

# PANORAMA

## CASPIAN PIPELINE CONSORTIUM



Каспийский Трубопроводный Консорциум  
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### HAPPY NEW YEAR!

**DBNP-2021**  
RESULTS  
AND PERSPECTIVES

**PROFESSIONALS**  
AWARD FROM THE  
HANDS OF THE MINISTER

**THANKS TO CPC**  
BELLE ÉPOQUE  
TREASURES

**HOBBY**  
I WISH  
YOU HEALTH

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**DEAR COLLEAGUES AND FRIENDS!**

Please accept my heartfelt congratulations on the upcoming New Year!

The outgoing year was full of events, mostly positive. The Tengiz – Novorossiysk oil pipeline pumped over 750 million tons of oil in October, the 7,000th tanker was loaded at the Marine Terminal in the summer.

In 2021, we completed a significant amount of implementation of Debottlenecking Program: a significant part of construction work, delivery of equipment. The designers have begun to develop the documentation for the final stage of DBNP. The digital transformation of the company continues, the number of automated work and organizational processes is growing. In 2021, for the first time in the history of CPC, dividends were paid to shareholders, and in the future they will be paid regularly.

In the year of the 25th anniversary of CPC, we heard many pleasant, warm words about the company and its team from

government officials and industry leaders. The work of the international Consortium, the importance of the project for Russia and Kazakhstan was highly appreciated by the President of the Republic of Kazakhstan Kassym-Zhomart Tokayev, Deputy Prime Minister of the Russian Federation Alexander Novak, the energy ministers of both states, the heads of the world's leading energy companies that are part of CPC shareholders: Transneft, Chevron, KazMunayGas, ExxonMobil, Shell.

In this anniversary year for the company, many CPC employees received well-deserved awards, some of which were personally presented by the President of the Republic of Kazakhstan Kassym-Zhomart Tokayev and the Minister of Energy of the Russian Federation Nikolay Shulginov.

In the second half of the year, amid an unrelenting epidemiological threat, the indicators of the collective immunity of the CPC exceeded 80%. It is important for everyone to get vaccinated: this is the only way we can defeat the pandemic.

Support for medical institutions continues to prevail in charitable projects implemented in the regions of CPC's presence. Our traditional projects are also continuing and succeeding. In 2021, the "CPC for Talented Children" festival set another record for the number of participants. During the implementation of the ecological project «Protect Nature of Our Native Land», we support the populations of sturgeon fish in the Astrakhan region, deer in Stavropol, saigas in Kalmykia.

2022 is coming. I hope that all of us will see changes for the better and the implementation of our plans and prospects. Thank you for the always needed team cohesion. I wish it to continue to help the CPC team to successfully overcome the challenges of the time. I also wish you to celebrate the holiday in the circle of relatives in a good mood, good luck in all your endeavors, health and happiness.

Happy New Year!

**N.N. GORBAN,**  
GENERAL DIRECTOR  
CASPIAN PIPELINE CONSORTIUM





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# DBNP: INTERIM RESULTS AND PERSPECTIVES

ACCORDING TO THE TRADITION ESTABLISHED DURING THE IMPLEMENTATION OF THE DEBOTTLENECKING PROGRAM, THE DECEMBER EDITION OF CPC PANORAMA DISCUSSES THE CURRENT STATUS OF DBNP AND PLANS UNTIL THE END OF 2021



**D**espite all the difficulties associated with both the difficult epidemiological situation and the specifics of work at existing facilities (cramped work conditions, work in an existing production environment, limited time for scheduled oil pumping outages), in 2021 CPC has made significant progress towards the implementation of the Debottlenecking Program.

In conditions of high workload of the general designer of the DBNP – Giprovostokneft JSC – with the assistance of the highly qualified CPC project team, the design for the main scope of work of the Program has been fully completed, and the development of documentation for the final stage of the DBNP has begun.

In order to ensure that the newly commissioned DBNP facilities

comply with the best practices in the automation of the CPC oil pipeline system, in 2021, contracts were concluded with specialized contractors – system integrators for local control systems, fire and gas detection systems and the SCADA system.

As of October 2021, CPC ensured the supply of the main volume of equipment with a long production time to the DBNP facilities, including tubular products and valves, pumping and turbine equipment, electric drives, frame buildings, and others. CPC plans to complete the full

scope of equipment supply by the end of 2021.

In the spring of 2021, CPC ensured the mobilization of construction contractors VELESSTROY LLC and VELESSTROY LLP in compliance with all the necessary labor protection, industrial safety and environmental protection requirements. To accomplish this task, during the period of pre-mobilization activities, checklists of actions before mobilization and before the start of construction were developed and applied. Thus, the readiness of contractors to enter the site was confirmed by a variety of parameters, including compliance with measures to prevent the spread of the new coronavirus infection Covid-2019.

At the moment, the contractors VELESSTROY LLC and VELESSTROY LLP have opened the front of construction and installation works

on all DBNP objects at the Tengiz PS, Atyrau PS, Astrakhanskaya PS, Komsomolskaya PS, PS-2, A-PS-4A, A-PS-5A, Shore facilities of the Marine Terminal. The number of contractors' personnel involved in the DBNP sites in the Russian

complexity of the work performed, CPC is confidently moving towards the achievement of the primary goal of the Program – ensuring mechanical readiness for pumping oil in the amount of 81.5 MTA by no later than January 31, 2022.



THE OVERALL  
READINESS OF  
DBNP OBJECTS IS  
ESTIMATED

AT  
**30%**

Federation and the Republic of Kazakhstan is approaching 1000 people. At the current moment, the overall readiness of DBNP objects is estimated at 30%. Despite the point delays related to the specifics and

Particular attention is paid to works that can be performed only during limited periods of stopping oil pumping through the pipeline. This includes work on tapping into existing pipelines and carrying





CPC proves the effectiveness of existing Program management tools and its commitment to compliance with high HSE standards. This is best evidenced by the numbers: the total number of hours worked without incidents and events with a potentially high probability of severe consequences as of September 30, 2021, is 264,849, and since the beginning of the implementation of the DBNP – 1,919,192. The total mileage of DBNP vehicles without registered accidents as of September 30, 2021 is 2,364,960 km, and since the beginning of the implementation of DBNP – 2,773,132 km.

In order to ensure control over the progress of the Program, CPC has implemented and operates an effective system for monitoring the progress of work, calculating progress and tracking the costs of DBNP. The work performed by contractors is kept on an ongoing basis, and the work critical for ensuring mechanical readiness to increase pumping volumes is under special control. In accordance with the current forecast of costs, at the time of completion of DBNP, the construction of all objects of the Program will be implemented within the budget approved by the CPC shareholders: 599.9 million US dollars. ●

out work on integration testing of control systems, as well as fire and gas detection. In order to ensure safety during the execution of work, pre-start safety checks (PSSC) are carried out, aimed at confirming the readiness to perform work on a large number of parameters.

The work carried out during the periods of planned oil pumping outages in the spring and autumn of 2021 was completed successfully. Among them, part of the work was completed, which was previously envisaged for implementation at a later date. Thus, in the Russian Federation, during the planned pumping stop in October 2021, at

the Komsomolskaya PS, tie-ins were made not only of the input and output manifolds of the Mainline pump (MLP) with a gas turbine unit (GTU), but also a tie-in of the recirculation line, previously planned for stop of pumping in April 2022. In the Republic of Kazakhstan, a complex of tie-ins for the pressure reduction unit at the Tengiz PS was successfully completed, and commissioning work on the construction of new measuring lines for LACT004 was successfully completed.

Despite the fact that the number of contractors' personnel and the DBNP team at construction sites is very close to the peak values,

CPC PRESS SERVICE

## MEASURES TAKEN

IN SEPTEMBER AND THE FIRST HALF OF OCTOBER AT THE CPC MARINE TERMINAL, SPM-1 WAS REPAIRED, AND EXPANSION JOINTS WERE REPLACED WITH SPM-2. AFTER THESE OPERATIONS, BOTH SINGLE POINT MOORINGS WERE HYDRO-TESTED AND RESUMED OPERATION

According to preliminary data from the technical survey, internal damage to one of the two SPM-1 expansion joints caused an incident with an oil release during the loading of a tanker on August 7, 2021. The management of the Consortium, in agreement with the shareholders, decided to replace the expansion joints at SPM-1 and, as a preventive safety measure, at SPM-2.

The order for new expansion joints was promptly placed with the SPM manufacturer, IMODCO (Monaco). In a short time, the required number of parts was delivered to the CPC Marine Terminal.

Repair of SPM-1 was carried out on September 5, 2021. The expansion joints were replaced by specialists of Transneft Service LLC (the CPC marine equipment maintenance contractor) in accordance

with the manufacturer's technical documentation and in compliance with the requirements of the Russian state supervisory.

The repaired single point mooring was commissioned on 11 October. On this day, with the participation of the tanker Alatau (chartered by National Company KazMunayGas JSC, operator of the NMSC Kazmortransflot), hydro-tests of SPM-1 were successfully carried out. The water used in the hydro-testing process was loaded onto a tanker and taken out. The next operation involving the tanker Alatau was the shipment of oil in the amount of 90,000 tons. The Aframax class vessel with a deadweight of 115 896 tons was loaded in the normal mode and was completed on October 12, 2021 at 09:00, after which the vessel set off on a voyage.

On the same day, at the CPC Marine Terminal, the planned replacement of expansion joints on the second single point mooring was carried out. The replacement of these parts on the SPM-2 was carried out before they service life had expired by specialists of Transneft Service LLC and became an additional preventive measure to ensure the safety of production.

Successful acceptance tests of SPM-2 took place on October 15, 2021. The water used in the hydro-testing of the single point mooring was loaded onto the tanker and taken out for disposal. Upon completion of the tests, SPM-2 was put into operation. Currently, the crude oil shipping and lifting processes at all CPC locations, including the Marine Terminal, are on schedule. ●





**AUTHOR**  
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# SPECIAL PURPOSE SERVICE

DIAGNOSTICS, MAINTENANCE AND REPAIR ARE THE NECESSARY PROCEDURES TO MAINTAIN OPERATING CAPACITY AND ENSURE THE UNINTERRUPTED OPERATION OF THE EQUIPMENT OF OIL PIPELINE TRANSPORTATION FACILITIES. AND THE MORE COMPLEX THIS EQUIPMENT IS, THE HIGHER THE REQUIREMENTS FOR THE QUALIFICATION OF SERVICE PERSONNEL

The organization of maintenance and repair (MR) of equipment at enterprises plays a crucial role in modern economic conditions, characterized by a high level of competition against the background of crisis situations, which have recently replaced each other with disappointing constancy. Any malfunctions and breakdowns of equipment are forced downtime, additional loss of time and money. Therefore, the rational organization of maintenance and repair of equipment, especially for enterprises with a continuous production process, plays a critical role in ensuring successful economic activity.

To perform diagnostics, maintenance and repair of complex procurement at the facilities of CPC-R in accordance with the requirements of Contract No. R-OD-17-0278 dated December 25, 2017, a group of highly qualified specialists has been created at STARSTROY, which has specialized equipment and tools to perform their tasks.

The group for the repair and diagnostics of complex equipment and REIME towers is subordinate to the Chief Mechanic of STARSTROY. The structure of the group is shown in the figure.

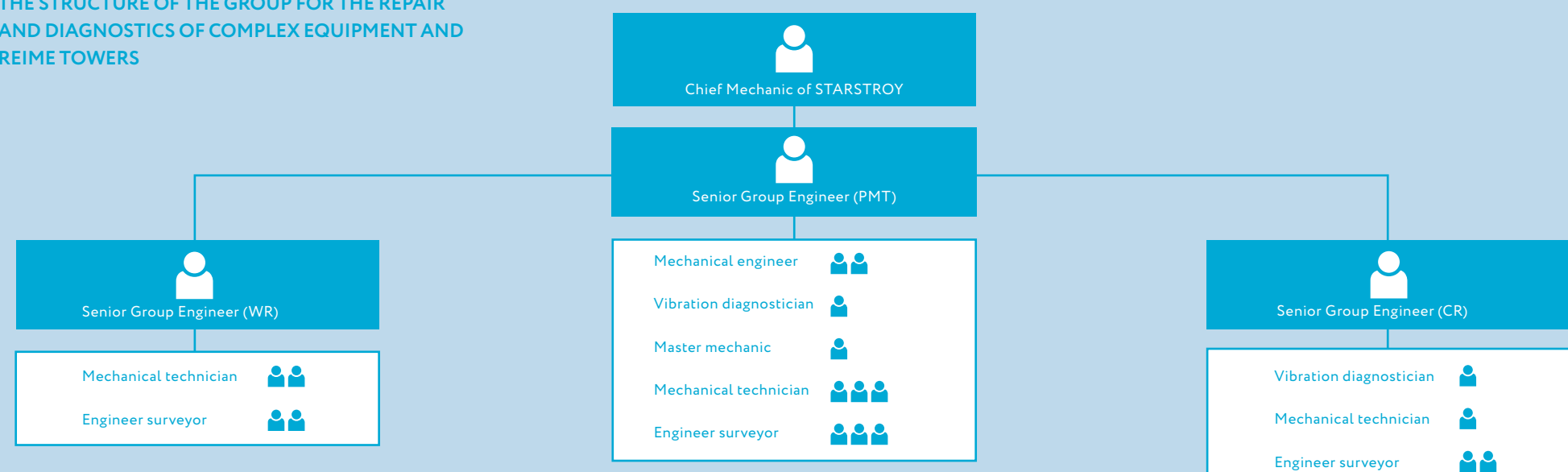
The group for the repair and diagnostics of complex equipment and REIME towers performs a wide range of works at the facilities of CPC-R, geographically located from the border with the Republic of Kazakhstan to the Marine Terminal in Yuzhnaya Ozereevka near Novorossiysk. This includes technical inspections of high-rise buildings (including those using industrial mountaineering methods) and geodetic work — leveling, determining the planned height position, checking the deviation from the vertical. The group also tests and adjusts safety and breathing valves, fire barriers as part of tank equipment, checks the efficiency of ventilation systems.

