

# PANORAMA

CASPIAN PIPELINE CONSORTIUM



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## HAPPY NEW YEAR!

**OPERATION**  
AHEAD  
OF SCHEDULE

**SCIENCE**  
JOINT  
FORCES

**THROUGH THE LENS OF HISTORY**  
PERSONAL CONTRIBUTION  
TO DEVELOPMENT

**LIFESTYLE**  
CHEAPER  
BY THE DOZEN



IN THE FIRST PERSON

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**DEAR COLLEAGUES AND FRIENDS!**

In 2024, we witnessed practical confirmation of the thesis “Energy companies are the monolithic framework of national and global economies”. The Caspian Pipeline Consortium continues its work without making an exception, taking on new challenges of the time, providing stable and qualitative support to the growing needs of the world markets for oil from the Caspian basin fields.

In the outgoing year, the company passed the mark of 900 million tons of CPC blend oil loaded onto tankers at the CPC Marine Terminal. At present, shipments can officially be made simultaneously, if necessary, using three metering units and three single point moorings, as confirmed by state expertise. All

production facilities commissioned under the Debottlenecking Program are operating normally.

Work on replacing pipeline sections in the Astrakhan Oblast and Kalmykia has been completed ahead of schedule: one section has already

been connected to the system, the second will be commissioned in the spring of 2025. It is important to note that the development of the production base is carried out in compliance with high environmental and industrial safety standards.

This autumn, the Republic of Kazakhstan celebrated the 125th anniversary of the national oil and gas industry. It has had and continues to have many famous names and outstanding initiatives. The fact that this honorary ranks included the CPC employees and the project as a whole, who were awarded with awards by the President of the Republic of Kazakhstan, fills us all with a sense of pride and responsibility.

Just as the main oil pipeline connects the fields with our Marine Terminal, so the charitable initiatives and programs of CPC unite people in the regions, supporting such national projects as Healthcare, Education, Ecology, Culture. These programs and projects have been implemented on an ongoing basis for decades. The company’s assistance to residents of the regions, their children, kindergartens, schools, clinics and hospitals is as stable as the operation of our oil pumping systems.

The continuous and successful operation of the oil pipeline company is the result of many factors, and the human factor plays a significant role here. I thank every employee of our united multinational team for their hard work, high professionalism and commitment to the values of the Safe Work Culture, for their readiness to help their colleagues and fellow citizens in times of need without hesitation.

In 2025, we are looking forward to the billionth ton of oil, the implementation of the Gas Turbine Mainline Pumps Replacement Program, and much

more work. I wish you to meet this year in a good mood, with your family, in a comfortable holiday atmosphere. May your dreams and plans come true! Good health, happiness, and good luck to you and your family! Happy New Year!

*General Director,  
Caspian Pipeline  
Consortium*  
**N.N. Gorban**



AUTHOR  
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# FOR GLOBAL DEVELOPMENT

AT THE END OF SEPTEMBER 2024, THE SEVENTH INTERNATIONAL FORUM RUSSIAN ENERGY WEEK (REW-2024) WAS HELD IN MOSCOW. CPC BECAME A PARTNER IN ORGANIZING THE EVENT, AND THE CONSORTIUM'S LARGEST GOVERNMENT SHAREHOLDER, TRANSNEFT PJSC, ACTED AS THE OFFICIAL OIL PARTNER

The forum was held at two venues: the Central Exhibition Hall Manege, where the business program events took place, and Gostiny Dvor, where an exhibition of equipment and technologies for fuel and energy companies was organized. The business program of the exhibition space included more than 20 sessions for the engineering and technical staff of energy companies.

The business program at the Manege included about 55 events with the participation of 350 speakers. It was divided into five areas: International Agenda: Cooperation for Development, Sustainable Energy Development, Technology and Data as the Basis for Leadership, Development of the Russian Fuel and Energy Complex: Strategy and Regulation



and Socially Oriented Fuel and Energy Complex.

Traditionally, the main event of the Forum was the plenary session with the participation of the President of the Russian Federation Vladimir Putin.

"Russia fulfills its obligations to supply energy resources to the world market, plays a stabilizing role in it, participating in such authoritative formats as OPEC Plus and the Gas Exporting Countries

development", – with these words the President of Russia concluded his speech.

The key topic of the forum, which brought together more than 5,000 participants from 81 countries, was energy cooperation in a multipolar world.

"There are currently three main trends in the global energy sector: the growth in energy demand that is observed today and will continue in the future, technological innovations

## THE KEY TOPIC OF THE REW FORUM WAS ENERGY COOPERATION IN A MULTIPOLAR WORLD

Forum... Our energy companies, their workforces, the entire industry as a whole will be provided with stable, reliable work for many, many years to come. They will make their own, and a significant, noticeable contribution to achieving Russia's national development goals, to improving the quality of life of our citizens. And, of course, they will continue to contribute to the balancing of world energy markets in the interests of sustainable global

that are changing the economy and energy, and the changes taking place in geopolitics. The arrival of representatives of dozens of foreign countries in Moscow is an opportunity to discuss the current situation and current forecasts, as well as to expand cooperation between our countries. Russian Energy Week is an excellent platform for this", noted Deputy Chairman of the Government of the Russian Federation Alexander Novak during





Oleg Aseev/Roscongress Photo Bank



the panel session “Global Energy as the Basis for Economic Growth and Well-Being: In Search of Balance”.

According to the data cited by the Deputy Prime Minister, in the last 10 years alone, demand for global energy has grown by 13–14%. In the next 20 years, primary energy

Alexander Novak emphasized. “If today we see an annual growth in oil consumption of 1-2%, then by 2050, instead of today’s 102 mbpd (million barrels per day), we will see about 120 million... That is, we can state that, despite a slight decrease in the share of hydrocarbons, they

of REW-2024 was “Development of energy infrastructure and environmental law: legislative requirements and enforcement issues”. Participants in the lively discussion considered issues of legal regulation in the construction of linear facilities, shared their experiences, and also expressed their initiatives for improvement in this area.

It remains to add that the International Forum Russian Energy Week was established by the order of the Government of the Russian Federation in 2016. Among its organizers is the Ministry of Energy of the Russian Federation. REW allows Russian and international participants to see the whole palette of opinions and develop joint initiatives on the most pressing issues of global energy. ●

THE FORUM BROUGHT TOGETHER  
MORE THAN 5 THOUSAND  
PARTICIPANTS FROM

81  
COUNTRIES

consumption will grow by 25%. Both its consumption and the range of industries that generate demand for it will change structurally. In particular, Alexander Novak recalled that today digital technologies already consume 8–10% of energy, and in the next three years this volume will double, primarily due to the active implementation of artificial intelligence, as well as increased consumption by electric transport. At the same time, even despite the growth in the share of renewable energy sources, hydrocarbons will continue to play a key role in the global energy balance.

“Traditional energy sources, hydrocarbons, and primarily oil and gas, will continue to provide supply on global energy markets”,

will still dominate in ensuring global energy consumption”.

The heads and specialists of the CPC examined the exposition and took part in various sessions. One of the most interesting topics



## ROUND TABLE OF SECURITY SERVICES OF FUEL AND ENERGY COMPANIES



On October 1, 2024, in Atyrau, CPC representatives took part in a meeting of oil and gas industry security services. The roundtable meeting also included specialists from Tengizchevroil, KazMunayGas, LUKOIL, North Caspian Operating Company and Karachaganak Petroleum Operating. The topics of the presentations were the actions of security services and security units in emergency situations, man-made accidents, access

control violations, as well as the implementation of regulatory legal acts of the Republic of Kazakhstan in the field of preparing anti-terrorist security passports for protected facilities. Grigory Senoedov, Head of the Physical Security Team of the CPC Corporate Security Division, presented a report on current threats to oil transportation infrastructure facilities in Russia and Kazakhstan, on methods of protecting these facilities, and on the Consortium’s risk-oriented approach to security issues. As part of the exchange of experience, Grigory Senoedov spoke about the work of the training center in Elista, which specializes in training security personnel for fuel and energy complex facilities. CPC plans to open a similar center in Kazakhstan.

## CPC PROVIDED A PRODUCTION BASE FOR THE FORMATION OF STATE STANDARDS

On October 16, 2024, at the Atyrau PS, CPC specialists met with representatives of the authorities of the Republic of Kazakhstan. The meeting was organized within the framework of the Agreement on Cooperation in the Field of Information Security, concluded on June 19, 2024, between the Ministry of Digital Development, Innovations and Aerospace Industry of the Republic of Kazakhstan and CPC-K JSC. Based on mutual needs in the formation of regulatory requirements in the field of security of automated process control systems (APCS), the Consortium provided representatives of government agencies with its production base and competencies in order to familiarize themselves



with the role of APCS in pipeline transportation of hydrocarbons, as well as with the security measures applied in this area. Having discussed issues of physical security, technological protection, as well as the impact of the information security system on the operation of APCS, the parties confirmed that in the field of these systems, it is necessary to develop and clarify the regulatory legal acts of the Republic of Kazakhstan, taking into account certain principles and approaches.

## ON BLACK SEA DAY



On October 31, 2024, a round table on the ecology of the Black Sea was held in Novorossiysk at the Admiral F. F. Ushakov State Maritime University. The event was organized by the Caspian Pipeline Consortium as part of the environmental education project “Protect Nature of Our Native Land”. The round table was timed to coincide with the International Black Sea Day. The presentations by scientists from the P. P. Shirshov Institute of Oceanology of the Russian Academy of Sciences, the A. O. Kovalevsky Institute of Biology of the Southern Seas of the Russian Academy of Sciences, the Novorossiysk Educational and Research Marine Biological Center of the Federal State Budgetary Educational Institution of Higher Education “Kuban State University”, Tomsk State University and other organizations discussed current issues of the state of the Black Sea ecosystem, protection of flora and fauna, satellite monitoring and pollution minimization, environmental education and awareness. The most critical factors of pollution of the Black Sea waters and the coast in the Novorossiysk area were anthropogenic plastic pollution and ship discharges.

Based on the results of the reports and their discussions, it was concluded that the state of sea water in the area of the municipal formation Novorossiysk is within normal limits. The environmental policy of industrial enterprises, environmental initiatives and activities of the city, as well as specialized research structures play their roles in this regard.

The participants of the Round Table paid special attention to the environmental education of the younger generation. A number of programs and projects operating in the region in this area can effectively combine efforts, which was proven in 2024 by the integration of the VII open Regional Children’s Environmental Festival and the environmental education project “Protect Nature of Our Native Land”. ●

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## AHEAD OF SCHEDULE

DURING THE PLANNED OCTOBER SHUTDOWN, A RENEWED SECTION OF THE PIPELINE WAS SUCCESSFULLY CONNECTED TO THE CPC MAIN LINE IN KALMYKIA. IT IS NOW OPERATING IN NORMAL MODE TOGETHER WITH THE ENTIRE TENGIZ-NOVOROSSIYSK PIPELINE SYSTEM

**B**efore connecting to the main pipeline near the Komsomolskaya PS, the operating contractors from STARSTROY pumped out oil, performed fireless cutting of the pipeline sections, steaming and degassing. Then the construction contractor, BF SMU-6 LLC, performed the connection work simultaneously at the beginning and end of the section.

“Despite difficult weather conditions, including rain, the complex of works on cutting, fitting coils and connection was



completed ahead of schedule due to competent arrangement, as well as strict adherence to a pre-developed work plan, taking into account the interaction of the Consortium services and contractors”, noted the Pipeline Upgrade Service Head Alexey Sidorenko.

The prompt filling and launch of the pipeline was made possible

by both the coordination of construction and installation works (C&I) and the advance adjustment and testing of the main ball valve. After a scheduled shutdown, a set of works on piping and connection of nitrogen units was carried out on the old and already disconnected section of the oil pipeline. With their help, the hydrocarbon



THE WORK WAS AHEAD OF SCHEDULE DUE TO THE CLEAR INTERACTION BETWEEN THE CONSORTIUM SERVICES AND CONTRACTORS



raw materials remaining in the disconnected oil pipeline were displaced and pumped into the operating pipeline. This procedure allows us to begin dismantling the section that has served its purpose.

As CPC Panorama previously reported (No. 1 (44), February 2024), the Consortium began replacing two sections of the oil pipeline, 7.67 km long at the exit from the Astrakhanskaya PS and 17.51 km long at the entrance to the Komsomolskaya PS, in December 2023. Pipes manufactured at Russian plants in accordance with the technical requirements of the leading shareholder of CPC, Transneft PJSC, were delivered to the route.



In total, more than 80 contractor specialists directly involved in construction and installation work, and 44 units of equipment – pipe layers, graders and others – were involved in the work to replace sections of the main oil pipeline until the section near the Komsomolskaya PS was connected.

The welding of pipes into a thread was carried out at an average rate of 16 joints per day, which amounted to about 200 m of pipeline. This section was laid in separate segments in the trench, which made it possible not to create problems for land users and not to block the migration routes of animals.

The new section of the oil pipeline near the Astrakhanskaya PS crosses two highways. Holes were made under them using horizontal directional drilling. The length of the first crossing was about 30 m, the second – 100 m. At the crossing sections, the pipeline is protected by a special fiberglass casing filled with a hydrophobic gel. The gel reduces vibration loads from cars passing along the highway and prevents condensation. Fiberglass protects against external damage. This promising domestic



development was first used at the 1400th kilometer of the CPC pipeline two years ago (CPC Panorama No. 1 (40), February 2023).

“The hundred-meter crossing was created by two consecutive punctures”, says Anton Kadochnikov, the Lead Engineer, Pipeline Upgrade. “Such a distance was due to the presence of communications parallel to the road being crossed. The casing will protect the oil pipeline if the owners of the communications begin to develop them”.

The construction of the second section of the oil pipeline – 7.67 km at the exit from the Astrakhanskaya PS – has also already been completed. In October, specialists began hydraulic testing and preparation for in-pipe diagnostics.

The next important stage of the project is scheduled for April 2025. At this stage, as part of the April scheduled shutdown, the second section is planned to be connected to the existing mainline pipeline.



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## BY DOMESTIC AND INTERNATIONAL STANDARDS

IN 2024, SUBMARINE AND FLOATING HOSES WERE REPLACED AT THE SINGLE POINT MOORINGS. SUCH WORKS ARE REGULARLY CARRIED OUT AT THE CPC MARINE TERMINAL TO ENSURE HIGH RELIABILITY OF THE EQUIPMENT

From the single point mooring (SPM), crude oil is transported to the tanker via a system of two floating flexible hose connections (strings). Including the marine breakaway coupling (MBC), rotary valve and eccentric connection, the total length of the inner floating hose string is 265 m, the outer – 276 m. The outer string consists of 26 hoses, the inner – of 25.

“The service life of submarine and floating hoses is from two to seven years, after which they are subject to mandatory replacement”, notes Alexey Sitnik, Deputy Regional Division Head for Marine Operations. “This operation is very labor-intensive: the weight of each section reaches 5 tons. A multi-purpose vessel with diving equipment, tugs and small vessels for the delivery of personnel and tools are involved in the work. There are 21 people in the diving team, which ensures round-the-clock work in two shifts”.

The divers are supported by a teleoperated unmanned

underwater vehicle (UUV). The camera of the UUV is used to conduct a general inspection of the work site, underwater pipelines, and the bottom of the Marine Terminal water area.

Diving operations are carried out at depths of up to 60 m. Divers go underwater in a special bell, and the breathing mixture is supplied to them via a hose-cable. While one diver is operating in the water, the other is in stand-by mode. He is fully equipped for immediate descent in an emergency. It is also important to consider the following fact: the deeper the diver works, the more time he will need to spend in the decompression chamber.

Floating hoses are easier to replace than submarine ones, and of these, the ones that are closer to the tanker are easier to replace. Often, the entire operation of replacing hoses begins with them.

Work usually begins in April-May, when good weather sets in. The requirements for the conditions are as follows: the current should not exceed one knot, the wave height

should not exceed 1.5 m, the wind speed should be up to 15 m/s.

“This year the weather was not favorable to us, there were many stops, primarily due to the current. Therefore, in November we continued to change hoses”, comments Andrey Korokhtenkov, Senior Engineer, Offshore Operations and Repair.

The planned preventive maintenance at the SPM is preceded by a preparatory stage: before decommissioning the equipment, the pipeline end manifold (PEM) is closed and the cargo system is flushed from oil. The same is true at the final stage – a tanker is chartered that has a suitable cargo system for replacing seawater with oil in the hoses.

The process of replacing hoses this year began with SPM 2. By the end of July, 51 hoses (18 submarine and 33 floating) had been replaced. Next was SPM 3 (26 hoses: 12 submarine and 14 floating) and the process was continued at SPM 1.

