Information Disclosure Standards.

Policy





Financial Statements

Main Financial Indicators of St. Petersburg Vodokanal

Indicators, MRUB	2010	2011	2012	2013	2014
Turnover	20,060	22,797	23,649	25,276	24,945
Operating costs	17,694	19,853	19,546	21,311	23,041
Operating profit	2,366	2,944	4,103	3,965	1,904
Net profit (loss)	379	404	1,074	(291)	(4,623)
Profitability of core operations, %	13.4	14.8	21.0	18.6	8.3

During 2010–2013, the growth of the main financial indicators provided financing different actions aimed to achieve the service quality targets in line with the long-term development strategy of the Company.

The indicator “profitability of core operations” is high compared with that of other municipal utilities. The Company’s profit was used for connection to water supply and sewerage networks implemented under

the investment program. Vodokanal’s operating loss is caused by reduction of the Company’s turnover, unfavorable exchange rate differences (due to significant change of the euro exchange rate at the end of the year. As of 31 December 2014, the EUR/RUB exchange rate was 1 – 68.3427 and as of 31 January 2013 it was 1 – 44.9699) and the increase of property tax (due to the cancellation of property tax privileges).

Indicator	2010	2011	2012	2013	2014
Current ratio (standard: 1 to 2)	1.1	1.3	1.4	1.1	1.1

Vodokanal St. Petersburg maintains a rather high level of solvency which is evidenced by the fact that its profitability ratios are within the standard range meaning that the Company has sufficient funds for current payments.

Indicators	2010	2011	2012	2013	2014
Equity to Total Assets	0.88	0.90	0.88	0.88	0.87
Financial Leverage	0.14	0.11	0.14	0.14	0.15

Vodokanal is a company with a high capital coefficient. The share of fixed assets in the balance sheet structure is over 90%. The Equity to Total Assets Ratio is high which means that the Company capital structure is stable.

Balance Sheet

as of 31 December 2014	OKUD	CODES		
		0710001		
	Date (day, month, year)	31	12	2014
Organization SUE "Vodokanal of St. Petersburg"	OKPO			
Taxpayer's Identification Number	INN	7830000426		
Type of business	OKVED	90.00.1, 41.00.1, 41.00.2, 85.11, 85.12, 85.13, 85.14		
Form of incorporation/Type of ownership		1 52 42		13
State Unitary Enterprise/RF subject owned	OKOPF/OKFS			
Unit of measurement: '000 RUB	OKEI	384		

Location (address): 42, Kavalergardskaya st., St. Petersburg, 191015

Clarifications	Item	Code	As of 31 December 2014	As of 31 December 2013	As of 31 December 2012
1	2	3	4	5	6
ASSETS					
I. NON-CURRENT ASSETS					
1	Intangible assets	1110	404,125	373,521	374,450
2	R&D results	1120	38,315	2,727	3,167
-	Intangible development assets	1130	-	-	-
-	Fixed development assets	1140	-	-	-
3-5	Fixed assets	1150	200,038,805	175,560,010	159,467,488
	from Line 1150:				
	buildings	1151	19,779,575	18,403,136	18,377,363
	structures, transfer devices	1152	157,040,568	136,071,270	115,805,650
	machinery and equipment, vehicles	1153	6,811,814	6,674,427	6,962,400
6, 9, 10	construction in progress	1154	16,201,903	14,198,056	18,084,319
	Income-bearing investments in inventories	1160	-	-	-
7	Financial investments	1170	117,795	117,795	395,879
	Deferred tax assets	1180	775,938	412,225	402,022
8	Other non-current assets	1190	385,346	403,896	413,403
	Section I, TOTAL	1100	201,760,324	176,870,174	161,056,409

Clarifications	Item	Code	As of 31 December 2014	As of 31 December 2013	As of 31 December 2012
1	2	3	4	5	6
II.CURRENT ASSETS					
9	Inventories	1210	1,790,312	1,616,451	1,329,817
	from Line 1210				
	raw materials, materials, etc.	1211	1,109,371	1,000,572	784,315
	deferred assets	1212	680,941	615,879	545,502
	Value-added tax on purchased valuables	1220	18,720	83,134	77,738
10	Accounts receivable	1230	9,175,919	8,183,767	6,629,685
	from Line 1230				
	Accounts receivable due beyond 12 months after the reporting date	1231	1,266,943	928,787	1,232,155
	from Line 1231 Buyers and Clients	12311	83,830	56,950	29,884
	Accounts receivable where payments are expected within 12 months after the reporting date	1232	7,908,976	7,254,980	5,397,530
	from Line 1232 Buyers and Clients	12321	5,751,242	5,194,495	4,670,839
7	Financial investments (other than cash equivalents)	1240	-	608,000	922,000
*	Monetary resources and cash equivalents	1250	2,179,091	4,708,496	5,837,699
	Other current assets	1260	-	-	-
	Section II, TOTAL	1200	13,164,042	15,199,848	14,796,939
	BALANCE	1600	214,924,366	192,070,022	175,853,348