The Group's specialists carry out maintenance and repair of mainline pumping units, diesel drives, compressors and industrial air conditioners. Laser alignment of equipment, balancing, vibration diagnostics and vibration monitoring of equipment with rotation units are performed.

The successful solution of problems in the field of repair of complex procurement is facilitated by equipping the Group with high-tech modern equipment and devices,



## THE STRUCTURE OF THE GROUP FOR THE REPAIR AND DIAGNOSTICS OF COMPLEX EQUIPMENT AND REIME TOWERS



RATIONAL ORGANIZATION OF MAINTENANCE AND REPAIR OF EQUIPMENT PLAYS A CRITICAL ROLE IN ENSURING A SUCCESSFUL BUSINESS





of funds sufficient not only to purchase equipment in accordance with the obligations, but also to provide the necessary reserve.

The issues of personnel qualification and, as a result, high-quality work performance are somewhat more complicated and require a comprehensive solution. The main feature of the Group for the repair and diagnostics of complex equipment and REIME towers is the

need to combine diverse professions and skills of specialists, including in combinations that are rarely found on the industry market. For example, a mechanical technician (or master mechanic) must simultaneously be a specialist in diesel internal combustion engines, be able to maintain and repair pumping and compressor equipment, as well as perform technical inspections of high-rise buildings using industrial mountaineering methods.

Therefore, STARSTROY, along with careful selection of highly qualified specialists, pays great attention to their professional training, advanced training and expansion of activities. For this, all possible options are used, ranging from technical training at the workplace and ending with training from manufacturers of specialized equipment.

Work planning plays an important role in realizing the Group's potential.

Within the framework of the concept of scheduled preventive maintenance and repairs adopted by CPC, STARSTROY uses multilevel planning – annual MR schedules are developed and coordinated with CPC annually, on the basis of which monthly and weekly work plans are then created. Such an approach, on the one hand, ensures the fulfillment of strictly regulated requirements for the frequency and volume of MR, and on the other hand, it is flexible enough to promptly

respond to changes in the current state of the serviced equipment and allows you to carry out the necessary corrective measures without compromising the entire process of scheduled preventive maintenance and repair.

Advanced technical equipment, highly qualified specialists and managers with unique long-term experience – all this allows STARSTROY to be ready for any challenges and be confident in the ability to solve problems of any complexity.

## WORK PLANNING PLAYS AN IMPORTANT ROLE IN REALIZING THE GROUP'S POTENTIAL

high qualification of personnel and maintaining it at the proper level, ensuring high-quality performance of diverse highly qualified work in conditions of a limited number of personnel, rational distribution and use of available labor resources when performing work at the facilities of CPC-R located at a considerable distance from each other.

The budget of STARSTROY provides for the annual allocation

## LASER ALIGNMENT OF EQUIPMENT, BALANCING, VIBRATION DIAGNOSTICS AND VIBRATION MONITORING OF EQUIPMENT WITH ROTATION UNITS ARE PERFORMED





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# A YEAR WITHOUT ILLEGAL TAPS

IN 2020, FOR THE FIRST TIME IN THE COMPANY'S HISTORY, THE CPC OIL PIPELINE ACHIEVED A ZERO RATE OF ILLEGAL TAPS. 2021 COMES TO AN END SO FAR ALSO WITH ZERO COUNT

Illegal taps into oil pipelines and oil product pipelines in Russia have long grown into a large shadow business. According to various estimates, criminals annually intercept up to 10% of all transported oil and oil products, which is more than 5 million tons. According to the Center for the Study of Regional Programs (CSRP), the most "criminal" regions of Russia for such crimes are the Samara, Chelyabinsk and Leningrad regions, as well as the

Republic of Dagestan. More than 200 illegal taps are recorded annually in these regions alone, and this is only according to official data. A large number of illegal taps attempts, including attempted tie-ins, do not fall into these statistics. Krasnodar Territory is also among the top ten "leaders" in terms of the number of illegal taps – more than 130 cases over the past 10 years.

Single criminals are not engaged in oil theft; for this purpose entire

criminal groups are created, having in their arsenal advanced technologies, modern tools, qualified specialists and the necessary relationships. Such groups are mainly aimed at the linear part of oil pipelines, since it is there that there are a number of "advantages": shallow burial of pipelines, remoteness from settlements, equipment with special identification marks.

When it comes to combating illegal taps and theft of oil and oil products, there is no clear answer

about the effectiveness of a particular instrument. Usually, enterprises in the fuel and energy sector use various means in combination: aerial photography, shock wave methods, technical means that record pressure drops in the pipeline, physical protection methods, and others. Nevertheless, the problem of illegal taps does not lose its relevance. Criminal methods are becoming more sophisticated and secured in technological and technical terms. A lot of money is spent on the development of a criminal strategy, which forces the management of oil transportation companies, in turn, to increase costs for the development of new principles for the protection and safety of pipelines.

Thus, according to the official statistics of Transneft PJSC, illegal taps in 2020 caused damage to the company in the amount of more than 600 million rubles. At the same time, 106 illegal taps were revealed in oil product pipelines and 35 in oil pipelines.

As a large oil transportation company with a linear section of more than 1.5 thousand kilometers, the Caspian Pipeline Consortium also faces the



problem of illegal taps. The history of CPC shows that over 20 years of transportation, the problem of vulnerability of the linear part of the oil pipeline has been and remains relevant.

was created, which made it possible to comprehensively, regularly and timely assess potential risks and threats. The optimal alignment of physical protection forces, the use of new means and methods of engineering and technical

## UNMANNED AERIAL VEHICLES APPEARED IN SERVICE IN THE SECOND HALF OF 2021

As the analysis of statistical data has shown, the largest number of illegal taps and attempted tie-ins coincided in time with changes in security contractors, since it was during this period that physical protection was weakened. Therefore, in 2019, it was decided to revise the principles of physical protection and switch to a general contracting strategy for protection.

As a result of the measures taken, a unified system of physical protection

protection, as well as equipping vehicles with a unified on-board monitoring system showed their effectiveness and did not allow any illegal taps to happen in 2020. For the first time in the history of the Company, a zero rate of illegal taps was achieved.

But the time and technologies of criminals do not stand still, which entails the need to introduce and apply new means and methods of protection, increasing their efficiency and effectiveness. Thus, in the second half of 2021, unmanned aerial vehicles appeared in service of the security contractor, which regularly monitor the linear part of the main CPC oil pipeline and adjacent territories. The company constantly continues to develop new, as well as improve existing methods of guarding and protecting its facilities from criminal encroachments.





# CPC DRILLS 2021: TIME AND SPACE

CPC ANNUALLY CONDUCTS AT LEAST 10 MAJOR OIL SPILL RESPONSE AND FIREFIGHTING DRILLS. LARGE-SCALE TRAININGS ALLOW ASSESSING THE READINESS OF THE PERSONNEL AND CONTRACTORS OF THE CONSORTIUM FOR EMERGENCY SITUATIONS.

## October 21. Kuban river underwater crossing (1410-1412 km)

**Legend:** Spill of 5200 tons of oil 100 m offshore with a spill area of 6500 m<sup>2</sup> due to unauthorized tapping. Ignition of oil, thermal burn of an employee during extinguishing, falling into the water of an employee when installing booms.

**Participants:** WR staff (CPC-R), ERC of STARSTROY LLC, Nachin Private Guard Company, FERD of CEREO JSC, EMERCOM of Russia employees, ambulance.

**Actions:** The oil pipeline was shut down by the dispatcher of the main control center, the section was cut off by valve nodes, security posts were set up. The population of the nearest settlements was notified and evacuated. By the forces and means of the ERD, the spill was contained and cleaned up, the oil pipeline section was repaired.

## July 19. Chernozemelsky Canal (856 km)

**Legend:** Oil spill with a spill area of 200 m<sup>2</sup>.

**Participants:** PS-2 staff (CPC-R), ERC of STARSTROY LLC, Nachin Private Guard Company.

**Actions:** The oil pipeline was shut down by the dispatcher of the main control center, the section was cut off by valve nodes, security posts were set up. By the forces and means of the ERD, localization and elimination of the conditional spill, repair of the oil pipeline section were carried out.

## August 23. Akhtuba river (549 km)

**Legend:** Oil spill with a spill area of 100 m<sup>2</sup>.

**Participants:** A-PS-4A staff (CPC-R), ERC of STARSTROY LLC, Nachin Private Guard Company.

**Actions:** The oil pipeline was shut down by the dispatcher of the main control center, the section was cut off by valve nodes, security posts were set up. By the forces and means of the ERD, localization and elimination of the conditional spill, repair of the oil pipeline section were carried out.

## August 12. Ural River (209 km)

**Legend:** Oil spill on the right bank with a spill area of 25,000 m<sup>2</sup> on water and 2,000 m<sup>2</sup> on land.

**Participants:** Atyrau ERC of KazTransOil JSC, regional UTWS of KTO, "Barys Atyrau Security" LLP.

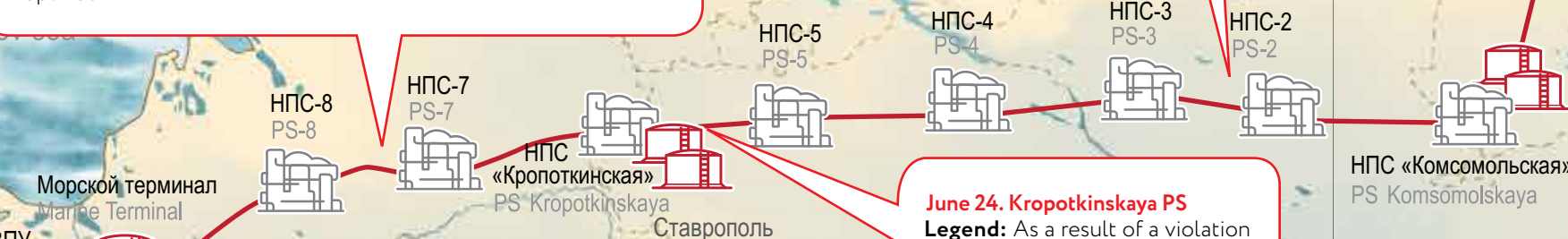
**Actions:** The oil pipeline was stopped by the dispatcher of the Main Control Center, the section was cut off with ball valves, security posts were set up. By the forces and means Atyrau ERC and regional UTWS of KTO localization and elimination of the conditional spill, repair of the section of the oil pipeline.

## September 22. Atyrau PS

**Legend:** Oil spill through flange joints of pipelines VFRT-20000, spill over an area of 100 m<sup>2</sup> with ignition.

**Participants:** VFB of PS (CPC-K), "Ort Sondirushi", Department of Emergency Situations, 7 units of special equipment.

**Actions:** Pumping operations were suspended, unused personnel were evacuated. The fire was extinguished using the GPS-600 (extinguishing) and SLS-20 (cooling the walls of the tanks) barrels. The exercises were carried out at an air temperature of +42 °C.



## July 21. Marine Terminal

**Legend:** Guillotine destruction of an underwater pipeline when loading a tanker at a single point mooring (SPM) with an output of 624.42 m<sup>3</sup> of oil and fire on the water surface.

**Participants:** FERD of CPC-R and Transneft-Service LLC. A total of about 200 specialists and 17 fleet units.

**Actions:** Tanker loading stop. OSR (Oil Spill Response) plan activation. Deployment of the Operations Management Headquarters (OMH). Localization and elimination of the spill in the sea by mobile oil collection orders. Extinguishing a fire from a support vessel. Coastal protection.

## July 20. MT Tank farm

**Legend:** Combustion of oil in VFRT-100000 over the entire mirror area (7148 m<sup>2</sup>).

**Participants:** VFB of PS (CPC-R), Kuban Fire Protection LLC, PERS Rescue Service, EMERCOM of Russia employees. A total of 52 people, 15 pieces of equipment.

**Actions:** Pumping and shipping operations have been suspended. Foam attack using the Fishcon system. Cooling of surfaces of "burning" and adjacent tanks.



## June 24. Kropotkinskaya PS

**Legend:** As a result of a violation of fire safety rules during routine repair work on the VFRT-50000, oil ignited over the entire area of the mirror (2892 m<sup>2</sup>).

**Participants:** VFB of PS (CPC-R), EMERCOM of Russia employees, 45 people in total, 11 pieces of equipment.

**Actions:** Pumping operations were suspended, unused personnel were evacuated. Foam attack using the Dominator-9000 system. Cooling of surfaces of "burning" and adjacent tanks.



## June 25. Kurmangazy PS

**Legend:** Oil spill at the site of ball valves of the main pumping station. Spillage on an area of 30 m<sup>2</sup>, followed by ignition and an increase in the seat of fire on an area of up to 180 m<sup>2</sup>.

**Participants:** VFB of PS (CPC-K), 6 FERD of "Ort Sondirushi", Department of Emergency Situations. A total of 38 people, 4 units of special equipment.

**Actions:** Pumping operations were suspended, unused personnel were evacuated. The fire was extinguished using the GPS-600 (extinguishing) barrels and "A" (cooling of structures).

## June 10. Emba river underwater crossing (83 km)

**Legend:** Operational spill on the left bank with a spill area of 204 m<sup>2</sup>.

**Participants:** Tengiz ERC of KazTransOil JSC, WAOS of KTO, BAS LLP.

**Actions:** The oil pipeline was stopped by the dispatcher of the Operation Control Center, the section was cut off with ball valves, security posts were set up. By the forces and means of WAOS of KTO, localization and elimination of a conditional spill, repair of a section of the oil pipeline.

## November 5. Tengiz PS

**Legend:** Oil spill at the main pumping unit. Spillage on an area of 30 m<sup>2</sup>, followed by ignition and an increase in the seat of fire on an area of up to 650 m<sup>2</sup>.