The work of the CPC Marine Terminal is built in accordance with the requirements of the International Maritime Organization (IMO). Diving operations at CPC are carried out according to two standards at once: international, valid throughout the world, and the requirements of the Russian Diving Service. ●



THE RAILING HOSES OF THE SPM  
FLOATING STRINGS ON BOARD  
THE MAINTENANCE TUGBOAT



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## KEEP THE CITY

THE ATYRAU PS, SECOND IN TERMS OF OIL FLOW IN THE CPC SYSTEM, CAN RIGHTFULLY BE CALLED THE FACILITY OF THE YEAR. NOT ONLY FOR THE VOLUME OF MODERNIZATION WITHIN THE FRAMEWORK OF DBNP, NOT ONLY FOR THE VALUABLE EXPERIENCE OF OPERATING NEW EQUIPMENT, BUT ALSO FOR THE PARTICIPATION OF PIPELINERS IN THE FIGHT AGAINST THE CONSEQUENCES OF UNPRECEDENTED FLOODS IN THE ATYRAU REGION

**N**ext year, Atyrau will celebrate 380 years since the city's foundation. The fortress in these places was built in 1645 by order of Peter the Great's father, Tsar Alexei Mikhailovich, by the Volga merchant Guriy Nazaryev. The fortifications on the bank of the Ural River were demolished as unnecessary in 1810, but what they

looked like can still be seen today in Zaraysk near Moscow – the local Kremlin, although built a century earlier, was still built according to the same standard project. Until 1992, the city was called Guriev in honor of the merchant.

Atyrau is one of those few cities whose quarters are located in two parts of the world at once – in

Europe and in Asia. The most famous, of course, is Turkish Istanbul, but there are also such cities in Russia – Orenburg, Magnitogorsk, Orsk. And in Kazakhstan, the residents of Uralsk can also boast of the opportunity to take daily “transcontinental” walks.

But let's return to Atyrau. For several centuries, the European side of the city was called “Samara”, and

the Asian side – “Bukhara”. The thing is that an endless stream of caravans passed through the city. In one direction, respectively, to Bukhara, in the other – to Samara. These places have always been a major crossroads of international trade. Before the appearance of Guriev, the capital of the Nogai Horde – the city of Saraishyk – served as a transport hub. Today these are ruins 50 km from Atyrau, and in the Middle Ages the “megalopolis” stretched for 10 km in length, second in size only to Baghdad.

Until the end of the 19th century, Guriev lived exclusively on trade and fish, but gradually conditions began to develop for replacing black caviar with “black gold”. In 1888, an expedition led by Colonel Grigory Grumm-Grzhimailo passed through Guriev deep into the Atyrau steppes. The researchers found it interesting how locals treated cattle with oil, and soon a partnership consisting of Staff Captain Lehmann, Colonel Grumm-Grzhimailo and Austro-Hungarian merchant Doppelmayr received a concession from Emperor Alexander III to extract oil in the Embinsky region. In the first decade of the 20th century, the Nobel brothers and the Shell company joined oil production in the region.

Nowadays, Atyrau is called the oil capital of Kazakhstan. The region is home to the Kashagan and Tengiz oil fields, which are among the world's ten largest. Development of the latter began in the 1990s.

And at the beginning of the 21st century, the Tengiz-Novorossiysk pipeline passed through the region to transport Kazakh oil, and a station of the same name was built near Atyrau. Being the second pump station on the route of the CPC



P.A. KRETOV AND D.M. AKHMETOV AT THE CONSTRUCTION SITE OF THE PROTECTIVE DAM

pipeline system, it can operate as the head PS, therefore, in addition to the main and booster pumps, it includes a tank farm and metering units for oil coming from suppliers.

Under the Debbottlenecking Program at the Atyrau PS, an additional fifth main pumping unit was installed, and work was carried out on the technical re-equipment of the lease automatic custody transfer.

“The new equipment has been in operation for over a year. It works without any complaints”, says Daniyar Akhmetov, Atyrau PS Manager.

The station replaced the road surface with SAS-14 (smooth airfield slab) concrete slabs. Experience from 20 years of asphalt operation has shown that it is more practical: when carrying out work on underground utilities, there is no need to cut the road surface. Among such recent works is the replacement of plastic pipes in the fire-fighting water supply system with metal ones.

The Atyrau PS is an autonomous facility, so it requires its own systems for cleaning domestic and industrial wastewater. This year, a new building for the drinking water treatment plant was built. The reason is the same – the old equipment had been in operation for more than 20 years, and problems began

with components – pumps, filter elements, which were no longer produced by manufacturers.

New facility was put into pilot operation on August 30, 2024. It consists of four tanks: two for the raw water taken from the main water pipeline, and the same number for purified and filtered water. The plant is equipped with several types of pumps and filters, as well as an ultraviolet lamp.

“The water is of high quality and tasty, just like at home, which is confirmed, in particular, by laboratory tests”, says Daniyar Akhmetov.

At the time of the visit of CPC Panorama reporters to the Atyrau PS, the installation of the third tank for diesel fuel with a capacity of 200 m3 is in progress. This capacity will give pipeliners the opportunity to bring previously built fuel storage facilities for diagnostics in conditions of reaching the pumping mode of 4 – 1.

DRA site has also undergone significant improvements this year. As in the PS area, the site is paved with SAS-14 concrete slabs. To avoid the consequences of heavy rainfall and floods, the site level has been raised, a new fence has been installed, which includes a reinforced concrete frame, and a ramp has been built for the entry of a truck crane and long trucks.



VIDEO VERSIONS  
ON RUTUBE





The 2020 CPC Panorama report about the National Geographic expedition in connection with the catastrophic state of the Ural River (Zhaiyk), which had practically dried up in Kazakhstan, is still fresh in our memory. And now in the spring of 2024, a new disaster, exactly the opposite, occurs — an abnormally high flood caused by the melting of an unusually large amount of snow in the mountains. A state of emergency has been declared in 34 settlements in eight regions of the republic. Old-timers say that the water has not risen so high since 1949.

“In the spring, due to abundant meltwater, the level of the Iriklienskoye reservoir in Russia rose high, which led to a dam break there, and the Ural River ended up in the corridor of this flow”, says Daniyar Akhmetov, Atyrau PS Manager. “Such serious floods last happened in the region thirty years ago, in 1994. The dams that were built during that period had already been partially dismantled, and the Akimat decided to build new ones, taking Atyrau into a protective ring”.

All enterprises based in the region joined the work. The regional Akim’s headquarters asked the Consortium team to provide assistance in repairing the existing six-kilometer earthen embankment near the Atyrau-Uralsk road and the Berike holiday village. Having promptly mobilized people and equipment, including dump trucks

#### HYDROCARBON DEFILE

Thanks to the hospitality of Elena Mukhaeva, Testing Laboratory Head at the Atyrau PS, we are given a rare opportunity to see separately the grades of oil that make up the CPC mixture at the initial stage.

“This flask with tea-colored liquid contains light oil from the Kashagan field, located on the Caspian shelf 40 km from the city of Atyrau”, says Elena Mukhaeva. “The second sample of oil coming from the West Kazakhstan region from the Karachaganak field. It is also light, dark chocolate in color, similar in quality to Kashagan, but has a little more sulfur in its composition”.

The third flask contains unique Mangyshlak oil, it has little sulfur, but a lot of paraffin, so it can only be pumped at temperatures above +40 °C, otherwise it solidifies. Such types of oil, practically odorless, can be found in various sanatoriums and health resorts — they are used there to treat skin and joints.

When testing oil samples coming from the fields (to compile a quality passport, without which it is impossible to carry out commercial activities), the staff of the testing laboratory of the Atyrau PS uses

such devices as analyzers of sulfur, organic chlorine, kinematic viscosity, saturated vapor pressure, pour point, gas chromatographs, a titrator for determining the mass fraction of water by the Karl Fischer method and other equipment necessary for quality control of commercial oil delivered to the CPC system. Samples are analyzed every shift with a frequency of every 4 hours. The Atyrau PS testing laboratory operates around the clock; a new building is planned for it in 2028.

#### THE STORM DID NOT PASS

We are standing three hundred meters from the PS, on the site of the second of the flood barriers erected by oil pipeline workers in the spring of 2024. During the peak flood period, the water of the Ural and its tributary, the Chernaya, was stopped a kilometer from here.



“The contractors servicing the CPC pipeline in Kazakhstan and Russia — KazTransOil and STARSTROY — worked shoulder to shoulder for a month without days off to build a protective dam”, says Daniyar Akhmetov. “A colossal amount of soil taken by excavators from a quarry allocated by the Akimat was brought to the flat, level terrain. In 1994, this area was flooded by the floods of that time, and we did everything to prevent this from happening again”.

Workers at the PS did not sit idly either: protective embankments were built around all critical sub-objects — the control room building, the radio shelter with communications equipment, the anti-friction additive injection site and other structures.



DAM EROSION BY FLOOD WATERS

and excavators, the personnel of CPC and its contractors began to create new protective structures 6.5 km long on the Ural River coastline and to strengthen the existing embankment using sand bags and geotextiles. CPC provided 300 thousand bags and 8,600 m<sup>2</sup> of geotextiles.

At the same time, in case of a breach of the first dam, a second one was being built next to the

### “THE LAST TIME SUCH SERIOUS FLOODS OCCURRED IN THE ATYRAU REGION WAS 30 YEARS AGO IN 1994”

Atyrau PS. Here, CPC took on a two-kilometer section adjacent to the city landfill. The Central Region units of CPC took part in these works, promptly transferred from Russia on the order of the company’s General Director Nikolay Gorban. On April 14, four wheeled excavators on auto trailers and two heavy-duty dump trucks crossed the state border and began work the next day.

“During the flood, the team of the Eastern Region of the CPC showed itself to be extremely responsible, one might say selflessly, promptly responding to any challenges that arose”, noted the General Director of the Consortium Nikolay Gorban in an interview with the TV channel RUSSIA 1. “I considered it necessary to come to the oil pipeline workers and thank them personally — for their activity, efficiency, dedication”. ●



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## AHEAD OF TIME

THE TRADITIONAL AUTUMN CPC SAFETY DAY WAS HELD IN ALMATY FOR THE FIRST TIME. THE CITY IS HOME TO THE HIGH-MOUNTAIN SKIING BASE OF CHIMBULAK, THE ASSY-TURGEN OBSERVATORY, AND THE FAMOUS MEDEU SPORTS COMPLEX. IT BECAME THE VENUE FOR THE INTERNATIONAL EVENT



The twelfth CPC Safety Day brought together about 600 guests representing 24 organizations. The competitive part was attended by 28 teams performing under the flags of the Consortium divisions, contractors and partner organizations from Russia and Kazakhstan. This year, an interesting feature of the Safety Day was the Media Team, assembled from leading journalists

the development trend and leading all those who care. Only together can we achieve our goals!", Nikolay Gorban, CPC General Director, encouraged the teams before the start.

As in previous years, the organizers did not change their principles: to hold each new Safety Day according to an original scenario and, among other things, to take into account the ethnicity and traditions of the new competition site.

THE TEAMS COMPETED IN EIGHT COMPETITION STAGES, CORRESPONDING TO THE GOALS OF THE CPC HSE STRATEGIC PLAN

of the Kazakhstani media, taking part in the start. And the guests included delegations from the Gubkin Russian State University of Oil and Gas (National Research University) and the Safi Utebayev Atyrau University of Oil and Gas.

"The motto of our event is "Ahead of Time". Today, all teams will show that they are ready to be leaders and not only keep up with the times, but also act ahead of the curve, setting

"Safety Day is traditionally dedicated to issues of labor protection, industrial safety and environmental protection", commented on the concept of SD XII/2024 CPC Technical Director – DBNP Manager Igor Lisin. "In Medeu, famous for its Olympic and world records, we integrated these most important issues in pipeline oil transportation with winter sports: curling, skiing, sledding, bobsleigh and even snowball fights".

VIDEO VERSION  
ON RUTUBE



The teams competed in eight competition stages, each of which corresponded to one of the goals of the CPC HSE Strategic Plan. Thus, the competition called "Be Healthy!" was tied to goal number one. The team members were required to have a good command of medical and emergency rescue terminology, accuracy, reaction speed and generally be in good physical shape to perform various exercises.

"The average physical level of the contestants was a pleasant surprise", shared his observations Alexander Avdokhin, Service Head, Social and Medical Support. "Before the competition, I was sure that the employees of the enterprises guarding the facilities would demonstrate a noticeable advantage, but in reality they faced quite serious competition".

The competition "Mountain Fast & Furious" was dedicated to the CPC Life Saving Rule No. 4 "Road safety" and compliance with traffic rules. Participants completed tasks aimed at testing technical skills, the ability to drive a vehicle, knowledge of traffic rules, ingenuity, creativity and teamwork.

At the first stage, participants assembled their unique cybertruck from improvised means and painted it in the colors of their organization. At the second stage of the competition,



the freshly assembled "bolides" drove out onto the Medeu stadium race track and participated in the relay race.

"When designing the vehicles, it was noticeable that representatives of transport companies were better versed in this matter than others", noted the organizer of the competition "Mountain Fast & Furious", Ilshat Ziganshin, Lead Project Engineer, CPC-R. "But the prize of audience sympathy for the best design in the standings among the CPC teams was confidently received by the DBNP team".

With the word "mountain" began the title of another contest dedicated to rapid response in case of emergency situation.

"The "Mountain Patrol" competition consisted of two parts", explained Igor Antonovich, Lead Servicing Specialist, CPC-R. "The first was devoted to theoretical knowledge that would be useful to everyone when hiking in the mountains. The second part required participants to be agile in delivering a victim to a safe place on a sled".

The "Energy of Victory" competition was dedicated to the strategic goal of improving the management system of contractors in the field of HSE. In form, this type of competition

resembled biathlon, in which teams of opponents moved between the "firing lines" on improvised sleds and skis. And in content – testing in such competencies as testing workers before admission to CPC facilities, pre-qualification testing, pre-mobilization audit, mobilization to the facility, organizing the safe conduct of work using team skills.

"The cross-country skiing and sledding biathlon demonstrated a sports-oriented approach to jointly solving the tasks set", emphasized Alexander Zhdanov, HSE Lead Engineer, CPC-R. "Only through joint efforts with contractors is it possible to achieve success in managing processes in the field of labor protection, industrial safety and environmental protection".

The second part of this competition was supervised by Konstantin Zakharov, HSE Lead Engineer, CPC-R. Here, team members recalled key stages of project implementation at CPC facilities – from the conclusion of a contract to the successful completion of work and closure of contractual obligations.

"Success depended on the speed of decision-making, the choice of the right strategy for passing the playing field and the direct assistance of team members, who acted as contractors,

BK\_graphic/Shutterstock/FOTODOOM



to their captain, who acted as the customer", said Konstantin Zakharov.

"On the way to the venue of the competition stage called "Butterfly Effect", CPC Panorama reporters met Valery Yashin. Leader of Internal Audit, Controls and Compliance Team expressed hope that someday the team of the Moscow office of the Consortium will also make its debut at the Safety Day.

"All the teams are working superbly, especially the organizers: they created a real festive atmosphere for us", added Valery Yashin.

The "Butterfly Effect" competition was aimed at identifying and assessing risks, preventing accidents at work and at home. Both at work and at home,



people are exposed to a considerable number of risks, the only difference is that at work a special set of tools and control measures is used without alternative, while at home it is only our own choice. The competition was held in the form of a logical-interactive game using the "bow tie" diagram

"In addition to the will to win, our competition required agility, reaction, logical thinking, erudition. And of course, knowledge of HSE and risk management", noted Oksana Goncharova, Lead Coordinator of Risks, Management Reporting and Project Control Group.

Among the CPC divisions, the Marine Terminal team took first place in the overall team standings. The Eastern Region team took second place, and the Central Region of CPC team won bronze.

The winner among contractors was declared the team of UTP LLC. The team of STDI Caspiymunaygas JSC took second place. Third place was shared by the teams of ZamanKvantor LLP, BIN Building Company LLC and Prom Expert LLC.

The event was held in the Republic of Kazakhstan for the second time. In 2022, it was held in the "oil capital" – the city of Atyrau. And the next CPC Safety Day is planned for 2025 in the capital of the Republic of Kalmykia, Elista.



