

PANORAMA

CASPIAN PIPELINE CONSORTIUM



Каспийский Трубопроводный Консорциум
Caspian Pipeline Consortium
Каспий Құбыр Консорциумы

CORPORATE MAGAZINE
№4 (31) December 2020



HAPPY NEW YEAR!

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RESULTS

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WITH ACCURACY
TO ONE METRE

PROFESSIONALS
THE RESULT IS RECEIVED BY
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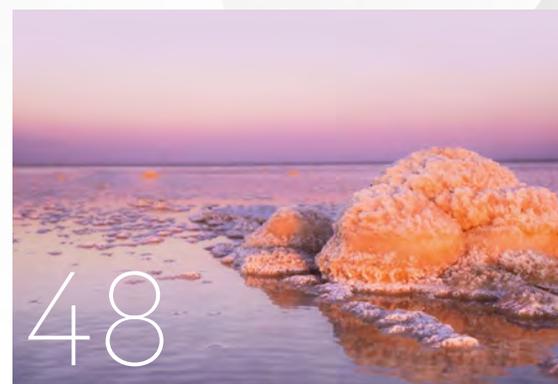
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DEAR COLLEAGUES, DEAR FRIENDS!

Please accept my sincere and heartfelt congratulations on the upcoming year 2021!

The expiring year was uniquely complicated for us, for Russia, Kazakhstan and the whole world. The Covid-19 epidemic has affected people's lives, the work of industrial enterprises, and the oil transportation industry. Caspian Pipeline Consortium has weathered this global storm with honor, which once again proves the team professionalism, high resilience, richest experience of our specialists and the ability to respond to any situational challenges flexibly and rapidly.

In an objectively difficult period for everyone, we have once again confirmed and enhanced the reputation of the company of strategic importance in Russia, Eurasia and worldwide. In 2020 the Novorossiysk Marine Terminal became the leader among Russian ports in terms of the cargo transshipment volume. We rose beyond 700 million tons of oil shipped to tankers since the start of work, the 20th anniversary of which is planned to celebrate in the coming year. The results of the expiring year also included 20 million hours of work with no incidents with disability for the CPC team and 65 million km of mileage without recorded accidents for the company's vehicles.

Our goals and priorities remained the same. The Debottlenecking Program, which implementation will optimize transportation volumes through the Tengiz – Novorossiysk pipeline, is on track. We managed the design scope in full, received state permits for the modernization of facilities in Russia and Kazakhstan and approval of shareholders for construction and

installation works. In 2023, the pipeline transmission capacity should reach about 80 million tons of oil.

In the coming year, the Consortium will start implementation of the three-year production program. This is an important stage in strategic planning, characterized by a new and comprehensive approach to our pipeline system reliability.

Concerns of expiring year did not limit the implementation of our initiatives for social support of the CPC presence territories. In total, the company allocated over half a billion rubles for charitable projects for the regions of Russia and about 1.3 billion tenge for Kazakhstan in 2020. We focused on supporting the healthcare sector, purchasing modern medical equipment, and I am sure, it will help to fight against Covid-19 shedding effectively.

2021 will be replete with anniversary dates for the Company and new achievements. It will be intense and arduous in terms of meeting current and new challenges. I wish you health and happiness, peace of mind and confidence in the new year. Remember that together we are a team that can handle any challenge and hardship. Happy New Year!

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



AUTHOR
IGOR LISIN,
CPC'S TECHNICAL DIRECTOR, DBNP MANAGER

DBNP 2020: YEAR'S RESULTS

DESPITE THE CORONAVIRUS PANDEMIC AND RELATED RESTRICTIVE MEASURES AROUND THE WORLD, THE CASPIAN PIPELINE CONSORTIUM IS IMPLEMENTING THE DEBOTTLENECKING PROGRAM IN STRICT ACCORDANCE WITH THE OUTLINED PLAN

For facilities located in the Republic of Kazakhstan, all projects which were planned to develop in 2020 have been developed in accordance with the time schedule. Three of four projects have passed all the necessary examinations with the receipt of final positive conclusions and are ready to be implemented by the construction services contractor. "CPC Oil Pipeline System, Tengiz PS. Project documentation.

Construction of 2 Vertical Steel Tanks with floating roof with an area of 20,000 m³, PS and related structures" is at the final approval stage in the comprehensive independent expertise authority of the Republic of Kazakhstan and will also be ready for implementation by the construction services contractor after receiving a positive conclusion.

For facilities located on the territory of the Russian Federation,

the development of nine of the 13 projects planned for development in 2020 has been completed. In the course of the approval of these projects, two state expertises (as a result of which the final positive conclusions of the Glavgosexpertiza of the Russian Federation were obtained) and seven examinations of industrial safety of facilities were successfully passed. Two special technical specifications were developed and approved by the

Ministry of Construction, Housing and Utilities of the Russian Federation, four sanitary-epidemiological expertise for two projects were passed. The development of the four remaining projects is scheduled to be completed by the end of the year.

The preparatory work for the DBNP implementation is also in full swing. Due to the fact that the existing communications partially pass at the future DBNP facilities construction site at the Atyrau PS and the Astrakhanskaya PS, the necessary measures were taken to ensure 100% readiness for the main construction and installation works. A work contract for the project "Atyrau PS. Dismantling of the diesel fuel pumping station" was signed in the Republic of Kazakhstan, and a work contract for the project "Astrakhanskaya PS. Major overhaul. Changing the routing of existing cables" was signed in the Russian Federation. Thanks to the efforts of our colleagues from the Construction Headquarters of the Eastern and Central Regions, the work under both contracts has been completed in full, including work that can be performed only if the oil pipeline is stopped.

The sheduled work on obtaining building permits was also completed in full. This year, two key stages significant for the DBNP implementation were completed: through the help of our colleagues from the Department of Government Relations, permits for the construction of the Astrakhanskaya PS and the construction of the LACT at the Marine Terminal Shore Facilities were obtained in time.

The Strategy and Planning Group performed a tremendous work in terms of timely preparation for the DBNP implementation: during 2020, in addition to contracts for preparatory work at the Atyrau PS and Astrakhanskaya PS, the Strategy and Planning Group held negotiations and concluded contracts for technical modernization of the LACT 21-RK-A004 at the PS Tengiz (Republic of Kazakhstan), and for the design engineering for the design equipment of LCN in the



3D-MODELING OF THE
ASTRAKHANSKAYA PS NEW
BUILDINGS

Russian Federation and the Republic of Kazakhstan. Contracts for the provision of the field engineering supervision services at the DBNP facilities were concluded in September 2020. In October-November 2020, the tender procedures were completed and the approval of the company's share-

the implementation of work on the modernization of local control systems, fire and gas detection systems, for the provision of supervision ser-

TENDER PROCEDURES AND WERE COMPLETED AND APPROVAL FROM THE COMPANY'S SHAREHOLDERS TO CONCLUDE CONTRACTS FOR THE IMPLEMENTATION OF KEY CONSTRUCTION AND INSTALLATION WORKS WITHIN THE DBNP FRAMEWORK WAS OBTAINED

holders for the conclusion of contracts for the implementation of key construction and installation works within the DBNP framework in the Russian Federation and the Republic of Kazakhstan was obtained. Currently, these contracts are under company's internal approval. In addition, the tender procedures for the scope of works for the SCADA system modernization in the Russian Federation and the Republic of Kazakhstan have been completed, conclusion of contracts for

services for installation monitoring and commissioning of the key equipment and other related works and services is underway.

Consequently, summing up the interim results of 2020, it is safe to say that the DBNP team has passed the pandemic test and the challenges associated with it with flying colors. Further we are awaited by the "blast" 2021, which means new challenges ahead, which will allow us to express ourselves even better and lead the charge. ●



AUTHOR
AINA ZHETPISBAEVA

REASON TO BECOME STRONGER

KAYRGELDY KABYLDIN, CPC DEPUTY GENERAL DIRECTOR, REPUBLIC OF KAZAKHSTAN GOVERNMENT RELATIONS, TELLS CPC PANORAMA CORRESPONDENTS ABOUT THE WORK OF THE CONSORTIUM EASTERN REGION DURING THE PANDEMIC, ABOUT THE IMPLEMENTATION OF PRODUCTION PROGRAMS AND SOCIAL PROJECTS AND ABOUT SIGNIFICANT DATES IN THE COMPANY'S HISTORY

Kairgeldy Maksutovich, the Covid-19 pandemic, unfortunately, has not spared Kazakhstan. Please tell us how the work with the the Republic state and regulatory authorities to ensure the uninterrupted operation of the Tengiz – Novorossiysk oil pipeline facilities is organized.

Work with state and regulatory authorities in this direction has log been well-organized, and in this difficult time for the country's economy, our cooperation became even stronger.

We try to comply with all industrial and environmental safety requirements and environmental legislation of Kazakhstan. We have been cooperating with the Ecology Department of the Atyrau Region, the Akimat of the Atyrau Region, with the Ministry of Ecology of the Republic of Kazakhstan and, of course, with the Ministry of Energy for many years. We hold regular meetings, participate in expert committees, discuss problematic issues, and try to solve them together.

I would like to emphasize that during the pandemic, unprecedented measures were taken to ensure uninterrupted oil transportation and fulfill all the liabilities of the Consortium to shareholders. I believe that the crisis situation that affected industrial enterprises and the population of Russia and Kazakhstan as well as the whole world, is not a reason to give up, but a special time to unite and gain in strength.

How would you assess the staff activity and the implementation of production programs in the CPC Eastern region in the context of the restrictions associated with the Covid-19 pandemic?

When the first cases of coronavirus infection were detected in Kazakhstan and a State of emergency was declared, a Crisis Management Team was organized in the structure of our company. Meetings with the heads of all CPC departments in Kazakhstan and Russia were held regularly. In order to protect the health of employees of the company and contractor organizations the necessary restrictions were set in offices and production facilities, medical measures were taken and organizational solutions were implemented.

One of such solutions was the transition to a rotating schedule. If previously, work at the PS of the Eastern region was in shifts, then with the introduction of quarantine, workers first switched to a 14-day rotational shift, then to a 28-day rotational shift. Firstly 50% of employees of the head office in Atyrau were transferred to remote work, but when situation worsened, the whole team started to work remotely. Productive remote work access was provided by the company's IT services.

Observation measures were taken for rotational employees. For this purpose, the company rented a hotel complex within the city, where our employees were staying during the entire shift. When we detected employees with coronavirus we started to monitor their location

and state of health, they were provided with everything they needed, including medicines that we have additionally purchased in Russia.

When problems with coronavirus testingd arose in the region due to the closure of a number of clinics, CPC-K promptly came up with a solution. The doctors made tests "on the spot", and the laboratory analysis was done in neighboring Astrakhan City.

The only obstacle in our team work during the pandemic was the introduction of restrictive measures at the Tengiz production field. As you know, checkpoints, restricting the access of our employees to workplaces were set up there. But in the course of negotiations with the management of oil operators, the issue was resolved and at present we experience no difficulties in cooperation.

"WE TRY TO COMPLY WITH ALL INDUSTRIAL AND ENVIRONMENTAL SAFETY REQUIREMENTS AND ENVIRONMENTAL LEGISLATION OF KAZAKHSTAN"

Maintenance, repair and emergency response at the Kazakhstan section has been carried out by the "KazTransOil" contractor company since 2018. How do are our partners act in this hard times?

Cooperation between two major oil transportation companies since the signing of the Agreement with KTO for the provision of relevant services at the facilities of the CPC pipeline system within the territory of the Republic of Kazakhstan has broke new ground.

By the way, we are not limited to cooperation in terms of production activities only. For example, in the fall, our first cleanup after the quarantine relaxation with the participation of 80 employees of our companies was organized. Over 10 tons of garbage were collected on the shores of the Ural river just in one day.

How do the Consortium specialists interact with representatives of oil operators in Kazakhstan? Did you need to make any adjustments to this interaction in connection with the quarantine measures?

How is the work in the framework of the Debottlenecking Program progressing in Kazakhstan? Are you manage to meet previously approved schedules?

As you know, the Debottlenecking Program implies optimization and facilitation of the CPC oil pipeline system capacities after the Expansion Project implementation. On the results of assessment of the impact of the Covid-19 pandemic on the course of the DBNP implementation, I can say that, in general, the situation related to restrictions on the activities of enterprises did not reduce the company productivity which was gained at the start of the program implementation. Although, of course, certain adjustments have been made.

Currently, the development and preparation of the full-scale DBNP implementation is being carried out within the the program time schedule approved by the shareholders in the Final Investment Decision (FID) package. At present, in the Eastern region of the CPC, as well as throughout the entire territory of Russia, these deadlines are being met and observed.



Kairgeldy Maksutovich, you have been working at a senior management level in the energy industry for several decades. Within this period, the industry experienced both rapid growth and recessions. Taking into account your experience, how do you think — how quickly will Kazakhstan oilmen manage to increase production when the pandemic will finish and the world economy will start upswinging again?

The coronavirus pandemic and the quarantine measures introduced to contain it caused an “economic shock” not only in Kazakhstan, but also worldwide. According to the forecast of the World Bank, global GDP will downsize by 5.2% this year. Argus Consulting’s research suggests that oil demand, which plummeted during the pandemic, may not recover until 2023. Analysts estimate the reduction in oil consumption in 2020 at 8.3 million bpd,

or about 8% from the level of 2019. Other sources are more optimistic: Goldman Sachs predicts a recovery in demand by 2022, moreover, BofA indicates recovery in 2021 and these data comply with the forecast of the Russian Ministry of Energy. Much depends on the agreements within the OPEC+ framework.

Unfortunately, due to Covid-19, entire industries — tourism, hotel and restaurant business, air travel, car rental and many others — stayed paralyzed. As a result, the demand for oil and other energy resources has dropped sharply. If we will manage to avoid the next new wave of the pandemic, business can be restored quickly, this is the way I look at it.

Has the Covid-19 pandemic affected CPC’s charitable activities in Kazakhstan and fulfilling its social obligations? What major charitable projects are currently being

implemented? What are the plans for next year?

Despite the pandemic, CPC-K continues to implement charitable projects in the presence region. It was decided that in the current epidemiological situation, we cannot keep out of the community needs and assist medical institutions. We have supplied 12 ambulances for hospitals of the Atyrau region. We financed the delivery of a computer tomography system for the Ganyushkino district hospital. This is the most remote area from the regional center, its residents previously had to travel 500 km to do CT or MRI. Also this year we have purchased the necessary equipment for “Juldizai” medical rehabilitation center — simulators for speech correction, diagnostics, treatment and rehabilitation of patients with musculoskeletal system diseases.



Since 2019, a family-type children’s village has been under construction in the suburban village of Talgayran, and a Youth House is being built in the Atyrau City. These are also our facilities, we plan to open them in the first half of 2021.

It is noteworthy that this year Kazakhstan hosted the traditional competition festival — “CPC for Talented Children”. We successfully held the first stage of the festival, the “Jas Tolqyn» competition with the participation of children from Atyrau, Mangistau, West Kazakhstan and Aktoobe regions. Organization of the second stage of the competition was postponed to 2021 because of quarantine.

Next year will mark the 20th anniversary of the commissioning of the CPC oil pipeline system. The main oil pipeline is of great export importance for the Republic. Do you plan to celebrate this date in Kazakhstan nationwide?

On March 26, 2001, filling of the pipeline system with the first oil from the Tengiz field began in Atyrau. The ceremony was attended by the Prime Minister of Kazakhstan Kassym-Zhomart Tokayev, Deputy Minister of Energy of the Russian Federation Vladimir Staney, heads of the oil and gas sector of Russia and Kazakhstan: Nurlan Balgimbaev (Kazakhstan), Vagit Alekperov (LUKOIL), Timur Kulibayev (KazTransOil), Guy Hollingsworth (Shevron), Sergey Gnatchenko (CPC), Russian Ambassador to Kazakhstan Yury Merzlyakov and US Ambassador to Kazakhstan Richard Jones.

During the ceremony dedicated to the start of filling the “Tengiz — Black Sea” oil pipeline system, a symbolic launch of a scraper cleaning device into the pipe and the opening of a valve took place. A commemorable stele was unveiled here and trees were planted in sign of preserving and improving the environment along the pipeline route. A press conference with the participation of the Prime Minister



of the Republic of Kazakhstan, Akim of Atyrau Oblast, CPC General Director was also organized.

For Kazakhstan, this date is considered a highlight in the history of the oil transportation indus-

Why are anniversaries celebrated? It is necessary in order to plot a vector for further development, to set long-term goals, to mention persons who have made a great contribution to the company development.