**Participants:** VFB of PS (CPC-K), 6 FERD of "Ort Sondirushi" JSC, FER of TCO LLP, Department of Emergency Situations. A total of 22 people, 4 units of special equipment.

**Actions:** Automatic shutdown of all oil pipelines. Pumping operations were suspended, unused personnel were evacuated. Fire brigades have been deployed on firefighting equipment. The fire was liquidated using the barrels PLC-20, PLC-50 (extinguishing) and "A", "B" (equipment cooling).





AUTHOR  
PAVEL KRETOV

# TOGETHER FOR VICTORY

IN SEPTEMBER 2021 KUBAN HELD THE IX CPC SAFETY DAY.  
PARTICIPANTS OF THE INTERNATIONAL EVENT DEMONSTRATED  
EXCELLENT TRAINING IN THE FIELD OF SAFE PRODUCTION

The ceremonial opening of the Safety Day took place in the presence of honored guests, among whom were representatives of the Krasnodar Krai administration, Consortium Shareholders, and energy sector organizations. CPC General Director Nikolay Gorbun welcomed the participants.

"The main goal of the Safety Day is to demonstrate the joint work of management and personnel in the field of labor protection and industrial safety. We once again confirm that human life is the highest



NIKOLAY GORBUN



and absolute priority for us", said the Head of Consortium.

Commercial Manager of Chevron Corporation, Nikolay Avdulov participated already in the fifth CPC Safety Day and said that he was always looking forward to this holiday.

"We fully support the efforts of CPC management in the field of labor protection and safe production, because this is also a priority for our corporation", Nikolay Avdulov emphasized.

ExxonMobil Corporation Oil Movements Manager Jeroen Herpels said it was an excellent opportunity to exchange views on improving safety of work. He expressed satisfaction

with the success of the Consortium team in the development of a Safe Work Culture and, in particular, in the creation of a management system in the field of labor protection and industrial safety for the Debottlenecking Program, taking into account the experience of the Expansion Project.

The event was attended by 16 teams representing Russian and foreign

companies: CPC teams of the Eastern, Central, Western regions, the Marine Terminal and DBNP, the companies VELESSTROY RF, VELESSTROY RK, PromExpert, STARSTROY, Master-Service, Ekra, Nachin, UTP, CIS, KazTransOil and Giprovostokneft. In total, almost 200 people tested their strength in the competition program.



NIKOLAY AVDULOV

"WE ONCE AGAIN CONFIRM THAT HUMAN LIFE  
IS THE HIGHEST AND ABSOLUTE  
PRIORITY FOR US"







JEROEN HERPELS



### THE INNOVATION OF THIS YEAR WAS THE COMPETITION OF TEAM CAPTAINS HELD ON A SEPARATE SITE

As a reminder, CPC Safety Days traditionally have their own unique, recognizable motto. Thus, the 2015 competitions in Novorossiysk were held under the slogan "Safety is the key to victory". The slogan of the 2017 Stavropol holiday is "Impossible is possible!" The next year, 2018 in Krasnodar, the participants identified the strongest team under the motto "Step forward!" In 2019, in the steppes of Kalmykia, they competed in the "Games of the Elements". This year's motto is "Together". With the help of a lot, the teams were united in pairs so that they literally walk together to victory.

The Safety Day program consisted of four competitions, which included testing of knowledge and skills in a non-standard form in such

disciplines as first aid rules, fire and environmental safety, the use of personal and collective protective equipment, electrical safety, and safe driving.

At one of the sites, representatives of the fire department had to extinguish an improvised fire – the painted flame was thrown with waterbags. The contest to rescue drowning people in a pool with balloons was spectacular: the actresses calling for rescue had to

be transported to a safe place as soon as possible. And the contestants also provided first aid. The victim was a special medical simulator.

The innovation of this year was the competition of team captains held on a separate site. They demonstrated



athletic and leadership qualities, while earning additional points for their squads.

As a result, after calculating all the indicators in the jury's protocols, representatives of the CPC Marine Terminal were named the strongest team in 2021. They were slightly ahead of their colleagues from the Central Region. The bronze medalist was the team of STARSTROY LLC.

Shareholders and heads of CPC divisions and invited companies not only watched the competition. They decided how to make the work of



IGOR LISIN



employees even more comfortable and safe.

The round table is primarily aimed at the cohesion of managers. It sums up the results of the year, checks the labor protection obligations that we made to each other as managers last year, and sets plans for the future", said Igor Lisin, CPC Technical Director.

All the leaders participating in the Round Table signed personal commitments on labor protection, industrial safety and environmental protection for 2022.

Also, as part of Safety Day events, the participants visited the PS-8, where they were given a tour of the production area of the facility. ●







AUTHOR  
PAVEL KRETOV

## WHOLE TEAM INPUT

IN HONOR OF THE 25TH ANNIVERSARY OF THE CASPIAN PIPELINE CONSORTIUM, THE PRESIDENT OF THE REPUBLIC OF KAZAKHSTAN KASSYM-ZHOMART TOKAYEV PRESENTED STATE AWARDS TO CPC EMPLOYEES AND VETERANS IN NUR-SULTAN

The festive event was attended by Deputy Prime Minister of the Russian Federation Alexander Novak, Deputy Prime Minister of the Russian Federation Alexey Overchuk, President for Exploration and Production in the Eurasian-Pacific Region of Chevron Corporation Nigel Hearne, President of LUKOIL PJSC Vagit Alekperov, First Vice President Transneft PJSC Maxim Grishanin and other honored guests.

"The consortium is a key element of the oil and gas complex of Kazakhstan, making a significant contribution to the economic development of the country and ensuring the well-being

of citizens. Without any exaggeration, CPC is a mega-project. I hope it has a long future", said the President of the Republic of Kazakhstan.

The head of state stressed that the international project is of particular importance to him since he personally took part in the beginning of the construction and launch of the Tengiz – Novorossiysk oil pipeline.

The President of Kazakhstan presented the CPC General Director Nikolay Gorban with the "Dostyk" Order of the 1st degree. The award list noted that the head of the company "made a great personal contribution to the

successful completion of the Expansion Project, including the commissioning in the Republic of Kazakhstan of two new and two modernized oil pumping stations, as well as the linear part of the oil pipeline, successfully leads the multinational team of Caspian Pipeline Consortium-K JSC", contributing to the further development and strengthening of friendly ties between the peoples of Russia and the Republic of Kazakhstan".

CPC-K Deputy General Director for Government Relations with the Republic of Kazakhstan Kaigeldy Kabyldin was awarded the "Barys" Order of the II degree. For 44 years of work in the fuel and

energy complex, Kaigeldy Maksutovich made a significant contribution to the development of the oil transportation industry of the Republic, stood at the origins of the CPC, actively participated in the further formation and development of the Consortium.

Deputy Manager for Operation and Maintenance of CPC-K Rafael Ualiev was awarded the "Kurmets" Order. Over 21 years of work in the industry, he has demonstrated undeniable leadership qualities and the ability to responsibly solve the most complex production tasks. For his great personal contribution to the successful completion of work on

PS. Baktybay enjoys well-deserved authority and respect from colleagues.

Tengiz PS Manager Ondasyn Shakan was awarded the Order of "Enbek Danky" of the III degree. Over 35 years of work in the pipeline industry, he has passed the stages of a Technological Unit Operator, Commodity Operator, PS Operator, Shift Supervisor, and Deputy Manager of the PS. Since 2020, he has been working in his current position.

Galimzhan Sarsenbayev, Deputy Manager of the Kurmangazy PS, was awarded the Order of "Enbek Danky" of the III degree. Since 2007 he has been working for an international Consortium.

### CPC IS A KEY ELEMENT OF THE OIL AND GAS COMPLEX OF KAZAKHSTAN

the CPC Oil Pipeline System Expansion Project, Rafael was previously awarded the departmental award of the Ministry of Energy of the Republic of Kazakhstan – the badge "Honored Worker of the Oil and Gas Industry".

The Order of "Enbek Danky" of the II degree was awarded to the CPC veteran, former Deputy Manager of Atyrau PS Salamat Altynaliyev. In 1995, he headed the Tengiz main oil pump station, which was part of KazTransOil CJSC until 2000. Salamat took an active part in the formation of the Tengiz PS team, ensured filling and commissioning of the Tengiz – Novorossiysk oil pipeline system in 2001. In 2019, he moved to the position of Deputy Manager of the Atyrau PS.

The order of "Enbek Danky" of the III degree was awarded to the work of the Instrumentation Technician of the Tengiz PS Baktybay Aitzhanov. Almost 30 years of his experience are associated with the oil and gas industry of the Atyrau region. In 1992 he was hired as Operator of Tengiz main oil pumping station. In 1999, he moved to the position of a technician for control and measuring devices and automation at the Tengiz

He started as an Operator of Technological Units, the next year he was transferred to the position of Operator of the PS, and a year later he became Shift Supervisor of Tengiz PS. In 2014, he took up the duties of Deputy Manager of the Kurmangazy PS. The award list noted his active participation in the expansion and reconstruction of the Tengiz PS, Kurmangazy PS together with employees of contractors and the commissioning group.

Oleg Karabasov, Operator of the Atyrau PS, was awarded the "Eren enbegi ushin" medal. From 2002 to 2011, he worked for the CPC pipeline maintenance contractor. In 2011, he was hired by CPC-K as an Operator of the Atyrau PS. The vast professional experience, skills and theoretical knowledge accumulated over the years of work Oleg Karabasov transfers to young people, takes an active part in solving complex technical issues.

A veteran of the oil and gas industry with 45 years of experience, Zinon Abdrakhmanov, was awarded a letter of gratitude with the "Algys Khat" badge. Zinon Bakhtiyarovich worked in 1998-2004 as Regional Manager of the Eastern Region of CPC, was a participant in the commissioning of the Tengiz – Novorossiysk oil pipeline.

Kassym-Jomart Tokayev called the coincidence of the quarter-century anniversary of the Caspian Pipeline Consortium with the 30th anniversary of Kazakhstan's independence deeply symbolic. The President noted the significant contribution of the CPC workforce to ensuring the stable operation of the pipeline, expressing gratitude to all project participants, veterans and shareholders of the Caspian Pipeline Consortium and wishing them well-being and success. ●







AUTHOR  
GULNAR MALGAZH DAR

## CPC – THE MAIN EXPORT ROUTE OF KAZAKHSTAN

IN EARLY OCTOBER, THE CAPITAL OF KAZAKHSTAN, NUR-SULTAN, ONCE AGAIN BECAME THE CENTER OF ATTRACTION FOR INTERNATIONAL OIL AND GAS PRODUCING AND OIL SERVICE COMPANIES

The reason for this was the key international events in the energy industry – the XIV KAZENERGY Eurasian Forum and the World Energy Week. Representatives of relevant departments and leading industry companies of Kazakhstan, CIS countries and far abroad took part in the events.

On October 7, as part of the Forum's business program, a panel session was held on the topic "CPC – the main export route of Kazakhstan", dedicated to the 25th anniversary of the Caspian Pipeline Consortium. Veterans of the oil and gas industry, public and political figures, deputies, heads of national companies and state organizations received invitations to the event.

The Minister of Energy of the Republic of Kazakhstan Magzum Mirzagaliyev, General Director of CPC

Nikolay Gorban, Deputy Chairman of the Board of NC KazMunayGas Daniyar Berlibayev, General Director of Tengizchevroil LLP Kevin Lyon, Deputy General Director of Karachaganak Petroleum Operating BV Kuanysh Kudaibergenov, Deputy Managing Director of NCOC Erme

capital of Kazakhstan – the city of Nur-Sultan", Nikolay Gorban noted.

25 years ago, on December 6, 1996, the CPC Shareholders' Agreement was signed in Moscow. For a quarter of a century now, a unique international project has been successfully operating on the

### "FOR OUR COMPANY, PARTICIPATION IN THE KAZENERGY EURASIAN FORUM IS A LANDMARK"

Marabaev and CPC-K Deputy General Director for Government Relations with the Government of the Republic of Kazakhstan Kaigeldy Kabyldin.

Speaking to the participants of the event, CPC General Director Nikolay Gorban congratulated Kazakhstanis on the upcoming anniversary of independence of the republic.

"For our company, participation in the KAZENERGY Eurasian Forum in the year of the 30th anniversary of independence is a landmark. Indeed, this year CPC is also celebrating an anniversary date – the 25th anniversary of the Consortium's foundation. It is especially pleasant to talk about this within the framework of the World Energy Week, which is being held for the first time in the

territory of Kazakhstan and Russia. Its successful implementation made it possible to create a favorable investment climate for the dynamic development of the main driver of the economy of Kazakhstan – the oil industry and contribute to the development of all regions of CPC presence in Russia and Kazakhstan.

During his speech, Nikolay Gorban shared the results of the company's activities since the inception of the project. In particular, he spoke about the progress of the implementation of the Debottlenecking Program, which will optimize the transportation process and obtain additional capacities for pumping oil.

"In Kazakhstan, the important stages of this work will be the







the Atyrau-Samara pipeline. In this regard, the expansion of the transport potential was the key to the successful development of the entire oil and gas industry of the country. Many options were considered for the construction of an export oil pipeline from Kazakhstan, more than 10 routes for transporting oil for export were proposed. In the end, the experts identified the most profitable and safest route – Tengiz – Atyrau – Novorossiysk.

Each of the speakers noted that today the CPC project serves as a vivid example of successful multilateral cooperation.

“CPC is a living artery of the oil and gas industry of Kazakhstan, without this pipeline we are unlikely to have achieved such results. At the dawn of independence, we doubted how we can export our oil to international markets? As a result, today we see that the CPC project has become a symbol of reliable and business cooperation between Kazakhstan, Russia and foreign investors”, said Honored Industrial Worker of the Republic of Kazakhstan Baltabek Kuandykov.