Clarifications	Item	Code	As of 31 December 2014	As of 31 December 2013	As of 31 December 2012
1	2	3	4	5	6
LIABILITIES					
III. CAPITAL AND RESERVES					
**	Registered capital	1310	4,851,580	4,851,580	3,475,580
	Own shares bought out from shareholders	1320	-	-	-
**	Revaluation of non-current assets	1340	102,190,823	88,461,197	88,630,171
**	Additional capital (not revaluated)	1350	78,517,654	69,101,465	51,025,164
**	Special-purpose receipts	1351	1,627,950	2,232,445	7,234,434
**	Reserve fund	1360	86,339	86,339	86,339
**	Undistributed profit (uncovered loss)	1370	(2,770,324)	1,741,289	2,015,848
	Section III, TOTAL	1300	184,504,022	166,474,315	152,467,536
IV. LONG-TERM LIABILITIES					
11	Borrowings	1410	9,287,959	8,480,338	9,860,025
	from Line 1410				
	Loans repayable beyond 12 months after the reporting date	1411	9,287,959	6,486,338	7,866,025
	Credits repayable beyond 12 months after the reporting date	1412	-	1,994,000	1,994,000
	Deferred tax liabilities	1420	693,199	608,480	485,406
	Estimated liabilities	1430	-	-	-
	Other liabilities	1450	4,199,183	2,068,252	918,442
	Section IV, TOTAL	1400	14,180,341	11,157,070	11,263,873
V. SHORT-TERM LIABILITIES					
11	Borrowings	1510	3,854,618	3,905,642	2,860,483
	from Line 1510				
	Loans repayable within less than 12 months after the reporting date	1511	1,849,247	3,894,765	2,850,129
	Credits repayable within less than 12 months after the reporting date	1512	2,005,371	10,877	10,354
11	Accounts payable	1520	8,958,383	7,370,387	6,653,107

Clarifications	Item	Code	As of 31 December 2014	As of 31 December 2013	As of 31 December 2012
1	2	3	4	5	6
	from Line 1520				
	suppliers and contractors	1521	2,993,969	3,251,549	2,320,394
	payroll debt	1522	191,938	182,359	156,934
	debt to state extra-budgetary funds	1523	80,185	78,470	71,188
	tax arrears	1524	1,426,094	1,130,061	1,146,007
	advances received	1525	4,094,011	2,579,057	2,810,608
	other creditors	1526	172,186	148,891	147,976
	Deferred income	1530	2,830,832	2,565,255	2 061,092
12	Estimated liabilities	1540	596,170	597,353	547,257
	Other liabilities	1550	-	-	-
	Section V, TOTAL	1500	16,240,003	14,438,637	12,121,939
	BALANCE	1700	214,924,366	192,070,022	175,853,348

* Cash Flow Statement

** Statement of Changes in Equity

Director

(signature)

O.N. Zharkova

(name)

Chief Accountant

(signature)

G.A. Khachaturova

(name)

27 March 2015

Income Statement

as of 31 December 2014	OKUD	CODES		
		0710002		
	Date (day, month, year)	31	12	2014
Organization SUE "Vodokanal of St. Petersburg"	OKPO	03323809		
Taxpayer's Identification Number	INN	7830000426		
Type of business	OKVED	90.00.1, 41.00.1, 41.00.2, 85.11, 85.12, 85.13, 85.14		
Form of incorporation/Type of ownership	OKOPF/OKFS	42		13
State Unitary Enterprise/RF subject owned				
Unit of measurement: '000 RUB	OKEI	384		

Clarifications	Item	Code	2014	2013
	Revenue	2110	24,945,533	25,271,878
	Cost of sales	2120	(23,041,299)	(21,325,178)
	Gross profit (loss)	2100	1,904,234	3,946,700
	Commercial expenses	2210	(-)	(-)
	Administrative expenses	2220	(-)	(-)
	Sales profit (loss)	2200	1,904,234	3,946,700
	Income from participation in other organizations	2310	687	1,115
	Interest receivable	2320	17,628	79,462
	Interest payable	2330	(603,612)	(260,678)
	Other income	2340	663,976	651,828
	Other expenses	2350	(6,884,130)	(3,984,624)
	Before-tax profit (loss)	2300	(4,901,217)	433,803
	Current profit tax	2410	(-)	(591,337)
	incl. constant tax liabilities (assets)	2421	(698,778)	(611,482)
	Change of deferred tax liabilities	2430	(84,931)	(122,922)
	Change of deferred tax assets	2450	366,396	16,017
	Other	2460	(3,573)	(6,065)
	Net profit (loss)	2400	(4,623,325)	(270,504)