“DESPITE THE PANDEMIC, CPC-K CONTINUES TO IMPLEMENT CHARITABLE PROJECTS IN THE PRESENCE REGION”

try development. Therefore, we are planning to organize a number of events at the Cabinet level. But not only this significant event will be celebrated in 2021. In October 2001, the first tanker was loaded at the Marine Terminal. And in December 6, 2021, it will be 25 years since the signing of the Shareholders Agreement. On December 6, 1996, the Agreement on CPC Reorganization and the Agreement of CPC Shareholders were signed in Moscow. It was then that CPC-K JSC and CPC-R JSC were founded.

Kairgeldy Maksutovich, at the end of our conversation, we would like to wish successful implementation of all charitable and environmental projects, successful completion of the Debottlenecking Program, and good health to all CPC-K employees!

I avail myself of this opportunity to congratulate all colleagues, their families and friends with the upcoming New Year. I wish everyone health, as this is the most important thing today, as well as success in work and in general, family happiness and good mood!

AUTHOR
PAVEL KRETOV

ACCOUNTING AND MONITORING

TODAY, THE STORAGE FACILITIES OF THE CASPIAN PIPELINE CONSORTIUM COMPLY WITH THE WORLD' BEST PRACTICES. TO ACHIEVE THIS, THE CPC PROCUREMENT TEAM HAS PUT A LOT OF WORK AND CONTINUES PROGRESSIVELY MOVING FORWARD



EASY, ACCURATE, PROMPT

CPC is a large oil transport enterprise, which has 16 warehouses for supporting its production activities. These warehouses store over 55 thousand titles of diverse material and technical assets. Several thousands of credit and debit operations are recorded at these storage facilities on an annual basis. So, how on earth do they manage not only to store such a large amount of goods, but also to quickly find and identify the required part?

Just a little while ago, much depended only on good memory and experience of the warehouse employees, while nowadays technological advancement has come to their help in the form of automated data recording devices and a bin-location inventory storage system. Data collection terminals and mobile printers are implemented at CPC warehouses, which allows a specialist to read barcodes right at racks for quick execution of a delivery note and to apply special marking on goods. The barcoding also makes it possible

to decrease the duration of and labour input for annual inventory-taking by several times. Now, not only a storekeeper, but also an employee from other units of the company is able to quickly find the necessary part at the warehouse. For example, receiving products from the warehouse on the basis of an electronic requisition, the employees of the Operation Service note how easy, accurate, and prompt this process has become.

VERSATILE STAFF

No matter how rapidly technologies develop, professionalism and responsible attitude to the work are as important today as ever. A modern-day employee of a warehouse is de facto not a simple storekeeper, but a do-all engineer. He/she is able to draw up warehouse and accounting documents in the accounting program, to use barcoding systems in work, and to prepare technical and claim reports. This is an adept forklift operator who is aware of the H&S requirements and even will

help his/her colleagues select new items of personal protective equipment instead of the worn-out ones when CPC employees come to the warehouse to take them once again.

“At the present, it is difficult to overestimate the labour contribution and the professional input of warehouse employees to the Company’s operations,” says Dmitry Ryzhik, Procurement Manager. “In addition to many inherently warehousing activities, they perform logistic functions, work with unsaleables and scrap metal, and fulfil the most urgent requisitions for delivery of materials.”

MODULAR STORAGE SYSTEMS

When developing warehouse automation and storage systems, CPC scrutinized experience of large Moscow logistic centres.

“We took the best from them,” tells us Nikolay Prokhorov, Regional Procurement Group Leader. “There are, of course, such high-tech warehouses where robots are going about, but it makes no economic sense for our company.”



Speaking of racks. Only a few years ago, the CPC warehouses used metal cabinets installed along the walls, and all material and technical assets had to be arranged either in those cabinets or simply on the floor. Now, the company universally uses the cutting-edge and most convenient storage modular systems, which allow you to assemble unique structures using many standard elements. For instance, shelf structures are used to store electricals while high-capacity beams are used to store IBC totes containing a foaming agent.

The largest CPC warehouses located at the Marine Terminal and the Kropotkinskaya PS apply two-storey mezzanine-type warehouse complexes, approximately 6 m high, with stairs and lifts. An increase of the usable storage area in “mezzanines” is comparable to construction of an extra floor of the building, but the structure here is more technologically sophisticated and has a significantly lower cost. In general, for the last three-four years, implementation of modern warehouse systems designed considering specific features of the premises has made it possible to increase the capacity of the existing rooms and to cut down unit costs for storage of goods by several times and to forgo additionally rented storage sites.

MOVING FORWARD

It is important to note that the Consortium’s storage facilities

continue developing dynamically. In order to execute the Debottlenecking Program (according to experience of executing the CPC Pipeline System’s Capacities Expansion Project completed in 2017), the Procurement Service is launching new warehousing facilities with the area of approximately 6 thousand m² in Astrakhan and 2.5 thousand m² at the Marine Terminal in Novorossiysk. Moreover, design of new warehouse buildings in CPC’s Eastern Region continues, and there are plans to equip the existing warehouses with new storage systems and equipment. Continuous improvement of the accounting rules requires regular changes to the software of data collection terminals. So far, these updates are issued approximately once a month—virtually as frequently as for smartphone apps. Improvement of the MAXIMO application also has a high potential in terms of further process automation, electronic clearance of requisitions, tracking of accounting documents and bills, and monitoring of warehouse stock balance and excessive stock.

“Due to engagement of CPC’s own staff and available record-keeping technologies, we’re planning to reduce costs for operation of DBNP warehouses by several times, as compared to the second-phase Expansion Project,” confidently says Dmitry Ryzhik, Procurement Manager. ●





AUTHOR
PAVEL KRETOV

AT THE MAIN STATION OF THE CENTRAL REGION

THE PANDEMIC AND THE RELATED RESTRICTIVE MEASURES DID NOT SLOW DOWN THE PACE OF ASTRAKHANSKAYA PS RECONSTRUCTION. ABOUT THE WEEKDAYS OF MODERNIZATION – IN THE REPORT OF OUR CORRESPONDENTS

FIRST STAGE OF THE DEBOTTLENECKING PROGRAM

Vladimir Groshev, Manager, Operations and Maintenance, CPC Central Region, has just returned from the Astrakhanskaya PS. Together with other specialists of the Astrakhan office, he checked the readiness of the station for the October 48-hour shutdown of the oil pipeline (the conversation took place in early September. — Ed.note), during which the responsible work on re-connection of cable lines will be carried out. These lines provide power supply service of the equipment which is important during operation of the mainline like commercial oil metering stations. Speaking



about the importance of these flow meters, it is enough to note that they record the amount of hydrocarbons coming from Kazakhstan to the Russian Federation.

“In order to keep up with everything during the shutdown, the works are carried out around the clock by the optimal brigade staff,” explains Vladimir Groshev. “That’s why we, first of all, comprehensively reviewed the tasks set and checked that each specialist knows his maneuver and sequence of actions – in order not to disturb the others. Secondly, we made sure that all the necessary materials and equipment were delivered to the facility”.

The transfer of cable lines on the station was required to free the construction spot for the new trunk pipeline pump station planned under

is only one part of the preparatory stage of the DBNP at the pumping station. The other included replanting the station’s luxurious garden to a new location – a shift camp will soon be built on the old one.

MANY TIMES LARGER

It was exactly from the place allocated for the construction of the shift camp, where the correspondents of “CPC Panorama” were started to tell a story about DBNP at the station the next day.

“Five buildings of block-modular construction will be mounted here for comfortable accommodation of 120 people. Two buildings are designed for 48 seats, three more – for 12. All rooms of the residential complex will have a full-fledged bathroom and shower, and there will also be

DURING THE SHUTDOWN, THE WORK IS CARRIED OUT AROUND THE CLOCK BY THE OPTIMAL BRIGADE STAFF

the Debottlenecking Programme (DBNP). While clearing the space, the builders re-laid about 5 km of cables, 3 km of which provide power supply, and 500 m – communication. And this

a sauna and a sports ground,” Konstantin Boitsov, Project Coordination Group Leader at the Central Region Construction Headquarters, says.

Konstantin is an experienced builder, he has been responsible for



the construction of main gas pipelines and fuel and chemical refinery plants. Even a shift camp he had already built, but not for 120, but for 11 thousand people. He knows Astrakhanskaya PS as a native: just a few years ago, working in the structure of the general contractor, Boitsov participated in the reconstruction of this station and the construction of A-PS-4A on the border with Kazakhstan under the project to expand the capacity of the CPC pipeline system.

“Debottlenecking Programme at the Astrakhanskaya PS is much

pump station with new units, new closed switchgear, complete transformer substation, foam generating unit, strainers”.

ON THE SITE

Only the operator’s room, boiler room, pipeline surge relief system, and metering stations will remain at the pump station from among the former facilities. And this is the main difficulty of the project: the Astrakhanskaya PS is a limiting station for a long section of the oil pipeline, putting it in the transit mode

another the same pump station on the existing territory, optimizing the passage of all communications to the maximum.

“On the existing trunk pipeline pump station the start of the electric motor performs a device of shockless soft start, and regulation of pressure at the output of the pump is carried out at the expense of the voltage regulator”, Pavel Solovyov, Lead Electrical Engineer of the Central region of CPC, notes. “On the new trunk pipeline pump station the start of the electric motor and pressure regulation will be performed by Variable frequency drives (VFD). These trunk pipeline pump stations will run alternately for some time, and only after making sure that all systems are operational, it will be possible to decommission and dismantle old facilities and equipment”.

“It’s not an easy but a feasible task,” Konstantin Boitsov comments. “In addition, we are not alone in solving it, but in close contact with all relevant specialists of the Operations Department, both in Astrakhan and

WILL BE INVOLVED
AT THE PEAK OF THE
DBP WORK AT THE
STATION

would mean a reduction in pumping volumes by almost half for this time. It means that the construction will have to be done at a constantly operating station, practically placing

ABOUT
150
BUILDERS

larger than the Expansion Project”, Konstantin Boitsov continues. “In fact, the production zone of the station will be updated by 90%. There will be built a new trunk pipeline

Moscow offices. The project of works for construction at the existing station provides for additional safety measures. All worksites will be fenced and have a separate guarded entrance”.

A fire team must be on duty at the fireworks and gas analysis of the air environment must be carried out. Manual development of soil for visual identification of existing communications, etc, will be carried out before excavation works. About 150 builders will be involved at the peak of the DBNP work at the station.

AFTER CAREFUL PREPARATION

But it is not only within the framework of DBNP that Astrakhanskaya PS is being developed and modernized. In summer 2020, a new second lift station was launched here, which supplies water from the Volga River for the electric motor cooling system, resupply in fire tanks, and the green planting irrigation system on the pump station territory. A new electric board, transformer, flow meters, two submersible pumps were installed at the new facility.

“All is reserved: in case of an emergency stop of one motor, the other motor will start automatically. There are two interchangeable discharge lines, each pump has its own well for water intake”, says Nikolay Tokarev, Deputy Manager of Astrakhanskaya PS.

In order to provide water supply to the plant, constant pressure of 4 kg/cm² is maintained in the pipes. The typical daily consumption at the pump station is about 30 m³. In summer, when intensive watering of grass and trees is required, this figure can reach up to 100 m³.

On the way back to the Astrakhanskaya PS, the correspondents of “CPC Panorama” were proudly shown a shelter on the main ball valve. The word ‘shelter’ means a hiding place, while translated from English, it includes control systems, communications, uninterruptible



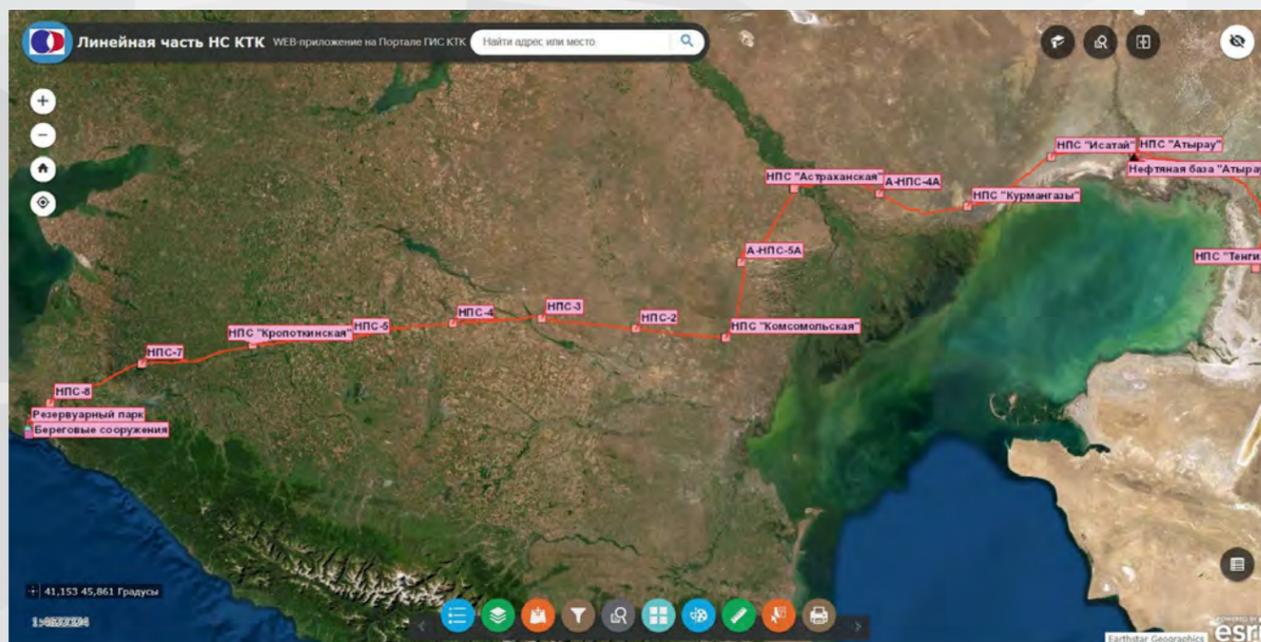
power supply. In order for this equipment to work reliably both in heat and cold (optimal conditions for maintaining battery performance are +20–25°C), the shelter provides ventilation and air conditioning systems. The last, US-manufactured, were installed back in 2000. That’s why in 2020 these air conditioners on all 30 shelters of the Central region were replaced by new Russian ones. The domestic manufacturer has undertaken to provide this equipment with its technical support and spare parts for 15 years.

“We were carefully preparing for the project of air conditioners replacement on the shelters”, Pavel Solovyov, Lead Electrical Engineer of the Central region of CPC, says. “The manufacturer has been visited several times by specialized professionals in electrics, Instrumentation and automation, and control systems. They tested the installations in different modes of operation. The new equipment is much more complex and technologically advanced, especially in terms of automation and control systems”.

AUTHOR
PAVEL KRETOV

WITH ACCURACY TO ONE METRE

DURING OPERATION, DIAGNOSTICS, AND MAINTENANCE OF A 15-HUNDRED-KILOMETRE TRANSCONTINENTAL OIL PIPELINE OF CPC, THE COMPANY'S EMPLOYEES PROCESS VAST AMOUNTS OF SPATIAL INFORMATION. THEY ARE ASSISTED IN THIS BY SPECIALISTS OF THE GIS TEAM



SERVER AND CLIENT

Geographic Information System (GIS) technologies have been in CPC from the very beginning of the Company's production activity and are intended for being used with any spatial information. At first, those were rather simple

programs for mapping and charting, but today they have already developed into a complex system of client/server applications, which enable us to work with many spatial information types.

This is what Dmitry Kushnaryov, Senior GIS and CADD Specialist,

talks about with the correspondent of CPC Panorama. He has been working in the field of geographic information technology for over 25 years. In the 1990s, Mr Kushnaryov participated in the Sakhalin-I and Sakhalin-II projects and ensured GIS implementation

at oil-and-gas and coal-mining enterprises. Daily tasks Mr Kushnaryov solves in the GIS and CADD Team include, but are not limited to, support of the CPC Geographic Information System's infrastructure and software, which implies administration, database refill, etc.

Two clarification comments have to be given at once for an unprepared reader. First, what is a client/server application? It is an application the operation of which includes two components: a client asks a server for some favour by sending it a message containing the request, and the server — having reviewed the client's request — carries out the relevant operations and then sends the client a message containing the reply. Sometimes, the client and the server can be involved in an extended dialogue of requests and replies. The client application normally interacts with the user while the server application grants access to a shared resource.

Second, what is spatial information? It displays actually existing, georeferenced facilities — that is, all these facilities have coordinates. This information can be stored in a database on the server, and GIS software makes it possible to work with it efficiently.

The software consists of a server part and a client part, the latter being web applications. They are located on the CPC server and available to the employees according to the scope of tasks they perform.

The GIS Team reports directly to the Manager for Operation and Maintenance of the Line Section of the Oil Pipeline. Therefore, the primary range of tasks to be solved by this team, one way or another, deals with the needs of the Line Service's specialists. At the same time, the team also develops its own technologies and tools for other structural units—particularly it starts working with CPC's Security Service.