Running through the territory of Kazakhstan and Russia, connecting

modernization of pumps and all auxiliary systems at the Tengiz PS”, noted Nikolay Gorban. “Upon completion of this program, CPC will be able to pump up to 72.5 million tons of oil per year from Kazakhstan with the optimized use of drag reducing agents and up to 83 million tons of oil per year together with raw materials from Russian shippers.”

In his speech, the CPC General Director also shared the results of the company’s policy in the field of labor protection, industrial safety and environmental protection, spoke about social programs aimed at supporting medicine, education, culture, children’s sports, and the development of infrastructure of cities and towns in the areas where the main oil pipeline passes.

“Today, a unique project for orphans and children left without parental care has been implemented in the Atyrau region – a family-type children’s village. An equally significant social project is the construction of a new building of the Youth House”, Nikolay Gorban emphasized.

Congratulations on the upcoming CPC anniversary were voiced by all speakers of the panel session.

“On the eve of the anniversary date, I would like to congratulate the shareholders, management and the entire large CPC team on

### THE EXPANSION OF THE TRANSPORT POTENTIAL WAS THE KEY TO THE SUCCESSFUL DEVELOPMENT OF THE ENTIRE OIL AND GAS INDUSTRY OF THE COUNTRY

the round date, which symbolically coincides with such a historical event as the 30th anniversary of Kazakhstan’s independence”, noted the Minister of Energy of the Republic of Kazakhstan Magzum Mirzagaliyev. “At the dawn of independence in the early 1990s, our country produced just over 25 million tons of oil per year. And the only pipeline bringing our country to foreign markets was

two coasts – the Caspian and Black Seas – the Tengiz – Novorossiysk oil pipeline united the shareholders of Russia and Kazakhstan, Great Britain and the Netherlands, Italy and the USA. CPC annually pumps over two-thirds of Kazakhstan’s total export oil through the Tengiz – Novorossiysk pipeline. Since its commissioning in 2001, over 745 million tons of oil have been exported along this 1,511 km

long steel pipeline. Of these, more than 650 million tons are oil from Kazakhstan and about 95 million tons of oil produced in Russia.

The construction of the CPC pipeline system made it possible to increase oil production at such large fields of the Republic of Kazakhstan as Tengiz, Karachaganak and Kashagan. The expansion of the throughput capacity of the Tengiz – Novorossiysk oil pipeline is being implemented step by step. So in 2018, with the completion of the Expansion Project, the capacity of the pipeline reached 67 million tons of oil per year, now work is underway to expand the capacity exceeding 80 million tons of oil per year. All this strengthens faith in the prospects for further successful development of the oil-extracting industry in Kazakhstan, which will find a significant reflection in the national energy sector and the country’s economy as a whole.

At the end of the panel session, key speakers and veterans of the

industry, who stood at the origins of the international project, were awarded commemorative medals “25 years of CPC”. Awards were received by Baktykozha Izmukhambetov, Kadyr Baikenov, Baltabek Kuandykov, as well

between Kazakhstan and Russia, the President of Kazakhstan Kassym-Zhomart Tokayev noted the uniqueness of the Tengiz–Novorossiysk oil pipeline project of the Caspian Pipeline Consortium.

### “IT IS IMPORTANT TO INCREASE THE THROUGHPUT OF THE OIL PIPELINE IN ADVANCE, TO ENSURE THE STABILITY OF THE MANAGEMENT OF THIS COMPLEX INTERNATIONAL PROJECT”

as Deputy Chairman of the Management Board of NC KazMunayGas Daniyar Berlibayev, Deputy General Director of Karachaganak Petroleum Operating BV Kuanysh Kudaibergenov, Deputy Managing Director of NCOC Ermek Marabaev, Deputy Chairman of KAZENERGY Dzhambulat Sarsenov.

Speaking on the eve of the XVII forum of interregional cooperation

“Bearing in mind the growth of production, as well as the development of new, including joint projects for oil production, it is important to increase the throughput of the oil pipeline in advance, to ensure the stability of the management of this complex international project”, Kassym-Jomart Tokayev emphasized. ●







AUTHOR  
PAVEL KRETOV

## NEW IN EVERYDAY

IN SEPTEMBER, THE VI RUSSIAN LABOR SAFETY WEEK (RLSW) WAS HELD IN SOCHI. THE ORGANIZER OF THE EVENT WHICH COUNTED MORE THAN 100 BUSINESS SESSIONS AND MASTER CLASSES WAS THE MINISTRY OF LABOR AND SOCIAL PROTECTION OF THE RUSSIAN FEDERATION. CPC TRADITIONALLY HAS BEEN AN OFFICIAL PARTNER OF RLSW

**T**he Caspian Pipeline Consortium has been a permanent member of RLSW since 2015. This year, the CPC stand was visited by the Deputy Prime Minister of the Russian Federation Tatyana Golikova and the Head of the Ministry of Labor of the Russian Federation Anton Kotyakov, where

they talked with the heads and employees of the company.

The plenary session "Occupational Health protection: new challenges, quick solutions" became the central event of RLSW. It was attended by Deputy Prime Minister Tatyana Golikova, Head of the Ministry of Labor and Social Protection Anton

Kotyakov, General Director of the International Labor Organization (ILO) Guy Ryder, Governor of the Krasnodar Krai Veniamin Kondratyev, Chairman of the State Duma Committee on Labor, Social Policy and Veterans Affairs Yaroslav Nilov, General Director of CPC Nikolay Gorban and other experts. The session opened

with a video message from Prime Minister of the Russian Federation Mikhail Mishustin.

During the discussion, Tatyana Golikova noted that risk management in the field of labor protection is of key importance.

"In 2020, compared to 2019, the total number of accidents at work decreased by 19.1%, the number of accidents at work with serious consequences also decreased by 11.8%. These are good indicators, but we must set even more ambitious goals", the Deputy Prime Minister emphasized.

The topic was supported by the head of the Russian Ministry of Labor and Social Protection Anton Kotyakov.

"In recent years, we have made good progress in terms of preventing occupational injuries. But taking into account the current trends – labor productivity growth, changes in technology – we can say that the existing approaches have exhausted themselves. We need a completely new approach in terms of introducing

a proactive regime of prevention of potential risks that arise in a specific production into everyday practice", the minister commented.

CPC General Director Nikolay Gorban, in his speech at the plenary session of the RLSW, presented the Comprehensive Program "Safe

international program. And today we can talk about certain successes: at the end of 2019, 2020 and the first half of 2021, we have zero indicators for injuries and road accidents. In total, CPC exceeded 35 million man-hours and 97 million km in 2021, respectively. It became

### IN 2018, CPC DEFINED ZERO OCCUPATIONAL INJURIES AS ITS STRATEGIC GOAL

Work Culture", the results of the implementation of which allowed the Consortium to enter the top 25 best companies according to the rating of the International Association of Oil and Gas Producers (IOGP) at the end of 2020. The Head of Consortium, in particular, noted:

In 2018, CPC defined zero occupational injuries as its strategic goal and joined the Vision Zero

possible thanks to the creation of a comprehensive program of the Safe Work Culture, in which we formulated and combined all the vital rules.

A considerable part of the discussion was devoted to the experience of overcoming the crisis situation associated with the coronavirus pandemic. The Head of Consortium spoke about the measures





taken during the pandemic to protect the life and health of workers and their families, ensure the reliable operation of both production facilities and medical institutions located in the regions of CPC presence.

The company purchased ambulances for hospitals, stationary and mobile ALV, computer tomographs, fluorographs, bedside monitors and other demanded medical equipment, protective suits for medical workers. Additional funds were allocated to extend the watches, and their own observation points were deployed. In 2020 alone, the Consortium allocated 286 million rubles to support medical institutions in the areas where the oil pipeline route passes.

The actions of the international company were highly appreciated by the Deputy Prime Minister of the Russian Federation Tatyana Golikova.

“During this period, the social responsibility of business was very clearly manifested. Nobody discussed the topic of costs. Everyone worked conscientiously, invested money, purchased personal protective equipment, provided regional medical institutions – where it was necessary to do it quickly”, the Deputy Prime Minister noted.

Taking an active part in numerous practical discussions, business



sessions and master classes, CPC representatives exchanged best practices with colleagues from leading Russian companies. Based on the results of discussions with experts, in particular, it was decided to organize special trainings among leaders on the development of a culture of safe production at the company's industrial facilities.

As an interesting initiative, the automation of pre-shift, pre-trip and pre-watch medical examinations of personnel, performed in accordance with the requirements of the legislation, was noted, which will

eliminate the influence of the human factor on the employee's admission. Also, the issue of introducing technologies for assessing health status, including the level of fatigue and the so-called “state of monotony” of specialists, whose functionality is critically important from the point of view of ensuring the uninterrupted and safe operation of the pipeline – dispatchers, operators, shift supervisors, also deserved attention and was recommended for detailed study. Implementation of an electronic work permit system was recognized as a priority area of digitalization at CPC.

At the exhibition, employees were able to test equipment for training in labor protection, industrial safety and environmental protection using virtual reality technologies. This type of employee training increases motivation, ensures full involvement and allows you to develop a motor reflex for safe behavior.

After returning to their divisions, the Consortium specialists held meetings with the teams, where they shared with their colleagues all the interesting and relevant information received at the Russian Labor Safety Week.



AUTHOR  
PAVEL KRETOV

# AWARD FROM THE HANDS OF THE MINISTER

LABOR SERVICE AWARDS ARE ALWAYS A MEMORABLE EVENT. ESPECIALLY IN THE YEAR OF THE COMPANY'S 25TH ANNIVERSARY. ESPECIALLY – FROM THE HANDS OF THE MINISTER OF ENERGY OF THE RUSSIAN FEDERATION NIKOLAY SHULGINOV







OLEG KOLESNIKOV

The title “Honorary Oilman” will be proudly carried by Oleg Kolesnikov, Lead Mechanical Engineer of the CPC Central Region. He has been working in the oil pipeline transport for 40 years, 20 of which – in the Caspian Pipeline Consortium. He started as a shift supervisor at the Shevchenko-Samara oil pipeline in Kazakhstan and reached the position of chief mechanic of the Western branch of the national oil transportation company KazTransOil.

“Throughout the operation of the Tengiz – Novorossiysk pipeline system, CPC maintains a high level of production culture. I think this is based on collective discussion of working issues and joint decision-making”, Oleg Kolesnikov believes.

After the award, the leading mechanical engineer went on a business trip to the Republic of Kalmykia at the Komsomolskaya PS to oversee the preparations for the installation of pumping units, which will be carried out as part of the ongoing Debottlenecking Program.

EVGENY SHINKAR

Lead Engineer for Control Systems of the CPC Central Region Evgeny Shinkar was awarded the Medal “Labor Glory”. Next year will mark 30 years of his work in the fuel and energy complex. He joined CPC as a control systems specialist in 2001. Twenty years ago, together with instrumentation and automation specialists, he participated in the commissioning of equipment, adjustment of controllers and the SCADA system. During the Expansion Project, the number of control systems engineers increased due to the construction of numerous additional facilities. Now Evgeny Shinkar and his colleagues are successfully solving an increased range of tasks.

“Our division is responsible for the pipeline section located in the Astrakhan region and Kalmykia. 20 block-boxes on the linear part and six PS. We also participate in the implementation of the Debottlenecking Program: we accept control cabinets and new software, go to factory acceptance tests”, says Evgeny Shinkar.

SVETLANA BOVT

Svetlana Bovt, a Lead Specialist in Financial Reporting and Analysis of the Moscow branch of CPC-R, was awarded a Certificate of Honor by the Ministry of Energy. She has been working in the oil industry for over 20 years, started in the international consortium Karachaganak Petroleum Operating B.V., which is developing an oil and gas field in Western Kazakhstan. In 2005, Svetlana moved to CPC. She made a great contribution to the improvement of accounting processes in the company.

“I am grateful to the company for the sense of social security and reliability that we all need at this difficult time. I would like to express the hope that in the future CPC will keep a high “bar” in this regard. I would also like to wish all of us further success, I hope in the next 25 years CPC will remain a company that sets high standards in the field of production, ecology and social orientation”, says Svetlana Bovt.

ALEXEY BAEV

The Certificate of Honor from the Ministry of Energy of the Russian Federation was presented to the Deputy Manager of the Kropotkinskaya PS Alexey Baev. For over 10 years he worked at Chernomortransneft OJSC, where he gained extensive experience both in the repair and maintenance of equipment and in the management of the technological process of oil pumping. In 1997, together with other oil workers of Chernomortransneft OJSC, Alexey fulfilled the task of the Government of the Russian Federation to restore the Grozny – Baku oil trunk pipeline on the territory of the Chechen Republic. Since 2001 Alexey Baev has been working at CPC.

“I took part in the development and drafting of the regulatory documentation necessary for the start-up and operation of not only the Kropotkinskaya PS, but the entire Tengiz-Novorossiysk oil trunk pipeline”, recalls Alexey Baev.

In 2014, he was appointed Deputy Manager of the Kropotkinskaya PS. Recently, during general construction works at the sites of the main equipment of the station, Alexey and his colleagues introduced a new type of concrete surface, which significantly extends the overhaul life of these sites.

ELENA MASSALSKAYA

In 2005 Elena Massalskaya started working at CPC. The work of the Procurement Engineer was awarded with the Certificate of Honor of the Ministry of Energy of the Russian Federation.

“Our division serves the Marine Terminal and the Moscow office. Warehouse facilities near Novorossiysk are constantly developing. Now these are modern warm rooms with ventilation and lighting. Data collection terminals add convenience in work. We have a good friendly team, a lot of young people”, says Elena. “Working at CPC has become both a second home and a second family for me. Over the years, I have gained a lot of professional experience, which now I am happy to share with my colleagues. I really appreciate the atmosphere of goodwill and trust that has developed over the years between the employees. In the anniversary year for the Caspian Pipeline Consortium, I feel proud that I have contributed a piece of my professionalism, my energy to its achievements”.