# SCHEDULED CPC DRILLS IN 2024

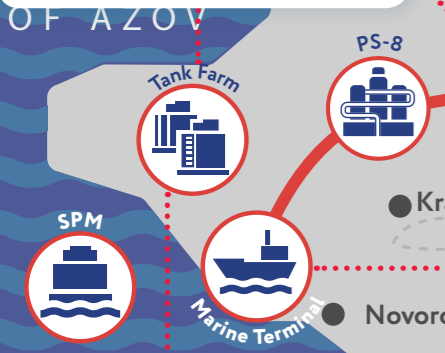


## April 16. PS-7

- Damage to a pipeline at the mainline pump site with a spill over an area of 750 m<sup>2</sup> and fire.
- PS VFB (CPC-R), Kuban Fire Protection LLC, EMERCOM Fire Service, Management of Fire Safety, Emergencies and Civil Defense (Krasnodar Krai division).
- Stop pumping, notification, evacuation. Deployment of mobile fire-fighting equipment. Extinguishing with Purga-30 and GPS-600 nozzles. Localization and elimination of fire.

## May 17. Marine Terminal (TF)

- Fires at the SVFRT-100000 site in the Tank Farm and at the LACT site at the Shore Facilities.
- Kuban Fire Protection LLC, Emergency Rescue and Ecological Operations Team (Novorossiysk division), MT VFB (CPC-R).
- Alert, evacuation, extinguishing by forces of constant readiness. Deployment and demonstration of oil spill containment and response equipment operation.



## July 27. Marine Terminal (TF)

- Destruction of SVFRT-100000. During liquidation – rupture of pipeline with oil release into water body.
- Emergency Rescue and Ecological Operations Team (Novorossiysk division), MT VFB (CPC-R), Kuban Fire Protection LLC.
- Notification, evacuation. Fire extinguishing, assistance to victims, soil and air sampling, waste removal and disposal.

## October 22. Marine Terminal

- Fire at the LACT-580 site of the Shore Facilities.
- Kuban Fire Protection LLC, 2nd EMERCOM Fire Service (Krasnodar Krai), MT VFB (CPC-R).
- Fire extinguishing with 1 CROSSFIRE-RU nozzle and 2 LS-S40 nozzles. Cooling with 1 LS-P40 nozzle and 3 "B" nozzles.

## June 13. PS-5

- Damage to a pipeline at the mud filters site, spill over an area of 750 m<sup>2</sup>, fire.
- PS VFB (CPC-R), Firefighting Service LLC, Medis LLC, EMERCOM Fire Service (Stavropol Krai), Fire Protection and Emergency Rescue Service of Stavropol Krai.
- Stopping pumping, notification, evacuation. Fire extinguishing with Purga-30 and GPS-600 nozzles. Localization and elimination of fire.

## June 5. Underwater crossing of the Chelbas River (1216 km)

- Hydraulic shock, pipeline rupture, 9913 tons of oil leaked into the river.
- Emergency Rescue and Ecological Operations Team, Nachin LLC, Kuban fire protection LLC, Medis LLC, Agrochemical Service "Krasnodar", KubanEKoproekt LLC.
- Stop pumping, notification. Localization and liquidation of the spill using booms and temporary storage tanks. Cleaning of the shore, transportation of oil to the receiving station of the PS.

## June 5. Kropotkinskaya PS

- Oil leak from SVFRT-50000, spill over an area of 17,662.5 m<sup>2</sup> without entering water bodies.
- Emergency Rescue and Ecological Operations Team, Nachin LLC, Kuban fire protection LLC, Medis LLC, Agrochemical Service "Krasnodar", KubanEKoproekt LLC.
- Stopping pumping, notification, evacuation. Installation of retaining walls and pumping oil from the pit, collection and removal of oil-contaminated soil.

## September 4. Kropotkinskaya PS

- Oil fire in SVFRT-20000 over the entire surface area of the tank (1256 m<sup>2</sup>). Failure of the automatic irrigation system.
- PS VFB (CPC-R), Kuban Fire Protection LLC, EMERCOM Fire Service, Medis LLC.
- Notification, evacuation. Shutting off pipeline valves. Fire extinguishing (MINOTOR 4000-R nozzle), cooling tanks (LS-P40U). Localization and elimination of fire.

## July 9. 961st km of pipeline

- Hydraulic shock, pipeline rupture, release of 13,544.5 tons of oil.
- Emergency Rescue and Ecological Operations Team, Nachin LLC, Firefighting Service LLC, EMERCOM Fire Service, Medis LLC, Agrochemical Service "Krasnodar", KubanEKoproekt LLC, EKO+ LLC.
- Stopping pumping, notification. Localization of the spill with the installation of retaining walls, dams, collection of oil and pumping into the pipeline, collection and removal of contaminated soil.

## July 11. Underwater crossing of the Tashla River (1124th km)

- Hydraulic shock, pipeline rupture, oil spill (6898.5 tons) into the Tashla River.
- Emergency Rescue and Ecological Operations Team, Nachin LLC, Firefighting Service LLC, Medis LLC, Agrochemical Service "Krasnodar", KubanEKoproekt LLC.
- Stop pumping, notification. Localization and liquidation of the spill using booms and temporary storage tanks. Cleaning of the shore, transportation of oil to the receiving station of the PS.

## March 26. PS-4

- Damage to pipeline at mud strainers site, oil leak, spill over 744 m<sup>2</sup>, fire.
- PS VFB (CPC-R), Firefighting Service LLC, Medis LLC, EMERCOM Fire Service (Stavropol Krai), Fire Protection and Emergency Rescue Service of Stavropol Krai.
- Suspension of work, notification, evacuation. Extinguishing with mobile fire-fighting equipment (Purga-30 and GPS-600 nozzles). Localization and elimination of fire.

## April 11. Astrakhanskaya PS

- Fire in fuel pump with fire spreading to boiler building. Risk of fire in diesel fuel tanks.
- Zashchita LLC, PS VFB (CPC-R).
- Work stoppage, notification, evacuation. Extinguishing with GPS-600 nozzle, cooling with COMPACTOR-2000 nozzle. Localization and liquidation of fire.

## May 31. PS-2

- Depressurization of unit "B" in the mainline pump, explosion of vapor-air mixture, fire.
- Krioservis LLC, PS VFB (CPC-R).
- Work stoppage, notification, evacuation. Extinguishing in the machine room of the MP with fire-fighting equipment with connection to dry pipes B-10-1 and B-10-2. Cooling of the structures by firefighting nozzles. Localization and liquidation of the fire.

## April 24. 896th km of pipeline

- Oil spill on a pipeline, spill over an area of 64,209 m<sup>2</sup>, without entering water bodies.
- Emergency Rescue and Ecological Operations Team, Krioservis LLC, STARSTROY LLC, CPC-R forces and means.
- Notification, emergency mode. Fire extinguishing, assistance to victims, soil sampling, air measurement, waste removal and disposal.

## August 29. 546th km of pipeline, Akhtuba River

- Oil spill at the underwater crossing of the Akhtuba River.
- Emergency Rescue and Ecological Operations Team, Zashita LLC, STARSTROY LLC, CPC-R forces and means.
- Fire extinguishing, assistance to victims. Soil sampling, air measurement, waste removal and disposal.

## June 27. Komsomolskaya PS

- Fire in the SVFRT-4800 tank.
- Krioservis LLC, PS VFB (CPC-R), LUKOIL-Nizhnevoldzhskneft-Kalmykia LLC.
- Work stoppage, notification, evacuation. Extinguishing with fire-fighting equipment connected to FFB 4 foam generators, the irrigation system of the adjacent tank is activated. Localization and liquidation of the fire.



## June 26. Kurmangazy PS

- Oil spill in the main pumping station with subsequent ignition.
- PS VFB (CPC-K), FIRE SAFETY LLP (dept.9), Department of Emergency Situations of Atyrau Region (dept.9).
- Stop pumping. Notification, evacuation. Fire extinguishing from mobile fire-fighting equipment using GAE-400 foam generators. Cooling of structures and protection of personnel (LS-P20U, "A" and "B" nozzles).

## July 26. Isatay PS

- Oil spill in a main pumping station on an area of 1110 m<sup>2</sup> with ignition.
- PS VFB (CPC-K), FIRE SAFETY LLP (dept.8), Department of Emergency Situations (dept. 6, Atyrau region).
- Stop pumping, evacuation. Fire extinguishing with mobile fire fighting equipment using GAE-400 foam generators. Cooling of structures and protection of personnel with LS-P20U, "A" and "B" nozzles.

## September 27. Tengiz PS

- Oil leak in the SVRFT-20000 square through flanged connections of pipelines, spill over an area of 1600 m<sup>2</sup> with subsequent ignition.
- PS VFB (CPC-K), FIRE SAFETY LLP (dept.7), TCO LLP Fire and Emergency Service.
- Stop pumping, notification, evacuation. Fire extinguishing (Kompaktor-2000, Purga-10, PLS-20, 30 and 50 nozzles), cooling tanks with a spray system, personnel protection ("B" nozzles).

## September 26. 32nd km of pipeline

- Oil leak, spill over an area of 50 m<sup>2</sup>, fire of excavator and oiled ground.
- Tengiz ERP of KazTransOil JSC, TCO LLP Fire and Emergency Service.
- Stopping the pipeline, isolating the section with ball valves. Spill elimination using booms, earthen embankments, tanks and reservoirs.

**LEGEND**

- LEGEND
- PARTICIPANTS
- ACTIONS

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# NO WORRIES AND NO GLITCHES

IN THE FALL OF 2024, PRACTICAL EXERCISES OF THE TELECOMMUNICATIONS GROUPS OF CPC-R AND CPC-K WERE HELD IN STAVROPOL KRAI TO RESTORE THE MAIN CABLE OF THE FIBER-OPTIC COMMUNICATION LINE (FOCL)

advantages and disadvantages”, says CPC Communication Systems Service Head Alexander Svetlenko. “For example, it is less susceptible to corrosion and does not attract lightning. But it can only be found in the ground using special equipment using electronic markers”.

Schematically, this search looks like this: representatives of the telecommunications group determine two adjacent markers – the cable should be located in a straight line between them.

The legend of the exercises is always prepared so that the participants work through the most difficult tasks that they can face in reality. For example, a complete absence of mobile and radio communications at the site of emergency work. In addition, as a rule, the exercises are organized near the underwater crossing of the main communication cable, where the latter is laid in a protective steel sleeve. There are usually conditions there that complicate the work of the communications

The main fiber-optic cable is deployed along the entire length of the Caspian Pipeline Consortium pipeline, from Tengiz to the Marine Terminal. It

consists of 36 fibers, which are located inside a protective tubular casing made of high-density polyethylene. “Our cable is completely dielectric, which entails both

specialists: a specific slope of the coastline, as well as fortifications made of concrete slabs.

The communication group exercises on the restoration of FOCL are held annually. This year’s training involved communication engineers from the Western, Central and Eastern regions, as well as the Caspian Pipeline Consortium Marine Terminal. Drills involved two equipped mobile optical cable measurement laboratories, welding machines for optical





fiber, satellite communications equipment and other equipment.

This year, according to the exercise legend, the 1094th km of the pipeline near the intersection with a dirt road was chosen as the “damage site” of the main fiber-optic communication line cable. According to the scenario, the security service officers and technical specialists of the CPC who arrived at the scene found out that the cause of the simulated accident was unauthorized excavation work by a third-party organization on the road surface using an excavator in the security zone of the main fiber-optic communication line at the intersection with a dirt road.

The control and communication systems of the CPC pipeline system were automatically transferred to a backup satellite communication channel, and the specialists reported the start of training emergency recovery operations on the FOCL to the PS-5 shift supervisor, located in the Izobilnensky district of Stavropol Krai. Using the satellite complex, engineers checked and configured voice communication with the Operation Control Center (OCC, Marine Terminal) and the Moscow office, and also ensured the ability to send mail messages.

“After a communication failure, at the first stage, specialists find out between which pump stations the breakdown occurred”, comments on the course of the exercises Alexander Svetlenko, Communication Systems Service Head. “Then engineers determine a specific location using reflectometric equipment. An optical cable measurement laboratory (OCML) arrives at the scene of the incident – there are two of them in each region of the CPC. The OCML trucks are equipped with everything necessary for comfortable emergency recovery operations: consumables and components, fasteners, workstations, storage systems, sockets for connecting and charging power tools.

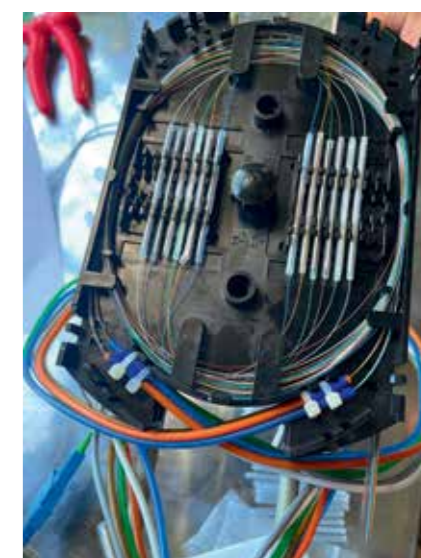


The participants in the exercise practiced actions to eliminate damage by installing a permanent cable insert. The accident site was opened in parallel by two teams of engineers. The welding of all 36 fibers of the insert is carried out according to the same scheme. Engineers from the two teams call each other on a special optical telephone (in principle it is the same as the usual telephone “handset” connected directly to the cable) and determine the sequence of connecting the fibers. This work always begins with restoring

defects are immediately checked using the reflectometry method.

Thanks to such regularly conducted exercises, all engineers in the CPC Communications Systems Service acquire the necessary experience in repairing FOCL in the field. At the end of the training, a detailed debriefing is conducted.

“Only training allows us to cover all possible complexities”, explains Alexander Svetlenko. “No courses with the most professional teachers will teach you how to quickly and correctly weld our fiber-optic cable, open a protective plastic pipe, and



### REGULAR TRAINING ALLOWS ALL ENGINEERS IN THE CPC COMMUNICATION SYSTEMS SERVICE TO GAIN THE NECESSARY EXPERIENCE

critical services. First of all, the fibers that ensure the operation of the data transmission network for the SCADA dispatch control and management system and telephony are repaired so that the dispatcher can return to the normal control mode of the CPC pipeline. The quality of the welding and the absence of seam

so on. All organizational issues are also worked out down to the smallest detail: travel certificates are issued together with the HR Department, and transport services prepare vehicles. And, of course, we all gain confidence that in the event of an accident, recovery work will be coordinated, prompt, without worries or failures.

It is worth adding that the Communication Systems Service ensures the uninterrupted operation of various CPC services – cable communication infrastructure, technological data transmission networks for dispatch control and management systems (SCADA) and security, technological telephone and radio communication systems, and others. Over 5 million telephone calls, over 2 million radio calls pass through the CPC fiber-optic communication lines per year, and the volume of information transmitted over the SCADA network alone is over 14 terabytes per week. ●

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## JOINT FORCES

TO IMPROVE THEIR QUALIFICATION, CPC DISPATCHERS ARE TRAINED ON SPECIAL SIMULATORS AT GUBKIN UNIVERSITY. VITALY SHVECHKOV, SOFTWARE ENGINEER, ASSOCIATE PROFESSOR OF THE DEPARTMENT OF DESIGN AND OPERATION OF GAS AND OIL PIPELINES, CANDIDATE OF ENGINEERING SCIENCES, TOLD CPC PANORAMA WHAT THESE SIMULATORS ARE AND WHAT THEIR FUTURE IS IN LEVEL OF THE INTRODUCTION OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES

**V**italy Aleksandrovich, your research activities and work at the departments of Automated Control Systems and Design and Operation of Gas and Oil Pipelines will probably

serve as the most convincing confirmation of the fact that information technologies are playing an increasingly important role in the pipeline transportation of hydrocarbons every day. Please

assess the contribution of Gubkin University to the development of the industry's scientific school, IT and the fuel and energy complex as a whole. Schlumberger, for example, admits that if Gubkin

Центр производств  
диспетчерского управл  
мами и газовых



**University had not developed the theory of hydraulic fracturing in the 1940s, the global fuel and energy complex would have looked much more modest...**

As a university employee, I believe that our scientists and teachers make a great contribution to the development of the oil and gas sector. This is evidenced, in particular, by the high demand for our graduates in specialized companies. Not being a specialist in the field of hydraulic fracturing, I can nevertheless confirm the significant contribution of our scientific school to the development of pipeline transport. University scientists actively cooperate with Gazprom and Transneft. Our laboratory has been fruitfully interacting with pipeliners for more than 10 years. Together with Transneft Research Institute, a computer simulator for territorial dispatch centers was created; on the basis of this software, training and advanced training of dispatch personnel is carried out.