"The CPC GIS used to be essentially a general-purpose information retrieval system, which integrated mostly overview-type data on our oil pipeline system," explains Dmitry Kushnaryov. "Now, the GIS trajectory in the Company has changed and aims to solve particular specialized tasks using GIS technologies and target data. For the last two years, our Contractor has performed much work on processing a huge amount of spatial information accumulated in CPC and on transferring it to a single information field to ensure its easy use in web apps."

GIS TECHNOLOGIES HAVE BEEN IN CPC FROM THE VERY BEGINNING OF THE COMPANY'S PRODUCTION ACTIVITY

TO EACH SPECIALIST

Software made on the ArcGIS platform by ESRI (USA) is now at the disposal of the Company's employees. This firm is the leader in geographic information software products, similarly to Microsoft's being the leader in office

That as well as developing technologies will allow the team to create subject-specific distributed-access web apps based on unified, centrally stored information on CPC's oil pipeline system in order to assist the Company's employees to solve dedicated production tasks.



FROM THEORY
TO PRACTICE.
MASTERING
THE TECHNIQUES
OF WORKING WITH
SATELLITE GEODETIC
EQUIPMENT

"We have now an overview application, and all employees of CPC are granted access to it," continues Dmitry Kushnaryov. "It displays a map with the oil pipeline facilities, the oil pipeline proper, oil pump stations, valves, etc. There is also an advanced application intended for the specialists of the Line Service, where, in addition to the centreline, a lot of extra information on the line section of CPC's oil pipeline system is provided: locations and characteristics of pipeline sections, insulation, cathodic protection facilities, repair structures, welded elements, etc. Now, when this app has been created, we can fill it further with information, improve the data, and, most importantly, keep debugging the data updating mechanism."

WITH A TABLET ON THE ROUTE

Today, the GIS Team is setting about implementation of technology of mobile GIS apps. Their advantage is that employees are



INSTALLATION OF A GEODETIC GPS RECEIVER AS A BASE. VIA AN ANTENNA ON A TRIPOD (ON THE LEFT), A PRECISE DIFFERENTIAL CORRECTION FROM A SATELLITE GPS ANTENNA (ON THE RIGHT) IS TRANSMITTED THROUGH A RADIO MODEM TO 10 TO 15 KM, ALLOWING SURVEYORS TO PERFORM ACCURATE (WITH AN ERROR OF SEVERAL CENTIMETRES IN PLAN) FIELD MEASUREMENTS WITH ROVER RECEIVERS

able to get full information on an oil pipeline section not only when in the office, but also when immediately on the route using a tablet (and even with no Internet). They can see all facilities of the oil pipeline infrastructure on the map with regard to their position – the line section, signs, crossings with various utility lines – opening drawings and obtaining other required information by moving their fingers over the touch screen.

Moreover, mobile apps allow you to easily gather information when carrying out scheduled inspections, repairs, and audits at the CPC production facilities. When the Internet is available or appears, data entered in the field (including descriptive information, coordinates, photos, etc.) are instantaneously sent to the server and become available to all interested employees of the Company.

“ANCHORS” AND “MARKS”

Igor Biryukov, Lead GIS and CADD Specialist, adds to the story other important current and prospective projects to be executed for the Company’s needs. Mr Biryukov is an old-timer of the Consortium, who joined the CPC project way back in 1998. For 22 years, his duties include making maps

for managers and specialists, interacting with various structural units of CPC (with the Land Law Team, environmental engineers, employees of the Projects and Design Department), and making requests on provision of spatial information to third-party organizations and authorities.

“At the present, we with the help of our contractors are installing a network of ground benchmarks on river crossings and on sites

of mainline valve stations throughout the oil pipeline length,” tells us Igor Biryukov. “These are permanent structures that consist of an underground part – ‘anchor’ – reliably connected with the ground and an above-ground ‘mark’ – a post with a metal cap and the centre. The centre’s coordinates and altitude above the sea

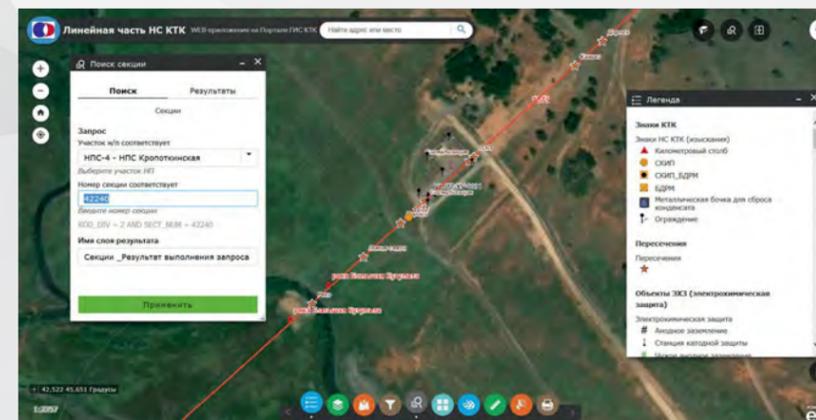
level are determined by high-precision GPS measurements from the points of the State Geodetic Network (SGN).”

The coordinates thus obtained are used for regulatory measurements at CPC’s facilities and structures, for topographic surveys and for referencing new construction facilities. The developed benchmark network makes it possible to ensure the uniformity of measurements during monitoring of the

THE HIGHEST-PRIORITY AND MOST CRITICAL TASK TODAY IS IMPLEMENTATION OF AN INTEGRITY MANAGEMENT SYSTEM FOR THE LINE SECTION OF THE CPC OIL PIPELINE SYSTEM

CPC pipeline condition. This is the mathematic framework of the pipeline’s line section model.

Another crucial area of work consists in regular topographic surveys and airborne laser scanning of individual oil pipeline sections. Thus, the specialists obtain accurate and up-to-date digital relief models. These data are then



GIS CORPORATE APPLICATION INTERFACE

pump stations, Marine Terminal), it is crucial that ROSEN, within the NIMA module, is currently developing specialized software solutions for these production sites as well.

The range of tasks to be solved in the immediate future also includes creation of a new kilometrage system of CPC, which will take into account changes to the length of the line section that are related to the Pipeline System’s Capacities Expansion Project completed in 2018. Modern GIS technologies allow the CPC oil pipeline length to be accounted with accuracy to one metre, but on most information signs, drawings, and in many documents of the Company the kilometrage is left as it was, without considering the elongation in the 0–130 km section and the replaced pipeline section with a new diameter in the 116–204 km section. Updating the line section length will enable the entire oil pipeline to be transferred to the new kilometrage system, when this task will be posed.

“The continuously updating and developing geographic information system of CPC is the basis of many promising innovations,” says Igor Biryukov. “The great future belongs to such areas as line section monitoring using unmanned aerial vehicles, surface laser scanning for creating high-precision models of facilities, and the CPC employees’ use of mobile devices ‘in the field’: for navigation as well as display and collection of information on oil pipeline facilities.”

Come to think of it, as Jack Dangermond, the president of ESRI, said, the possibilities of geographic information systems are limited only by imagination of those who are using them.

used, for instance, in design and construction of oil pipeline facilities or in simulation of emergency oil spills. This makes it possible to provide for extra measures for protection of civil infrastructure facilities, populated localities, and specially protected natural areas. Check and revision of quantitative and qualitative characteristics of protection constructions (earth mounds, pits, dams, and ditches) become necessary when pumping modes change, new structures are built, the landscape changes, etc.

PLANS AND PROSPECTS

How will CPC’s geographic information systems develop in the future? The Consortium is working on increasing the transportation and shipping amounts within the DBNP. It is also retrofitting the equipment and implementing new technologies. How does the GIS Team plan its work in this respect?

“The highest-priority and most critical task today is implementation of an integrity management system for the line section of the CPC oil pipeline system,” answers Dmitry Kushnaryov. “The pipeline Integrity Management System (IMS) is a set of interrelated organizational and engineering measures intended to ensure the reliable and efficient performance of the pipeline system while complying with the requirements for safe operation. The IMS implementation is expected to include creation

of new and correction of existing procedures and internal guidance documents on maintenance and operation as well as implementation of an information and analysis system. On the subject of implementation of the information and analysis system, we are currently in close contact with one of leaders in this field, a German-Dutch company named Rosen.”

A NIMA intelligent module offered by Rosen allows a large amount of miscellaneous information on the pipeline’s line section to be conveniently stored and used. This module is a powerful tool for data analysis and for determining the current state of the mainline using advanced methods that are applied by pipeline system operators all over the world. Analysis uses preset tool processes included in the software package. NIMA, similarly to CPC’s GIS, is based on the ArcGIS software and is essentially a specialized GIS add-in.

“Such solutions make it possible not only to gather up-to-date information on the facilities, but also to take analysis to a new level by creating a single information core, and hence to predict the state of the oil pipeline system more precisely and to make efficient decisions promptly,” summarizes Dmitry Kushnaryov.

Taking into account the fact that the Consortium Management has set the task to develop the GIS not only for the line section, but also for other oil pipeline facilities (oil

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CONTROL, MEASUREMENT, AUTOMATION

THE RELIABILITY, SAFETY AND PRODUCTIVITY OF PIPELINE EQUIPMENT IS ENHANCED BY THE USE OF CONTROL INSTRUMENTATION AND AUTOMATIC CONTROL SYSTEMS. THE ARTICLE, PREPARED BY THE SPECIALISTS OF STARSTROY LLC, HIGHLIGHTS THE FEATURES OF MAINTENANCE AND REPAIR OF INSTRUMENTATION AND AUTOMATION EQUIPMENT, AS WELL AS PROFESSIONAL PERSONNEL TRAINING



MAINTENANCE
OF THE
BOLID FIRE
DETECTION
SYSTEM
AT A-OPS 4A

the equipment maintenance organization and conduct. In accordance with the requirements of the Federal Law "On Licensing Certain Types of Activities" No. 99-FZ, our company has all the necessary licenses to perform maintenance and repair works on equipment. As for instrumentation and automation equipment, here licensing is required for activities related to the maintenance and repair (MRO) of fire detection and fire extinguishing systems. The license for these activities was obtained by STARSTROY LLC in 2013.

To carry out equipment maintenance works instrumentation and automation teams have been organized in all departments in accordance with the contract requirements. Currently, the total number of instrumentation and automation personnel equals 87 workers. The teams include highly qualified specialists with many years of experience in the field of maintenance and repair of instrumentation and automation equipment. The general management of the instrumentation and automation departments is

leading world manufacturers, such as Siemens, Rockwell Automation, Emerson, Saab, Rotork, Controlotron, Syncross and others is used.

STARSTROY LLC has been the general contractor for CPC-R JSC for the Consortium's oil pipeline system maintenance for over 20 years. State standards, the complexity of the equipment used, internal regulatory and technical documents, the remoteness of the location of the main oil pipeline facilities imply their own peculiarities for

carried out by qualified engineering and technical personnel.

When carrying out maintenance of instrumentation and automation equipment, the scheduled terms of works are strictly observed. For this, a maintenance structure has been developed and, according to this structure, annual schedules for predictive and preventive maintenance of equipment at facilities have been prepared. The types of work carried out for each type of instrumentation and automation equipment (drive automation, pressure converters, flow meters, etc.) are determined by the internal regulatory document of CPC-R JSC, which was developed on the basis of the requirements and recommendations of the state regulatory and technical documentation, technical documentation of equipment manufacturers and, of course, big experience of the personnel working in this field.

The scope of works on equipment maintenance includes the whole cycle of testing of instrumentation and control systems and gas and fire detection systems from devices of the lower level of automatic control to channels transmitting data to software based controllers.

EQUIPMENT AND TRAINING

The complexity of the instrumentation and automation equipment used at the facilities of the oil pipeline system determines the combination of the instrumentation pool stock and instruments used for maintenance works. The equipment is chosen according to the requirements of manufacturers, taking into account all characteristics of the devices subject to maintenance. As an example MEDC HD1 thermal fire detectors of Siemens gas turbine plants can be mentioned. To carry

out the full scope of this equipment maintenance, the manufacturer recommended a special device that has no domestic analogues and is produced only against order. Despite such difficulties, the device was purchased and included in the equipment of the team performing maintenance of heat detectors.

The list of devices and instruments used for the performance of works is determined by the current maintenance contract. At present, the equipment of instrumentation and control teams fully meets all requirements. But even the most expensive and technologically

advanced devices will not be able to provide high-quality working results without properly trained personnel.

STARSTROY LLC pays special attention to the selection of personnel, personnel training and preparation for work performance. All instrumentation and automation employees have relevant education, many of them have higher education. Before starting independent work at the facilities, all employees undergo special training and the necessary industrial safety qualification testing. They study the maintenance



FLOW INDICATOR
REVISION AT OPS-7

Modern pipeline transport is a complex system of interconnected equipment intended for various purposes. It is natural that complicated control instrumentation and automatic control systems are used for monitoring and feature management of this system. This also applies to the Main Oil Pipeline of the Caspian Pipeline Consortium. To ensure its operating modes in accordance with the required characteristics, equipment from



of explosion-proof electrical equipment, maintenance of pressure vessels, gas analysis. As electrical personnel, instrumentation and automation employees have appropriate electrical safety approvals for the works performed.

The personnel is required to undergo mandatory training for the types of works performed as a part of the licensed type of activity. These include works related to the installation, maintenance of fire extinguishing systems, fire and security and fire alarm systems, including dispatching and commissioning works. The training is carried out in authorized training centers with the issuance of appropriate confirming certificates.

As mentioned above, the pipeline facilities use high-tech equipment, which requires certain skills.

personnel is trained in the official representative offices of manufacturers of such equipment – both in specially equipped classrooms and at the facilities. First of all, attention is paid to training on systems ensuring facility safety, such as fire and gas detection systems (FGDS) based on the equipment of “Syncross” and BOLID. Additionally, instrumentation and control personnel undergo training in the field of drive automation at AUMA and ROTORK offices, the operation of TankRadar L/2 oil metering systems and Controlotron ultrasonic flow meters at the SAAB Radar Master office, as well as for other equipment.

In addition to mandatory training in industrial safety, labor protection and according to the above-mentioned special program, monthly

include training in such issues as elimination of failures of AUMA, ROTORK and Ledeen drive automation equipment, conditional emergencies with Syncross and BOLID fire and gas detection systems, methods of troubleshooting the pressure, temperature and level take-off systems. Educational and training exercises are conducted close to real ones. All instrumentation and automation personnel of each department is engaged in this exercises. The knowledge and experience gained during training exercises help to reduce the time of troubleshooting and elimination of possible malfunctions of the operating equipment.

The organization of the maintenance system in accordance with the requirements of the standards in this field as well as the company's actions aimed at maintaining the personnel qualification at the high level – all this allows to provide maintenance services for the instrumentation and automation equipment of the CPC oil pipeline system with high quality for many years. ●

STARSTROY LLC PAYS SPECIAL ATTENTION TO THE SELECTION OF PERSONNEL, PERSONNEL TRAINING

The organization of high-quality maintenance of such equipment requires a thorough knowledge of its structure, operation principles as well as the procedure for maintenance and repair. For this purpose,

training exercises are organized. Their subject matter, program and schedule in each department were developed together with instrumentation and control specialists of CPC-R JSC. Training exercises

IBP FOR BEGINNERS

AUTHOR
DMITRY KONSTANTINOV

IN 2021, CPC IS GOING DEVELOP THE THREE-YEAR PRODUCTION PROGRAM, BASED ON A NEW APPROACH – THE INTEGRATED BUSINESS PLANNING PROCESS FOR THE PERIOD OF 2022–2024

Being the owner and operator of the pipeline system, oil pumping, storage and shipment facilities, the Caspian Pipeline Consortium focuses its production activities on providing shareholders and shippers with reliable transportation conditions, compliance with

legal and regulatory requirements, ensuring labor protection, industrial safety, and environmental protection. The production processes include diagnostics, maintenance and repair of equipment, control and communication systems and software as well as replacement and modernization of

all this in connection with the technical state, resource, service life etc.

The idea to improve the corporate planning model of the company's production activities has started up at CPC in 2019. As a result, the Integrated Business Planning (IBP) process, which has successfully passed



the stage of pilot testing in the CPC Eastern region as for today and is available for review and work in the corporate SharePoint, was implemented.

“The planning model currently used by the Consortium is not completely comprehensive,” says IBP manager Petr Gvozdev. «Over time, we faced a number of problematic aspects of this model, such as duplication of approvals and information in the AFE (Authorization for expenditure) and MOC (Management of change) forms, the lack of direct connection between projects initiated and the goals of departments and the company, the extended process time complimented by the disunity of the activities of departments and discrepancies in the classification of capital and operating expenses. Taken together, all this leads to system errors, such as the “sudden” needs for large expenses. In order to avoid such force majeure situations, the number of which currently requires attention, we have developed an Integrated Business Planning process with its own instrumentarium and interaction scheme.