ALEXANDER PROMYSHLYAEV

Aleksandr Promyshlyaev, Lead Electrical Engineer of the Krasnodar Office of the Western Region of CPC-R, was awarded the Certificate of Honor of the Ministry of Energy of the Russian Federation. He is from a cohort of veterans who took part in the commissioning of equipment and in filling the Tengiz – Novorossiysk pipeline system with oil in 2001.

“It was a very painstaking work with the participation of Russian and foreign specialists. We were setting up a control system for block valve stations. The second stage of the large-scale work was the CPC Pipeline System Capacity Expansion Project in 2011-2018. Our special attention was focused on the Kropotkinskaya pumping station, where the main switchboard and power transformers were being replaced. All this was carried out at the operating facility, we have successfully completed everything without disrupting the rhythm of oil transportation”, recalls Alexander Promyshlyaev.



AUTHOR  
DMITRY KONSTANTINOV

# FROM GENERATION TO GENERATION

ON DECEMBER 11, CPC DEPUTY GENERAL DIRECTOR FOR GENERAL BUSINESS KHKIM TARASOVICH KASSYMOV CELEBRATED HIS 55TH BIRTHDAY. THE SUCCESSOR OF THE GLORIOUS OIL DYNASTY TELLS PANORAMA CPC ABOUT HIMSELF AND HIS WORK

Khakim Tarasovich Kassymov was born on December 11, 1966 in the city of Atyrau (formerly Guryev), Republic of Kazakhstan. Education: Moscow Automotive Institute (MAMI), Oil and Gas Institute of Atyraus University, Kostanay Social and Technical University, KAZGUU University, UBIS University (Geneva, Switzerland). He has an MBA degree. He worked in the companies KazMunayGas, KazTransGas-Almaty, Satpayev Operating. Since October 2020, he has been working at CPC as Deputy General Director for General Business. State awards: order "Kurmet" (2016), medal "25 years of independence of the Republic of Kazakhstan" (2016), medals of the Ministry of Energy of the Republic of Kazakhstan "120 years of Kazakh oil" (2019), "For contribution to the development of the oil and gas industry" (2021), Honorary title: honored worker of the gas industry of Almaty.



**Khakim Tarasovich, please tell us about yourself, about your experience in the fuel and energy sector.**

I started working in the KazMunayGas system in 2002, took an active part in the implementation of a number of investment projects, was engaged in gas supply to the city of Almaty and the Almaty region. In 2011-2018, I was Deputy General Director of the Satpayev Operating company, which was engaged in geological exploration and offshore drilling of two wells on the Satpayev structure on the shelf of the Northern Caspian. In October 2020 I started working at the Caspian Pipeline Consortium.

The threat of the Covid-19 coronavirus infection has made a big adjustment in our lives. The world community is faced with a pandemic that has affected all layers of socio-economic and cultural life, has affected the activities of many companies, and the oil industry has not been spared either.

I came to a company whose work was significantly different from the previous one. In a pandemic, we became more responsible, we began to pay more attention to the observance of sanitary standards

both in everyday life and at the workplace. The CPC management organized the Crisis Management Team (CMT), which promptly developed and took measures to combat the spread of Covid-19, to eliminate focus of infection, and also cooperated with employees of the company and contractors to prevent the possibility of diseases.

the usual sense – I had to immediately start with the organization of special events, with the performance of atypical tasks.

CPC, the transcontinental pipeline system, uses unique technologies and technical solutions. Industrial and social activities meet high international standards. I am proud that my father, Taras Mazhitovich

## CPC, THE TRANSCONTINENTAL PIPELINE SYSTEM, USES UNIQUE TECHNOLOGIES AND TECHNICAL SOLUTIONS

**We all remember this difficult time: the pandemic, the transition of 80% of employees to remote work. Was it difficult to get up to speed in such a situation?**

Yes, it's not easy. In fact, the Consortium was put into new, unparalleled working conditions. There was no time to get up to speed in

Kassymov, took part in the creation of the project.

**From the book about your father, published in 2016 in Kazakhstan, we know that Taras Mazhitovich worked in pipeline transport for half a century and took part in the formation of the Caspian Pipeline**



### Consortium. Please tell us more about this.

From 1993 to 1997, my father was the head of the Yuzhnefteprovod production association, whose main corridors Uzen – Guryev – Kuibyshev and Guryev – Astrakhan – Grozny were partially involved in the CPC project at the section of Tengiz PS – Astrakhanskaya PS.

As a member of the Executive Committee of the Caspian Pipeline Consortium, on behalf of the Government of the Republic of Kazakhstan, Taras Mazhitovich Kassymov took part in the signing of the CPC Shareholders Agreement in Moscow in 1996. On the instructions of the First President of the Republic of Kazakhstan Nursultan Abishevich Nazarbayev, my father built and put into operation an unloading railway overpass at the Aktau PS for further transshipment at the marine terminal and sending oil from West Kazakhstan by tankers across the Caspian Sea.

In 2012, main oil pump station Atyrau was renamed in honor of my father, for which I am grateful to the colleagues with whom he worked together. First of all, to



the memory of my father by publishing the book "Taras Kassymov". For half a century of work in the oil and gas industry, my father was awarded the Order of "Kurmet" and medals, was awarded the titles of "Excellent Worker of the USSR Oil Industry", "Veteran of Labor", "Honorary Worker of Pipeline Transport of KazTransOil."

I would also like to note that my older brother, Tlek Tarasovich Kassymov, worked at CPC. As a facility manager, he participated in the CPC Expansion Project.

### What decisions of the General Business Department helped to ensure uninterrupted production activities of CPC in the context of the pandemic?

The General Business Department ensures the working conditions for the personnel involved in the operation of the CPC pipeline system. The structure of the Department includes three areas that deal with personnel, transport support, technical control and maintenance of buildings, organization of electronic document management.

We hire specialists, provide them with everything they need, organize safe movement by air and land, and solve other organizational issues. The task at first glance may seem routine, but it is not: the CPC pipeline system is constantly being modernized, increasing its capacity. Accordingly, our tasks are expanding to ensure conditions for stable, high-quality and uninterrupted operation.

The divisions of the General Business Department carry out a seemingly imperceptible, but in reality, an enormous amount of work. And it is invisible as long as everything goes as it should.

### Was the planned work affected by the implementation of the special tasks during the pandemic?

Current tasks are performed as usual. The implementation of the Debottlenecking Program (DBNP) continues in the company on schedule. If we talk about the directions of our work, then in the outgoing year the HR Team recruited 340 specialists to the DBNP team. The Transport Team provided control and admission of cars and special equipment of the new contractors of the DBNP, conducted a safety briefing. The volume of electronic document flow has noticeably increased, but the EDMS (Electronic Document Management Service) has made every effort to ensure that this does not reduce the overall efficiency of processing documents and data in the company.

Despite the special conditions of the pandemic period, the completion of construction and finishing works and the relocation of offices in Atyrau and Novorossiysk were ensured. We also resumed helicopter traffic in the Eastern region, created object passports and implemented other planned activities.

Of course, all this happened in parallel with the implementation of new tasks. The Transport Team ensured the protection of drivers and passengers, minimizing the risks of infection, processed cars with sanitizers, and issued regional passes. The HR Team, through which about a hundred electronic documents pass a day, took on an expanded range of tasks in the field of medicine: testing, vaccination. The Administrative Team provided observation of employees. The Electronic Document Management Service made it possible to carry out all the most important processes in remote access: coordination of all internal documents and tender procedures, document flow. Due to this, all decisions of the CMT were carried out without loss of production rates and in compliance with sanitary requirements in various regions of CPC presence.

### What is your opinion on the benefits of digital transformation for the company in general and in the aspect of the General Business Department?

Undoubtedly, digital transformation will significantly improve interaction both between CPC divisions and with external counterparties. The company is constantly improving its internal processes in response to innovation in the field of digital technologies.

In the long term, a transition to a new electronic document management platform is being considered – as part of building a single information space in the company. A plan is being implemented for the transition to a legally significant Electronic Documentation Control System (EDCS) with contractors and suppliers, where the role of the EDMS is to issue

electronic signature certificates (ES), support and control its life cycle.

### The CPC project celebrates its 25th anniversary this year. It is symbolic that this date coincides with the 30th anniversary of the independence of the Republic of Kazakhstan. How does the General Business Department provide for celebrations?

The HR Team took a direct part in the nomination of a group of employees of CPC-R and CPC-K, initiated by the Consortium management and supported by shareholders, to be awarded state awards of the Russian Federation and the Republic of Kazakhstan, as well as departmental awards from the Ministries of Energy of both states. Also, orders were prepared to encourage more than 300 CPC employees. The awards ceremony became a national event: in Kazakhstan, the awards were presented by the President of the Republic Kassym-Zhomart Tokayev, in Russia – by the Minister of Energy Nikolay Grigorievich Shulginov.

The Transport Team solves the problem of transporting all the participants of the anniversary events and especially the CPC veterans who come from different places in Russia and Kazakhstan.

Veterans are our history, pride, object of attention and care. The history of CPC is inextricably linked with such surnames as Kabyldin, Kultumiev, Mamonov, Snkhchyan, Murinov, Abdrakhmanov, Velter and others. It should be noted that where the CPC oil pipeline creates new professions and new jobs, regional contractors have also noted the formation of labor dynasties. And it seems right to me – such a succession of generations strengthens the foundation of the enterprise.

### Taking this opportunity, let me congratulate you on the 55th anniversary, wish you new production achievements and all the best to you and your loved ones!

Thank you and, also taking this opportunity, I would like to convey my congratulations to the readers of "Panorama", colleagues who have received state awards, to all CPC employees and their families, to our dear veterans. It is a great honor for me to congratulate you on all the holidays that we celebrate in December this year. Happy 30th Anniversary of the Republic of Kazakhstan, 25th Anniversary of CPC and Happy New Year! Health, happiness, family well-being, new successes at work and at home! ●

## CPC MANAGED TO ORGANIZE ITS WORK SO THAT THE MAIN PLANS CONTINUE TO BE IMPLEMENTED DESPITE THE PANDEMIC

Kairgeldy Maksutovich Kabyldin. It was a pleasure for me to meet Oleg Gennadievich Kolesnikov, who worked with my father at Yuzhnefteprovod, and now is a leading mechanical engineer of CPC Central Region, at the anniversary event in honor of the 25th anniversary of CPC and congratulate him on being awarded the title of Honorary Oilman. In return, I heard good kind words of memories of the times when he worked with my father.

In 2016, the Consortium together with the public fund "Munayshy" immortalized

It is a great honor for me, continuing the work of my father, to work on a project that, so to speak, sewed the interests of two fraternal states – Russia and Kazakhstan with a thread of an oil pipeline. This brotherhood has lived in us for centuries and generations. Remember how the Kazakhs defended Moscow as part of Panfilov's division. My grandfather, Sergeant Mazhit Dzhamukhambetovich Kassymov, fought in the 9th Guards Rifle Division and was seriously wounded on November 24, 1942 in the battles near Velikie Luki.





AUTHOR:  
PAVEL KRETOV

# ENSURE CONTINUITY

IN OCTOBER 2021, REGIONAL MANAGER OF THE WESTERN REGION  
SERGEY POTRYASOV CELEBRATED HIS 60TH BIRTHDAY. ACCORDING TO HIS  
BIOGRAPHY, IT IS POSSIBLE TO TRACK THE DEVELOPMENT OF THE COUNTRY'S  
OIL INDUSTRY



## Did he insist on your choice of profession?

He didn't insist at all. Moreover, my father and I came to Kuibyshev to submit my documents to the Faculty of Automation and Computer Engineering of the Polytechnic Institute. Then he left, and I stayed and literally just before the exams transferred the application to the oil field department. My parents found out about my admission only when I returned to Almet'yevsk.

## So, it was a sudden impulse?

Sudden. My favorite subject at school, which I graduated with a gold medal, has always been mathematics. But suddenly something seemed to switch in me, and I changed my mind. Most likely, it was the fact that all my childhood was spent in Almet'yevsk. Just 300 meters from the house there were oil pumping stations. They were part of our childhood games – we were regularly “chased” from there.

Almet'yevsk is located in the center of the Severo-Almet'yevskaya area of the Romashkinskoye field, and it was about this area that I later wrote my graduation thesis at the university. I also graduated from the institute in 1984 with honors. By the way, I owe my studies in Samara to my acquaintance

**Sergey Alexandrovich, you were born in the “oil capital” of the USSR - the city of Almet'yevsk. I would venture to suggest that you are from a real dynasty of oil workers?**

Yes, I am an oilman not in the first generation. And many of my relatives still work in the oil industry of Tatarstan and throughout Russia.

My father, Alexander Semenovitch Potryasov, when I was one year old, went to work as an operator in an oil field in the Tatneft association. He connected his entire working life with this organization - an honored worker, holder of the Orders “Badge of Honor”, “Labor Red Banner” and “October Revolution”.



OUR MAIN TASK WAS,  
IS AND WILL BE – TO ENSURE RELIABLE  
TRANSPORTATION OF OIL

with my wife Natalya, then a student at the medical institute. As befits an oilman, we signed at the registry office on September 3 – the Day of the oil and gas industry worker. And next year we have to celebrate a ruby wedding.

## As a Soviet student, you were probably supposed to be assigned a distribution?

As an excellent student, I was given the right to choose. I chose the distribution to the North - to the city of Usinsk, to the Komsomol-youth construction site. And what is Usinsk for an oil worker? This is an abnormally high viscosity permocarbon oil reservoir developed by NGO

Soyuztermneft. I started as a foreman for well survey. The company used the technology of thermal stimulation of the reservoir using Canadian steam generators. We were not told about such methods at the institute and the equipment was unfamiliar. But the chief geologist immediately set me a difficult task – to ensure temperature control along the barrel of a steam injection well.