But in general, if we look back at the world experience of cooperation between industry and science, we still have a huge space for development ahead. There are many interesting topics for domestic production, Gubkin University has many departments and scientific areas. If we talk about my specialization, it is applicable to the development of software for computer systems,



“IT IS TOO EARLY TO USE ARTIFICIAL INTELLIGENCE TO MANAGE OIL AND GAS TRANSPORTATION FACILITIES”

mathematical modeling in the field of pipeline transportation of oil and gas.

**As a creator of simulators, please tell us about these devices. How do simulators for pipeliners differ from those that, for example, train pilots?**

Simulators for pilots and pipeliners differ significantly, because the former focus on three-dimensional

reality technologies, on immersion in volumetric space, while pipeline transport has other tasks, they should be divided into two parts. On the one hand, to train operational personnel for site facilities – PS, tank farms, terminals – 3D objects are created that are close to real ones, in particular, this is done by a division of our university – Gubkin Digital. The second component is dispatch control processes, where SCADA system screen forms are used as operator work tools. We are engaged in this part, in which we completely simulate basic thermal hydraulic processes, and the dispatcher interacts with monitors familiar to him, works with a mnemonic diagram of screens and forms.

**Please tell us as a programmer: what software and what programming language are used in developing your simulators? What is the**



**composition of your team? And earlier you mentioned cooperation with Transneft PJSC – is the simulator for dispatchers of this company similar to the simulator used by CPC dispatchers?**

The compared simulators are two different products. The development for Transneft fully takes into account the specifics of technological processes and production facilities of oil pipeline transport. The scientific potential of Gubkin University in the field of mathematical modeling and description of physical processes made it possible to create a model for training Transneft dispatchers that is as close as possible to their real activities. The software package is based on the C++ and C# programming languages and is designed for the Windows operating system. We are already abandoning the latter in favor of programs included in the register of Russian software and free software elements. Now, as you know, Russian companies related to critical infrastructure must complete the transition to Russian software by 2025, and, naturally, this concerns the SCADA system and, in turn, our simulators. That is, we are also monitoring all the changes that are currently taking place in pipeline system control systems. Transneft announced the creation of its own SCADA system



called "Evolution. SCADA" by 2027. After this, we will create a simulator that completely reproduces the same mnemonic diagram.

The core team that develops, develops and supports the software product numbers at least 20 people. At its peak, when the software was being implemented in Transneft subsidiaries, the number of employees reached 60. When changes are made to the linear part and screen forms of the current SCADA system, we promptly transfer them to the simulator for a specific territorial dispatch point.

The experience of using SCADA in CPC is somewhat different from Transneft. The SCADA OASyS system used in the Consortium is

a product of several domestic and foreign companies. CPC dispatchers improve their skills in our Center for Innovative Competences on another simulator. This is a hydraulic simulator that allows you to refresh your knowledge in the field of non-stationary transient processes, work out emergency situations, and transitions to various process modes.

**What does your trainer consist of? It's not just a flash drive that can be inserted into any computer, is it?**

No, it is a complex software and hardware complex that includes server equipment and trainee workstations. They are connected by their own local area network. In 2020, to make it as close to reality as possible, we equipped it with a speech interface. Through the intercom, you can simulate sending a voice command from the dispatcher of the territorial point to the operator of the facility: for example, report on the status of non-telemechanized valve or perform an operation with equipment on site – stop, switch. Due to the presence of artificial intelligence elements in the simulator, the computer recognizes this speech.

By the way, we are now starting such a scientific development as

the creation of a virtual assistant. It will in some way imitate the communication between the operator and the dispatcher, meaningfully maintaining the dialogue. But so far our experiments show that expectations from this technology are somewhat overstated. Remember – even "Alice" has difficulty maintaining a dialogue, she has no concept of memory, she can immediately forget even the previous phrase. Therefore, it is still too early to let artificial intelligence unlimitedly into such areas as the management of dangerous technological facilities of oil and gas transportation.

**So, the situation where neural networks will replace a person as a dispatcher is not yet in sight?**

It is not in sight. Our research shows that artificial intelligence can make reasonable decisions on two or three indicators, and even then they can only concern individual sections of the oil pipeline, not to mention the scale of central control points. Neither the necessary computing tools nor mathematical algorithms exist yet. This is a very complex task related to discrete programming, with the transportation of oil batches of different quality.

But let's imagine that the necessary computing tools and adequate algorithms have appeared. Who will be responsible for unsuccessful

decisions made without human participation? In addition, you and I know of cases when artificial intelligence systems come up with something that does not exist or initially receive unreliable knowledge during their training. Therefore, I think that even at a fundamentally new level of artificial intelligence technologies, the dispatcher will remain in his place, but perhaps his role will change.

Approximately the same thing happened decades ago with manual laborers on an automated conveyor: they were not completely excluded from the production circuit, their function changed – they became robot operators. I think that in the future, neural networks in the work of a dispatcher will be able to be used as tools – expert advisory systems used to increase the reliability of decisions made by a person. They will analyze the performance indicators of technological objects and suggest solutions.

**Is the training function of neural networks available in the future? How practical is it to use them in the processes of training and coaching pipeliners? Or is artificial intelligence still a "calculator" and will not be able to teach anything, since it is constantly learning itself?**

Computers have long been beating humans in intellectual sports – chess, go, and the like.

Therefore, if we consider a computer simulator as a kind of imitation environment, it could act as a teacher... for artificial

intelligence. A good hydraulic model is quite capable of fulfilling this role. After all, for the successful operation of artificial intelligence, what is missing is, first of all, a large amount of reliable data accumulated that covers the entire subject area. And it should cover all types of abnormal situations, types of switching, and so on. And such a simulator could potentially play an infinite number of games with artificial intelligence and form algorithms for automatic or automated control. Gaining experience in the simulator, the neural network will receive fines for incorrect actions – for triggering protection, for exceeding pressure, or switching an oil pipeline to an unacceptable operating mode.

**In modern conditions, can we make a high-quality, reliable domestic SCADA system? What is happening now in the area of its import substitution?**

There are already many SCADA system manufacturers in Russia that have been working professionally for decades and are serious competitors to foreign companies. In the current conditions of restrictions on the global market, many countries, not just ours, are faced with the task of creating their own solutions for critical infrastructure facilities. In Russia, all major companies are engaged in this task, but, in my opinion, the leaders of domestic business should trust each other more and join efforts, rather than dilute resources to create sometimes similar functionality. Our enterprises have accumulated decades of practical experience in the field of operation of control and management systems – this is invaluable experience. An example of its exchange can be the Rosatom corporation, which successfully converts its developments into other industries, and Rosneft, which released 14 of its own software products to the market at once.



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PAVEL KRETOV

## TASKS FOR THE YEARS AHEAD

IN MAY 2024, NAIL MARATOVICH AZHGILDIEV, LEAD HSE ENGINEER OF CPC CENTRAL REGION, CELEBRATED HIS ANNIVERSARY. THE EDITORIAL STAFF OF THE CORPORATE MAGAZINE JOINS IN CONGRATULATIONS



this is evident in the annual CPC Safety Days organized for all project participants and employees involved in day-to-day operations.

The construction of A-PS-4A, which was carried out by Velesstroy LLC, coincided with the fifth Safety Day held in Astrakhan. Nail remembers how the participants returned to the site with a new positive attitude and became more open in matters of labor protection. Largely due to such a built dialogue, no serious incidents were recorded at all the stations where Nail Azhgildiev supervised the work.

After the construction and commissioning of the facilities, Nail Azhgildiev participated

organization of labor protection, industrial and fire safety, environmental protection in the Consortium, strict control at all stages of work", recalls Nail Maratovich. "And one more advantageous difference: in CPC there is no distinction in the issues of protection between staff members and representatives of contracting organizations. In particular,

**N**ail Maratovich is not the first oilman in the family. His maternal grandfather comes from Almetyevsk, near which one of the largest in the Russian Federation, the Romashkinskoye field, is located. The hero of the day has two higher educations: he graduated from Astrakhan State University with a degree in mechanical engineering and also studied at the North Caucasus Federal University in Stavropol, where Nail Maratovich became a specialist in the field of operation of main oil and gas pipelines.

In 2013, with experience in managing the Astrakhan branch of the Center for Emergency Rescue and Environmental Operations, Nail Maratovich joined CPC. He started as an HSE engineer at the construction sites of the Expansion Project, supervised high-risk work at the Komsomolskaya PS, PS-3, A-PS-5A, A-PS-4A, PS-2.

"Almost immediately, I appreciated the high level of



NAIL AZHGILDIEV IS THE LEADER OF THE SAFE WORK CULTURE AND ALWAYS TAKES AN ACTIVE LIFE POSITION

in the development of HSE regulatory documents for them. The interaction of specialists from the Operations Department of the Moscow office and the Central Region in Astrakhan made it possible to effectively complete this task and receive a positive assessment from supervisory authorities.

For some time, Nail Maratovich held the position of deputy head of PS-3, and then he was offered to become a Lead HSE Engineer of the Central Region in Astrakhan. Today, his most important task is the progressive promotion of the zero-injury strategy, the development of a Safe Work Culture.

"We actively involve our employees and representatives of contractors in the corporate SWC program, which allows us to promptly receive additional information that helps improve the level of safety at our facilities", says Nail Azhgildiev.

Today, the Central Region is one of the leaders of the CPC in terms of the number of completed observation cards and checklists. This allows to ensure constant multi-level production control: we receive objective information from both ordinary employees and managers.

"If we look back just two years, we can see how far the Company has come in terms of developing a Safe Work Culture", notes Nail Azhgildiev "Thanks to the active participation of the company's management, we have high involvement of both our employees and the personnel of contractors with whom CPC has been interacting for a long time. We are also successfully establishing interaction with new contractors, consulting, explaining that our requirements primarily concern ensuring the safety of all employees and are fully compliant with the legislation of the Russian Federation".

All of CPC HSE specialists are in constant communication with each other, not only in their region, but also in other departments. Sergey Polovkov, Deputy HSE General Manager for the Russian Federation has managed to organize the work of the service in such a way that our





specialists are able to quickly solve various problems in the field of safety.

“The strategic tasks of the service are scheduled for several years ahead”, emphasizes Nail Azhgildiev. “The main tasks include zero injuries, environmental protection and equipment integrity, as well as maintaining a high level of control over high-risk work. Together with the social and medical support service, we are strengthening explanatory work on disease prevention and maintaining the health of personnel”.

Nail Maratovich is a happy father of three daughters. Together with his wife Svetlana,



Nail is proud of their children's achievements. The eldest, Alina, is already getting a

higher education in Kazan, the middle daughter, a high school student Marina, recently won the All-Russian competition of projects. The youngest daughter, Liya, is only four years old, but she has already won her first awards for participating in sports competitions. Colleagues unanimously note Nail Azhgildiev's active life position – both at work, and as a leader of the Safe Work Culture, and in moments of rest. Where he is, things always go well, and people's faces brighten up. What is the jubilee's hobby?

“I love baking bread according to my own recipe”, admits Nail Maratovich. “And I also dream of improving my skills in carpentry”.



CPC PRESS SERVICE

## BENEFITS OF INTEGRATION

AS PART OF THE PROJECT “PROTECT NATURE OF OUR NATIVE LAND”, CPC SUPPORTED THE VII OPEN CHILDREN'S ECOLOGICAL FESTIVAL IN KUBAN

Almost a month and a half of exciting excursions, interesting meetings and creative competitions on environmental topics. In the Krasnodar Krai, the children's eco-festival is held on the initiative of the regional branch of the Russian Geographical Society. The co-founders of the festival are the Legislative Assembly and the Public Chamber of the Krasnodar Krai, the administration of the Novorossiysk Municipality, the Administration of the Black Sea Seaports, the Department of Specially Protected Natural Areas of the Krasnodar Krai.

This year, the VII Regional Open Children's Ecological Festival was held from September 20 to November 1 in the hero city of Novorossiysk and in the All-Russian Children's Center “Orlyonok” near Tuapse. As part of the environmental education project “Protect Nature of Our Native Land”, the festival was supported by the Caspian Pipeline Consortium.

“The regional children's eco-festival has been held since 2017, and every year new events appear in its program”, noted the chairperson of the Novorossiysk branch of the Russian Geographical Society, candidate of geographical sciences Elena Kambarova. “This year, for example, the children were taken on an excursion to the Utrish Nature Reserve, for which we are very grateful to CPC and the administration of the reserve”.

The excursion in question was held on October 8, 2024, and consisted of two parts. First, about three dozen

children from the “Fundamentals of TV Journalism” studio, the “Speaker” media workshop, the Sipyagin Palace of Children and Youth Creativity, and the “Tortila” children's film laboratory visited the Private Non-Commercial Center for Temporary Maintenance and Rehabilitation of Mediterranean Turtles of the Gurashkin Family, located in the village of Supsekh (Municipality of Anapa). Here, Nikolsky's turtles, injured in road accidents or illegal capture in their natural habitat, are restored to health. Then, the young excursionists, accompanied by adults, were taken to the Utrish Nature Reserve, where they took two eco-routes, learning a lot of new and interesting things.

On October 12, a master class on the study of minerals and rocks was organized for Novorossiysk schoolchildren, which was conducted by Professor Vladimir Dyachenko, PhD, Head of the Commission for Geochemistry of Landscapes and

Technosphere Safety of the Krasnodar Regional Branch of the Russian Geographical Society. The next day, the children visited the Novorossiysk Educational and Research Marine Biological Center of the Federal State Budgetary Educational Institution of Higher Education “Kuban State University”, where they learned how to chemically analyze sea water for pollutants. On October 19 – they visited the unique Tsemesskaya grove. And these were far from all the events of the festival.

“The VII Regional Children's Ecological Festival became a bright event that united children, parents and experts in the field of ecology and nature”, says Anna Karpacheva, member of the festival's Coordinating Committee. “Participants had the opportunity to “dive” into fascinating master classes: in geology – studying various types of minerals, in hydrology – conducting laboratory research on water, in geography – collecting spill maps. Excursions to objects, specially protected natural areas of Novorossiysk, allowed young researchers to see the beauty of their native land and understand the importance of its preservation. Competitions held as part of the festival inspired children to creatively interpret the knowledge and skills they had acquired. We are confident that such popular science events not only contribute to education, but can also have a significant impact on the choice of a future profession.”

AUTHOR  
GULNAR MALGAZH DAR

# PERSONAL CONTRIBUTION TO DEVELOPMENT

IN THE FALL OF 2024, THE REPUBLIC OF KAZAKHSTAN CELEBRATED THE 125TH ANNIVERSARY OF THE NATIONAL OIL AND GAS INDUSTRY. IN HONOR OF THIS HOLIDAY, CPC-K EMPLOYEES RECEIVED STATE AND DEPARTMENTAL AWARDS

**N**ovember 15, 1899 is considered the main industry “starting point”. On this day, an oil fountain gushed from a 40-meter well at the Karashungul field in the Atyrau region. This was

preceded by decades of research and years of geological exploration. Oil production in the Caspian basin reached industrial volumes in 1911, and in terms of quality characteristics, this oil was superior to Baku oil.

In 1932, Emba oil workers mastered super-deep drilling for the first time not only in the USSR but also in Europe. During

the Great Patriotic War, the quality of Kazakhstani oil allowed it to be poured into tanks instead of diesel fuel without distillation. By the end of the 1940s, oil production in Kazakhstan reached 1 million tons per year.

In 1979, the Tengiz and Karachaganak fields were discovered. In 2000, the Kashagan offshore field was discovered. The exploitation of these three major fields formed a new stage in the development of the industry, creating a powerful export potential. The CPC oil pipeline, which was put into operation in

2000, has consistently increased its throughput capacity and today serves as the main route for exporting Kazakhstan’s oil to world markets. But national oil and gas is not only production and transportation, it is also processing and fuel energy, using advanced technologies, professionalism and experience of many specialists.

about 250 thousand people work in this sector. The industry itself is keeping up with the times. Innovative technologies are being introduced into production, new environmental safety standards have been approved. In addition to the extraction of raw materials, their processing has also been established in Kazakhstan.

“THE OIL AND GAS INDUSTRY IS THE BACKBONE OF KAZAKHSTAN’S ECONOMY, AND THE CPC PIPELINE IS ITS LIFEBLOOD AND MAIN EXPORT ROUTE”

The ceremonial events dedicated to the 125th anniversary of the national oil and gas industry began with congratulations to veterans and current specialists by the President of the Republic of Kazakhstan Kassym-Jomart Tokayev on August 29, 2024. The awardees included employees of CPC-K JSC.

“Entire labor dynasties have already been formed, and black gold production has become a priority industry in several regions of our country”, noted the President of the Republic of Kazakhstan Kassym-Jomart Tokayev. “This became possible thanks to the persistent and dedicated work of oil workers. Today,

We produce most types of fuel and oil products. Undoubtedly, a great merit in this belongs to the national company KazMunayGas. Kazakhstan has become one of the countries playing a key role in the global oil market. We have world-famous brands, the country’s energy security has been strengthened”.