PROCESS ARCHITECTURE

The IBP project was launched in June 2019 from the moment of the formation of the Working Group which included representatives of the majority of the Consortium departments and services under the supervision of the project manager Raisa Bulkina. The project was organized by the Finance Department. By December 2019, the project scope was finally defined, problem areas of the «As is» process were identified and a new “To be” process was developed, form templates and other necessary documentation were developed.

The Production Program, having the form of well-developed set of Activity cards (AC) became the principal output of the new process, expanding the planning horizon from one to three years. The term “production activity” means an activity that meets the Company’s goals, is carried out with the participation of contractors and

VIKTOR MIROSHNICHENKO,
MANAGER, OPERATIONS AND
MAINTENANCE, CPC-K:

« The IBP procedure reduces the work breakdown of managers and specialists by 50-60% during planning and coordination of production activities, bringing into accordance three complex, but important processes siloed between departments (risk assessment, AFE and MOC). With the introduction of IBP, the structure of the planning process became more clear and simplified. The template, provided by the IBP working group, was elaborated many times in accordance with the needs of the field engineers and was finally optimized to a form that satisfied everybody.

The approbation of the IBP pilot project in the CPC Eastern Region was not entirely smooth, but effective. At the beginning of 2020, we have got over 300 risk cards registered. It is very difficult to control the risk status (whether it is included in the project or not). It was necessary to conduct an audit, during which we distributed the cards between initiators to clarify the status and found out that some of the risks were included in already completed projects, although they still can be seen in the database. Other risks became irrelevant and required additional information.

After this kind of screening, we have got less than 200 actual risks with the clear status by mid-spring. Then it was time to continue with the production program preparation -and the lack of time became a complicating factor here. After starting to work remotely at the end of March, we’ve got an opportunity to focus on Risk cards (RC) transferring into Activity cards (AC). At first we faced difficulties,

but then the process accelerated, like an avalanche. At the same time, we managed to combine some risks in the single AC, and received about 130 cards of repeating and one-time activities as a result.

The Equipment Replacement Program (ERP) was not implemented in the CPC earlier: the pipeline system is too new for that. The term “permanent risks” was in use, and the corresponding production activities were carried out in accordance with these risks. But now it is high time to combine them into a single strategic program: the CPC oil pipeline is 20 years old, and the IBP appeared just in time.

The advantage of integrated business planning is that when a three-year production program with the prospect of its annual adjustment is developed, greater emphasis is placed on achieving results. Work within the IBP framework joins CPC specialists both within the region and vertically, allows managers to see the entire program broadly, compare different production activities, get priorities right, manage effectively and use available resources with regard to the values important for CPC. The likelihood of incorrect assessments of the situation and subsequent wrong actions is reduced. By getting the opportunity to see beyond the horizon, we become able to improve strategic planning for the future, minimize possible inaccuracies and “abortive” works.

A three-year planning horizon was extremely necessary for us, even in the context of the use of RC, MOC and AFE. But the IBP system has improved this process considerably by integrating, simplifying, focusing on results and disciplining the cost management.

aimed at meeting regulatory requirements, or following the decisions made in the line with the risk and opportunity management process.

The AC, currently available for filling out at the corporate website, allows to initiate a production activity taking into account risks, opportunities, regulatory requirements and to classify it as a one-time, repeating, or connected with the Equipment Replacement Program (ERP). Diagnostics, maintenance, license renewal for software products used in the company, etc. can serve as an examples of repeating activities in the system for this classification. One-time AC, among others, may include the construction of buildings, replacement of fences, etc. Activities connected with the ERP imply the replacement of a certain equipment at the CPC facilities (uninterruptible power supplies, ball valves, etc.).

The Activity card filled out by the initiator will be checked by the regional IBP coordinator for correctness, by the regional operation and maintenance manager - for advisability,

DMITRY MARTYNOV,
MANAGER, STANDARDS AND
INFORMATION:

« The main advantage of IBP is the possibility to combine various processes into a single system. It is also important that all departments participate in

the planning of the company’s production activities jointly and from the earliest stages.

In addition, thanks to the IBP system, it is became possible to plan attraction of CPC personnel to the implementation of production activities in a more timely and efficient manner.

and then agreed by the responsible manager or chief specialist in view of the integrity of approach for the whole company.

The information provided in the AC serves as the basis for the planned or extraordinary including of the activity into the production program. The IBP working group (which includes representatives of departments and regions), makes sure that all activities within the plan are consistent with each other, checks and confirms the priority of AC and their compliance with the company’s goals.

After this, the IBP working group verifies and recommends the production program for approval to the CPC Technical Council (with or without comments on individual activities). After, it serves as the basis for procurement only upon several consequent approvals: procurement - after the first edition approval, budgeting - after the second edition approval, and can be accepted for execution by departments and regions after the final edition approval.

In this case, the MOC and AFE forms are filled out automatically,



EKATERINA SALIMOVA,
SENIOR ANALYST, ECONOMIC
FORECASTING AND ANALYSIS:

« IBP is a serious step towards organization and adjusting of the company business processes. First of all, it is a transparent and unified mechanism of the production program development, which allows to exclude repetitive approvals and improve the quality of planning.

I'm in charge of capital cost budgeting. According to the current CPC procedures, the budget is developed according to the Risk Register, and the level of risk provides background for prioritization. This approach cannot cover and structure the company needs. In IBP, risks are just one of the factors expanding the planning focus and allows to systematize projects with regard to the company's goals. A significant contribution to the budgeting process is made by the production program development and approval - this allows to obtain the list of current projects with a planning horizon of three years by the start of the budget development. Moreover, the organized IBP process allows to streamline

adjustments: all projects that were not included in the developed plan must undergo consideration by the Technical Council, and may be included in the budget only upon its consideration. The IBP also allows to optimize the creation and approval of the AFE - all necessary justifications are prepared at the stage of the production program development, and after the budget calculation and approval, all required information is automatically transferred to the form.

Testing in Kazakhstan passed successfully, despite the fact that the pandemic has made its own adjustments to the original plans. The pilot project helped to gain the necessary experience and identify methods that need improvement. The IBP process has improved the quality of project development and the algorithms innate in it, have helped to reduce and bring the number of activities to a predictable level in the three-year time horizon. Moreover, we have got a unique opportunity to compare two approaches online, since at that time, the elaboration and preparation of plans for the Russian part of the pipeline was carried out according to the old schemes.

Engineering and Projects Department, the Finance Department, the General Business Department, and the Security Service. The timing of the pilot project almost coincided with the introduction of epidemiological restrictions in the company, but the IBP implementation Working Group believes that this situation had even certain advantages.

"When the majority of CPC-K employees involved in the pilot project switched to remote work, they have got more time to get acquainted with the new planning system," says Petr Gvozdev. "A project website was created, online trainings, videoconferencing meetings were held, to help ER employees to dig into the essence of new tasks." The production program of the Eastern Region for the period of 2021-2023, which includes 65 repeating and 64 one-time production activities, was developed on the basis of a new Integrated Business Planning process. During the implementation of the pilot project, we faced with the lack of testing the third type of production activities related to the Equipment Replacement Program.

In August 2020, the Consortium's Technical Council decided to duplicate the IBP project for other regions, including the Marine Terminal. In general, the new business planning model was successfully tested in all the most important aspects - from the formation of Activity cards to the creation of the Project Prioritization Matrix.

"A pilot project is a stage when the project team gains the necessary experience to avoid mistakes in future and to test the performance of a new process and its instruments," says Petr Gvozdev.

Development of the IBP based three-year production program in the CPC Central and Western Regions, as well as at the Marine Terminal, will begin in 2021. At the same time, the IBP procedure will be issued, the basic features of the integrated business planning system will be completed, the development of the synchronization of the IBP procedures with the

ROMAN KHARITONOV,
GROUP LEADER, PROJECT AND
PLANNING:

« I would say that the first advantage of the IBP system implementation is the combination of the existing processes of operational risk management, management of change (MOC) and AFE management as well as organization of the well-defined sequence of the implementation of production activities, which will allow all departments to "play a team game" in order to fulfill the mission and goals of the Consortium. This "seamlessness" will allow CPC to improve its production planning process and to develop three-year production programs that can be adjusted annually. This is objectively a new stage for the Consortium. With the IBP introduction, our department, for example, will be able to provide a more normalized workload for specialists, since new projects will be launched only through the "windows"

clearly defined in the IBP procedure.

Secondly, we get a detailed elaboration of each production activity already at the stage of its initiation, which will allow us to determine the required deadlines for the implementation of activities correctly on initial stage, taking into account their significance for CPC, and to attribute the project to the capital or operating costs budget in a right way. This will simplify the work of the Operations Department, the Engineering and Projects Department and all the company departments involved.

Thirdly, the IBP process will allow regions to assess needs in general and for the future, but with no regard to previously accumulated risk cards. We have seen how thorough analysis of old risks led to the rejection and elimination of a large number of these risks due to obsolescence and loss of relevance during the break-in process of the IBP pilot project in the Eastern Region. The same awaits the rest of the regions,

however as the result we will obtain a centralized planning system, when the IBP will become the starting point for each production activity, ensure its coordination by regional and general management, determine its place in the target production programs of the Consortium and allow us to monitor the current status of its implementation.

As a participant in the development of an Activity card as part of the IBP working group, I can confirm that this process was long and laborious, since we tried to take into account all-round demands and interests. Discussions are still ongoing and changes are also being made based on the lessons learned from the IBP pilot project implementation in the CPC Eastern region. IBP has great potential for growth, for example, for extracting of the reports for all departments from AC or for consolidation of all current business processes in the corporate SharePoint on the IBP basis.

and approval of the latest is significantly accelerated by transferring the approvals from the IBP.

"The main advantages of the IBP system are: planning transparency and complexity, a high degree of elaboration during the plan development, versatility of the prioritization process, focus on the company's goals, simplification and acceleration of approval processes, the involvement of all stakeholders in the planning process", explains Petr Gvozdev. "With the introduction of the new planning system, the project implementation period can become predictable

from the very beginning, regardless the number of activities within the framework of the Consortium's production program".

KAZAKHSTAN - AND FURTHER POINT BY POINT

The pilot IBP introduction project was started in the CPC Eastern region in March and was successfully completed in August 2020. The Project Implementation Group (PIT) was headed by the former IBP supervisor Raisa Bulkina, and IBP Working Group included representatives from the Operations Department, the

MOC and AFE processes, as well as budgeting and risk management of the electronic document flow will reach the final stage, and the filling out of the Activity cards will begin at the end of this year. The first revision of the of CPC-R production program for 2022-2024 is planned to be considered at the Technical Council of the Consortium in March 2021.

ADVISABILITY AS AN ENCOMPASSING PRINCIPLE

The new integrated business planning model is not being implemented in all kinds of the Consortium's activities. Personnel remuneration, charitable projects, legal work and a number of other areas are currently carried out using the traditional planning model. The implementation of

the Debottlenecking Program will also not be reviewed within the IBP framework.

"DBNP is a separate investment project with its own logic, budget, management structure, and planning model," explains Petr Gvozdev. "The supply of electricity, gas and drag reduction agent (DRA) will also not be included in the IBP procedure, since these activities are planned according to a different principle based on the hydraulic model of the CPC oil pipeline system. The key criterion for the coverage of the Consortium's structural departments and programs with the IBP procedure is the allocation of funds".

The IBP project is overgrowing with new ideas and solutions - like the trunk of a growing tree with new "scions" from the beginning of its

development. At the same time, the project is being "cloned" for each of the regions along with the appropriate "pitch rolling".

"Our task is to streamline all SSC projects of the company (small-scale investment projects implemented at the production site or department levels), as well as to improve the planning of repeated activities, providing an opportunity to extend and conclude multi-year contracts for regular works and help to optimize processes and costs», says Petr Gvozdev. "The main goal of the IBP is to develop an adequate business planning process, to integrate it into the work of all production departments and to make it efficient and consistent with the requirements of the relevant procedures".

AUTHOR
PAVEL KRETOV

PHOTO
PAVEL PASTUSHKOV,
MANAGER, PIPELINE MAINTENANCE, JSC CPC-R'S CENTRAL REGION

DRILLS WENT WITH FLYING COLOURS

CPC ANNUALLY HOLDS DOZENS OF DRILLS FOR RESPONSE TO ALL KINDS OF EMERGENCIES AT ITS PRODUCTION FACILITIES. THE WORK CONTINUES EVEN AMID THE PANDEMIC. IT ALLOWS THE PERSONNEL OF THE INTERNATIONAL CONSORTIUM TO BE READY FOR ANY CONTINGENCY AT ALL TIMES

At the end of September 2020, joint drills of the emergency response forces of CPC's Central Region and the Main Office of EMERCOM of Russia for Astrakhan Oblast were held in the territory of the Volga-Akhtuba Floodplain. The training exercise "Performance of Works for Oil Containment and Skimming from the Water Surface" became a part of all-Russian drills conducted by EMERCOM

of Russia in all the subjects of the Russian Federation.

Checking cohesion and agility of actions carried out by specialists from various structural units as well as the availability of necessary equipment for them, the drill organizers always pose the most difficult and complex problems. This time, according to an exercise setting, at 6:04 a.m., the dispatcher at the Main Centre for Management of the

CPC Main Oil Pipeline received information on a pressure drop in one of the oil pipeline sections. A task force of the Security Service and a duty vehicle crew of the Emergency Response Centre left for the scene. They established that unauthorized earthworks in the protected zone of the main pipeline resulted in oil "seeping out" from a damaged pipe at the 548th km of the route near an underwater crossing across the Akhtuba River. This "required" protection of agricultural water intakes and the shoreline in the area of the nearest populated localities as well as protection of flora and fauna species.

According to the exercise script, the participants were expected to clean up contamination of the water area throughout the width of the Akhtuba streambed and the shoreline with a total length of 4 km. Having demonstrated the excellent teamwork and equipment-handling skills honed to such a degree that they have become their second nature,



the specialists promptly deployed boom barriers and proceeded with oil "gathering" from the water surface using skimmers and "extraction" of the contaminated soil by the mechanical method and manually.

"We are using this oil skimmer to gather the oil film from the water surface into a 5-cubic-metre holding tank," Anton Tishichkin, Mechanical Foreman of the Astrakhanskaya Emergency Response Centre, commented on his actions. "After that, the oil is going to be pumped over into a tank for further export and disposal."

It is noteworthy to add that all the works were carried out in strict compliance with sanitary protection standards related to the Covid-19 pandemic. 35 specialists of CPC and Starstroy LLC acted in a separate exercise area, using 15 ground vehicles and three small-size vessels. Overall, 720 persons and 144 vehicles participated in the drills.

According to another exercise setting of the drills, oil burning occurred in the containment area. The EMERCOM staff practised activities aimed at fire extinguishing and evacuation of a simulated victim to a healthcare facility. Completion of the response to the simulated emergency situation was followed by detailed terrain analysis: experts took soil, air, and water samples.



"Labour protection, industrial safety, and environmental safety are constant priorities of CPC's activities. This is why we hold training exercises, improve plans,

polish our skills up, and purchase state-of-the-art oil spill response equipment on a regular basis," says Pavel Pastushkov, Manager, Pipeline Maintenance, JSC CPC-R's Central Region.

According to Sergey Avramenko, Deputy Head of the Main Office of EMERCOM of Russia for Astrakhan Oblast, the drills showed the overall operability of the oil spill response system and demonstrated that the manpower and resources of CPC and EMERCOM of Russia for Astrakhan Oblast have a high level of competence.

As estimated by witnesses, the purpose and objectives of the comprehensive drills were accomplished to the full extent. Upon the results of the event, the representatives of supervisory authorities stated that CPC's existing system of warning and response to possible emergencies does ensure the performance of all the tasks facing it.

ALL THE WORKS WERE CARRIED OUT IN STRICT COMPLIANCE WITH SANITARY PROTECTION STANDARDS RELATED TO THE COVID-19 PANDEMIC



AUTHOR
PAVEL KRETOV

THE RESULT IS RECEIVED BY THE TEAMWORK

THIS YEAR 139 SPECIALISTS OF CPC-R AND 34 EMPLOYEES OF CPC-K WERE RECOGNIZED WITH GRATITUDE AND COMMENDATIONS FOR THE DAY OF OIL AND GAS INDUSTRY WORKERS. THE AWARDING WAS HELD WITHOUT MEETINGS AND APPLAUSE, BUT THE SANITARY RESTRICTIONS INTRODUCED WILL NOT PREVENT US TO TELL ABOUT THE BEST SPECIALISTS OF THE COMPANY IN MORE DETAILS

DIFFICULT SCHOOL

“It’s always a pleasant feeling when your work is recognized, cause it stimulates you to move on and bring even more benefits to the company,” says Vitaly Kuyumdzhian, Manager, Shore Facilities and Tank Farm Maintenance, who was awarded the Certificate of Honor by the Ministry of Energy of the Russian Federation.