Before that, special devices did not work for six months due to constant failures of the oil seals. I carried out the necessary measurements, tests and proposed to make a two-piece oil seal, and the oil seals themselves were made of brake rubber bands from the drilling rig. The development was successfully implemented, and a year later I made a report on it at a meeting of young specialists in Krasnodar, where the head office of the NGO Soyuztermneft was located.

## You can say that you have passed the industry “trial by fire”?

Yes, and more than once. At the NGO Soyuztermneft, I became a senior engineer of the oil production department. In 1987, the association left its test sites in the North, and I transferred to work at Komineft JSC, where I passed the “stages” of a technologist in the oil and gas production department, head of the





oil field, central engineering and technological service, chief engineer of the department.

The 1990s were difficult for the country, and the North was no exception. There was not enough security at night, they stole everything that was “badly lying”: engines and pumping and compressor pipes, even concrete slabs were removed from the roads. But I am proud that we have overcome this period of increased wear and tear and lack of equipment without human losses and serious accidents.

The situation changed dramatically in 1999, when the northern fields were acquired by LUKOIL. It was immediately felt that the real owner had come seriously and for a long time - with modern approaches to security, new technologies, finances and opportunities. I would like to note that at first, we did not even have time to master the money that was allocated for the rearmament

There has always been a place for both creativity and technical thought.

From 2008 to 2013 I worked as the head of the production department RUSVIETPETRO. This is a Russian-Vietnamese company that is part of Zarubezhneft. The enterprise has just opened, and I was accepted there by order number one. Together with Vietnamese specialists in the Nenets district, north of Komi, we were developing a group of deposits of the Central Khoreyver Uplift. In the tundra, without access roads and any communications. One of the bodies controlling our activities was the People's Control of the Republic of Vietnam. As you know, the leading role in this country belongs to the Communist Party. We were given a difficult task - already in 2010 to commission the Severo-Khosedayuskoye, West-Khosedayuskoye and Visovoye fields and get the first commercial oil. It was required to build a central gathering and preparation

#### **A helicopter is an expensive pleasure...**

...And not universal. In the spring of 2010, just before the winter road was closed, it turned out that the Canadian manufacturer had not had time to produce the electric dehydrators. They weigh more than 60 tons, and this precluded their delivery by air. Waiting for a new opening of the winter road meant that the launch of the field, scheduled for October, was guaranteed to be disrupted. What to do?

#### **What to do?**

We have found an effective solution. The heaviest and largest parts - the tanks were promptly manufactured in Bashkiria and literally at the last moment managed to be delivered along the winter road. But the imported stuffing for them (transformers - they weighed no more than 15 tons), they brought us the Mi-26. In fact, like this, not being afraid to combine foreign and domestic equipment, we solved many of the tasks. For example, heat exchangers were important equipment. And it turned out that the imported ones provided by the design institute did not fit the reliability requirements. Then we urgently placed an order at the Tyumen plant. Despite the first such experience, the company coped with the task perfectly: our heat exchangers were produced under the first serial numbers and showed a high degree of reliability.

Initially, the unified power center was launched using imported diesel generators. 15 machines in a row, which produced 30 megawatts required for the exploitation of the fields. Then, as soon as we got the associated gas, we switched to more convenient, economical and environmentally friendly Russian turbines produced in Rybinsk, which make it possible to operate not only on gas, but also use diesel fuel and even oil. All the equipment of the central collection point has shown its reliability, and it still works perfectly today. Then it was already a matter of technology - to connect more and more wells and fields.

#### **You headed the Western Region of CPC in 2013 – in the midst of the Expansion Project. What is the memory of this period?**

The expansion project was gaining momentum. In addition to the reconstruction of the Kropotkinskaya PS, four new stations were built, the first of which, PS-4, was commissioned in December 2015. I will say that the role of builders performing the installation of objects, of course, is of great importance, but it is no less important to breathe life into them, and this is already the task of the maintenance services. During the commissioning period, the specialists of our region not only performed a large amount of work, but also showed engineering talents and real ingenuity. And in the time that has passed since the commissioning of the PS, we have already done a lot to improve the quality of these facilities.

We attach great importance to the culture and aesthetics of production, which includes, among other things, lawns, flower beds, paths. Because the station should not be a pile of equipment and gray reinforced concrete.

Not to immerse the employee in stress, but to become a comfortable second home for him. Then, in an emergency situation, the specialist will feel more confident and respond faster.

#### **What can you say about the zone of responsibility of the Western region and about the team you are leading?**

The western region is one of the most difficult in the CPC. Of the 540-kilometer area of our responsibility, 444 km pass through farmland fields that belong to nearly 300 land users. Our site has more than 500 intersections with third-party communications, overcomes about 65 water obstacles, including the Kuban River, 97 highways and 11 railways. 35 km of the pipeline falls on a mountainous section, where it is always difficult to operate, repair and maintain.

In these conditions, our highly professional team, both employees of the Consortium and service companies, demonstrates high production results and indicators in the field of labor protection. As of early 2021, we have passed the 26 million man-hour mark without injury or accidents. Our vehicle

fleet has covered 59 million km without any registered accidents. This is more than one and a half thousand equators!

#### **What tasks are facing the team today?**

Our main task was, is and will be – to ensure reliable transportation of oil through the pipeline system, timely repairs and maintenance of facilities. For example, the most important work was done during the planned shutdown of the oil pipeline in October. According to the results of diagnostic studies, the check valve was replaced. This is a big, serious job, for which we have been preparing for more than two months. For the safe conduct of the entire operation, we went to Saratov for special sealants.

When I came to lead the Western region, the team consisted of 120 people, today it is about 300. There are a lot of promising young people who are rapidly gaining experience, which makes it possible to ensure the continuity of generations of oil workers. I also consider this one of our most important tasks.

## **NOT BEING AFRAID TO COMBINE FOREIGN AND DOMESTIC EQUIPMENT, WE SOLVED MANY OF THE TASKS**

of LUKOIL: we did not have the capacity, no people, or contractors for this. In this company, I reached the position of chief engineer – first deputy general director of LUKOIL-Komi LLC. In 2003, I joined the government of the Komi Republic as Deputy Minister of Industry and Energy. Supervised the issues of the fuel and energy sector: oil and gas production and transportation of energy resources.

#### **You came to CPC having experience, including international cooperation. Where did you get it?**

Wherever I worked, I was always lucky to get into projects with talented leaders and interesting people who are passionate about the profession.

point for oil, an energy center, lay power lines, roads and more than 150 km of infield pipelines. For construction in the permafrost zone, it was required to install tens of thousands of piles.

#### **How was the necessary equipment delivered to such a remote region of the country?**

Five months a year on winter roads, from May to November – by helicopter. Our helicopters worked like taxis, we collected them from all over the country. More than 8 thousand tons of cargo was delivered by air alone. You can calculate approximately how many flights were required, because even our most powerful Mi-26 helicopter took up to 20 tons, and then over short distances, in good windless weather.







AUTHOR  
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## NEW “WINDOW” TO EUROPE

20 YEARS AGO, A SOLEMN CEREMONY OF LAUNCHING THE FIRST STAGE OF THE BALTIC PIPELINE SYSTEM TOOK PLACE AT THE OIL TERMINAL IN PRIMORSK. THUS, TRANSNEFT SUCCESSFULLY FULFILLED THE ORDER OF THE PRESIDENT OF RUSSIA VLADIMIR PUTIN, WHO DETERMINED THAT AT THE END OF DECEMBER 2001, THE FIRST STAGE OF THIS MOST IMPORTANT PROJECT FOR THE COUNTRY SHOULD BE PUT INTO OPERATION

### FIRST TANKER

On December 27, 2001, in the operator's room of the oil port, President of the Russian Federation Vladimir Putin, personally activated the “Start” command with a click of a computer mouse, starting the process of filling the first tanker “Petrokrepost” with oil. The first stage of the BPS has started.

“With the commissioning of the port in Primorsk, Russia is not

only acquiring its own window for transshipment of oil in this part of Europe. The new route allows flexible maneuvering between the southern and northern directions, that is, the Mediterranean and Western and Northern Europe will be provided for Caspian oil. Additional opportunities are also opening for our partners in the CIS countries. In particular, the issue of oil transportation via the BPS was recently discussed with

the President of Kazakhstan. I also talked on this topic with the leaders of a number of CIS countries, and many of them positively perceive what we are doing today in the Baltic”, said Vladimir Putin at the launch ceremony.

By the end of the same day, the first 106 thousand tons of oil were completely filled in the tanks of “Petrokrepost”, and the tanker headed for the coast of Germany.

ООО «Транснефть – Медиа»

### 20 YEARS LATER

Back in the early 1990s, it was decided to build pipelines bypassing the Baltic countries. For transit through their territory – through the ports of Butinge in Lithuania and Ventspils in Latvia – Russia had to shell out hundreds of millions of dollars a year. Construction began in 2000, and it was a huge event for a country that has not built oil trunk pipelines for 20 years.

To implement the project, in 1999 an enterprise was created – Baltic Pipeline System JSC. Alexei Miller was appointed its CEO (since 2001 – Chairman of the Management Committee of Gazprom PJSC), and Vice President of Transneft Nikolay Tokarev (today the President of Transneft PJSC) became the Chairman of the Board of Directors. Their experience and professionalism, undoubtedly, were important factors in the fact that the largest construction site at the turn of the millennium became exemplary both in design and implementation.

The project participants were given the most difficult task to lay the pipeline system in half the time required by the normative ones. Therefore, construction and installation work was carried out simultaneously at all objects located

in the Yaroslavl, Novgorod, Tver and Leningrad regions. More than 3.5 thousand people were involved in the construction, who worked in two shifts.

### THROUGH SWAMPS AND ROCKS

The project for the construction of the Baltic Pipeline System provided for the laying of two new pipelines: from the village of Kharyaga to the



ООО «Транснефть – Медиа»







**NIKOLAY TOKAREV,**  
PRESIDENT OF  
TRANSNEFT PJSC:

« The Baltic Pipeline System has become the first major oil pipeline project to be implemented on the territory of the Russian Federation after a long break. It became indicative for Transneft, consolidated the image of a company for which the interests of the state are in the first place, a

company working for the benefit of the Russian Federation. The successful implementation of the BPS project has shown that the company can solve the most complex production tasks. This construction has become the foundation for the implementation of future large projects. After all, the volume of oil transportation through the Baltic pipeline system still could not meet all the needs of the Russian Federation in oil export. New routes were needed. Therefore, such large-scale projects as “ESPO” and “BPS-2” appeared, and in the future, projects for the transportation of diesel fuel to Russian ports for subsequent export to foreign countries. The new routes ensured the independence of Russia as an exporter of oil and petroleum products. But the first step to this was BPS.

although during operation it does not exceed 25.

To create working pressure, four new oil pumping stations were built at the BPS: Pravdino, Pes, Kirishi (head one) and Nevskaya, and two more PS were reconstructed: Yaroslavl and Bykovo.

#### THE MOST MODERN PORT

At the time of commissioning, the Specialized Sea Oil Port (SSOP) Primorsk was the most modern port in Russia. During its construction, an 18-meter-deep fairway was laid, berthing walls were built to receive ships up to 150 thousand tons. To ensure navigational safety, a unique tanker traffic control system has been created, which allows determining their location with an accuracy of 10 m.

The tank farm of the SSOP consists of tanks with an anti-corrosion coating with a capacity of 50 thousand m<sup>3</sup> each. A permanent drainage system has been created in the tank farm, which protects the territory from waterlogging by surface waters. Another know-how was the rejection of the pile foundation, which could not be built due to the presence of boulders. The ecological safety of



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#### AT THE TIME OF COMMISSIONING, THE SSOP PRIMORSK WAS THE MOST MODERN PORT IN RUSSIA

Initially, the pipeline system had a capacity of 12 million tons of oil per year. In 2003, a new goal was set to increase the throughput to 50 million tons per year. The second stage of the BPS made it possible to reach this indicator already in March 2004, and by the end of 2006, 74 million tons of oil were pumped through the Baltic pipeline system.

city of Usinsk and from the city of Kirishi to the oil terminal in the city of Primorsk. Behind Kirishi, contractors faced difficult ground conditions. The technique fell through in swamps, huge boulders had to be blown up in the coastal zone.

Using the microtunneling method, the pipeline builders crossed the Neva. Due to the high technical complexity, this method is rarely used all over the world, but it gives an absolute guarantee of environmental safety, which was especially important since St. Petersburg is located downstream of the river. During the tests, the underwater passage was checked at a pressure of 197 atmospheres,



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the oil port was ensured by unique treatment facilities: they provided a purification degree twice as high as provided by world standards.



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CPC PRESS SERVICE

# PROTECT AND INCREASE

ENVIRONMENTAL PROTECTION IS ONE OF THE PRIORITIES OF THE CASPIAN PIPELINE CONSORTIUM. EVERY YEAR IN THE REGIONS OF PRESENCE, EVENTS ARE INITIATED AIMED AT PRESERVING AND IMPROVING THE ENVIRONMENT. THEY ARE ATTENDED NOT ONLY BY CPC EMPLOYEES, BUT ALSO BY VOLUNTEERS FROM AMONG LOCAL RESIDENTS

“Once again, we were faced with the task of collecting garbage and reminding everyone that cleanliness and order must be observed always and everywhere”, says CPC Regional Manager Mukhit Mazhenov. “I think that our campaign allows us to attract more people who are aware and understand how important it is to protect nature and will strive for this. This is actually confirmed by the fact that this year we collected less garbage than last”.

This year, “Clean Coast” activists collected over five tons of garbage in a separate way – 227 bags, which were then transported by CPC-prepared transport to the Atyrau solid waste landfill.

The CPC environmental campaign on the shores of the Ural in Kazakhstan has been held for the second year already. In 2020, the volume of garbage removed amounted to 10 tons. Such events, in addition to the obvious benefits for the environment, contribute to the popularization of the idea of personal participation in the conservation of nature. In 2021, the “Clean Coast” initiative was supported by the journalists of the Caspian news channel.