On this day Tengiz PS Manager Makhmut Muratov received the Order of “Yenbek Danky” (Labor Glory) from the President of the Republic. Makhmut Mukhtarovich has been working in the oil and gas industry for more than 25 years, and has been working at CPC since 2011. He started as Tengiz PS Deputy Manager. He headed





M. M. MURATOV AND PRESIDENT OF THE REPUBLIC OF KAZAKHSTAN K. K. TOKAYEV

the station due to high production indicators.

“Innovations and advanced technologies at one time brought the CPC pipeline to the ranks of the most efficient pipelines in the world”, believes Makhsut Muratov. “Time does not stand still, but constant improvement, introduction of new technologies, solutions, innovations, equipment allows us to stay on top in a world of high competition”.

Lead Engineer for turbines operation and repair at the Atyrau PS, Aleksandr Eryomin, was awarded the medal “Eren enbegi ushin” (For Labor Distinction). Aleksandr Vladimirovich has been working in the oil and gas industry for more than 36 years, and has been working at CPC for 20 years. A mechanical engineer by education, he has many years of experience working in the turbine shop of the then Guryevskaya TPP, then at the Atyrau Oil Refinery. He considers Viktor Aleksandrovich Sutyagin, who worked as the manager for operation and maintenance of the Eastern Region of CPC, to be the standard of professionalism and his mentor.

Deputy General Director of CPC-K for Republic of Kazakhstan Government Relations Kaigeldy

Kabyldin congratulated his colleagues on their high state awards.

“These awards are a worthy recognition of your merits, conscientious work and personal contribution to the development of the industry”, noted Kaigeldy Maksutovich. “The oil and gas industry is the backbone of Kazakhstan’s economy, the CPC pipeline is its most important blood vessel and main export route. This is, first of all, your merit. You work at the stations, on the linear part, you ensure the continuous and reliable operation of the oil pipeline system. The CPC project, which was created 28 years ago, has proven successful, in demand and, most importantly, uncontested today. I am proud of your achievements and am sincerely happy for you”.

In honor of the professional holiday, 30 employees and veterans of the Eastern Region of CPC were awarded jubilee medals of the Ministry of Energy of the Republic of Kazakhstan. Five people were awarded jubilee medals of the Kazenergy Association — Kaigeldy Kabyldin, Anatoly Abakumov, Akmaral Aituarova, Liza Igaliyeva, Almagul Kemalova. 11 employees of CPC-K received gratitude from the management, 17 people received

Certificates of Honor, eight employees received memorable gifts.

On September 4, 2024, the Prime Minister of the Republic of Kazakhstan Olzhas Bektenov congratulated veterans and employees of the oil and gas complex of the Republic of Kazakhstan on the 125th anniversary of the start of Kazakh oil production and presented 40 state awards to industry workers. The awardees included employees of CPC-K.

Atyrau PS Manager Daniyar Akhmetov received Letter of Gratitude on behalf of the Prime Minister of the Republic of Kazakhstan. The labor experience of the oil pipeliner in CPC is 15 years. Replenishing his experience and improving his professional skills at each workplace, Daniyar Akhmetov today manages the second main pump station of the CPC pipeline system, which receives oil from the Kashagan and Karachaganak fields.

On October 16, 2024, by the decree of the President of the Republic of Kazakhstan K.K.Tokayev, CPC-K Representative for Republic of Kazakhstan Government Relations Askar Shmanov was awarded the Order of “Kurmet” (Honor).

CPC-K Lead HR Specialist Gulzada Kapakova was awarded the Order of “Yenbek Danky” (Labor Glory) III degree.



M.M. MURATOV, K. M. KABYLDIN, A. V. ERYOMIN



D.M. AKHMETOV AND MINISTER OF ENERGY OF THE REPUBLIC OF KAZAKHSTAN A. M. SATKALIYEV

“The award interval from the head of government is a high assessment of not only the work of an individual CPC specialist, but also the work of the entire company as a whole”, emphasized Gulzada Kapakova. “The Caspian Pipeline Consortium makes a lot of efforts to make oil transportation stable, reliable and safe”.

A chemical engineer and technologist by her first education, Gulzada Kapakova has been working in the oil and gas industry for over 40 years, more than 23 of which she has been working at CPC. Her labor achievements and high professionalism have been recognized by the CPC management’s Gratitude, Certificates of Honor, and commemorative signs. In honor of the 125th anniversary of the national oil and gas industry, she was also awarded the jubilee medal of the Ministry of Energy of the Republic of Kazakhstan.

“At school, my favorite subjects were mathematics and chemistry”, says Gulzada Kapakova. “I think that my love for technical subjects was inherited from my father, an Honored Geologist of the Republic of Kazakhstan, awarded the Order of the Red Banner of Labor”. After graduating from school with a gold medal, Gulzada Kapakova entered the D. I. Mendeleev Moscow Institute of Chemical Technology, Faculty of Inorganic Substances Technology.



G.N. KAPAKOVA AND PRIME MINISTER OF THE REPUBLIC OF KAZAKHSTAN O. A. BEKTENOV

“The choice was also determined by the fact that our Atyrau region has always been and remains an oil region”, says Gulzada Kapakova.

After graduating from the institute, Gulzada Kapakova returned to her hometown and joined the Institute of Oil and Natural Salts Chemistry of the Academy of Sciences of the Kazakh SSR. She worked there for more than 10 years.

Gulzada Kapakova began her work at CPC in March 2001 as a secretary of the Regional Manager, and a year later she was transferred to the position of a human resources specialist. This specialty was not new: while still at the Research Institute, she actively studied labor legislation while serving as secretary of the Komsomol committee.

“Our company’s office in those years was located at 10 Valikhanov Street”, recalls Gulzada Kapakova. “It was a small three-story building with 25 people working there. The team was very friendly and united. We shared all the important events in our lives, went to clean-up days together, planted trees that had long since grown and become large”.

Gulzada Kapakova speaks with particular warmth about her first manager at CPC, Regional Manager Zinon Abdrakhmanov.

“When Zinon Bakhtiyarovich learned about my education from my resume,

he was very surprised and pleased, because he himself graduated from the Gubkin Moscow Institute of Oil and Gas”, recalls Gulzada Kapakova. “We established a dialogue almost immediately: we discussed work issues, he shared his invaluable experience. It was Zinon Bakhtiyarovich who had the main influence on my future work, communication with colleagues”.

Today, Gulzada Kapakova, who has extensive experience working with personnel, believes that the main quality of a personnel officer is the ability to understand an employee and try to provide comprehensive assistance in resolving emerging issues. In addition, she believes that compliance with labor discipline is an important condition for effective work.

“I often tell my children: “If there is no order on the desk, then, as a rule, there is no order in the head”. Compliance with labor discipline largely contributes to the fact that a person is collected, active, knows how to plan his working time, identify priority tasks, and complete them in a timely and high-quality manner”, explains Gulzada Kapakova, an eyewitness of the formation and development of the Consortium, one of those who was awarded for significant contribution to the development of the industry during the celebration of the 125th anniversary of Kazakh oil. ●

AUTHOR  
DMITRY KONSTANTINOV

## VICTORY TOOLS

EXPERT AND JURY MEMBER OF THE FESTIVAL-COMPETITION “CPC FOR TALENTED CHILDREN” NIKOLAY KOZHIN IS A FAMOUS PIANIST AND CONDUCTOR, ASSISTANT TO THE FIRST VICE-RECTOR OF THE V. S. POPOV ACADEMY OF CHORAL ARTS, AND A TEACHER AT THE TCHAIKOVSKY MOSCOW STATE CONSERVATORY. NIKOLAY KOZHIN IS A LAUREATE OF MORE THAN 15 INTERNATIONAL COMPETITIONS, A PARTICIPANT IN MORE THAN A DOZEN INTERNATIONAL FESTIVALS, AND CPC PANORAMA EDITORIAL BOARD CONSIDERED HIS EXPERIENCE AND OPINION EXTREMELY IMPORTANT FOR ASSESSING THE GENESIS OF THE “CPC FOR TALENTED CHILDREN” PROJECT

**N**ikolay Vyacheslavovich, in addition to your significant contribution to the development of young talents, you undoubtedly serve as a kind of “beacon” for the participants of “CPC for Talented

Children” festival, an example of how much can be achieved in life, starting with a victory in a music competition. And what is important and valuable about the CPC festival-competition for you personally, since you continue

to find time for it despite your colossal workload?

I am very interested in this festival-competition, first of all, because children from four southern regions of Russia participate in it. I think that not only I, but also all the experts

of the competition devote so much time to it, listen to and review a huge number of applications, often do not sleep at night, first of all, for the excitement, close to treasure hunting. After all, the joy of discovering new stars, new talents covers and makes all our creative torments worthwhile.

I am also interested in the precedent of CPC, a company that has been making large-scale investments in the development of creative abilities of the younger generation in the regions on its own initiative for over 25 years. I would like to emphasize that, on the one hand, this competition is free for children, but on the other, we all see how expensive the company’s visiting master classes, regional and final gala concerts are. And this fills me and my fellow jury members with a special sense of responsibility, on the one hand, to the Consortium, and on the other, to the young contestants.

This responsibility can be called professional and fully partnership-based, no matter how “businesslike” it may sound. At a certain stage of the competition, the CPC gives us the opportunity to directly communicate with the candidates, and here, too, there is no way without partnership. If partnership relations based on trust and mutual understanding do not develop with children, our master classes lose their effectiveness, and we lose another discovery. We “paint” new heights of creativity, new prospects for young talents, and children believe us. They sense falsehood more acutely than adults, and if they do not like something about a teacher, children may not accept him, ignore his words.

**Welcoming the participants of the III regional stage in Krasnodar, you noted that, while working on the creative growth of children, teachers themselves should also improve professionally. And you spoke about this as an integral condition for**

**achieving progress in education at the Moscow gala concert in 2023. Please assess today’s level of this growth of children and adults — how synchronized is it?**

I have said and continue to say that, thanks to the contestants, laureates and, in general, newly discovered children’s talents that need further development, we, as adult teachers, do not just become — we are obliged to become better and more professional, because there is no other way. If we want to teach children something, then we must also rise to the next level with each master class, concert, competition. And the competition itself must grow creatively from year to year, so as not to become boring, and invariably be interesting due to new discoveries, musical, artistic, stage solutions. We must always modernize something, change something.

**Based on my observations of the 2022 and 2023 gala concerts, this growth is noticeable. Last year’s concert included experts on the program along with the contestants, and with the appearance of the CPC Orchestra on stage, live music performance replaced the soundtrack. And before that, there were no concerts for two years due to the pandemic... It is believed that the covid period for the competition became not only a survival challenge, but also partly improved the project due to the development of remote communication technologies. What is your opinion?**

Everything is true about the gala concerts, except maybe the phonograms, which also partially took place in 2023. This year’s gala concert will also surprise you with new solutions. Of course, the pandemic is not the most pleasant time in the history of the entire planet. But in terms of developing remote communication skills and relevant technologies, this time is very productive. Perhaps the saying “every cloud has a silver lining”

will be appropriate, because the competition experts have learned to quickly organize and conduct an online meeting or master class at any time and in any location.

**But did the in-person master classes at the III regional stage lose their significance?**

After visiting regional competitions this year, we collectively agreed that the final decision should be made after live communication with children. Sometimes videos are deceptive in both positive and negative ways.

Sometimes the recording may have bad acoustics, bad piano. It was an unlucky day, maybe the child was recording with a cold. But when you arrive, in person, this performer makes a completely different impression. You feel interest, full dedication and you understand that the recording did not reveal his talent. Just a couple of lessons — and this recording could have been completely different, much better.

Or it could be exactly the opposite. Maybe he made this recording for the thousandth time. You see its technical perfection, and you are ready to give it high praise. You arrive — and this is the only piece that the performer has been playing for five years. The child does not respond to any of your messages, the channels of development are closed. Therefore, the selection issues for each subsequent competitive stage are quite difficult.

**In one of the contextual interviews, the opinion was expressed that “CPC for Talented Children” is more of a competition-festival, and the festival component is typical only for the final stage. Do you agree with this?**

I disagree here. What is the competitive component if not a selection of the best of the best? But if we are talking about the selection that happens at international competitions, then half



WEBSITE OF THE FESTIVAL-COMPETITION “CPC FOR TALENTED CHILDREN”



COMMUNITY OF THE FESTIVAL-COMPETITION VKONTAKTE



COMMUNITY OF THE FESTIVAL-COMPETITION TELEGRAM





THE FIRST PERFORMANCE OF THE CPC-ORCHESTRA AT A GALA CONCERT IN MOSCOW IN 2023

of the participants cannot pass to the next stage. A striking example is the Tchaikovsky Competition. There, the composition of the finalists is determined by the organizing committee, there are usually six or seven of them, and only one, the best, receives the Grand Prix. Two winners in this competition are a rare exception.

Another example is the Chopin Competition, which has a history of more than a century. In different years there were up to a dozen winners of the Grand Prix, but the Chopin Competition was unique for pianists in its time, in fact it was a non-alternative competition. Starting in the 1980s (and especially in the 1990s), the number of competitions began to grow, they all had different levels of professionalism and different goals.

In our case, when the jury selects almost 50% of applications for the second stage, this is more of a festival principle. But there is also an element of competitive selection in this, and it is strengthened at the third stage, when we select the best for the gala concert in Moscow.

#### **Do experts select only the winners of the third stage for Moscow or are there other criteria?**

Basically, yes, these are the winners of the Grand Prix and first places in nominations. But sometimes there are interesting, bright numbers from silver and bronze prize winners. And

why not decorate the gala concert with such an impressive performer?

Another festival component is a free repertoire. If a canonical competition provides for specifics and certain, rather strict program requirements, then in our case the degree of freedom is much greater. If desired, one can play similar works in the first or second round, but this is not encouraged. If you want to show yourself to be versatile, you need to present pieces of different characters from different centuries and preferably different in tempo and other technical criteria.

In a canonical competition, there is only one gala concert, the final one, but here it is preceded by concerts in the regions. Add to this concert performances by experts and we will get a very interesting creative experiment, setting a new bar for creativity.

Therefore, I think it makes no sense to calculate the percentage of festival and competition components in our case. They are interconnected and ensure the most effective adjustment of teachers to the capabilities and individuality of students. An expert teacher must correctly select a repertoire so that both his student and his work are in the most advantageous positions. He puts his name on this work as a brand and takes professional responsibility. And for children, a trip to Moscow, a performance on one of the main stages of the country

is an unforgettable experience and, accordingly, an integral festival component of the project.

#### **Could you tell us more about CPC orchestra — is it your author's project?**

The idea to assemble an orchestra from festival participants of different years was born in 2022 on a plane on the way from a regional gala concert. I discussed the idea with the competition's chief administrator Victoria Rille, she supported me, and then we found understanding for the initiative at CPC.

When we tried to put the idea into practice, we were faced with time constraints. Yes, there was a choice of worthy orchestra members from among the contestants, but they had to be prepared for the performance at the 2023 gala concert. We no longer had time to do this technically at the time when the orchestra idea was given the «green light»: the guys were coming to Moscow for only five days and it was impossible to fit orchestra rehearsals into this period. And then, as a compromise, I assembled a chamber orchestra from among professionals, already proven enthusiasts, ready to master any program in a couple of rehearsals.

#### **It turned out impressive, I can testify as a spectator of the 2023 gala concert. A symphony orchestra that played a great three-hour concert, and a "branded" one at that. Is it possible to introduce talented children into the CPC orchestra team in the future?**

I will reveal a secret: this year, 14-year-old electric guitarist Igor Semenov from Stavropol is taking part in the Moscow gala concert as part of the CPC Orchestra. Igor proved himself to be a reliable and skilled performer in the 2023 competition, and I invited him to join the permanent lineup. In general, things have moved forward, and in the future, I hope to gradually renew the CPC Orchestra with young contestants.

#### **I would like to share one more observation, perhaps controversial: the plot of the performance two years ago seemed «more streamlined», but last year's contestants' numbers looked brighter. Is this an objective correlation, consciously adjusted by the creative team? And what is this team like?**

Indeed, there is an interdependence between the storyline and the numbers "embedded" in it, and it is important that this line does not prevail or dominate too much. As for the team, it is the "director of the film" Victoria Rille, the director Maria Evseeva, the arranger Sergey Vasiliev, the choreographers, the full-time sound engineer of the chosen stage area and me as the musical director.