Vitaly has been working with the great productivity in the oil transportation industry for more than a quarter of a century. He passed through the mill of Siberia in the Nizhnevartovsk District Oil Pipeline Administration of Sibnefteprovod JSC (now its name is Transneft Siberia JSC). He started from the most ordinary positions – as a mechanic for maintenance of the 4th, then of the 5th category in the central emergency service. Then he worked as the head of the line maintenance service, the engineer



VITALY KUYUMDZHIAN

of the operation department and later – the head of the operation department of the Nizhnevartovsk Trunk Pipeline Directorate.

“In this position, I headed the line maintenance services and the central repair and restoration service of the district administration,” continues Kuyumdzhian Vitaly. “The responsibility area of these departments included the operation and maintenance of oil trunk pipeline facilities with a total length of 1.5 thousand kilometers.”

Most of these pipelines are laid in hard-to-reach swampland, that determines special methods of operating the main lines, maintaining their reliability in challenging natural and climatic conditions. Many types of work can be performed only in the cold season, with getting along the winter roads, freezing the pits, and often installing the caissons. During the difficult period of the 1990s, specialists of the Diascan Technical Diagnostics Center (now – Transneft-Diascan JSC) provided strong support to the oil pipeline workers.

“Diascan’s specialists have quickly gained an experience, learned to identify hidden and complex defects, achieving more and more accuracy of in-line inspection,” Vitaly notes. “As a result of this

important work, the Nizhnevartovsk oil pipeline workers not only maintained the safe condition of the pipelines, but also significantly increased their service life.”

The unique operating conditions of the main oil pipelines in the Nizhnevartovsk Trunk Pipeline Directorate made it possible to test new technologies and developments in the field of off-road transport, soil reclamation, etc. As the head of the operation department, Vitaly Kuyumdzhian became one of the co-authors of one of the first regulations for the line-operational and emergency services in Transneft PJSC. He took part in the development of the work performance methodology, composition and equipment of services (including the required number of personnel and equipment) for various complex operations.

“DID NOT GO HOME”

Vitaly Kuyumdzhian joined the Caspian Pipeline Consortium as a tank farm senior engineer on June 20, 2002. He remembers the date well, because right on that day CPC received permission to operate the pipeline system. The first years were particularly difficult and interesting: side by side with colleagues, the Consortium specialists have learned a lot, solving difficult issues every day.

“There were a lot of issues with turbine generators at the Marine Terminal,” Vitaly recalls. “One was operated, and only one stayed in reserve. Therefore, when the turbine needed repair, we quickly dealt with it. We disassembled valves, control valves, cleaned nozzles, burners and fuel filters. And we didn’t go home until all the work was finished.”

The Marine Terminal was one of the first in Russia to start operating oil tanks with a capacity of 100 thousand m³. The cohesion and professionalism of the terminal’s specialists made it possible to put the «hundred-thousanders» into

operation within a very short time and maintain their reliable operation.

The implementation of the Pipeline System Expansion Project in 2011-2018 has become a serious school for the entire CPC team. Vitaly Kuyumdzhian participated in the Project as Deputy Coordinator for Pre-Commissioning and Commissioning Works. He was responsible for pre-commissioning and commissioning of five PS and facilities of the Marine Terminal.

“The most exciting moment, of course, is when the newly installed main line pump starts operation,” Vitaly tells. “This event marks the result of the hard work of many specialists. The oil pipeline gets new opportunities for the transportation of raw materials, and we get confirmation that everything has been done accurately and correctly.”

2020 became some kind of a challenging year. Transfer of many employees to a remote work, severe sanitary restrictions at workplaces, contactless shift transfer, etc.

“Events have shown that, acting in a coordinated manner, the Marine Terminal specialists and maintenance contractors can provide reliable and trouble-free operation of facilities in any difficult period,” says Vitaly Kuyumdzhian.

“Vitaly Stanislavovich is held in high estimation in the team as a high-class specialist – due to his colossal experience, for his meticulous ability to get to the nub of the problem and for offering always effective ways to solve it,” says Nikolay Pankov, the direct supervisor of Vitaly Kuyumdzhian, Deputy Regional Manager, Shore Facilities and Tank Farm. «I would like to note that our strong team is full of many worthy specialists and it is not easy to choose only one to encourage. But for Vitaly Stanislavovich, there was no any doubt: over the past years, he has successfully implemented a number of really complex and important projects.”

WORK SATISFACTION



EVGENY DERGACH

In the year of the 20th anniversary of his work for the oil pipeline transport (five years from this period – for CPC), the PS-4 Shift Supervisor Evgeny Dergach was awarded the Certificate of Honor for his great contribution to the Consortium's pipeline system development. In 2000 he started to work for Transneft as a linear pipeline operator at the Kamysh-Burun PS, located near the city of Neftekumsk. He move up through the ranks to become the station head and was assigned to lead the Nezlornaya LODS in 2006.

"This linear production dispatching station which included 5 PS at that time and is responsible for the operation of half thousand km of the Malgobek – Tikhoretsk oil pipeline," says Evgeny Dergach. "It is almost like a regional oil pipeline directorate: great responsibility, large team, serious scope of work."

Then he was appointed Deputy Operation Head of the Krasnodar Regional Directorate of Oil Trunk Pipelines (KRDOTP), where he not only supervised the operation of facilities, but also participated in long business trips with many of his colleagues to help with the construction of the Eastern Siberia – Pacific Ocean pipeline system (ESPO). In particular, Evgeny's department was equipping sites for linear valves in the Tynda area.

"Yes, we represented operational services, but an operator cannot manage without immersing into construction issues," says Evgeny Dergach. "It is always important to know the quality of the facility construction, because its further functioning directly depends on this. It was interesting to construct the ESPO in the harsh northern conditions. Every time, returning from business trips, I felt a great satisfaction with the work done."

"NO PLACE FOR FEAT"

Experience gained in ESPO turned to be rather useful for Evgeny when he started to work for CPC in 2015. The Expansion Project was in full swing. The new employee completed an internship and participated in the start-up of PS-4, participated in the completion of the construction of PS-5.

"Unlike ESPO, where we carried out works on the construction of linear valves, the CPC Expansion Project required the commissioning of the entire facility as a whole," notes Evgeny.

Production activities in the context of the COVID-19 pandemic required the team to demonstrate the absolute ability to adapt to a changing situation.

"Working under restrictive conditions has become a kind of test," says Evgeny Dergach. "How did we manage? There 's no secret – we have always supported each other, shared our experience, so that everyone could always "take up" any kind of work."

"You should not want to hear about some Evgeny's feats from me," Oleg Gavrilov, Manager of PS-4, responds to the request of the CPC Panorama correspondent to recommend his subordinate. "There are no feats in our work and should not be, because if someone has to perform feats, it means that someone else made a major mistake. The main advantage of Evgeny is that he performs routine work confidently and accurately, acts on a team. He earned the respected of the team, he is proactive, self-rigorous, tirelessly engaged in professional self-improvement, successfully supervised important work during the shutdown of the oil pipeline many times, supervised hydro testing, preparation and launch of PS."

TIMELY AND QUALITATIVE



TANELBAY TELEUBAYEV

In 2020 Tanelbay Teleubayev, Transport Manager of the CPC Eastern Region was recognized with the gratitude for his contribution to the operation of the oil pipeline system of the Caspian Pipeline Consortium. It is still too early to include Tanelbay in the lists of CPC veterans due to his age, but his industry experience may be the object of envy for many professionals. After graduating from the Atyrau Institute of Oil and Gas in 1998 with a degree in automotive industry, Tanelbay joined the international consortium Kazakhstancaspiyskyshelf OJSC, the first company engaged in the Kazakh part of the Caspian shelf field development.

Four years later, Tanelbay Teleubayev started to work for KazTransGas JSC. He started as an automotive and special equipment repair engineer, then became a senior engineer, after which was appointed the head of the regional transport service. He managed about 500 units of equipment in 12 branches and more than 300 workers, including drivers, engineers, mechanics, medical personnel and special repair staff.

Since 2018, Tanelbay has been supervising the transport service of the CPC Eastern Region.

"Our service is responsible for the full scope of transport support: ensuring the production needs of the operation service, personnel transportation and transfer of materials and material values," Tanelbay Teleubayev explains.

Within the difficult pandemic period, an additional load and responsibility fell on Kazakhstan transport workers. For the movement of vehicles inside the city and within the region, careful permit registration was required.

"Thanks to the company and our management authority, we quickly established cooperation with the local regional administration, police department, and during the entire

period of sanitary restrictions, our transport did not receive a single claim from the Moscow CPC management or from the managers of the Eastern region," he notes.

And really, what claims can arise for a service headed by a responsible and competent leader?

"Tanelbay Teleubayev manages his work front with full dignity," says Viktor Miroshnichenko, CPC Eastern Region Operations and Maintenance Manager, about his colleague. "If the situation required exceed his functional scope, as has happened during the pandemic, Tanelbay took additional work and responsibilities upon himself beyond a shadow of a doubt. He is great in the teamwork and perceives all the successes not as his own, but as the results of the whole team."



AUTHOR
PAVEL KRETOV

THREE-WHEELED HELPERS OF OIL PIPELINERS

HOW WOULD YOU SERVICE A LARGE CRUDE TRANSMISSION FACILITY, MAKE SURE THAT YOU DO EVERYTHING IN TIME, AND STAY IN GREAT SHAPE? IMPLEMENTATION OF BICYCLE TRANSPORT BECAME THE ANSWER TO THIS QUESTION FOR THE ATYRAU PS' TEAM

Last year, CPC Panorama published an essay by Makhambet Sembiyev, "Riding a Bicycle Across the Station," which told us about the use of bicycles in the territory of the Atyrau PS. The recent renewal of the station's bicycle fleet has become the subject of the sequel.

"Bicycles are a grassroots initiative that has been entirely supported by the management of CPC's Eastern Region," says Salamat Sarsengaliyev, Manager of the Atyrau PS. "First, two-wheelers appeared at our PS, and now we have evolved this practice to tricycles: these vehicles are both safer and equipped with convenient and capacious baskets to carry things necessary for work in the station's area."

The territory of one of the largest stations of CPC's pipeline system is impressive indeed – 13 hectares! Herewith, the safety requirements prohibit the use of cars for traveling across the station. According

to the unwritten laws of oil pipeliners, you must not even run about a hazardous industrial facility for no good reason: because if an employee starts running, it means something has happened. This is why, the PS employees switch from walking to running only during drills.

With implementation of a new movement method, special marking was applied and bicycle parking areas were arranged at the station.

"All the employees of our PS have appreciated the bicycle idea," comments Salamat Sarsengaliyev. "Most of us enjoy using our two-wheelers even at weekends: many people in Atyrau ride bicycles around the city."

Thanks to the novelty, the average speed of movement across the facility increased from 5 to 15 km per hour. The employees quickly reach all PS subfacilities, thus ensuring reliable operation of the equipment.

Old-timers of oil pipeline transportation recall that in the USSR many oil pumping stations used to take advantage of bicycles, especially those with a large production area and large tank farms. Nowadays, two- and three-wheelers are used virtually universally at plants and factories, hotels and airports.

In today's world, the old mode of transport tested by two centuries is used by advertising agents, postal workers, and newspaper sellers. Recently, the police in some countries have also embraced this mode of transport. Bicycles allow them to catch criminals up faster across country. It is easy to ride them along narrow paths of alleys, down the stairs, on the grass, and across gullies, where a car cannot pass. Police bicycles can move at a much higher speed than leisure models and sometimes at a speed even higher than that of cars during the rush hour. And last but not least, they are much cheaper than cars.



CPC PRESS SERVICE

NEW ECO-ROJECTS OF THE CPC

IN 2020, THE IMPLEMENTATION OF THE ENVIRONMENTAL EDUCATION PROJECT "SAVE THE HOMELAND'S ENVIRONMENT" HAD TWO FOCUS POINTS FOR CPC: THE ASTRAKHAN OBLAST AND THE REPUBLIC OF KALMYKIA

Environmental projects have been an important part of charitable activities of the Caspian Pipeline Consortium for many years. The objective of these programs is both to promote environmental treasures and to preserve biodiversity in the presence regions. This is not only fauna, but also flora, and in 2020, plants received special attention within the framework of the project.

On October 1, in the Astrakhan Oblast, the results of the project "Save the Homeland's Environment", which has been implemented in the region for the fifth year by the Caspian Pipeline Consortium with the assistance of the Volga-Caspian branch of the All-Russian Research Institute of Fisheries and Oceanography, were summed up. On this day the sturgeon juvenile (4.2 thousand

individuals of the Russian sturgeon weighing 350 g and 200 individuals weighing 1 kg.) was released to the delta of the Volga river. The event was attended by CPC Deputy General Director for Russian Government Relations Mikhail Grishankov, representatives of the Government of the Astrakhan Oblast and the Federal State Budgetary Scientific Institution "VNIRO".

This year, in the Astrakhan region, within the framework of the project "Save the Homeland's Environment", a scientific and creative competition "Preservation and replenishment of valuable fish species in the Volga-Caspian basin" was organized. It started in September and, due to epidemiological restrictions, was held remotely, in zoom format. Schoolchildren from five municipalities of the Astrakhan Oblast

in Kharabalinsky, Krasnoyarsky, Narimanovsky, Enotaevsky and Limansky districts presented their projects to the jury. Nine laureates in each of the three nominations received valuable prizes: tablet computers, smartphones and webcams.

From October to December 2020, the "Save the Homeland's Environment" was implemented in the Republic of Kalmykia. Within the framework of the project, 75 open lessons "Protect the nature of Kalmykia: the steppe pearl" were conducted in the schools of Elista, Iki-Burulsky and Chernozemelsky districts in October, and creative competitions were announced among students and teachers.

Eco-cleanups "Let's Save Nature Together" were organized in the Komsomolsky and Iki-Burul regional centers in November. Coniferous trees were planted (with 300 pyramidal thuja seedlings). Schoolchildren, young soldiers, municipal administrations, deputies and cultural professionals took part in planting trees.

This year, the Consortium purchased the field equipment necessary for observing the saiga population for the "Cherniye Zemli" state biosphere conservancy area. It included cameras, security cameras, binoculars, navigators and firefighting equipment.

The funding allocation for the project "Save the Homeland's Environment" in Kalmykia in 2020 amounted to 3.08 million rubles. Laureates of creative competitions received diplomas and valuable prizes, such as smart watches, monopods and household appliances. For the project announcement street banners and videos for broadcasting on a LED screen in the center of Elista were mounted. An illustrated digest with the summary of the project results was published. The project debriefing ceremony was attended by representatives of the Ministry of Natural Resources and Environmental Protection and the Ministry of Education and Science of the Republic of Kalmykia.



AUTHOR
DMITRY KONSTANTINOV

STRONG HELPING HAND

A SPECIFIC FEATURE OF THE CPC CHARITABLE PROGRAM IN 2020 WAS ITS SIGNIFICANT ADJUSTMENT, CAUSED BY THE EPIDEMIOLOGICAL SITUATION IN THE COUNTRY AND AT THE WHOLE WORLD. IN THE COURSE OF MAINTAINING ALL MAIN DIRECTIONS – EDUCATION, CULTURE SUPPORT, CHILDREN'S PHYSICAL TRAINING, ECOLOGY – PRIORITY WAS GIVEN TO THE MEDICINE

THE FOREFRONT

The main attention was paid to supporting the healthcare sector in 2020 (support amount equaled about 250 million rubles in terms of allocated funds). Everything that has a designated purpose to combat coronavirus, including diagnostic and laboratory equipment and sets of protective overalls was purchased for institutions of various profiles in the regions of CPC presence. For example, the "Lufter 5" devices made in Germany are intended for use in intensive care units for artificial lung ventilation in adults and children. Universal complex lung ventilators "HAMILTON C3" made in the Switzerland allow to conduct therapy of the patients of all ages, to perform non-invasive and invasive lung ventilation, also with a high flow rate.

Health care institutions in all our areas we provided with new equipment. Six newest lung ventilators were purchased for hospitals

of the Astrakhan region, in addition, 4.5 thousand protective suits were purchased for doctors. Six lung ventilators allowing to provide assistance to both adults and children were sent to medical institutions of the Republic of Kalmykia. Five lung ventilators were purchased for hospitals of the Stavropol region. CPC purchased 13 lung ventilation devices for health authorities in the Krasnodar Territory, five of which were supplied to hospitals of Novorossiysk.