“We hope that by joining forces with CPC, we will be able to become an example for many in striving to improve the ecological state of the

## CLEAN URAL COAST

Last year, “CPC Panorama” published an article focusing on the shallowing of the Ural on the territory of Kazakhstan, where this third largest river in Europe is called Zhaiyk. One of the measures aimed at preserving the eco-balance of a significant waterway was the

“Clean Coast” campaign, held on September 18, 2021, at the initiative of the Caspian Pipeline Consortium. About a hundred employees of the company on a day off went to the riverbank 25 km from the Atyrau, finding support for a good initiative from their families.



river, draw public attention to the problem, so that people take more care of the riches that nature has given us and learn to live in harmony with it”, Nurbibi Temirtasova, a journalist of the

as in Kazakhstan, the Caspian Pipeline Consortium is constantly implementing programs to maintain the population of saigas, a rare species of steppe antelopes, which at the



## EVERY YEAR, ACTIVITIES AIMED AT PRESERVING AND IMPROVING THE ENVIRONMENT ARE CARRIED OUT IN THE REGIONS OF CPC'S PRESENCE

Caspian news channel, commented on her participation in the “Clean Coast”.

Social projects and charitable programs that CPC has been implementing since the beginning of its work in Atyrau, as in all regions of its presence, are complemented by equally important environmental initiatives that have become a good and recognizable tradition over the years.

## 300 EVERGREENS

The Republic of Kalmykia was named the greenest region of Russia in September 2021. Here,

beginning of the 21st century was brought to the brink of extinction due to predatory extermination. Thanks to the CPC project “Let’s preserve the Nature of Our Homeland”, the number of saigas in Kalmykia has increased from four to 14 thousand over the past six years.

Also, within the framework of the environmental education project “Protect Nature of Our Native Land” in the Republic of Kalmykia, CPC is carrying out tree planting campaigns. On October 1, 2021, in the village of Artezian, Chernozemelsky District, the planting of columnar thuja

seedlings took place. The same trees were planted on October 4 on the territory of educational institutions of the Iki-Burul District, and on October 8-9 – on the territories of six schools in the city of Elista. CPC employees, schoolchildren, their parents and teachers, representatives of the administration took part in the actions. In total, within the framework of the CPC eco-project, 300 seedlings of columnar thuja were planted this fall.

The same number of seedlings, but of a different subspecies – the pyramidal thuja – were planted during the implementation of the project “Protect Nature of Our Native Land” in the regional centers of Komsomolsky and Iki-Burul in November 2020. Evergreen trees reach an average of six meters in height, serve as a decoration of the landscape and a source of aromatherapy. ●





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# BELLE ÉPOQUE TREASURES

THE KRASNODAR STATE MUSEUM NAMED AFTER E.D. FELITSYN HAS OPENED AN EXHIBITION "THE BRILLIANT AGE OF CATHERINE THE GREAT. COURT JEWELRY ART OF THE SECOND HALF OF THE XVIII CENTURY". UNIQUE WORKS FROM THE COLLECTIONS OF THE MOSCOW KREMLIN MUSEUMS WERE EXHIBITED WITH THE SUPPORT OF THE REGIONAL MINISTRY OF CULTURE AND THE CASPIAN PIPELINE CONSORTIUM



**T**he history of the Russian Empire in the second half of the XVIII century was marked by diplomatic successes, the expansion of borders in the west and south, the military genius of Suvorov, and the scientific discoveries of Lomonosov. And also "enlightened absolutism" and the luxury of the imperial court.

Historians say: Catherine II changed the face of the capital's aristocracy. Therefore, the 1770s – 1780s are called the "golden age of the Russian nobility". The ruling class did not just change its habits, but more and more acquired European features. There is a fashion to patronize the arts, surround yourself with beautiful things, create rich collections.

The Russian imperial court of the XVIII century amazed foreigners with its luxury and richness of jewelry. Precious items for them were made by the best St. Petersburg masters of gold and silverwork, they were ordered or bought through agents in London, Paris, Augsburg, Vienna.



Jewelers from France, Switzerland, England, Germany, and the countries of the Baltic region came to work in the northern capital. The court consisted of a jeweler who was supposed not only to make new products, but also to repair and clean the empress's jewelry.

The staff of the palace service also included zilberdiners – specialists whose duties included the manufacture of new items and whole sets, the addition, repair and gilding of actively used silver utensils.

Luxury goods were also produced at state-owned enterprises, for example, at the Peterhof Lapidary Factory. In the XVIII century in Western Europe and Russia, a fashion for jewelry arose, the creators of which sought

to emphasize the natural beauty of the stone: snuff boxes, travel bags and watches. In them, semi-precious stones were often combined with diamonds. This direction has become

sword hilts, knives, elements of horse harness.

To symbolize the unity of the Russian Empire and its financial power, large dining sets ordered

## THE RUSSIAN IMPERIAL COURT OF THE XVIII CENTURY AMAZED FOREIGNERS WITH ITS RICHNESS OF JEWELRY

especially relevant in connection with the development of fields in the Urals and Siberia. The Peterhof grinding mill began to produce a wide variety of objects from agate, jasper, carnelian, chalcedony, including

from the best European masters were supposed to be sent to the governorship that was reopened after the administrative reform of 1775. Precious items often served as diplomatic gifts, awards. Especially a



lot of such gifts – rings, snuff boxes, watches – were presented during the Empress's travels across Russia.

A number of exhibits are associated with the name of His Serene Highness Prince Grigory Alexandrovich Potemkin-Tavrichesky, who played a significant role in the triumphant foreign policy of Catherine the Great. One of the awards with which the Empress noted his merits was a four-kilogram gold platter made by St. Petersburg jeweler F. Seguin. Its unusual shape is explained by the fact that it served as a tray on which a sword with a diamond hilt was presented to the commander of the Yekaterinoslav sea and land force.

Special attention in the exposition deserves a group of products made by the hands of monarchs – Empress Catherine II and the Grand Duchess, and then Empress Maria Feodorovna, wife of Emperor Paul I, who mastered turning. Among the many talents of Catherine the Great were drawing and carving on multi-layered stones. A passionate collector of carved antique cameos, she was fond of making casts of cameos from her collection. Set in diamonds, they served as especially valuable awards from the empress.

One of the main achievements of Russian culture in the XVIII century was the creation of new stable forms of public order. The Russian aristocracy was the legislator of new rules of conduct in society, which combined Russian traditions and European



WITH THE ASSISTANCE OF  
THE CPC,

MORE THAN

6000

SCHOOLCHILDREN HAVE  
ALREADY VISITED THE  
EXHIBITION FOR FREE

norms. This was a feature of Russian etiquette that combined pre-Petrine customs with European traditions.

Business cards became widespread in the XVIII century. There was no longer the need to travel around with visits of all acquaintances, it was enough to hand the doorman a card, or a business card, as they said at the time. Leaving the card, it was necessary to bend a corner on it, this meant that it was brought in personally.

The generosity of the Russian nobility, their desire and ability to make gifts amazed many foreign travelers, who took away gifts of unprecedented generosity and value after receptions. It was another,

kind of, unspoken rule of etiquette. In the palaces of Russian emperors, entire rooms were reserved for gifts, both to foreign guests and to their subjects.

The exhibition project, which opened in September 2021 in Krasnodar, is designed for a wide range of visitors: from school audiences to venerable researchers and connoisseurs of jewelry art. The exhibition was aimed at everyone who is interested in the history of the Fatherland, the magnificent and turbulent XVIII century, the era of glory and great victories of Empress Catherine the Great.

With the assistance of CPC, the exhibition "The Brilliant Age of Catherine the Great. Court Jewelry Art of the Second Half of the XVIII Century" has already been visited for free by more than 6,000 schoolchildren from the areas where the Tengiz – Novorossiysk oil trunk pipeline passes. ●



PREMIUM SWORD, WITH  
SCABBARD.  
ENGLAND, 1742-1743.  
GOLD, SILVER, DIAMONDS  
SAPPHIRES, STEEL, LEATHER;  
FORGING, CASTING,  
CARVING, ENGRAVING, GILDING.  
SCABBARD LENGTH 84 CM;  
BLADE LENGTH 70 CM

МУЗЕИ  
МОСКОВСКОГО  
КРЕМЛЯ





AUTHOR  
PAVEL KRETOV

# A GIFT FOR YOUNG ATHLETES

A MULTIFUNCTIONAL SPORTS GROUND WAS OPENED IN IKI-BURUL WITH SYMBOLIC KICKS ON A SOCCER BALL. ON OCTOBER 27, 2021, CPC GENERAL DIRECTOR NIKOLAY GORBAN AND THE HEAD OF THE REPUBLIC OF KALMYKIA BATU KHASIKOV SCORED GOALS

The residents of the district asked about the construction of a new site in 2019. The previous one, built in 1975, did not meet either modern sanitary and epidemiological standards or safety requirements.

The sports and game complex is located on the territory of the main building of the Iki-Burul secondary school named after A. Pyurbeyev. Its opening will allow to involve not only students of an educational institution, but also residents of the district center

in physical education, it will create conditions for systematic sports and the formation of a healthy lifestyle.

Within the framework of the project, the area of the football pitch was increased from 1800 to 2000 m<sup>2</sup>, running tracks, playgrounds for

athletics, volleyball and basketball were equipped. The site includes a stand for 62 seats and a modular container for storing inventory, provided with modern power supply and video surveillance systems.

“There is such an expression – “one in the field is not a warrior”. I am glad that our republic and I personally, as the head of Kalmykia, have such friends – the team of the Caspian Pipeline Consortium. Our friends responded and helped us create this wonderful place, which, I am sure, will greatly benefit to the residents of Iki-Burul”, said the head of the Republic Batu Khasikov in his speech.

“Today I and the entire CPC team got what we had planned – satisfaction from the smiles of the children, from the fact that they feel good”, said Nikolay Gorban.

Schoolchildren, having tested the site, called it a great gift.

“It is very beautiful, it is nice to play sports with friends here, we will treat it carefully”, promised a student of the Iki-Burul school Artur Narmaev.

The Caspian Pipeline Consortium has allocated about 20 million rubles for the construction of a

for several years: in 2014, its building was reconstructed.

On the same day, the consortium transferred three off-road ambulances to the Iki-Burul district hospital. All-wheel drive long-wheelbase “NIVAs” are equipped with everything necessary for an ambulance, including places for transporting patients in a supine position and air conditioning.

The municipal services of the district received a combined road vehicle “KAMAZ” to maintain the road network in a standard condition. The total cost of the transport transferred by the consortium was more than 10 million rubles. In total, over the years of operation of the pipeline system,



“TODAY WE GOT WHAT WE PLANNED –  
SATISFACTION FROM THE SMILES OF CHILDREN,  
FROM THE FACT THAT THEY FEEL GOOD”

new multifunctional sports and game complex. As a reminder, CPC has been cooperating with this school

CPC has invested more than one billion rubles in charitable projects in Kalmykia.





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# I WISH YOU HEALTH

IT IS CUSTOMARY TO SHARE THE RESULTS OF CREATIVE EXPERIMENTS ON THE PAGES OF THE "PANORAMA CPC", AND I WOULD LIKE TO GIVE MY RECOMMENDATIONS ON HOW TO MAINTAIN NOT ONLY GOOD PHYSICAL SHAPE, BUT ALSO VIGOR OF MIND, A CHARGE OF ENERGY, WHICH WE ALL NEED TO MAINTAIN A HIGH LEVEL OF PROFESSIONAL ACTIVITY

In my spare time, I am a Certified Fitness Professionals Association (FPA) Bodybuilding and Fitness Trainer, an EHFA (European Health & Fitness Association) member, and a Life Fitness Academy Certified Instructor. I have been working at CPC since December 2014 and I notice the influence of the office on my physical fitness, not for the better.

teams of four people on competitive conditions: the champion received a cash prize.

Gradually, the ranks of the participants thinned, because someone came just for communication, someone did not imagine that it would be difficult, someone was not ready to abandon old attitudes and habits. As a result, a really strong group of like-minded

I am glad to share a number of striking examples, I emphasize, among my colleagues in the Moscow office. The Lead Specialist who wished to remain incognito lost 21 kg, this result was achieved in five months. Another participant in the project, a mother of two children and a Document Control Specialist, lost 10 kg in a record two months. These and other impressive results have increased the popularity of the marathon, there were many participants from other regions, not excluding those who work in shifts. We can say that the project covered all CPC facilities, at least on Russian Federation territory.

Our marathon is not about losing weight, taking a prize, and then gaining weight back, even more than a couple of kilograms. The goal of the project is to maintain the result with its fixation for years to come, to develop useful habits, skills and competencies. We learn to understand the training process, in our nutrition, in products on

## THE GOAL OF THE PROJECT IS TO MAINTAIN THE RESULT WITH ITS FIXATION FOR YEARS TO COME

In November 2020, due the pandemic that hit the whole world, I came up with the idea to create an online project (marathon) to keep myself in good physical shape even at home. The project is still popular with colleagues. The essence of the project was that we lost weight in

people formed, which continued to study under my guidance, no longer on a competitive basis, but for themselves. I adapted the training process to office life, prepared several different menus for the participants, delicious and balanced.



## BREAKFAST

Crispy toast with lightly salted fish



Whole grain bread – 50 g  
1 hard-boiled egg  
1 cucumber  
Green onions, spices to taste  
Lightly salted fish (salmon, herring, trout, mackerel) – 50 g  
Yogurt 2% – 1 tablespoon  
Mustard – 1 tablespoon

## Cooking method:

Finely chop the egg, cucumber, greens, add yogurt, mustard. Fry the toasts until crisp, add the mixture and garnish with fish.