Clarifications	Item	Code	2014	2013
	Result of non-current assets revaluation not included into the net profit (loss) of the period	2510	13,912,762	-
	Result of other transactions not included into the net profit (loss) of the period	2520	-	-
	Cumulative financial result of the period	2500	9,289,437	(270,504)
For reference				
	Base profit (loss) per share	2900	-	-
	Diluted earnings (loss) per share	2910	-	-

Director

(signature)

O.N. Zharkova

(name)

Chief Accountant

(signature)

G.A. Khachaturova

(name)

27 March 2015

Contact Information

STATE UNITARY ENTERPRISE “VODOKANAL OF ST. PETERSBURG”

42, Kavalergardskaya str., St. Petersburg, 191015, Russia.
Tel.: +7 (812) 372-58-28, Fax +7 (812) 274-13-61
(Documents Division).

E-mail: office@vodokanal.spb.ru

E-mail: personal@vodokanal.spb.ru –
Personnel Department (for CVs).

Website: www.vodokanal.spb.ru

Hot Line Service: +7 (812) 305-09-09.

CUSTOMER SERVICE CENTRE

Lit. A, 21, Gakkelevskaya str., St. Petersburg.

Tel.: +7 (812) 702-12-98 – Reception room,

Fax: +7 (812) 438-47-96 and billerc@vodokanal.spb.ru –
Common fax number and e-mail to submit meter readings
since 1 October 2013.

**Send a request to billerc@vodokanal.spb.ru
to receive a meter readings submission form.**

Tel.: +7 (812) 633-02-76 – consultancy on calculations.

Tel.: +7 (812) 438-44-17 – consultancy on prolongation and
amendment of the agreements on potable water supply,
wastewater and pollutants collection (“unified” agreements).

Open hours: Monday–Friday 9:00 a.m. – 6:00 p.m.

**The detailed contact information can be found at the official
website of the Company:** www.vodokanal.spb.ru
in “For customers” page.

CONNECTIONS DEPARTMENT

Tel.: +7 (812) 438-44-11; +7 (812) 438-44-27 –
consultancy on connection to the networks.

Open hours: Monday–Friday, 8:30 a.m. – 5:15 p.m.

THE UNIVERSE OF WATER MUSEUM COMPLEX

56, Shpalernaya str. (underground station “Chernyshevskaya”).

Tel.: +7 (812) 438-43-75, 275-43-25, 438-43-01.

Open hours: Wednesday–Sunday 10:00 a.m. – 7:00 p.m.

Tickets can be bought till 6:30 p.m.

Website: www.vodokanal-museum.ru

YOUTH ENVIRONMENTAL CENTER

56, Shpalernaya str., (underground station “Chernyshevskaya”).

Tel.: +7 (812) 438-43-96.

E-mail: dec@vodokanal.spb.ru

Website: www.vodokanal-ecocenter.ru

BUREVESTNIK SANATORIUM

Website: www.vodokanal-zagorod.ru

Office in St. Petersburg:

7, Zelenkov per. (underground station “Vyborgskaya”).

Tel./Fax: +7 (812) 438-44-85.

Tel.: +7 (812) 329-34-84, 329-34-40, +7 (921) 965-65-50.

Open hours: Monday–Thursday, 9:00 a.m. – 6:00 p.m.,
Friday, 9:00 a.m. – 7:00 p.m.

Office in Luga:

16, Zapadnaya Street.

Tel.: +7 (813-72) 4-33-03, 2-36-60, +7 (921) 362-18-69.

Open hours: all week, 9:00 a.m. – 9:00 p.m.

MEDICAL CENTER BRANCH

E-mail: medcenter@vodokanal.spb.ru

Website : www.med-vdk.ru

Treatment & Diagnostic Center

Lit. Ya, 42, Kavalergardskaya str.

Tel.: +7 (812) 438-44-20, +7 (812) 326-52-78.

Open hours: Monday–Friday, 8:00 a.m. – 8:00 p.m.

Treatment & Diagnostic Center

(including X-Ray Diagnostics Department):

Block 2 H, 103, Moskovskiy pr., St. Petersburg.

Tel.: +7 (812) 438-47-77, 326-52-78.

Open hours: Monday–Saturday, 8:00 a.m. – 8:00 p.m.
(X-Ray Diagnostics Department – up to 9:30p.m.).

Dental Clinic:

Lit. AK, 56, Shpalernaya str.

Tel.: +7 (812) 326-53-19.

Open hours: Monday–Thursday, 9:00 a.m. – 8:00 p.m.,
Friday 9:00 a.m. – 7:00 p.m.

