

# PANORAMA

## CASPIAN PIPELINE CONSORTIUM



Каспийский Трубопроводный Консорциум  
Caspian Pipeline Consortium  
Каспий Құбыр Консорциумы

CORPORATE MAGAZINE  
№1 (28) february 2020



### COVER STORY

## CPC-2020: NEW HORIZONS OF POSSIBILITIES

**DBNP-2020:**  
IMPLEMENTATION  
MILESTONES

**SAFETY AND SECURITY**  
BUSINESS-TO-BUSINESS  
COORDINATION

**OPERATION**  
STANDARD-SETTING  
ACCURACY

**LIFESTYLE**  
A PERFECT  
COLLEAGUE

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## CPC-2020: NEW HORIZONS OF POSSIBILITIES

DEAR COLLEAGUES AND DEAR FRIENDS!  
IN 2020, WE COMMEMORATE 20 YEARS SINCE  
THE DAY THE “GOLDEN WELD” (FINAL TIE-IN)  
WAS WELDED TO SYMBOLICALLY COMPLETE  
THE INSTALLATION OF THE PIPELINE PORTION  
ON THE CPC OIL PIPELINE SYSTEM. TWO  
DECADES AGO, THE GLOBAL MAP OF CRUDE  
OIL TRANSMISSION LINES RECEIVED YET  
ANOTHER ROUTE, THE IMPORTANCE OF  
WHICH HAS BEEN INCREASING EVER SINCE

**A** ccording to our shareholders, the Consortium takes such a stride in its growth every year that it becomes like a new company. Today, all facilities of the system—from 15 pump stations operating in synch by the pump-to-pump method to CPC’s Tank Farm and Marine Terminal—are running reliably and smoothly to the highest global standards, which makes us all proud, and rightly so.

Every year, the CPC team reaches new highs in Marine Terminal shipments. For instance, in 2019 Yuzhnaya Ozereyevka transhipped over 63 million tonnes of crude oil, which is 2+ million tonnes more than in 2018. December 2019 saw 56 tankers put to sea from the single point moorings, which set the annual figure at 597 vessels.

In 2019, the personnel and representatives of the Consortium’s contractors put in about 13 million hours without any recorded injury or accident. A good safety performance was also demonstrated by CPC’s transportation units—they reached the milestone of some 53 million km on the road with no recorded traffic accidents. And this is also a feather in the international Consortium’s cap.

The Company has every right to be proud not only of its business performance, but also of the contribution it is making to the social development of the regions within its footprint by implementing charity projects aiming to improve the living standards in Russia and Kazakhstan.

And we naturally keep thinking about further progress. The Debottlenecking Programme (DBNP) approved by the CPC shareholders in 2019 is gaining momentum. New vistas are opening before us in our capabilities and challenges, which, I have no doubt, will be successfully handled.

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

AUTHOR  
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# DBN-2020: IMPLEMENTATION MILESTONES

THE SECOND YEAR OF THE DEBOTTLENECKING PROGRAMME (DBN) ANTICIPATES SOME NEW STRATEGIC DEVELOPMENTS. WE HAVE APPROACHED SCOTT CHRISTOPHER BOWEN, CPC PROJECT AND ENGINEERING CONSULTANT, TO HIGHLIGHT THEM IN OUR DISCUSSION

Mr. Bowen, our 'flagship' interview aims at breaking ground for publications on the 2020 DBN Programme, and outlining the topics that are most important from your standpoint.

You are right, in the February issue we should highlight the key milestones of DBN implementation in 2020. Milestone 1 — contracting construction service providers. Milestone 2 — getting positive expert opinion on the project. Milestone 3 — mobilising construction contractors. Milestone 4 — delivering long lead equipment to the facilities. Milestone 5 — beginning critical construction and installation.

On top of that, we are going to have to complete mobilising CPC personnel for the Programme. We ought to coordinate our efforts and make sure that the newly formed DBN group have a good team spirit. Alongside with new employees the project will engage personnel from all the CPC functional Departments.

**While the group is being formed and its activities coordinated, are they expected to take training and retraining courses?**

At the end of 2019 an induction training course was developed for project specialists. The course gives an insight into the DBN scope of work and objectives. Besides, new hires will get an overview of the Caspian Pipeline Consortium, its objectives and corporate culture. The course covers CPC employee must-haves, code of conduct, safety rules, codes and standards,

Besides, we will have to set up many interfaces as part of the Programme using the current and developing new communication instruments. All parties to the project ought to be cognizant of their roles and levels of responsibility. This will require a proactive cross-functional interface between the Moscow office and those in the Regions.

**Could you give any specific figures — how many people are going to be mobilised at the height of the works, stages of the mobilisation?**

330 is the top number of new hires approved by the CPC Board of Directors and shareholders. The actual numbers of the project team will directly depend on the performance of the construction contractors. The more efficiently they perform, the less controllers and regulators we need. Our current optimistic forecast is that our working group will be about 250 people strong.

**We assume that a design solution is in place for the reconstruction of the Astrakhan mainline pump station?**

Today we have developed and handed over to the designer some task orders. The first TO was engineering for the Astrakhan Pump Station scope because it is one of the DBN priorities. Issuance of a work order has to factor in various conditions. One of them is availability of the baseline technical data to be handed over to the designer for the latter to do a pre-design survey of the facility and adjust the specifications.