Calorie content of the dish – 200 kcal

Viktoriy Panchenko/Shutterstock/FOTODOM

store shelves, to live in constant motion, and, therefore, to always be in good shape.

So where to start if you still decide to improve your body on your own? First of all, I recommend to understand your diet. Nutrition is our energy. Apathy, lethargy, lack of vitality for any action, increased irritability indicate a lack of energy, and this is a factor directly proportional to your diet.

Believe me, his body always speaks for a person. The way you look and treat your own body depends on the quality of your life, thinking, attitudes, beliefs. The body that we see in the mirror every day, we





made it ourselves. We ourselves eat foods that make our bodies loose, sluggish. We live by excuses that there is no time, a lot of work, other things and worries. We shift the responsibility for our food to our loved ones: "I have children – I cannot (in fact, "I don't want to") cook for everyone separately", "My husband loves beer and pizza", "Grandma feeds me a lot", and so on.

diet, just half a bucket less, fitting into your daily calorie intake.

So, let's try to calculate our calorie intake. There are various formulas (the most popular are Mifflin-St. Jeor and Harris Benedict) and online calculators. When calculating, be sure to take into account your life activity (sedentary lifestyle, whether there are workouts two to three times a week or more). Then we

is not so. Fats predominate in the composition of cheeses. Of course, cheese is a healthy product, but due to its high calorie content, it should be consumed in small quantities.

After you have adjusted the nutrition, the result will be visible in a week. The state of health will improve, a feeling of lightness will appear, problems with the gastrointestinal tract will disappear. You will feel cheerfulness and extra energy. You can start training.

At this stage, I still recommend contacting a specialist. We all consider ourselves smart and knowledgeable after watching a couple of lectures on the Internet, but as soon as it comes to practice, for some reason the result is either zero or temporary. Many people immediately pounce on weights or make training too intense, thereby quickly injuring themselves. The training process is eventually put "on pause", and then completely disappears.

My recommendation is that everything needs a measure, "we

## THE WAY YOU LOOK DEPENDS ON THE QUALITY OF YOUR LIFE, THINKING, ATTITUDES, BELIEFS

It's easier to take off all responsibility from yourself and shift it to anyone, just not to change or do anything. A complete, balanced diet is perceived as something insipid, tasteless, but this is not so. A healthy lifestyle is the presence of absolutely all products in your

calculate so that 40% of calories are carbohydrates, 30% are proteins, and the remaining 30% are healthy fats. Understand the products, and first of all, in your misconceptions: which products belong to which type. Many people, for example, believe that cheese is a protein, but this

harness for a long time, we go fast". Even if these are elementary exercises (such as squats, push-ups, pull-ups, abs workouts) with three sets of 12-15 repetitions, with proper training regularity (three to four per week), you will already see the result.

I propose to approach the issue comprehensively. Nutrition – training – sleep – care (massages, wraps, cosmetic

Improving physical fitness is an extremely broad topic. The format of the journal article will not reveal everything, but at least it will determine the correct vector. To understand everything, you need to spend more than one hour and not even one day.

So, let's summarize, being at the starting position. We establish

## MY RECOMMENDATION IS THAT EVERYTHING NEEDS A MEASURE, "WE HARNESS FOR A LONG TIME, WE GO FAST"

procedures). However, let me remind you that only the massage therapist loses weight from massage, because it is a very labor-intensive activity. If you eat randomly or eat more than the body needs, then the massage course will only make your wallet thinner.

nutrition, do regular workouts three to four times a week, pay due attention to sleep, and additionally take care of the body. If there is no result in two weeks, then you have incorrectly calculated your calorie intake.

There is no clear answer to the question, is it right to lose weight by 0.5-3 kg per week, or is it a lot? Everything will be different for everyone; there is no need to focus on your neighbor. You are an individual organism, you have your own potential, metabolism, your hormonal, regenerative and immune systems, your water-salt metabolism, your own fatigue, your level of training. Dozens of different individual factors will influence the final result. Therefore, always strive for progress, but do it in moderation, with intelligence and love for your body.

### LUNCH / DINNER

**Tender chicken-curd cutlets**  
**Minced chicken (breast) – 150 g**  
**Cottage cheese up to 5% fat – 70 g**  
**Salt / pepper to taste**  
**1 hard-boiled egg**  
**Cucumber, tomato, iceberg salad – 100 g of each product**

#### Cooking method:

**Add cottage cheese, spices, egg to the minced meat, mix everything. From the resulting mixture we form cutlets and fry in coconut oil. Put fresh vegetable salad next to the cutlets.**

**Calorie content of the dish – 268 kcal**



### FRUIT DESSERT



**Banana – 60 g**  
**Raspberries – 100 g**  
**Cherries – 100 g**  
**Chia seeds – 1 tablespoon**  
**Fit parade number 7 – 1 sachet**  
**Water – 1/2 cup**

#### Cooking method:

**Whisk all ingredients except the chia in a blender. Pour into a glass, put a couple of berries on top for decoration, sprinkle with chia seeds.**

**Calorie content of the dish – 204 kcal**



AUTHOR  
PAVEL KRETOV

# UNDERGROUND REVOLUTION

60 YEARS AGO, THE CONSTRUCTION OF ONE OF THE LARGEST OIL PRODUCT PIPELINES IN THE NEW WORLD – THE COLONIAL PIPELINE – BEGAN IN THE UNITED STATES. THE STEEL PIPELINE WITH A LENGTH OF ALMOST 9 THOUSAND KM CROSSES 13 STATES: TEXAS, LOUISIANA, MISSISSIPPI, ALABAMA, GEORGIA, NORTH AND SOUTH CAROLINA, MARYLAND, DELAWARE, PENNSYLVANIA, NEW JERSEY AND TENNESSEE

## DISPUTE WITH SHIP OWNERS

Negotiations between eight major American oil and gas companies on the need to build a pipeline to supply fuel from Texas oil pumping plants to the East Coast began back in 1956. It is not known how much

more time would have to be spent on disputes, but in 1960 there was a major strike of tanker crews, and this event, which disrupted the supply of energy resources to the most important industrial centers, became a decisive argument in favor of construction.

On June 7, 1961, Sinclair Pipeline Co., Texaco Inc., Gulf Oil Co., American Oil Co., The Pure Oil Co., Phillips Petroleum Co., The Cities Service Co. and Continental Oil Co agreed to begin joint work on the oil product pipeline project. The Colonial Pipeline

company they formed became at that time the largest fully private project in the United States. Investments in the company amounted to 380 million dollars.

Before the very beginning of construction, shipowners tried to stop it. They stated that the oil companies that agreed on the construction of the pipeline violated American antitrust laws, and the commissioning of the pipeline would deprive the crews of about 100 tankers at once. But there was no stopping the large-scale project.

The work was carried out under 10 different contracts, of which three were awarded to Williams Bros. The entire linear part was divided into sections of approximately 160 km each, on which brigades of 300 people operated. Working 10 hours a day, seven days a week, each of the teams daily welded about 2 km of pipeline into a thread.

600 thousand tons of rolled steel were used for the construction of the Colonial Pipeline. The trenching method required to move almost 13 million m<sup>3</sup> of soil. Pipes with a diameter of 900 mm were delivered in 12-meter sections of 2 tons each. They were transported to construction sites, taking on board 5 sections per trip, by pipe-carrying trucks specially designed for this project. Heavy machinery used thousands of gallons of gasoline and diesel every day.

## DEMANDED ROUTE

The Colonial Pipeline went into full operation in December 1964. It took 10.5 million barrels of raw materials just to fill the pipeline with process oil. The press noted that from the starting point to the final point, the entire stream reached in 17 days. At first, the pressure in the system was maintained by 27 PS, which made it possible to transport 800 thousand barrels per day. The event was appreciated by Time magazine, calling it "The Underground Revolution".

In the second half of the 60s, two phases of the expansion project were completed on the pipeline, 18 intermediate pumping stations were additionally installed. In 1972, the volume of transportation through the system reached almost 1.6 million barrels per day. At this point, the pipeline was already pumping about

45% of all fuel supplied to the US East Coast. These volumes were provided to households with more than 50 million people, fuel was supplied to seven airports.

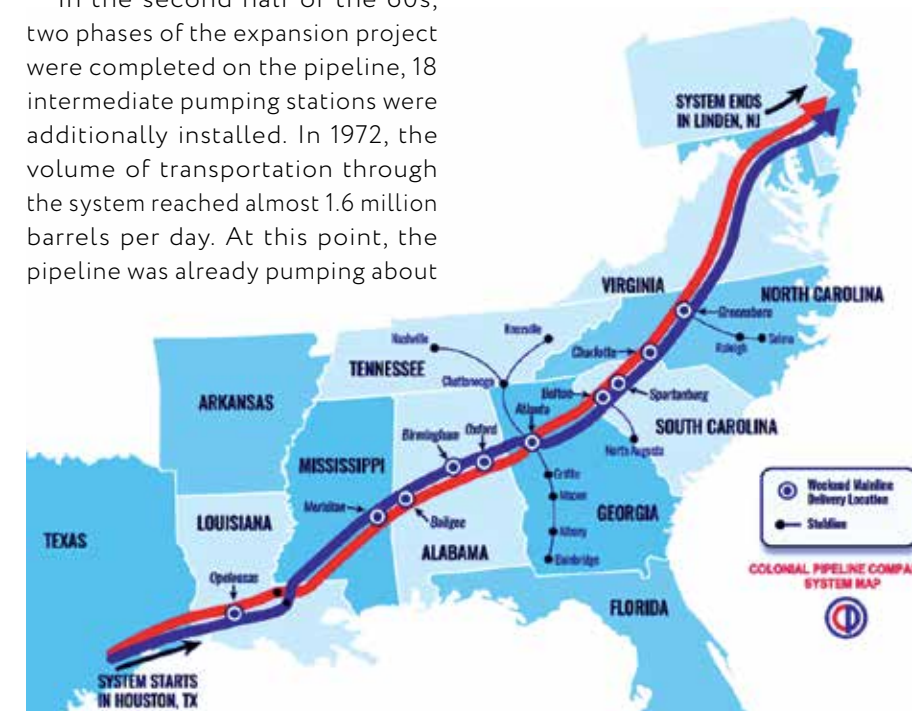
The speed of movement of oil products through the system ranged from 5 to 8 km per hour. Due to the high pressure in the system, mixing at the contact points of various types of oil products did not exceed 120 barrels. The flow was monitored by dispatchers from the center in Atlanta. Every 16 seconds, the SCADA system (used on Colonial since 1978) scanned the entire pipeline and displayed the most important parameters on monitors – pressure, temperature, condition of pumping units and others. Dispatchers monitored the movement of dozens of batches, tracking their position in relation to the delivery point and the nearest pumping station. Their duties also included control over the prevention of water strikes. At the stations themselves there was equipment that prevented the operation of pumping units in unfavorable modes, such as low pressure on the suction line and high pressure at the outlet, overloading of motors, overheating of bearings, and so on.



Jim Parkin/Shutterstock/FOTODOM



JIM LO SCALZO/EPA/TASS



Colonial Pipeline



## AIR CONTROL

Today, 86 types of oil products can be pumped through the pipeline system. About 20 of them are transported regularly. In the field of industrial and environmental safety, the production activities of Colonial Pipeline meet or even exceed the requirements of federal and regional legislation.

Thus, according to US federal law, air patrolling of oil pipelines must be performed at least 26 times a year. The Colonial Pipeline is flown by the team weekly, weather permitting. Almost 200 light aircraft are used in these surveys. To reduce the emission of light fractions of hydrocarbons into the atmosphere, the company uses tanks with floating roofs.

The pipes are made of high-quality steel, their quality is controlled both at the manufacturing plant and during installation in the pipeline system. Since the mid-80s of the

## THE ROUTE OF THE OIL PRODUCT PIPELINE IS PATROLLED BY

Blount, the password of one of the company's employees was used, shared with the social network, the database of which was "leaked" to the public.

# 200

## LIGHT AIRCRAFT

About a year ago, while preparing a joint material with representatives of the IT Group on topical issues of cybersecurity, the correspondents of "Panorama CPC" were interested in the degree of damage to the fuel and energy complex when hacking internal information resources. Now, using the example of the Colonial Pipeline, we can assess such damage in practice. 75 bitcoins or 4.5 million US dollars at the exchange rate at the time of the transaction – such a ransom was transferred to cybercriminals in order for them to "allow" the Colonial Pipeline to operate normally.

The story has both a continuation and a moral. The FBI picked up the key to the DarkSide e-wallet a few days later. Everything remaining from the ransom was returned to American taxpayers. In addition, the head of Colonial Pipeline Co., Joseph Blount, apologized to them in his report to the Senate. To study the issues of vulnerability of corporate information systems, an international working group Ransomware Task Force (RTF) was created, led by specialists from Microsoft and McAfee. As for users working in large structures with a common IT space – perhaps we will all become less frivolous about cybersecurity requirements, phishing in mail, and creativity in the field of creating passwords.

XX century, in-line diagnostics have been actively carried out using profilers and magnetic flaw detectors, subsequently ultrasonic devices have entered the arsenal of diagnosticians.

## E-PIRATES

In May 2021, Colonial Pipeline became "famous" for a hacker attack that stopped the pumping for five days. In the United States, 12 thousand gas stations were closed in the absence of gasoline and diesel supplies, and flights began to be canceled at airports without kerosene. In a panic, citizens literally attacked the still working gas stations, where they filled any improvised container with fuel, up to plastic bags. President Biden has declared a state of emergency in the country.

Cybercriminals from the group that claimed responsibility for the deed, DarkSide, hacked the server of the oil product pipeline control center. According to the head of the Colonial Pipeline Co. Joseph







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CASPIAN PIPELINE  
CONSORTIUM:

# A TIME-TESTED INTERNATIONAL PROJECT



Каспийский Трубопроводный Консорциум  
**Caspian Pipeline Consortium**  
Каспий Құбыр Консорциумы