As already mentioned, the guys are coming to Moscow for five days. Taking into account the master classes and excursions, there are only two days left for the gala concert rehearsal. We rehearse the "connection" at the hotel, another rehearsal with the orchestra, and a general rehearsal in the morning at the theater on the day of the gala concert. In order to "put together" the entire show, this, of course, is very little, so we need a very clear script plan, a clear director's vision of each number, and also remote work with the children. A month before the gala concert, our director Maria Evseeva repeatedly contacts each participant remotely, explains, works out and checks the task. Thanks to this, each number is rehearsed solo and remotely at first, so that the general coordination in Moscow takes place faster and more effectively.

In addition to the stage, musical adjustments and corrections are also important. Our arranger Sergey Vasiliev does a fairly large amount of work so that the children, who have never performed with an orchestra before, look (and sound) organically on stage. Sergey makes the score, arrangements of each composition and digital phonograms, which are

sent to the children in advance to study the general musical structure, understand where they should enter it, and so on.

In general, the team's work is exciting, but not easy, and an additional factor of complexity is introduced by the adjustment to the new concert venue.

#### **I have seen two of them: the Et Cetera Theatre and the Russian Song Theatre. Which one did you like more and which allowed you to realize the ideas of the production in particular and the festival as a whole more effectively?**

I can't claim to give an absolute verdict, since I'm not a theatre specialist. Although I love the theatre very much, many friends and colleagues say that I have a certain «acting streak». If I had time, I would probably try myself in the role of an actor, at least as a hobby. All this is to say that Alexander Kalyagin's Et Cetera theatre was very good in terms of both acoustics and general atmosphere. With one exception: the space behind the scenes was a bit cramped. This is critical for our show — there are a lot of children, one cast runs out, another runs in. The space behind

the stage needs to be large enough so that the children don't run into each other. Nadezhda Babkina's Russian Song theatre has everything in order with this.

#### **In Novorossiysk this year, the III stage in your nomination was won by a 15-year-old boy with disabilities. If you could tell us more about it.**

I can't comment in detail, not being a doctor. I'll just say that this guy only started talking a few years ago, after he and his mother moved from Moscow to Novorossiysk on the recommendation of doctors. When I listened to his applications for the first and second rounds, there was not the slightest feeling that a person with disabilities was playing. An absolutely finished piece, very precise realization.

When I met this performer in Novorossiysk, I started preparing him for the third round, not being entirely sure that it would work out. But we established creative contact, the guy was very responsive to my comments and remarks, corrected where necessary, and eventually played at the regional gala concert, deservedly receiving first prize. I emphasize, deservedly, and not "inclusively".



**Yes, it is important that the assessment in such a case is given fairly. If a person with disabilities feels that he really played for a C, but got an A as a “special” person, this may be much more psychologically stressful for him than if he had not been able to perform at all. And yet, the question of the participation of children with disabilities in the festival seems very difficult to me. In sports, they came up with the idea of the Paralympics. And in music?**

You know, I am very sensitive to this issue. For example, I had to be on the jury of competitions where, along with other performers, people with visual disabilities participated. It was very difficult to give an assessment. In my opinion, the activities of people with disabilities cannot be objectively assessed without taking into account the opinion of medical specialists. Therefore, yes, I am for the “Paralympics”, for the creation of paramusical competitions.

uncertainly and slower than its original tempo, then why choose it for the video application? Does the teacher consider it «fresh»? And why choose an unfamiliar composition for the child, which creates additional stressful conditions during performance? After all, any recording is already stress, which can be compared to “stage fright”, the nature is the same. Therefore, there is no need to chase a fresh repertoire, it is better to give the child proven and repeatedly played pieces for recording, verified to automatism.

It also happens that somewhere you accidentally make a false note, one for the whole recording. You think that it will do, after all, it's the third take, you're tired already. It won't do, you need to record takes until the quality is improved as much as possible. If you're tired, take a rest or come the next day with fresh energy. But until you make a clean recording, you have no right to leave the hall.

## “A PARTICIPANT IN THE MOSCOW GALA CONCERT MUST COMBINE NOT ONLY TALENT AND PREPARATION, BUT ALSO CONFIDENCE”

**What advice would you give to the guys who will be participating in the 2025 competition for the first time? Both technically and “ideologically”? How to write an application correctly, what are the tools of victory, so to speak?** There are many technical tips and almost all of them are present in the Competition Regulations. Let's start with the appearance – this is a manifestation of culture, discipline, visualization of preparation, desire to participate and win. Next comes the actual preparation and the main thing in it is confidence in performance. If the selected piece is played

And one more nuance – if possible, the repertoire should be selected from pieces that the performer has already played on stage. You have already gone through the stress of them and this will help, because you must present yourself as well as possible. My professor said that the best repertoire for an international competition is the one that makes you sick. We were just selecting a repertoire for me for a competition in Italy, I asked to leave at least one freshly learned piece, but he advised against it. And he was right – the competition was held in a small town, where there was not a single

classroom for 100 participants. Digital pianos did not exist then, so I had to prepare on the table.

**By the way, what is your attitude towards digital pianos? Do they help or harm beginner musicians aiming for a professional career in the future?**

In this case, it is necessary to at least alternate “digital” and “analog”, and it is best to start with real instruments. In this regard, I can say I was lucky: when I started, there were no digital musical instruments yet. If we are talking about professionalism, then the sound quality is also taken into account here. And this is not only the musician's playing technique, it is also the sound that only an analog instrument can give. This is energy, this is inertia that you feed into this complex and actually “live” mechanism with a certain speed of pressing the key and then into the corresponding hammer, which hits the string, responding with a certain vibration.

When you work with a “live” instrument, every tiny nuance affects the quality of the sound. Therefore, the child's contact with the “live” key is very important, especially since this contact is different on each piano. There are “tight” pianos, there are “light” ones, there are higher or lower mechanics, the Yamaha differs from the Steinway, there is also a domestic school of piano construction.

String and wind players do not have such a dilemma – digital or analog – because they can carry their instruments with them. Pianists, however, are forced to use digital pianos depending on the situation, and I am no exception. I will note that digital manufacturers have made significant progress in recent years. Yamaha, for example, already makes keys of different weights. But I will also note that if you spend your entire childhood with a digital piano, it is better not to aspire to a serious career.

**An analogy comes to mind here, perhaps too exaggerated: you can't win a car race with an automatic transmission, and therefore the athlete must have the skills to shift a manual transmission?**

That's right, I can confirm this both as a pianist and as an experienced driver.

**Let's return to the competition in Italy, where you did not have a digital piano... You have dozens of international competitions and festivals behind you. Against this background, please assess the genesis of “CPC for Talented Children” in terms of its influence on the younger generation. What qualities does it cultivate in children and young people?**

Experience shows that a participant in the Moscow gala concert must combine not only talent and preparation, but also confidence. Regardless of whether the young contestant chooses a musical or artistic career in the future, confidence in their abilities and in achieving their goals will always come in handy.

For the 2024 gala concert, I listened to over 300 applications. These were older children, the younger ones were listened to by my colleague, the wonderful pianist Valeria Kuznetsova. She recommended Yuliana Tretyakova, a student at a music school in Novorossiysk, and I am 100% sure that this young pianist will perform wonderfully at the gala concert. She is not afraid or shy of new people, she does not care about unfriendly comments, she has the personal qualities of a leader. And another guy from Novorossiysk, as they say, “took me with charisma”. His application – “I am free” by Sergey Mavrin and Valery Kipelov – was recorded somewhat hastily, at a semi-homemade level, with running from the stage to the recording phone on a tripod. But, having personally met the performer at the third stage, I did

not hesitate to recommend him for participation in the Moscow gala concert.

**We wish your team and your pupils new successes and growth! But let's not forget the future new participants of the 2025 festival. What kind of motivating and stimulating thing could you tell them so that, even seeing how great the 2024 contestants are, these guys would not be scared, but would experience a certain thirst for competition: “We want this too, we will also go to the competition”?**

The thirst for competition is actually not a bad thing. It seems to me that any person, even a small one, should have it in themselves as a guarantee of development and improvement. At first, we compete with classmates to see who can jump over a puddle in the yard. In adulthood, this is competition, career, sports. For those who are just starting out in life, I would like to advise cultivating a thirst for competition with their past selves: will you be able to surpass yourself, reach a new level? This is how children learn to analyze and consciously become better. For this, little is needed – not to be afraid of making mistakes and hard work.

Of course, our profession, any pop and classical, requires dedication, hard work, discipline and complete confidence in your abilities. Without all this, participation in any competition becomes not just meaningless, but, let's say, adventurous. Therefore, I wish all newcomers to believe in themselves, not to focus on failures and move on, find for themselves those specialties, those areas in which you will become the best.

**So the guys have a chance and, in general, you just need to believe – in it and in themselves?**

It is important to focus on the past for another reason – to preserve the



connection between generations, musical traditions and experience accumulated over centuries. Without this, degradation awaits us – both in musical and in general human terms. It is sad to see that modern children, especially musically gifted ones, do not always know who Richter is, for example. Alas, there is a certain gap in generations when this became optional information. Our task is to minimize this gap and that is why we do not ignore the educational aspect in our master classes.

Discovering talent and motivating it with the first applause is, of course, very important, but talent without hard work will never make a name for itself. You should always remember this and work on yourself. ●

**AUTHOR**  
 MARIA GNEZDILOVA,  
 SENIOR SPECIALIST, MASS MEDIA RELATIONS, CPC-R

# SWEET DREAMS ARE MADE OF THIS

GET COMFORTABLE, TAKE A DEEP BREATH IN AND OUT. CALM YOUR MIND AND RELAX YOUR BODY. THIS IS JUST THE FIRST STEP TO A HEALTHY NIGHT'S SLEEP. WHAT ELSE DO YOU NEED TO MAKE SURE YOU GET ENOUGH SLEEP TONIGHT AND BE IN TOP SHAPE AT WORK DURING THE DAY?

**S**leeping beauties are not dead yet in the XXI century, and neither are the handsome ones. We love to browse news feeds, look through shorts or someone's profile on social networks at night. In the information age, the flow of thoughts does not leave us for a second. In the morning, we turn off the alarm, muttering "Just five more minutes and I'll definitely get up". Five minutes turns into half an hour and here we are, frantically getting

ready for work, gulping down coffee on the go (and this is far from the last cup of coffee for the day). We are lucky if we are not late, everything falls out of our hands and irritates us all day. At home, we have reels again, we go to bed late again — and so on in a circle.

Recognize yourself? Let's move on to cause-and-effect relationships. According to leading Russian insomnia expert, somnologist Roman Buzunov, today exactly half of the inhabitants

of our country have various sleep problems. At the same time, before the coronavirus pandemic, their number was significantly lower — only 15%.

Healthy sleep = life  
 "Judging sleep by its duration is like judging a plate of food by the total number of calories in it, rather than by the composition of fats, proteins and carbohydrates... By improving your sleep, you improve your life", says Professor Jim Horne, founder of the Loughborough Sleep Centre (UK).

For thousands of years, humanity was sure that sleep was needed exclusively for rest. Everything changed in 1928. It was then that the electroencephalograph was invented — a device that allows recording the electrical activity of the brain. In 1953, it was scientifically proven that sleep is not a monotonous state, but an active process with many functions.

Time passed, research multiplied, and today we already know that sleep strengthens the immune system. While we sleep, cytokine proteins are synthesized in the blood, which are actually the main defenders of our health. They suppress the growth of any hostile cells and agents to our body — from viruses to cancer. Less sleep — fewer cytokines — weaker immunity.

Sleep also «trains» the nervous system. During sleep, the human body produces a significant amount of hormones. These include endorphin, a hormone that helps fight stress, gives a boost of energy and increases motivation.

When sleep is disturbed, an imbalance of neurotransmitters, molecules responsible for transmitting signals from nerve cells, occurs in the brain. A disruption in the regularity of such signals negatively affects mental health. When awake at night, the process of natural production of cortisol, the stress hormone, is disrupted. This leads to increased blood clotting, vascular thrombosis, and increased blood pressure. Along with a general deterioration in physical condition, there is an inability to concentrate, maintain attention, and remember new information.

Sleep makes us more beautiful and it's not about the absence of the notorious bags under the eyes. While we sleep, our body synthesizes collagen, and with enough of it, we are not afraid of brittle bones, nails, hair, and early wrinkles.

And this is only a small part of all the benefits of a full healthy sleep. Its benefits are dedicated to thousands of studies and scientific papers.

**KONSTANTIN LEUS,**  
 SPM OPERATION AND MAINTENANCE  
 ENGINEER:

« The most important thing is your mood. In order to fall asleep easily and have a night without unnecessary awakenings, you need to have a good day and for the children to go to bed early. Of course, a lot depends on your mood. I have a rule: 8:00 pm — that's it, we immediately forget all our problems and worries. You shouldn't scroll through negative thoughts in your

head in the evenings, and even more so discuss them with someone, quarrel with your family. This way you won't solve the problem, and you'll become more tired, your mood will worsen and it will be impossible to fall asleep. An evening walk in the fresh air also helps. By the way, in our family we've come to love heavy blankets — they also create a cozy mood.



But what about all those TV series about successful careerists who never take their eyes off their monitors day or night? What about happy bloggers, coaches and millionaires who say: "I sleep a couple of hours a day". And what about the "wolf of Wall Street" Gordon Gekko with his 40-year-old meme "money never sleeps"?

The motto "less sleep — more work — more success" is nothing but a myth. It is generally accepted that for a good night's sleep a person needs at least 8 hours of rest. But there are options.

Alexander Kalinkin, head of sleep medicine at the Medical Research and Educational Center of Lomonosov Moscow State University, believes that there are so-called "short-sleepers" people among us. Four hours is enough for them to get a good rest. There are not many such "indigos" among us — only 10% of the total. Their "superpower" was passed on from their ancestors — it all depends on metabolism. Some are genetically faster, and some are slower, overload their nervous system during sleep.

### OFFICE SYNDROME

In order to determine the volume of "interference" to healthy sleep that we bring home from work every day, let's conduct an express self-diagnosis. Do you feel tension in your body, especially by the end of the working day? Do you

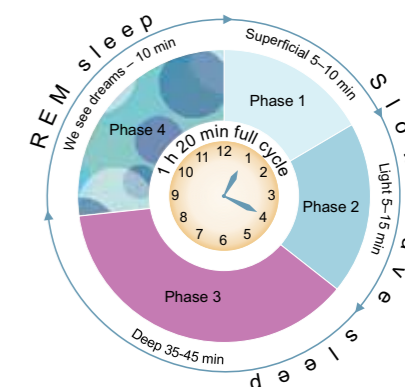
notice pain in your neck, back, hands? Do your eyes get tired to the point of feeling "sandy" or losing focus? How many cups of coffee and green tea do you drink before and after lunch? Do you experience psycho-emotional "overload"? How long do you sit at your workplace without breaks?

If all this is present in everyday work, the risk of so-called "office syndrome" increases, which can easily lead to serious depression and, again, to sleep disturbances.

What's wrong with a sleep-deprived worker? According to research conducted by the University of California under the direction of Professor Matthew Walker, sleep-deprived volunteers showed a 60% increase in aggression.

### Sleep phases

Our sleep is divided into 5-6 cycles. Each consists of several phases.



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**SERGEY ALFERENKO,**  
KROPOTKINSKAYA PS DEPUTY  
MANAGER:

Give up gadgets before bed, put away phones, tablets, computers. In our family, we prefer board games or sports games in the evenings to all of this. We also discuss how the day went, share positive emotions and kind words with each other. By the way, we have also

introduced the “5 whys” practice at home — the children like it. This is communication, education, and support. And such family evenings create coziness and a good mood. It becomes easier to fall asleep because you go to bed in this “cozy” mood.



With every hour of sleep deprivation, the brain lost 10% of its working capacity. Lack of sleep had a negative impact on divergent thinking, which is responsible for understanding the tasks at hand, quickly switching to a new topic in a dialogue, and maintaining a conversation. Sleep-deprived employees have a slower reaction time, they spend more time completing tasks, and tend to make decisions without thinking them through enough.

The so-called rules of “office hygiene” (included in the general standards of labor protection and industrial safety) are aimed at overcoming office syndrome and eliminating its causes and prerequisites. Regular breaks in work, a verified distance from the eyes to the monitor, a code of conduct, ergonomic office furniture, scientifically based standards and requirements help us spend the eight most vigorous hours of the day without unnecessary overloads, while working with maximum dedication.

### HEALTHY SLEEP RECIPES

In prehistoric times, people lived by the principle of “catch-run-fight”. With this lifestyle, the stress hormone cortisol did not accumulate in the body, but synthesized muscle energy. Now, in conditions of reduced physical activity, everyone “stores” cortisol in themselves. This not only makes you fatter, but also makes you perceive the world in an extremely negative way, which makes you sleep worse.