"All projects planned for this year will be fully implemented," CPC General Director Nikolay Gorbunov emphasized in his July TV interview to the RUSSIA.TV channel. "This means both the medical equipment supply and much more. In addition, we have allocated additional budget funds, and currently thrashing over additional supplies. Our main direction is charity in the field of medicine."



In addition to stationary lung ventilators, four medical institutions of the Krasnodar Krai also received "field" installations. Mobile lung ventilators are used in class B ambulance vehicles. 10 of these devices were purchased by CPC and distributed between State Budgetary Healthcare Institutions of Korenovsky, Kavkazsky, Dinsky and Krymsky districts.

Off-road ambulances based on UAZ minibuses were transferred by the Consortium to medical institutions in the Atyrau region of the Republic of Kazakhstan at the end of October. Doctors of Kurmangazinsky, Isataisky, Kyzylkoginsky, Makatsky and Makhambetsky districts, as well as the regional ambulance station received 12 ambulance vehicles.

"I am grateful to the CPC representatives for their contribution to improvement of the social situation in the region," said Makhambet Dosmukhambetov, an Akim of the Atyrau Region.

The supply of demanded vehicles to the regions in 2020 included not only ambulance vehicles. In September, seven comfortable 22-seater Ford Transit buses worth of 20.3 million rubles in total were transferred by the Consortium to the children's support organizations of the Astrakhan region.

DESIGN AND PROGRAMMING

In April 2020, CPC, upon the application of the Novorossiysk Municipal Administration started to implement a charitable project to equip childcare centres with high-end digital equipment. Interactive and multimedia equipment worth 7.5 million rubles in total was supplied to the "Shkolnik-2" additional education center and the "Ostrov Sokrovish" day-care institution by the beginning of the academic year.

This year the Municipal Budgetary Institution – Additional Education Center "Information resource center "Shkolnik-2" moved

to a new building in the city center. The "Academy of Programming", "IT-technologies" and "Multimedia and Design" laboratories, as well as "Robotics" class, were opened here. Schoolchildren will acquire new knowledge and skills with the help of the equipment provided by CPC: computers and laptops with powerful processors of the latest generation, graphic tablets and interactive LED panels, lingaphone headsets, MFPs, three-dimensional printers and scanners, MC Laser 3020 machines with the function of engraving on metal and stone surfaces, SPAF-32M animation studios.

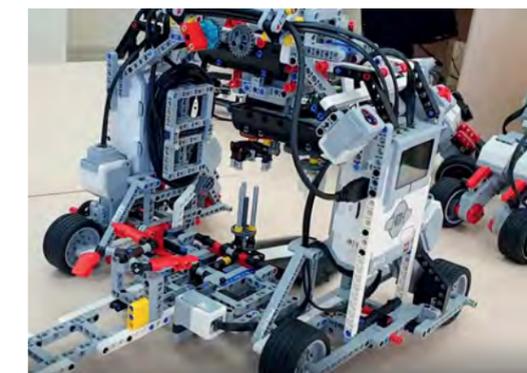
"Along with modern equipment, valuable in all respects, we also received licensed software," Irina Romanova, director of the "Shkolnik-2" IRC emphasized. "This will provide significant assistance in teaching all age groups, and high school students will not only learn to work in existing programs, but also learn to develop programs".

"Computers, laser machines, 3D printers – we didn't even expect to get such a variety of high-quality and powerful equipment during unpacking CPC gifts," said Marina Zhurkina, teacher of the author's design program. "This year, our students will begin to master these devices. Children will be interested,

and this is not the least of the factors for learning."

LEGO effectively helps to become a constructor in future, perhaps even a senior one. 12 Mindstorms EV3 construction sets, the latest brand novelties, were provided for equipping the "Shkolnik-2" center. In less than a month after the equipment presentation, the Novorossiysk schoolchildren have already assembled not only a cyberdog, but also a robot that can reproduce its own kind using these sets!

"Many thanks to the city for the new building, and to CPC for the equipment that helps to master new programs," say Alexandra Durova and Victoria Vashuta, students of the 5th grade of the school №10. "We dream of becoming doctors, and it is hard to see the modern medicine without programming and use of special medical robots. Therefore, we really need knowledge of IT."



“Ostrov Sokrovish” day-care centre No. 18, sponsored by the Consortium since its foundation received a similar equipment. Here, the equipment began to be used immediately after unpacking: educational and development sessions conducted with the use of projection panels and other interactive devices keep children sitting quietly and truly fascinated, like in a three-dimensional cinema.

FIRST-CLASS OUTFIT

Starting schoolchildren in the regions of CPC’s presence traditionally met the September 1 “fully prepared”. High-quality and comfortable haversacks with a full set of school belongings – the cost of each such outfit (including about 30 items) amounted 2.75 thousand rubles, and the parents of first-graders highly appreciated this timely support to the family budget.

In the Krasnodar Krai, CPC provided gifts to 4,400 first-graders in Abinsky, Dinsky, Kavkazsky, Korenovsky, Krasnoarmeysky, Krymsky, Tbilissky and Ust-Labinsky districts, as well as in Novorossiysk Municipality.

“We would like to express our deep gratitude to CPC-P JSC for the charitable program “CPC to First Graders – 2020”,” writes Maria, the mother of the first grader of 39th School. “Rainbow pencils and felt-tipped pens, an interesting cylindrical pencil case with filling, bright colored paper and cardboard - all this will certainly be useful to my son Ivan. But the most important thing is the haversack. As a mother, I keep an eye on my son’s correct posture. The haversack has a firm backside, easy to handle, designed in eye-pleasing blue tones, lightweight – all this is incredibly important for starting schoolers.”

2072 future first-graders in Apasankovsky, Izobilnensky, Ipatovsky, Novoaleksandrovsky, Trunovsky and Turkmeny districts of the Stavropol Krai received gifts from CPC.

“Thanks so much!” say the parents of the first grader of the 6th School in the village of Voskresenskaya. “We are a multi-member family with two students. The middle son entered the first grade, and we received a haversack with the full set of the necessary “stationery”.”

2179 first-graders in Iki-Burulsky and Chernozemelsky districts of the Republic of Kalmykia, as well as in Elista, received traditional gifts by September 1.

“This is a great help in getting ready for the upcoming academic year for our large family,” says Nimgirova Natalia, the mother of a first-grader from the MPI “Komsomolskaya Gymnasium named after B. B. Basangov”. “I am sure that with such a gift, my son Batu will bring only good marks.”

2641 first-graders received gifts from CPC in Enotaevsky, Krasnoyarsky, Limansky, Narimanovsky and Kharabalinsky districts of the Astrakhan Oblast.

“On behalf of the parents of first-graders in Yenotaevsky district, we express our deep appreciation and sincere gratitude to the shareholders and management of CPC-R JSC for keeping the tradition of “CPC to first-graders” campaign”, says the mother of many children, E.P. Peshkova. “Good deeds can not stay unnoticed – they shine for those who are waiting for help like lighthouses”.

In the Republic of Kazakhstan, first-graders of rural schools in Atyrau region received gifts from CPC-K JSC by the beginning of the academic year.

“Many families across the country have been affected by the restrictions associated with the pandemic,” said Zholaman Izgaliuly, director of Aktogay Secondary School. “On behalf of the school administration and parents, I express my gratitude to the company, which holds such a charity event for us every year”.

TALENTS TEMPER AND WIN

The 21st annual festival-competition “CPC for Talented Children” turned out to be unique: the pandemic and the restrictions imposed on holding mass events forced the competition organizers to revise its format. The first stage – the selection of participants who sent applications in electronic

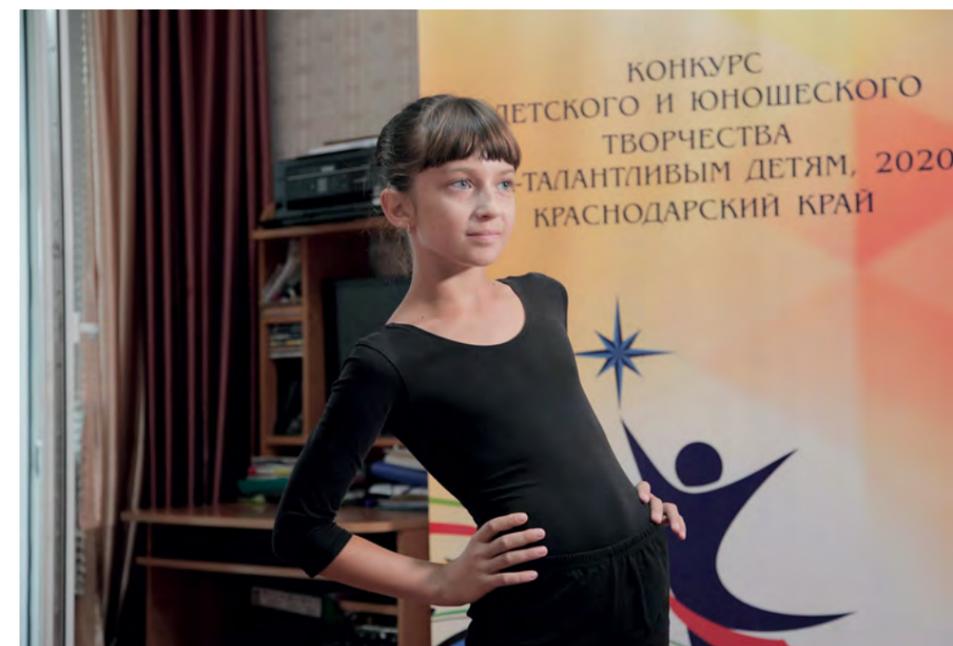
form – has not actually changed. They equaled over 12,700 – 20% more than last year.

In order to save the competition its second stage was held in the remote mode as a desperate measure. Master classes of two dozen of famous teachers, professors and associate professors of universities and academies in Moscow, St. Petersburg, Ekaterinburg and other Russian cities were organized in zoom conference format. The first to complete the new festival program was the Stavropol Krai – here, according to the training results and the musical and scenic performances created on this basis, a movie, which became a kind of gala concert in conditions of epidemiological restrictions, was made. The program included both folklore and academic performances as well as the projects dedicated to the Great Victory Anniversary.

“Participation in contests and master classes gives us more experience (including scenic performance experience), as well as the opportunity to test our strengths, to understand if we want to do this in future,” said Sofia Kovalenko, a participant and laureate of the competition.

Web resources have provided significant support to the festival held in online mode. In addition to the official competition website “cpc-talant.ru”, the Instagram community @tkk_talant was created in summer. Followers of this resource were able not only to receive up-to-date information about competitive events, but also gained an opportunity to get acquainted with like-minded people, share experience and impressions.

The amount of CPC’s contribution to social support of the Russian territories in 2020, where the Tengiz-Novorossiysk oil pipeline passes, amounted over half a billion rubles. CPC-K annually transfers about three million dollars to support social projects in Kazakhstan. It is a strong and reliable helping hand for people that the Consortium never forgets about. ●



AUTHOR
PAVEL KRETOV

ON THE ROAD WITH SONGS

FROM DUNFERMLINE IN GREAT BRITAIN TO KRASNOYARSK, FROM VOLOGDA TO ASHGABAT – THIS IS THE IMPRESSIVE GEOGRAPHY OF PERFORMANCES OF THE ASTRAKHAN STATE SONG AND DANCE ENSEMBLE. SINCE 2018, THE ARTISTS HAVE BEEN TOURING IN A COMFORTABLE BUS WHICH WAS GRANTED TO THEM BY THE CASPIAN PIPELINE CONSORTIUM ON THE 10TH ANNIVERSARY OF THEIR CONCERT ACTIVITIES



ALEXANDER
LAVRINEKO,
HEAD OF THE ENSEMBLE

The ensemble was created in 2008 at the initiative of the governor of the Astrakhan Oblast with the purpose of reviving the song, dance and musical traditions of the region. That ambitious task was entrusted to the then-recent head of the Astrakhan Souvenir ensemble, Alexander Lavrineko. An experienced organizer, a former graduate of the Astrakhan State Conservatory and the Russian State Academy of Music named for Gnesins, he began working enthusiastically.

“We have conducted a serious work to form the creative staff of the ensemble,” says the honored worker of culture of Russia, director and artistic administrator Alexander Lavrineko to the correspondents of Panorama CPC. “During a competitive selection, in which not only residents of Astrakhan and the Astrakhan region, but also some talented artists from other regions of Russia took part, the highest professional requirements were imposed on musicians and dancers. As a result, three creative groups were formed: choral, ballet and orchestral.”

A multinational repertoire, a plenty of images and a bright emotional palette have given the ensemble an absolute identity. The ensemble’s repertoire includes many favorite concert items, such as “Multinational



Astrakhan”, “Oh, Winter», “This Victory Day!”, “In Memory of Lyudmila Zykina”, “The Cossack Song”, “There is the Russian Power!”, “No Wonder that All Russia Remembers!”, “Astrakhan Fishing Land”, “Spring Mood”, and “Soloists’ Parade”.

THE SCANIA IRIZA
BUS THAT WAS
GRANTED BY
THE CPC TO THE
ENSEMBLE

THE ENSEMBLE TOURS A LOT AND TAKES PART IN VARIOUS FESTIVALS



“We never stop researching to update our repertoire. All our subdivisions are constantly looking for new opportunities to update our repertoire in their areas of artistic activity. For instance, in the program “No Wonder that All Russia Remembers!” timed to coincide with the 200th anniversary of the victory in the Patriotic War in 1812, we collected folk art, ballads, songs of the Astrakhan regiments, Cossack songs of chief-tain Platov, and some musical material from movies,” Alexander Lavrineko recounts.

In addition to its own soloistic programmes, the ensemble gives joint performances with some well-known



Russian ensembles, such as the Stavropolye Cossack Song and Dance Ensemble, the Omsk Folk Choir, the Kazachya Volnitsa Krasnodar State Song and Dance Ensemble, the Kabardinka State Academic Dance Ensemble and others.

Thanks to its high creative potential and a sincere manner of performance, the ensemble has become the hallmark of the region, as well as a means of shaping the cultural image of the region beyond its boundaries. And, naturally, all these years the artistic association has been touring a lot, participating in the largest Russian and international festivals. It will just suffice to mention, for example, a one and a half month voyage around the UK, where the natives of Astrakhan gave concerts in 41 cities, or a voyage to Germany, during which the ensemble performed in the central philharmonic halls of Munich and Nuremberg, as well as in Memmingen, Marktobendorf, Kaufbeuren, Augsburg and Stolberg.

"Not a single free seat in any hall, a warm welcome, tremendous applause," Alexander Lavrineko recalls. "After the concerts, enthusiastic local residents approached the artists, and representatives of the Russian diaspora thanked them: 'Countrymen, we are proud of you!'"

In travels of this kind, a good own bus for an ensemble, as the phrase goes, is not a luxury, but a vital necessity. Previously, the artists had an old bus that broke down frequently. They had to look for a replacement, falling behind the touring schedules. These problems were solved by a gift from the Caspian Pipeline Consortium – the Scania Irizar K440EB bus that meets all the international requirements for foreign travels and the wishes of the artists.

This passenger vehicle manifested itself very well on the 2019 touring trip. For three weeks, the artists reached Eastern Siberia and gave concerts in Orenburg, Chelyabinsk, Kurgan, Omsk, Novosibirsk, Barnaul, Novokuznetsk, Kemerovo,

Krasnoyarsk, Tomsk, Yekaterinburg and Kamensk-Uralsky.

The salon comfortably accommodates the ensemble's travelling team of up to 60 people. The bus is equipped with a WC, a kitchen and a multimedia system. Folding seats are provided that allow organizing a good rest for the artists during night travels.

"The artists often have to start rehearsals and performances immediately after travel, so it is very important that they are not tired of the road," chief choreographer Alexei Zimin notes.

"Sometimes upon arriving in a town we have only two hours before our performance and do not even have time to check in to a hotel. And the quality of a concert directly depends on how fresh we come on stage," adds ballet dancer Anastasia Zimina.

Passenger comfort is also ensured by an air conditioning system with the possibility of air heating. There is a spacious luggage compartment to accommodate musical and stage equipment, as well as costumes.

"In total, the ensemble has more than a thousand costumes, of which about 300 are taken by us on tours," the head of the dressing room Iraidia Sinitsyna says. "In the luggage compartment there are special racks where we hang stage clothes in coverings, as well as places for boxes with stage props."

The ensemble takes with them on tour not only costumes and instruments, but also a dedicated sound equipment.

"Of course, we rent large surround speakers at each location, but 40 microphone headsets are connected to the console at each concert," the ensemble's sound engineer Alexander Somov explains. "Of these, 24 are used by the chorus and 16 by the orchestra." A drummer alone needs multiple microphones to sound good. And we disassemble all this after each concert, load it into the bus at night and in the morning prepare it for working in the next town.



Now the collective of the ensemble has prepared for premiere a new concert program entitled "Trinity. A Revived History", which uses multimedia systems. The show takes place in a fictional world of paintings by Russian artists at the Tretyakov Gallery. According to the storyline, the little girl Alena, who came with her parents on an excursion, accidentally makes the bells of the old belfry displayed in the museum sound and is transferred to a magical world. During this fictitious journey, the child has enough time to visit all

the main Christian holidays, see Ancient Russia and learn what love for the Motherland and true friendship are.

We hope that it will be a kind of guide to the Russian and Soviet cultures for our viewers. Besides, our ensemble is glad to express gratitude to its "guide" – the Caspian Pipeline Consortium which granted us such a wonderful bus. We faithfully consider the CPC a co-author of goodness and culture that we bring to people both in Russia and abroad," Alexander Lavrineko sums up the conversation.



AUTHOR
GULZHAN ISMAGULOVA

MAN OF HIS WORD AND ACTION

OUR COLLEAGUE, MANAGER OF KURMANGAZY
PS MUKHIT KAMIYAEVICH UTARBAEV PASSED
AWAY AT JULY 9

This person, with his mentality, way of thinking, liable to resolute actions, almost reforms, an adherent of the idea of respectful attitude towards subordinates, should

lived longer and longer. But destiny had other plans: at the very peak of his creative activity, his heart stopped beating.

Mukhit Kamiyayevich Utarbaev was born on February 14, 1959

in the village of Karaton at the Zhyloi district of Atyrau region. Here he graduated from secondary school. At the period of his youth, an acute shortage of highly qualified personnel in various



structures of the national economy was observed in the country. This "staff shortage" was especially felt in the industry, in particular, in the oil industry. Future specialists were provided with ample opportunities for obtaining professional knowledge and mastering advanced technologies. Riding on the wave of this campaign, Mukhit Utarbaev came to Moscow, where he entered the Institute of Oil and Gas named after I.M. Gubkin. Having received a higher education in the specialty "Machinery and equipment of oil and gas fields", Mukhit Utarbaev returned to his native country of Kazakhstan in 1989, where he immediately joined the work in the oil industry structures.

From 1998 to 2005, he has been a senior engineer at Aktau LODS. Then he was transferred to the position of the head of the main pipelines operation department of the Western Branch of KazTransOil JSC. From 2008 to 2014, he worked as the head and chief engineer of the Pavlodar oil pipeline department of the Eastern Branch of KazTransOil JSC.

In April 2014, Mukhit Kamiyayevich joined the Caspian Pipe-

"It was a great pleasure for young professionals like me to work together with Mukhit, a specialist, who received education in Moscow with extensive experience in the oil industry", says Instrumentation Engineer Kingali Bissenbiyev. "Kurmangazy PS, which he headed since 2016, was his second home. He loved his job and made a huge contribution to ensuring smooth, well-coordinated operation of the station."

Possessing a clear, sharp mind and decisiveness, Mukhit Kamiyayevich often stood up to defend the honor and dignity of his subordinates. He acquired these character traits in childhood, among his fellow countrymen-aul residents, who managed not only to survive in the conditions of the "difficult 50s", but also demonstrate incredible enthusiasm in restoring the national economy destroyed by the war. Such "universities" developed his careful attention to the fate of people, his constant readiness to understand, listen and support.

Labor activity of Mukhit Kamiyayevich was acknowledged by state awards of the Republic of Kazakh-



His subordinates, familiarly acquainted with their rather diligent, but fair-minded boss, generally tried to obey his instructions unquestioningly.

"As a husband and father, he always found time for members of his large and friendly family», says Bauyrbek Tazhibayev, a colleague of Mukhit Kamiyayevich, who headed the Kurmangazy PS after his untimely passing. "He took his youngest son Alibek to hobby groups and additional classes himself." He was interested in the life of his eldest son – Habim, as well as in the successes of his daughters Nursipat and Nurkhanym. He also did not disregard his beloved wife Sholpan Karesovna. And in rare leisure hours loved to listen to the "Adai", the famous Kurmangazy kyui (instrumental piece – Editor's note) performed by his son."

Mukhit Kamiyayevich Utarbaev was and remained this kind of person in the memories of his contemporaries, friends, relatives and other people, whose destinies, by chance, have ever intersected with the life of this wonderful man.

MUKHIT UTARBAEV HAD A SENSE OF THE HIGHEST RESPONSIBILITY

line Consortium as Deputy Commissioning and Pre-commissioning Coordinator. In September 2016, he was appointed as the Manager of A-PS-4. Later, this oil pumping station was named "Kurmangazy".

According to the memoirs of his former colleagues and subordinates, wherever Mukhit Utarbaev worked, his creative professionalism was felt. And, what is especially noted, this leader has always had a sense of the highest responsibility.

stan: "Ерен еңбегі үшін" medal ("For Distinguished Labour") and "Құрмет" ("Honor") order.

The specifics of the PS work required tremendous intensity and great psychological stress. But the professionalism peculiar to Mukhit Utarbaev, his talent for solving many issues, including "unsolvable", provided him with deserved authority of an outstanding specialist with his individual progressive style of management.

AUTHOR
PAVEL KRETOV

BLITZKRIEG FOR CAUCASIAN OIL

IN 1942, THE MAIN EVENTS OF THE GREAT PATRIOTIC WAR BEGAN TO TAKE PLACE SOUTHWARD. FIERCE BATTLES TOOK PLACE FOR POSITIONS, MOUNTAIN PASSES, RANGES, HEIGHTS, AND PORTS OF THE CAUCASUS



Having suffered a defeat near Moscow, Hitler renounced his generals' proposed re-attempt to seize the Soviet capital. There were several reasons for this. First, the Fuhrer believed that this move would be predictable for the enemy. Secondly, Germany began to experience a shortage of oil reserves: less and less raw materials were supplied by Romanian fields. The Fuhrer saw the only acceptable way to solve the problem in the capture of Caucasian and Baku oil fields. Therefore, all the offensive power of the German Wehrmacht turned southward. 80 German fascist divisions rushed towards Caucasus and Volga.

In the summer of 1942, after overcoming the Red Army's stubborn resistance and taking Rostov-on-Don on July 23, Hitlerites managed to reach the great bend of the Don and create an immediate threat to Stalingrad and the Caucasus. The German Army Group "South" divided into two parts: South Group "A" under the command of Field Marshal General Wilhelm List headed for the Caucasus to seize the Baku Oil District, while the Northern Army Group "B" launched an attack on Voronezh and the Volga. Group A was opposed by the North Caucasus Front troops under the command of Marshal S.M. Budenny.

Hitler did not consider the capture of the Caucasus a difficult task. In approving the Edelweiss plan, the Fuhrer not only went against the opinion of his generals, who believed that active action in the mountains could not begin before the victory at Stalingrad, but also removed from the Caucasian direction seven fully staffed divisions. He was sure that the Soviet armies were already rather exhausted and would soon be destroyed between the Don and the Caucasus. And that's when German and Romanian oil specialists will intervene, who



will easily and quickly establish a stable fuel supply for the needs of the Third Reich.

Indeed, at first, it seemed that any force was unable to stop the Germans. Large Wehrmacht motorized infantry formations were rapidly rolling forward, capturing vast areas to the south and southeast of Rostov-on-Don. The ground trembled from the movement of more than 1.1 thousand German tanks, clattering caterpillars crushed the roads into dust, which rose high up. The Red Army lost a significant part of its heavy weapons: artillery and tanks had

On August 3 the Germans captured Stavropol. 700 soldiers armed with rifles only held the fort during the day, but they could not do more against a tank division. However, the further the Hitlerites moved, the greater difficulties they had in supplying the troops. The motor convoys that brought the fuel spent most of the fuel themselves on the way. Frequently different Nazi tank units had to stop with empty tanks, and that gave the Red Army time to pull up the reserves. On August 10, the Germans entered Maykop, hoping to seize

700
SOLDIERS

ARMED WITH RIFLES
ONLY HELD THE FORT
DURING THE DAY

to be left before crossing the Don River, and then the Kuban River. The Workers' and Peasants' Red Army had to demonstrate the skills of maneuverable warfare, dodging the German invasions in time and keeping the main forces for further battle.

fuel and oil there. They did not find either of them: everything was taken out or burned, wells were clogged, equipment was evacuated.

On August 12, the Red Army left Krasnodar, and on August 25 – Mozdok. As German troops reached

the foothills of the Caucasus, the Soviet troops in the West and East Caucasus were split up. In the second half of August 1942, the Wehrmacht launched an offensive against Anapa and Novorossiysk. The last German generals considered the gate to the coastal road, breaking into which, through Tuapse, Sochi, Sukhumi, and Batumi can reach the Turkish border. In fact, the enemy's dreams of a breakthrough to Asia Minor and joining the African Corps of Rommel were crushed by the steadfastness of the Soviet fighters, who consolidated in an industrial area on the eastern outskirts of Novorossiysk and stopped the further advance of the Hitlerites.



THE HIGHEST POINT OF THE GERMAN OFFENSIVE REACHED NOVEMBER 2, 1942, IN THE AREA OF THE VILLAGE OF GIZEL

Then the Germans made several attempts to unblock the seaside road by advancing through the mountains on Tuapse. To repel

this threat, the Black Sea Fleet ships delivered the reserves from Poti in time. In tough battles, the enemy was stopped.

In October 1942, fierce battles unfolded in the region of Grozny. The city was on fire, tanks of oil were on fire, but the enemy failed to capture a large oil region.

Simultaneously with the battles in Novorossiysk and Grozny directions, fierce battles began on the mountain passes of the Main Caucasian Ridge, which were attacked by the German Mountain Rifle Corps and two Romanian Mountain Rifle Division. To strengthen the mountain borders on the Ossetian Military and Georgian Military Roads, the Red Army carried out work to prepare for the collapse of rocks, flooding of territories and built strongholds. The Germans had to act in the conditions of mountains with centuries-old forests and dense underwood on the terrain, which was hardly suitable not only for the action of tanks but often even for pack transport.

The highest point of the German offensive reached November 2, 1942, in the area of the village of Gizel a few kilometers to Vladikavkaz. By the end of the month, it became clear that after the "drama near Stalingrad", as it was called by the Germans, they changed from the advancing side to the defensive side in the Caucasus. Hitler's campaign for oil failed. ●



AUTHOR
GULZHAN ISMAGULOVA

POST-QUARANTINE-2020

HOW THE COVID-19 PANDEMIC CHANGED OUR LIVES – A VIEW FROM THE CAPITAL OF KAZAKHSTAN, NUR-SULTAN

“C oronavirus” is literally the most popular word in 2020. The pandemic has divided the world into “before” and “after”. Photos of school and university graduates wearing protective masks, which have become an integral part of our life, will remind descendants about current circumstances for a long time.

Humanity has never faced such large-scale disruptions to its usual life, at least in peacetime. The global community is discussing the changes associated with Covid-19. The virus has infected millions and, somehow or other, affected billions of people. The problem is particularly acute for economics.

Nur-Sultan was one of the first cities in Kazakhstan for pandemic response, stayed ahead of the country's regions in setting up checkpoints and the introduction of circuit-breaker, became the CIS leader in the self-isolation rating.

Quarantine provided city people with more free time. They gave got an opportunity to stay alone with themselves, with family and friends. This period made everyone to take a new look at familiar things. People began to devote more time to self-education, reading, learning new things. It is no coincidence that in Chinese the word “crisis” is composed of two characters – “danger” and “opportunity”.

Masks are new dress code requirement. It would seem that masks should “depersonalize” people. But no way! Many people sew them individually using different fabrics of all kinds of colors. It turns out that personal protective equipment can emphasize individuality, to complement any image advantageously.

During the pandemic, the capital's volunteers gained more supporters. They began to receive more

active support from both the state and the private sector. The Caspian Pipeline Consortium did not stay on the sidelines. After all, only combined efforts of the state and business will help defeat Covid-19.

Now the importance of doctors has increased more than ever, many of them have approved themselves in the fight against the virus as real heroes. Scientists are looking for ways to defeat the infection unselfishly. But the disease has not yet receded, and new challenges may await us.

Regardless of what changes we will face in future, we can protect ourselves and our nearest and dearest taking joint efforts and complying with all sanitary requirements. We are together – even with respect to social distance. And our health is in our carefully washed hands. ●



I LOOK INTO THE BLUE LAKES

THIS YEAR TOURISM FOR US AND OUR COLLEAGUES WAS EXCLUSIVELY DOMESTIC FOR A LONG PERIOD OF TIME FOR OBVIOUS REASONS. AS A RESULT, WE MANAGED TO LEARN A LOT OF NEW AND INTERESTING THINGS. POPULAR FOREIGN RESORTS HAVE QUITE COMPETITIVE «IMPORT-SUBSTITUTING» ANALOGUES IN RUSSIA AND KAZAKHSTAN

AUTHOR
MARZHANKUL DIAROVA

INDER LAKE, ATYRAU REGION, REPUBLIC OF KAZAKHSTAN

There is a rather unusual and fantastically beautiful place in the Atyrau region — Inder salt lake. You can get here, to the border with the neighboring West Kazakhstan

region, either along the Atyrau-Uralsk highway (on the fifth kilometer of which the Atyrau PS is located), or along the Atyrau-Inder highway, passing along the other shore of Ural.

The distance to the village of Inderborskiy (regional center) is about 170 km. If you use the Atyrau — Uralsk highway, you need to turn right at the sign and cross the river over

the bridge. A delightful view opens from the bridge: the Ural shows its enchanting bend with a high, cusped and ravine shore at the right side and flat shore — at the left side.

Atyrau region is located in the Caspian lowland 28 m below the level of the World Ocean. But in the Inder region, the relief is raised significantly, there are even mountains with the same name. Geologists characterize these places as the “Inder uplift” or the “Inder salt dome”: the upland is formed by carstic layers with deep caves.

The Inder Mountains open an impressive view of a sharply white lake with a diameter of about 10 km. The water sparkles with myriads of salt crystal facets, sky and weightless clouds are reflected in the mirror surface of the lake. The picture is so unusual and unexpected that you get the feeling as if you were on another planet. There is no vegetation habitual for the shore line, you will not see any birds and insects — only an endless sparkling surface of two colors: light



of Inder lake and hydrogen sulfide mud on its shore. The suitability of both formations for the use for medicinal purposes was assessed, and the possibility of creating a sanatorium with a mud bath in these places was substantiated as well.

The depth of the lake is shallow — maximum 30-40 cm. The water contains such a big concentration of salt that if

these are unique creations of nature, since they are composed of cave layers. Geologists classify them as swallow holes, dug wells, sinkholes, hollows, ravines. There are coves at the bottom of the “snow sinkhole”, where the swallow hole in its horizontal part is expanded to the size of a small grotto. The cave entrance is low, 1-1.3 m, but wide, up to 5 m. In springtime, melt water, as well as seasonal rains, pass through these swallow holes and caves, absorbing the properties of a huge amount of various salts and minerals, and form 33 springs feeding the lake.

Local residents are ready to share legends about the lake. One of them tells about the magic power of the ыз-улие burial (“holy maid”). People have so strong belief in the legend that when coming to take a mud bath, tie ribbons to the fence in the hope of healing. There is another belief: staying somewhere nearby overnight provides the best effect. But such a solution is not considered safe by everyone. It is said that with the onset of darkness an inexplicable things begin...

Nowadays, Inder lake is included in the list of objects of interest for touristic industry. To my mind, the decision is right: the place is fantastically beautiful, but still not popular enough. Not everyone knows about it, even in the Atyrau region. I approve its popularization and wish my colleagues to visit here.

ATYRAU REGION IS LOCATED IN
THE CASPIAN LOWLAND

28^m

BELOW SEA LEVEL

blue water around and sharply white salt stretching to the horizon.

Walking down the path from the mountain, first you will step over dense mud with a distinct smell. This is just the same hydrogen sulphide mud, which is applied to the back, arms and legs in health resorts for treatment of joint and skin diseases. The local population, residents of neighboring districts of the Atyrau region as well as the other regions of Kazakhstan and the nearest cities of Russia come here to take mud baths.

In 2017, specialists of the Pyatigorsk State Research Balneology Institute carried out a large-scale work to determine the composition and quality of brine (highly concentrated salt solution — Editor’s note)

you walk for half an hour inside it, your clothes will become hard, as if starched. The bottom, which is initially soft and clayey, gradually becomes hard and prickly. The salt has formed crystals on the clay, and it is impossible to go further barefoot: large sharp crystals bite into your soles. So you have to put on your shoes. Small twigs and leaves, which once fell into the water, are overgrown with salt crystals and formed fancy bizarre patterns.