Try to find a new habit for yourself — become more active during your lunch break than usual. A few exercises, a little physical activity — at least walk up the stairs instead of the elevator. After some time, you will notice that getting up in the morning has become much easier.

Anyone who goes to the gym understands that the first workout is hard, the next ones are easier, and you go to the tenth with pure pleasure. But what if you miss another workout? Again, your whole body aches, your muscles hurt. This analogy is very suitable for the sleep-wake cycle. Our body is a clock. By sleeping an extra two or three hours on Saturday, you are doing your body a disservice — for our internal biorhythms, this is the same stress as jet lag.

Not eating after 6pm is not just a diet for losing weight. During sleep, the human body should rest, not work.

**OLGA VOLVICH,**  
TENGEZ PS HSE ENGINEER:

For a healthy and sound sleep, in my opinion, you need to avoid watching programs and movies with complex information, listening to heavy, loud music. Set a dim light in the room, and massage your head with streams of warm water for about five minutes in

The canonical dress code for those sleeping in the cold season is pajamas and a thick blanket on top. The room temperature is +24°C. Everything seems to be normal, but nevertheless, sometimes we wake up in the middle of the night. The blanket is thrown back, the sheet is crumpled — clear indicators of “superficial”, shallow sleep. Therefore, somnologists recommend the range of optimal air temperature in the bedroom within +16-20°C. And when choosing a cozy blanket, you should give preference to options that do not hinder air exchange.

You need to sleep in the dark, only then will our body produce melatonin. This hormone reduces blood pressure, body temperature and blood glucose levels, that is, it does everything to ensure the body has a calm, deep sleep. Many things can interfere with the production of melatonin — from a dim night light to a red LED in a switched-off TV. Try to create not only coziness in the bedroom, but also pitch darkness. Blackout curtains will help. Do not forget about absolute silence — turn off the sound of your smartphone at night, so that nothing interferes with your bright dreams.

Information detox — it is important to remember this at any time of the day, but especially before bed. Do not overload your brain with unnecessary and unnecessary information. Put off scrolling social networks and news feeds for later. Somnologists recommend limiting viewing news to 15 minutes in the first half of the day. And two hours before bed, it is better not to pick up

the shower. To relieve tension in the muscles of the face and neck before going to bed, I recommend doing acupressure using a massage pillow.



your smartphone at all, turn off the computer and completely disconnect from the hustle and bustle of the modern world.

### SLEEP GADGETS — MYTH OR REALITY?

An amazing fact: even large technology corporations, which are making every effort to draw us into their webs, have recently been increasingly concerned about our sleep and rest. Smart watches, rings and bracelets, biorhythm trackers, sleeping masks with heating, cooling and even massage. At the beginning of the century, an air conditioner was invented that, when operating, produces a “lulling” noise of leaves in the forest or

**NURGUL SARSENGALIEVA,**  
SENIOR TRANSLATOR:

I believe that for healthy sleep it is better to follow several rules, namely: have dinner 2-3 hours before bed, take regular evening walks, and it is very important to go to bed before 23:00. I also advise falling asleep with good thoughts and not thinking about problems, refuse to look at gadgets. Sometimes before going to bed I turn on calm (classical) music. In general, healthy sleep is of great importance for our physical and mental state. In the morning, it is advisable to make a habit of doing exercises, every day in the morning set yourself up for a positive attitude.



**SAMAL YESENOVA,**  
TECHNICIAN, ATYRAU PS TEST  
LABORATORY:

We work in shifts (day/night), we have an irregular sleep schedule. However, on my days off I try to stick to strict rules. I try to go to bed and wake up at the same time, regardless of the day of the week. It is best to go to bed before 11 p.m. The earlier you go to bed, the more melatonin (the hormone of youth) is produced in the body. It is

important not to think about work, problems and worries before going to bed. In the evening, it is best to take a warm bath. It is important to ventilate the bedroom before going to bed, put gadgets away, ideally at a distance of a meter from the pillow. The radiation from gadgets adversely affects the sleep process.



sea waves. Now there are cube-shaped devices that emit electronic impulses that supposedly regulate sleep phases.

Smart watches and trackers today are equipped with body temperature sensors and pedometers, measure pulse and blood pressure. They have also learned to monitor sleep phases, but how scientific is all this?

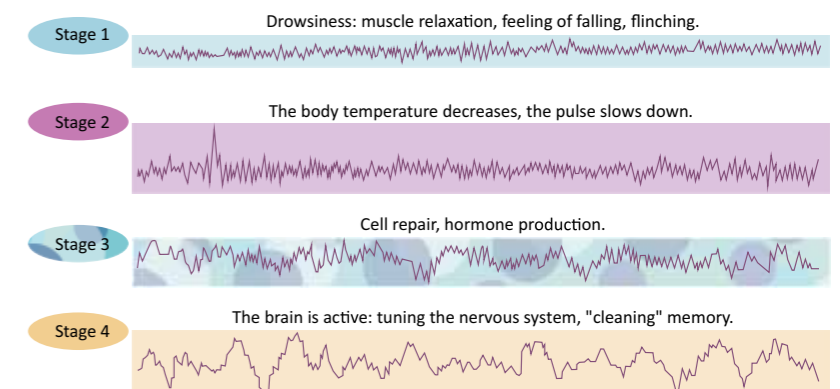
“As research by experts shows, the readings of modern fitness trackers are only slightly false compared to polysomnography monitoring”, says somnologist Roman Buzunov. “But the accuracy of assessing sleep stages and micro-awakenings by these devices is still far from ideal”.

Nevertheless, among modern gadgets there are some really useful helpers. Somnologists recommend a regular “smart” light bulb with automatic adjustment by timer. Bright lighting

during the day, like the sun at its zenith, a gradual decrease in light intensity in the evening until it turns off completely. A cozy “sunset” light will help you tune in to the coming sleep. Everything ingenious, as usual, is simple. And yes, sleep masks also work, there are many of them now — for every taste and budget.

So, sleep is necessary, and an overdose (more than 9 hours) is just as dangerous as a lack of sleep. Somnology is a young science, but it has already acquired thousands of studies. To delve deeper into the problem, it would be a good idea to read Christian Benedict’s book “Sleep in the 21st Century”, as well as read the advice of colleagues. My personal recipe: the saying “the morning is wiser than the evening”. Go to bed with the feeling that tomorrow will be a great day, try not to think about the bad.

### The human condition in different phases





AUTHOR  
ILONA LATSUZHBA

## CHEAPER BY THE DOZEN

ONCE A LARGE FAMILY WITH MANY CHILDREN WAS SOMETHING TO BE TAKEN FOR GRANTED, BUT NOWADAYS THIS IS RARE. MODERN PEOPLE ARE MORE CONCERNED WITH THEIR CAREERS, TRYING TO “GET THE MOST OUT OF LIFE”, AND CHILDREN ARE NOT ALWAYS GIVEN A PRIORITY ROLE IN SUCH A SYSTEM OF VALUES. WE TALK TO MOMS AND DADS WITH MANY CHILDREN WHO WORK AT CPC ABOUT WHETHER THIS IS RIGHT AND WHETHER “PERFECTIONISTS” ARE LOSING SOMETHING IMPORTANT IN THEIR LIVES

to write a book about fatherhood. It happened in Novorossiysk, when the planned third child in the Fedorov family unexpectedly turned out to be... twins.

Irina, my first and only wife, and I got into the “second child as a gift” promotion”, Evgeny smiles. “It’s easy to take now, but back then the fun somehow ended immediately, and we had to reconsider all the plans we had made earlier. A third child and subsequent children are, in fact, a new way of life for each family member”.

Evgeny wrote the book then, now the twins Alexey and Ilya are six years old. The eldest son in the Fedorov family, Alexander, is 21 years old, there is also a daughter Alisa, she is 17. As Evgeny says, the significant age difference between the older and younger children turned out to be useful: Alisa helped her mother take care of the little ones, Alexander was left alone while he was taking the Unified State Exam, and then he also got involved. The head of the family kept a night watch so that Irina could sleep for at least a couple of hours, went to the clinic and to parent-teacher meetings.

“The main role of the father begins not at the age of three, as psychologists say, but from the very birth of the third child”, Evgeny believes. “First of all, the father must ensure safety and



KUANYSHBAEVS

remove the anxiety that arises in the mind of the spouse every minute, so that this does not lead to emotional burnout. This is the most important thing, since everything else in the family depends on the state of the woman-mother – comfort, harmony, children’s behavior, success both internal and external”.

In such cases, Andrey Malakhov or Oprah Winfrey would turn to the mother of many children with a microphone to find out her opinion about emotional burnout. It is not far, only 1300 km from Novorossiysk. On the line is the office in Atyrau, translator Zhanna Dyusalieva (married name Kuanyshbaeva), four children aged 17, 14, 10 and 7.

“The older ones are more or less independent, but still, every day is a routine – school, sports, lessons”, says Zhanna. “In order not to “burn out”, it is important to set aside time for yourself, at least a couple of hours. Go to yoga, drink coffee with friends or just go for a walk, be alone, in general”.

Security specialist at CPC-K, Erbol Ayaganov, has an interesting opinion: the more children, the more personal space the parents have. In the Ayaganov

family, for example, there are two sons and six daughters with an age range of 17 years – 1 year.

“The older children are very independent and actively help in taking care of the younger ones”, notes Erbol. “Toleugul (17) helps adults cook, checks the younger children’s homework and explains everything they don’t understand. Sherniyaz (12) plays with little Ayaru (1), walks with her outside and puts her to bed. Akbota (2) goes to kindergarten, and she also has her own responsibilities around the house – picking up toys, clearing the table. With such helpers, dad can go fishing, and mom can visit a spa. Being parents of eight children, we understand what real happiness is, and we have no time for emotional burnout”.

Yes, eight children in a family – that sounds impressive. And again on the line is CPC-R, Moscow, Press Service specialist Pavel Kretov. The father of six children with an age range of 26-8 years believes that, taking into account the legislation (three children in the Russian Federation and four in the Republic of Kazakhstan), he and Erbol Ayaganov are in the same rank of “second-rank fathers”.

“Our experience shows that in large families, no child is alike”, says Pavel. “They accumulate the most diverse qualities of their parents’ ancestors. Upbringing only helps to some extent to suppress the negative ones. What to do about it? Allow yourself to perceive children as they are. Everyone has flaws. But this, of course, is not the main feeling of six-time fatherhood. The main

“IT’S NOT DIFFICULT TO TEACH CHILDREN TO SHARE YOUR HOBBIES, AND VICE VERSA, TO PARTICIPATE IN THEIR HOBBIES”

Having started my journalistic research, I learned with interest that in Russia a family with three or more children is considered large, while in Kazakhstan the “countdown” starts with the fourth child. And another interesting point that several dads shared at once: you think a lot, weigh and discuss whether it is worth having another child only up to the mark “3”. Then everything is much easier: the family grows somehow on its own and this does not cause any difficulties.

About five years ago, Evgeny Fedorov, Senior Coordinator for Work Permits of the CPC Marine Terminal Shore Facilities, was asked



FEDOROVS



KRETOVS



AYAGANOVS

thing is that you don't have time to get bored. There are so many family birthdays a year! And also victories in tournaments, graduations from schools, admissions to institutes, graduations from institutes..."

Family holidays (sometimes in quotation marks) are also considered a distinctive feature of large families by Olga Yaremchuk, chief specialist for project control at CPC-R. Olga has a sporty family: 14-year-old Alena took second place in the All-Russian volleyball competition, football players Yaroslav (12) and Daniil (6) attend the CSKA school.

"Taking the children to sports camps, we traveled all over the Moscow region, visited Rybinsk, Myshkin, Kaluga, Suzdal, Nizhny Novgorod, Vologda, Syktyvkar", says Olga. "Of course, it's a lot of noise, but it's empty without it. And, besides, grandmothers help a lot".

Other colleagues with many children also refer to help from grandmothers, but what about the state? In Moscow, for example, I know about free parking for families with many children, but what about the rest of the country? Here we are helped by Evgeny Fedorov, who sent us a truly encyclopedic reference.

So, in Russia, from January 23, 2024, the status of a large family (three or more children) is valid

indefinitely, but many benefits are still available until the eldest (and in Moscow, the youngest) child turns 18 or 23 years old.

Large families have the right to state-funded vocational education, preferential access to cultural institutions, priority conclusion of a social contract and labor guarantees, as well as early retirement for mothers with many children.



YAREMCHUKS

At the federal level, regions are also recommended to expand support measures, including free meals in schools, discounted public transport passes, free prescription drugs, free school and sports uniforms, compensation for housing and communal services costs of at least 30%, priority admission to kindergartens and free land plots.

In almost all regions, families with a third or subsequent child are issued regional family capital. A family can receive maternity capital for a third child if they did not receive a certificate for the first or second child. All families with three children can pay off part of their mortgage at the expense of the state. The amount of mortgage capital is 450 thousand rubles (1 million in regions with a recorded decline in the birth rate). Large families also have access to all benefits for families with children, including a single benefit.

Zhanna Dyusalieva believes that the main advantage of state support for large families in the Republic of Kazakhstan is the opportunity to enroll a child in a kindergarten without waiting. The monthly allowance for

the family of Erbol Agayanov is a little more than 100 thousand tenge, there is a preferential mortgage, as well as free parking.

Also in Kazakhstan, large families are provided with tax benefits and exemption from compulsory medical insurance contributions from wages, free notary services, free bus travel for mothers with many children, discounts for children when visiting gyms, entertainment and gaming complexes and water parks.

Laura Zhiyengalieva, HR specialist at CPC-K, adds an interesting detail: recently, a system of payments from the National Fund for tuition and housing purchases has been introduced in the republic for large families. The necessary conditions for this are that all children are alive, the eldest has turned 18. Laura has four children aged 12–6, all of whom are in school.

"I try to talk to my children more, to find out their opinions", says Laura. "Many parents, in order for their children to develop in a comprehensive manner, enroll them in different clubs and sections. In our family, this only happens with the child's consent".

Father of three children aged 19-5, CPC-R integrated business planning manager Petr Gvozdev believes that a good recipe for family harmony is common hobbies with children.

"I don't understand what it means to spend time for yourself, surf the net? If we are talking about hobbies, in almost all cases you can share them with your children", Peter believes. "It is not difficult to involve children in your hobbies, and vice versa, to participate in their hobbies. For example, children like airplanes or steamships — we go to thematic exhibitions, to museums, go along the river. You yourself are interested in the history of the city — you take children on excursions and walks".

Family vacations, by the way, are a separate and important issue. Of course, it differs from a romantic cruise for two, but our colleagues especially value trips with many children, having the appropriate transport and life hacks for this.



ZHIYENGALIEVS

Chief IT architect of CPC-R Pavel Toymentsev, as the father of four children aged 14-5, calls the annual trip with the whole family the main family tradition.

"We love the sea, cruises and active recreation", Pavel shares his experience. "We don't take tours, but plan all the trips ourselves. Previously, our favorite places were Dubai because of the possibility of accommodating so many family members in one room, and Turkey — for the service and abundance of children's entertainment in the hotels. Lately, we have loved going to Aktau. There, the hotel has an amusement park and a large swimming pool with sea water overlooking the Caspian Sea. And, of course, Sochi — the sea, mountains and our favorite SkyPark".

"Several years ago, we went on a cruise along the Volga for the first time for a few days", adds Pavel Kretov. "Now it has become a tradition in our family".

It seems that our talk show ends with a clear advantage for colleagues with many children. And you even begin to feel a new sense of pride — both for them and for the company, which with its social policy supports "demographic initiatives" in every family.

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It seems that our talk show is ending with a clear advantage for colleagues with many children. And you even begin to feel a new sense of pride — both for them and for the company, which with its social policy supports «demographic initiatives» in every family.

"When my youngest daughter was born, I immediately realized that three children is the minimum", summarizes Petr Gvozdev." Now it's hard to imagine how there can be less".

**AUTHOR**  
ANTON KADOCHNIKOV,  
LEAD ENGINEER, PIPELINE UPGRADE, CPC-R

## GET A TASTE OF THE REAL FIGHT

WHEN PERSONAL TOURIST EXPERIENCE HAS LONG SINCE PASSED THE FIRST FIVE YEARS, AND THE HEIGHT OF CHILDREN HAS ALREADY EXCEEDED THE HEIGHT OF THE BACKPACK, A DILEMMA ARISES: TO TAKE THEM WITH YOU ON A HIKE OR NOT? ON THE ONE HAND, THERE ARE ADULT DIFFICULTIES, ON THE OTHER – HARDENING AND A LOT OF UNFORGETTABLE IMPRESSIONS

**S**ometimes I wonder where this love for mountains, hiking and everything connected with it came from. It's probably a "genetic memory" inherited from my grandfather Leonid Kadochnikov, a

contemporary of Vysotsky and Vizbor, a romantic geologist who traded the well-fed comfort of his native Bashkiria for participation in the first geological exploration expedition in the Tajik SSR and subsequently devoted his entire

life to searching for oil in the mountains of Tajikistan. I started hiking in 2017. Since then, there have been several important "forks" in the tourist part of my life, one of which happened when I decided to take my children on hikes.

Children and hiking are a philosophical topic in its own way, like any case of confrontation of a certain number of pros and cons. On the one hand, why shouldn't they develop endurance by the example of their parents, learning a lot of new things and enjoying the adventures? On the other hand, children experience hiking discomfort more acutely, get tired faster, and whine more. Exploring this difficult topic, I combine personal experience with theory, using the hierarchy of needs, namely its first three levels: Safety, Pleasure, and Goals and Achievements. Successive closure of needs at each level opens access to higher ones, so let's start in order.

### LEVEL 1. SAFETY

The issue that should be closed first and foremost is ensuring the safety of the child. Here I would like to highlight several important principles. First, you need to start small and make it more complicated gradually. First, try everything yourself – go on a weekend hike (WH) along a well-known route, then take an easy 3–7 day hike with friends or as part of a commercial group. Having gained some personal hiking experience, you can go the same route with your child. The main goal is for the first experience and impressions of children to be positive, and not become a horror story to retell among friends.

I would like to separately note the refresher courses on first aid held at CPC. The knowledge and skills we get there are very important for the hike. First of all, because they allow us to more soberly assess our capabilities and cut off potentially dangerous ideas at the route planning stage. In the future, I want to take similar courses on mountain rescue in order to further reduce risks. It is extremely difficult to foresee everything, so we end each hike by collecting opinions from participants in order to draw conclusions and improve the safety of future routes.

The next rule: study, study and study again. The hiking theme is huge. It will



THE ISSUE THAT SHOULD TO  
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THE SAFETY OF THE CHILD

### TOURIST SAFETY MEMO

No matter how well the route is studied, it does not provide a 100% guarantee against emergency situations. Therefore, I will list several mandatory safety rules, the observance of which is equally important for children and adults. Before going on the route, it is necessary to register with the EMERCOM. Previously, this had to be done in person, now you can fill out an online application on the website of the regional EMERCOM. The application contains comprehensive information about the hike – its start and end dates, GPS track of the route, composition of the participants, methods and dates of control communication. For example, I call the EMERCOM at the beginning and end of the route. If there is no call from me, they try to call themselves, if I do not answer, they go out to look for me. In the same application, I leave the number of a contact person – a person who is not going on the hike with us. Usually this is one of my relatives, to whom I also inform all the details of the upcoming hike and send the GPS track.

On a mountain route, there is usually no mobile signal, so a smartphone allows you to contact the EMERCOM only at the start and finish. A satellite phone is expensive equipment, but if the group is permanent and well-coordinated, then you can have one. We are considering such a purchase for ourselves in the future. For the last trip, we bought several radios. They allow you to keep in touch with the participants of the trip if the group is stretched out, and also provide the opportunity to contact other groups on the route.

In any hike we have at least three adults present – so that in case of an emergency with one of them, the second can easily go for help, and the third, together with the group, can stay with the victim. Each participant in the hike has an individual first aid kit, in addition to this, we take with us a group first aid kit with a set of bandages, antiseptics, antihistamines, painkillers, thermal blankets, etc.



be great if you find a mentor/trainer who will share experience with you, answer questions, give advice. There is also an alternative approach — watch videos on video hosting sites. As an example, I will give a series of videos on general hiking training on Andrey Chaikin's channel. Do not be afraid to simplify the route, delegate some of the questions to your comrades, use the services of proven guides.

It is also important to consider the child's age. Personally, I think the optimal age to start hiking is five to six years. Using a baby carrier for a younger child is somehow not close to our family. At three or four years old, a child cannot yet cover the distance of an average day's walking on his own, and carrying him is already difficult. At five or six years old, a child with a backpack containing a raincoat and sweets can walk at the speed of an adult with a full load on his back.

Adult and child comfort, a safe environment and proper preparation make it possible to achieve the main goal of a hike with a child — the pleasure of communication and joint leisure.

#### LEVEL 2. PLEASURE

We are all different, and it is important to find what you and your children like about hiking. It is great when on a hike a child gets additional access to something that he is limited to in everyday life. In our family, these are gadgets. Any deprivation is stress, which a child already has more than enough of on a hike, and he also needs to reward himself for his efforts. For an adult, this could be strong coffee brewed over a campfire and something sweet, but for a child, a gadget will do just fine at first. The size of the power bank and the amount of free time left after the hike and completing minimal household tasks act as natural limiters.

In some matters, it is important to let the child understand what he wants, in others, it is worth taking a proactive position. For example, on the last trip, I asked adults to prepare stories in advance on topics that they consider important to convey to children. In ordinary life, there is usually not enough time for "deep" conversations, and when there is time, there is no strength, desire, or not enough knowledge to convey the idea to the child in understandable words.

There are a lot of topics for "conversations about important things" — from the history of national holidays and the differences between a tourist knife and a cold weapon (discussed in our recent hike), to retelling emotionally significant events in your life. I would like to highlight retelling TV series, including anime — this is a treasure trove of plots and topics

for communicating with a child. In addition to directly retelling the plot, there is always the opportunity to evaluate and analyze the behavior of the characters. The very same "what is good, what is bad".

The list of examples of what children like on a hike is also based on personal experience. Catching lizards. Roasting marshmallows on a campfire or burner. Eating these roasted marshmallows and other sweets. Talking to peers. Listening to adult stories. Listening to Soviet radio plays on the speaker. Touching a cloud. Playing on the phone. Composing songs. Swimming in a mountain river. Playing games on the go and at a halt (Crocodile, Contact, Something, Exploding Kittens).

When a child feels that hiking is a holiday, he will begin to develop third-level needs.

#### LEVEL 3. VICTORIES AND ACHIEVEMENTS

Remember the 1990s action movies with Van Damme or Stallone. The main character, after hundreds of hours of training, goes to the final battle with the main villain and at first gets knocked out. Everyone shouts at him, "Get up!" or "Surrender!", the enemies celebrate, the friends are sad, but at the last moment something changes in the hero's gaze, and he gets up. The villain is not yet defeated, but the main victory has already been won — victory over himself.

Let's add to this the strength of spirit of pioneers, which is familiar to us from the pages of books by Jules Verne, Jack London, Veniamin Kaverin, as well as from the ballads of Vladimir Vysotsky. It is precisely in order to experience all these emotions, and not to consume their TV/smartphone sublimates, that we go to the mountains and take our loved ones there, including our children.

Reinforcing another victory in the minds of little pioneers has a good effect on self-esteem. My wife and I gamified the hiking process for this purpose. At the end of each hiking day, children are given commemorative stickers, and at the end of the entire

hike, commemorative badges. Previously, these were just beautiful badges on the theme of hiking, but in the latest case, we have already made two badges to order for each child — according to the number of routes completed. The picture on the first was generated using a neural network, for the second, we took a photo of the most beautiful place on the route from the Internet. This seems like a trifle, but then the children keep it for years, like the most precious treasure. After all, its value is determined not by money, but by the efforts that the children made while overcoming the route.

When planning a route, I try to make it as meaningful as possible in the eyes of children. Despite the fact that from a technical point of view, we use safe non-categorized routes, we do not just walk, but "cross the Main Caucasian Ridge", "follow the glacier", "overcome a two-thousander pass", "climb to the summit", "do a mountain half marathon (21 km)", etc.

What is better, a linear route or radial trips from a stationary camp? Personally, I think that radial trips should be earned. A child (like an adult) should get used to walking with a backpack in order to appreciate the pleasure of going out light. For children aged six to eight, radial trips are more of a burden than a pleasure, because the pace of the group increases, and it becomes more difficult for the little ones, not easier. It is difficult for a child of this age to understand why he should go somewhere in order to return back in the evening, because he can not go at all and wait for everyone in the camp.

The presence of peers definitely increases the competitive spirit and makes children feel victories and defeats more acutely. But in this case, it is important to feel the mood of the group and explain to those who are having a hard time that the fight is with oneself, not with a comrade.

Here is another list of examples. Go first in a group. Climb up a field of stone blocks. Climb to the top of a mountain. Carry the biggest backpack among all the children. Run down slopes. Overcome fords. Cross snowfields.



#### ABOUT REFLECTION

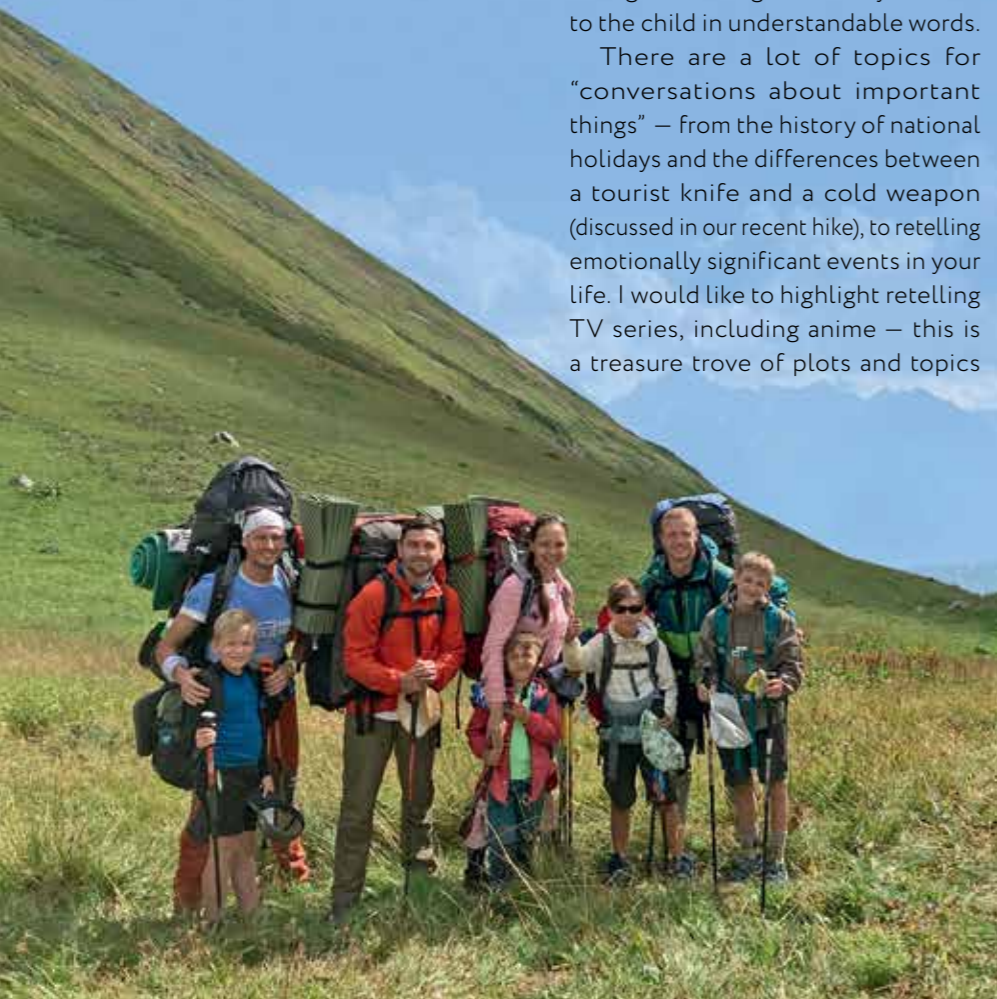
The joys and pleasures of a hike do not cancel out its hardships and deprivations. Children are more inclined to reflection than adults, and I would like to highlight two types of it. The first is reflection on the go, when things are hard. At such moments, I begin to describe to the children my impressions of the beauty of the place we have reached. This allows me to "pull" the child out of heavy thoughts and "switch" him to the world around him. When passing sections where even I have to sweat, sometimes I share this with the children so that they understand that they are not the only ones who are having a hard time. And sometimes we compose and sing songs in the style of Winnie the Pooh, in which you rhyme with the child on the go everything that has gotten on his nerves, tired him out, bored him, where it hurts, etc. On the one hand, this allows you to relieve the child's accumulated tension, on the other hand, to abstract yourself and switch the brain to coming up with funny rhymes for the difficulties he has encountered.

The second type is reflection at the end of a walking day and the hike as a whole. In the evening, we always sit around a fire with a pot of tea bubbling over it and, passing a candle

or lantern to each other in turn, talk about the emotionally significant events of the day. It is difficult to overestimate the contribution of such a life hack to the hike. This is an opportunity to feel other team members, and to note those details of the walking day that you missed, and to formulate for yourself what caught your attention.

Children, who, according to the same Vysotsky, are "eternally annoyed by their age and everyday life", grow and mature, there is no getting away from it. But I think that the romance of the first hikes, the first awards and the quickly healing abrasions from the first difficulties — all this will have a good effect on the formation of their personality, on future successes in life.

*P.S. Panorama CPC considers it necessary to warn that it is important to follow safety rules not only on a mountain hike, but also on a Sunday walk in the forest. In the latter case, there is no need to warn the EMERCOM, but it is necessary to notify one of the relatives about the walk and the estimated time of its beginning and end. Set a time for a control call and do not forget to call upon return. All this is not too burdensome, but it is important, since it allows you to save life and health.*



# LET IT SNOW

THE TRADITION OF PUBLISHING RECIPES FROM COLLEAGUES CONTINUES. FOR THOSE WHO ARE LOOKING FOR SOMETHING EXOTIC FOR THE NEW YEAR'S TABLE, WE RECOMMEND CRAFT DELICACIES IN THE TRADITIONS OF KUBAN AND STAVROPOL

## NEW YEAR'S BAKLAVA

Traditional Turkish baklava with honey, walnuts, raisins or dried apricots has been decorating the festive Cossack table "since the times of Ochakov and Crimea". But recently a friend from Dagestan introduced me to a recipe that is

### INGREDIENTS

Sugar – 500 g  
Sour cream – 200 g  
Baking powder – 10 g  
Flour – 800 g  
Chicken egg (yolk) – 3 pcs.  
Butter – 300 g  
Oranges - 4 pcs.  
Vanilla (beans) – 1 pod  
Orange jam – 1 tbsp.  
Pistachios – 100 g  
Mascarpone – 50 g

clearly homemade, not borrowed. The dough is prepared in the same way, but the filling is different. Beat three yolks, 400 g of sugar, 200 g of sour cream and 10 g of baking powder in a mixer and mix for 5 minutes with 800 g of flour and 200 g of slightly melted butter. Cover with foil and keep in the freezer for 10 minutes. Instead of classic honey, prepare syrup: squeeze 200 g of orange juice, mix with 200 g of water and 200 g of sugar, bring to a boil and cook for another 10 minutes. Pour water over the oranges and cook for 50 minutes. Cut in half, remove the seeds, cut into cubes and mix in a blender. Remove excess liquid, mix with vanilla and jam. In an oiled baking dish place layers of dough-filling-dough. Bake in the oven for



30 minutes at 180°C and then keep for another 20 minutes at 150°C. Pour cold (!) over the hot baklava.

*Maria Gnezdilova,  
Senior Specialist,  
Mass Media Relations*

## KHACHAPURI

An official monument of cultural heritage of Georgia, khachapuri can be Adjarian (a boat with omelet) and Megrelian (a flatbread with cheese).

Let's cook Megrelian khachapuri and start with the dough. Add sugar, salt, yeast to the sifted flour, pour warm (!) milk over everything and knead. Cover and leave for an hour and a half in a warm place. Then mix and leave for another 15 minutes. Pour sunflower oil into the dough, stir, divide into 4 portions, roll each into a «pancake» with a diameter of 20 cm. Grate cheese into the center, wrap the filling in the dough and carefully roll it out again. In the center, make a hole

### INGREDIENTS

Wheat flour – 600 g  
Sugar – 8 g  
Yeast – 8 g  
Salt – 5 g  
Milk – 600 g  
Sunflower oil – 75 g  
Imeretian cheese – 250 g per serving

in the top layer for steam to escape. Bake in the oven for 35 minutes at 180°C.

*Ilona Latsuzhba,  
Reception Coordinator*



WEBSITE "CPC PANORAMA" <https://cpc-online.ru/>



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