The mountain range that borders Inder lake from the north is called Ondasynzhal. Along with with Koktau, Korgantau, Zhalantau, Zhamantau, Sargyshtau and Karagoisoigantau uplands it forms a whole ridge. Of course, these uplands can be called mountains only conditionally. But

AUTHOR
NATALIA HARINA,
EXCLUSIVELY FOR "CPC PANORAMA"

BASKUNCHAK LAKE, ASTRAKHAN OBLAST, RUSSIA



Early summer is the best time for visiting the unique Baskunchak lake in the Akhtubinsky district of the Astrakhan Oblast. Thousands of tourists from all over the world come here to take beautiful shots and improve health.

Millions of years ago, Baskunchak lake was the part of the vast ocean, stretching from the Urals to the Caucasus Mountains. Time passed and only

a dead salt lake with an area of about 120 square km remained from that proto ocean. Baskunchak lake is fed by the waters of the Gorkaya river as well as large number of springs, enriching the lake with about 2500 tons of salt everyday.

A number of researchers explain the origin of the lake name by a combination of the Nogai words "bash" (head) and "kuncha" (dog). Why "Dog's

Head"? Local legend tells about the caravan, which approached the lake and decided to make a stop and quench its thirst. One of the caravaner's dogs tasted the salt water first.

According to another opinion, the name of the lake comes from the Turkic "bas" – "head" (that means "main") and "konak" – "station, parking". Thus, the original toponym – "Baskonac" means "main camp", which corresponds

to the value of the lake in the past, as one of the main sources for salt extraction. Baskunchak salt is valued for its special chemical properties.

"Brine – the water of the salt spring, saturated with minerals and micronutrients, has a positive effect at cellular level," says the chief physician of the Baskunchak sanatorium Tatyana Chebotareva. "Being absorbed into the skin, brine heals cells, saturating them with useful substances and removing toxins. The brine of Baskunchak lake is almost entirely composed of sodium chloride and does not contain impurities, unlike the waters of the Dead Sea. The salt concentration is high – 300 grams per liter of water".

Brine baths are recommended for healing of various skin diseases, bathing has a positive effect on the functioning of the respiratory system and joints, helps to improve all metabolic processes in the body and stimulates blood circulation. Moreover, sodium chloride baths boost immunity, improve functioning of liver and biliary tracts, has anesthetic and anti-inflammatory effect. But, as any other treatment, it is better to be done under professional supervision and without unnecessary fanaticism. To achieve a therapeutic

effect, a minimum bathing course of six to seven days is required.

The coordinates of Baskunchak lake – 48° 11'00" of north latitude and 46° 53'00" of east longitude. By car after leaving Volgograd, you need to move along the highway 18R-12R to Akhtubinsk, where you should turn left to the village of Verkhniy Baskunchak. It is a train station, therefore tourists can easily get there without a car. The distance from Upper to Lower Baskunchak (a village located on the lake shore) is 10 km along the road. You can take a taxi at the station, four-wheel drive is not necessary to overcome this section.

But you can get to places convenient for swimming by full drive only. Local residents have mastered the appropriate service and offer their own "UAZ" routes: 250 rubles to the nearest beach and 600 rubles to the far beach, with more deep water.

If you want to extend your stay at the lake, you can stay in the village of Nizhny Baskunchak. There is a hotel "Baskunchak" at the sanatorium of the same name (accommodation cost – 1,500–2,200 rubles per night) and housing for rent in the private sector – 1000 rubles for house,

500 rubles for apartments and 300 rubles for room or extension per night. In addition a car camping with modicum of comfort (from 150 to 500 rubles per tent) per night is available.

Baskunchak salt lake can not only improve your health, but also pose a danger to birds. In June, the railway workers rescued a flock of swans captured by the salt. Under the salt water, the plumage of the birds has covered with a three-kilogram firm crust, which did not allow them to spread their wings and take off.

"Mute swans often choose shallow salt lakes located in the steppe zone," commented Dimasov Alexey, the leading ornithologist of the All-Russian Research Institute of Environmental Protection. "Here birds gain strength before a long flight, fortify themselves with small animals and various algae. But, apparently, Baskunchak lake turned out to be inhospitable for swans due to its high salt concentration. The situation was also aggravated by the increased air temperature".

But everything ended well: the swans, cleared of salt and evacuated to a safe fresh water reservoir, came to sense and flew to the Caspian coast, to pass their summer molt.

SALT CONCENTRATION IN
BASKUNCHAK LAKE EQUALS

300
G PER LITER OF WATER



AUTHOR
PAVELKRETOV

MEKLETIN LAKES, REPUBLIC OF KALMYKIA, RUSSIA

Modern Kalmykia is located in the very center of the ancient Tethys Ocean, which included Azov, Black and Caspian Seas. The republic inherited from the giant many truly unique natural objects that local residents are proud of and invite tourists to share this feeling.

The CPC pipeline system passes through the territory of the “Mekletinsky” federal nature sanctuary, which is the part of the “Cherneye Zemli” conservancy area. It got its name from the pink lakes of the same name.

“Mekletin lakes come to life and fill with water of melted snow and rains every spring,” says Khongor

Mandzhiev, a researcher and specialist of the ecological and educational department of the “Cherneye Zemli” conservancy area. “During this period, various halobacteria, pink algae and microscopic crustacean *Artemia salina* propagate. The stormy life of the lake inhabitants lasts until August, when the moisture completely evaporates (the maximum depth of the lakes does not exceed 40 cm), leaving healing pink mud and salty pink “ice” useful for respiratory organs.”

It is interesting that people have learned about the healing properties of lakes long ago and local legends are full of stories about heroes who quickly healed their wounds here.

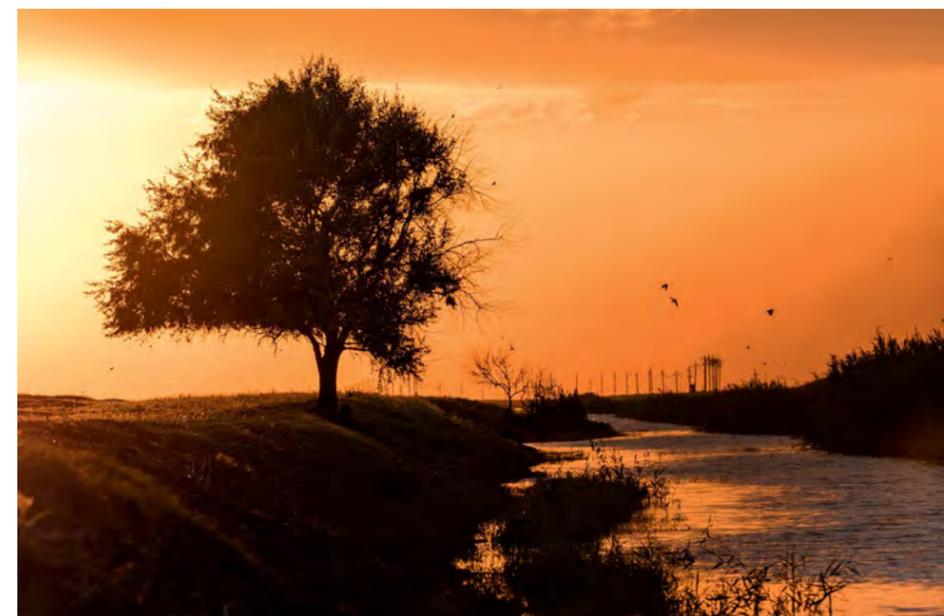
Even the color of the water reservoirs was explained by the shed blood of the “Jangar” epic heroes. Modern scientists say that the composition of the Mekletian mud is more curative than the mud of the Dead Sea in Israel and has absolutely outstanding cosmetic properties.

Just a few kilometers from the oil pumping station of the international consortium (PS-2), there is another unique natural object – the only desert in Europe with its famous “singing” dunes. There are many various reasons for the sand “singing”, but most of experts agree that the characteristic monotonous buzz is caused by the friction of many tiny grains of sand.

“The richness of the Kalmykian biota is determined by several biotopes – steppes, semi-deserts and deserts. The latter are the habitat of lizards of the Agamidae bloodline (long-eared vertiginous and toad agama), sand boa, nocturnal kalmykian kangaroos, little earth hare, large and small jerboas,” continues Khongor Mandzhiev.

There is another amazing place near the “Cherneye Zemli” conservancy area, where two seemingly inextricable elements – fire and water merge. Foamy springs are gushing out from the ground here. Strike with a lighter – and the water will ignite. The fact is that the soil is rich in hydrocarbons and the foam coming out to the surface is the natural gas – methane. Local shepherds have learned to use these water properties: they make a well in the right place and put a barrel with hoses on top. Water is supplied to the camp through some hoses, and gas is supplied through other hoses. You can cook food and boil the kettle even by placing the small iron stove on the spring itself. So you satisfied hunger, warmed up – knocked foam from the spring with palm and the natural “burner” went out.

By the way, the guides say: if you put the hand directly into the spring, there will be no burn. Historians say:



in such places, future soldiers were taught not to be afraid of fire from childhood. It was believed: if a boy can take the flame from a burning spring, he will no longer be afraid of the burning enemy arrows.

“The water itself is brackish, but in a hot desert conditions this is an obvious plus, because salt retains moisture in the body”, emphasizes Khongor Mandzhiev. “Saigas, wolves, foxes come, cranes, larks, steppe eagles arrive. At the watering hole, they let people to approach close enough, so not only professional naturalist photographers with telescopic lenses, but also ordinary tourists can take beautiful

pictures with rare representatives of the fauna of the spring even with a standard smartphone.”

If a visit to the Mekletian lakes can be compared to a trip to Israel, a travelling to the “singing” dunes – with a trip to Morocco, then spouting springs with “fire water» are like geysers in Iceland. Any such voyage would require considerable expenses and long flights, but in Kalmykia, a tourist just has to go along an 80-kilometer circular route near the village of Adyk, where 30 kilometers pass along a modern road with an asphalt surface, which was built by the Caspian Pipeline Consortium for the operation of its oil pumping station. CPC has long and fruitful cooperation with the “Cherneye Zemli” conservancy area. Over these years, joint environmental education projects have been implemented to protect the populations of saigas and cranes, and the off-road equipment necessary for scientists has been purchased. In 2019 and 2020, with the assistance of the Consortium, artesian wells were drilled on the territory of the biosphere nature reserve, and steppe antelopes have already liked new sources of life blood.



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ON THE TOP

JUST A TWO DAYS LATER DURING THE CELEBRATION OF THE OIL AND GAS INDUSTRY WORKERS ' DAY ON THE SEPTEMBER, 6 AT THE HIGHEST POINT OF EUROPE – ELBRUS MOUNTAIN – THE FLAG OF THE CASPIAN PIPELINE CONSORTIUM HAS BEEN ESTABLISHED

CONVERSATION WITH SON

Our children encourage us to do many cheerful things. This story is no exception.

“Dad, can you climb to the top of this mountain?” the seven-year-old son asked me.

Last year, I took part in the excursion to the Dzhily-Su tract, located on the northern slope of Mount Elbrus, together with my family. Having drunk the healing “Narzan” water and admired the most beautiful

waterfalls, we met the sunset at the giant’s foot. The majestic, beautiful and mysterious Lord of the Winds has attracted the most courageous travelers at all times.

My son’s question brought me back to reality.

“Of course I can”, I answered without a pause, but still felt a slight iciness on my spine. Now it is already hard to tell what was primary – either a desire to prove something to my son, or a real

need to test myself, but upon returning home, I delved into the study of the experience of climbers and tourists who ascended Elbrus mountain immediately. I was interested in all practical aspects: fitness conditioning, duffel features and organizational issues as well. Shortly thereafter, I chose an agency specializing in commercial tours to the top and booked the tour to the western top of Elbrus closest to Oilers Day.

The future Elbrus summiteers gathered at the hotel in the village of Terskol on September 1. People arrived from different places – Moscow, Yekaterinburg, Kirov, Vladivostok... The guides provided us with detailed instructions on climbing safety and answered questions about the tour program. The ascent of a mountain was scheduled for Sunday, September 6. I was jubilant: not everyone is lucky enough to climb one of the seven highest peaks of the planet on his professional holiday!

“BUT WE CHOOSE THE TRUDGE»

The next two days, our team spent in acclimatization radial hikes – to Mount Cheget and to the 105th picket to an altitude of 3400 m. To be honest, some of us back then realized that the venture difficulty exceeds their physical capabilities, and refused from the summit.

On the morning of September 4, we took all the equipment and food and set out first to the Azau glade, then climbed to the Gara-Bashi station at an altitude of 3750 m by the rope way. Near this camp we started snow and ice classes – to practice the skills of movement in “grapplers” and to learn self-holding techniques with the use of an ice ax.

On September 5, we made an acclimatization hike to the Pastukhov Rocks (altitude: 4800 m). Many of us first experienced the “delights” of the highlands: headache, poor appetite, nausea. However, the weather spoiled the mood much more – cloudiness dropped and a cold wind got up. “There will be no ascent tomorrow,” the guides announced. The whims of the celestial chancellery forced them to repeat this phrase the next day, but on the morning of September 7, to our greatest joy, the senior guide

NOT EVERYONE IS LUCKY ENOUGH TO CLIMB ELBRUS ON HIS PROFESSIONAL HOLIDAY



commanded: “We are going to summit the ascent today!” The forecast promised weather improvement by midnight, therefore the group leaders scheduled the start at 22:00 so that we could climb to the summit before 10 am on September 8th. And so we started the “assault”. 36 people, including eight guides.

The group covered the distance to the Pastukhov Rocks in four hours. We arranged a ten-minute campsite rest to drink hot tea. The next campsite was made at an altitude of 5100 m in 2.5 hours. It was getting harder and harder to walk. Inhale – one step, exhale – another step... In addition to the rarefied air, the last strength was taken by the wind-polished ice slope, along which one can



only move using steel “grapplers”. “Be careful!” – the guide warned. We passed the infamous “Oblique ledge” above the glacier. You may slang, slide down the slope, fall into a crack and no one will be able to save you!

THE WHOLE WORLD IN OPEN TERRAIN

At dawn, the group has got an opportunity to see the peaks of the Main Caucasian Ridge in full view. The “Queen of the Caucasus” – the majestic two-headed beautiful Mount Ushba – appeared in all its glory. The legendary glacier “Seven” was clearly visible. But the greatest impression on me was made by the shadow from

Elbrus itself. It seemed to be hanging in the air!

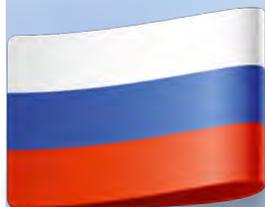
The transition to the saddle between the Western (5642 m) and Eastern (5621 m) peaks of Elbrus was endlessly long and difficult. When we reached it, we plunk ourselves down to the snow and remained motionless for five minutes. A sip of hot tea – and we lined up again. The way along the steepest part of the slope, with an inclination of 45 degrees, started. Every step is a danger of slanging, so we attached our carabins to the climbing rope.

At 8:50 am on September 8, 2020, I fulfilled my promise to my son. I dealt with it, I got there, I vaulted to the top! An incredibly beautiful view of mountains and clouds floating over the horizon opened in front of us. We all became incredibly happy, and I took out the CPC flag from my backpack, which I then hoisted to the top with a special feeling. Perhaps one will say that this flag on the photo is not very large, but taking into account the fierce high-mountain winds, which can turn any large cloth into rags in a matter of days, a small flag is much more reliable and durable.



You can describe the Elbrus landscapes endlessly, as well as your emotions and feelings, but I probably will not be able to convey even a fraction of the entire rich scope of the feelings experienced. Therefore, if you will ever think about such an ascent, I advise you: rid the mind of doubt and go! You will not regret it at all. ●



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PANORAMA
CASPIAN PIPELINE CONSORTIUM

CPC PANORAMA Corporate Magazine. No 4 (31) December 2020. The issue is prepared by the CPC Press Service.
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Publisher: LLC Media Service. 111116, Moscow, Energeticheskaya Str., 16. vashagazeta.com. Tel.: +7 (495) 988 18 06.
E-mail: ask@vashagazeta.com. General Director: Vladimir Zmeyushchenko. Editor-in-Chief: Vilorika Ivanova. Project Editor:
Ksenia Piskareva. Art Editor: Tatiana Kalinina. Designer: Gulnara Aglyamutdinova. Production Director: Oleg Merochkin.
Photographs: CPC Press Service, TASS, RIA Novosti, Shutterstock/FOTODOM. Cover photo: Sergey Afanasiev, Driver,
Transportation Service, MT, CPC-R.

Printed by PROPRINT: www.proprint.moscow, tel.: +7 (499) 490-44-62.

Circulation: 100. It is forbidden to use any content without the consent of the editorial office.

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