First of all, it is us who have to decide on the best technical solution and then hand it over to the designer for the latter to develop a design on. We have listed criteria to be factored in when drawing up a TO. To meet the criteria some of the facilities will need more time, some less. This will depend on the DBN scope of work on each station. For example, we have developed five technical scopes for the Tengviz head pump station: external power supply, external power supply, construction a new booster pump station, building LACT,

adding two new tanks, replacement of the mainline pumps. Each of these has contracting and procurement schedules. We have developed two technical solutions for the Astrakhan PS: installation of indoor switchgear rooms (SWGR) and building a mainline pump station.

We rather prefer making use of the Expansion Project groundwork. Therefore, finalising the technical solutions on the Astrakhan PS did not take us as long as we had expected. This helped us to develop the task order swiftly and send it to the designer.







In November 2019 CPC signed purchase contracts with the Flowserve Corporation and the Aktau Machine Building Factory. Were all the DBN contracts concluded in 2019?

Major Long Lead Item conclusion was the focus for 2019, along with preparing for construction tenders. We submitted our proposals to TB on each of them. Tendering has begun, bids are being invited. At the beginning of 2020 we hope to recommend awards of all the contracts. We have been working on several contract lots, different contract packages. At

the end of November we submitted the biggest package for review, and in about a week prepared the next ones.

Could you give the names of all the CPC DBN contractors now?

## ALONGSIDE WITH NEW EMPLOYEES THE PROGRAMME WILL ENGAGE PERSONNEL FROM ALL THE CPC FUNCTIONAL DEPARTMENTS

Some contractors have already been decided on. These are the Flowserve Corporation (mainline pumps and rotors) and the Ruhrpumpen GmbH (booster pumps made domestically in Kazakhstan, AktauFactory). Last summer the Siemens was contracted

for electric motors, now we are considering them for gas turbines. We hope to sign the contract presently.

Apart from equipment supplies, what other contracts are there in the Programme?

We are preparing for tendering some supervision and technical inspection contracts. We have a tight execution window, have a large scope of work

and a fast paced environment. This is a motivation but also a challenge, yet, it does promote the project.

Could we publish information on the designer engaged in the DBN — name, team members, schedule?

Our project partner is the Giprovostokneft (GPVN) from the Zarubezhneft Group. We were working with the GPVN on the Expansion Project

and this commendable experience considerably facilitates DBN work. In December 2019 we had some meetings at the GPVN Samara head office on the design progress made and formation of a designer team engaged. We are willing to give information on GPVN activities and the design schedule related to the DBN. I believe we might discuss this in the next issue.

WE HAVE A TIGHT EXECUTION WINDOW,  
HAVE A LARGE SCOPE OF WORK AND A  
FAST PACED ENVIRONMENT





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# BUSINESS-TO-BUSINESS COORDINATION

SINCE THE TURN OF THE CENTURY, OIL BUNKERING—OIL THEFT BY ILLEGAL TAPPING OF OIL PIPELINES—HAS EVOLVED FROM AN EXOTIC CRIME INTO A MAJOR SECURITY THREAT TO FUEL AND ENERGY BUSINESSES

Illegal taps have been found in all Russian regions crossed by oil pipelines, including CPC-R's footprint regions. This type of crime has morphed into a well-organized criminal business, and the criminals now boast state-of-the-art technological capabilities on an industrial level. The last decade has seen over 4500 illegal taps discovered on main crude oil and product pipelines in the Russian Federation. Notwithstanding the

measures taken by law enforcement agencies and the security functions of companies, criminal activities focused on steel lines continue unabated.

In light of the above, the CPC Security Service implements a package of security arrangements and practical mechanisms on an ongoing basis and pays special attention to steps aiming to improve security of the line and fixed site facilities against criminal attempts. Activities to improve the

efficiency of the measures being taken include continuous monitoring of the situation along the oil pipeline and liaison with the security units of other sectoral companies involved in crude and product transmission.

For example, November 2019 saw a number of workshop meetings organized and held with the management and security people of Transneft PJSC and Lukoil PJSC, which discussed at length and in depth the questions and

problems related to unauthorized tapping and ways to control it. The security experts exchanged information about the measures being implemented, their effectiveness and progress made. Case studies were used to conduct a joint review of the physical security procedures in place, the application of fixed and mobile engineered security systems, the arrangement of line monitoring by drones, and the employment of special search equipment for tap detection.

The meeting allowed each of the parties to adopt the new best practices of their colleagues and thereby add to its arsenal of resources and capabilities to resist wrongdoers and to mitigate damage from their actions. An agreement was reached to hold such joint events on a regular basis.

Another safety and security area requiring closer attention is transportation security. A regular exchange of best practices is also needed here.

So, having been invited by the oil and gas company Sakhalin Energy Investment Company Ltd. (Sakhalin Energy), the CPC Security representatives toured the key pipeline elements and transport infrastructure facilities situated on the island of Sakhalin in June 2019.

The visit included a number of working meetings with the Security Service representatives of Sakhalin Energy to share best practices in security for crude transmission via pipelines (concerning illegal tapping), site access control and internal security at key installations and in pipeline exclusion zones as well as anti-crime measures there.

## A BEST PRACTICE EXCHANGE WORKSHOP OF CPC'S AND LUKOIL'S SECURITY STAFF

The structure of the Sakhalin Energy safety and security system is identical to that adopted in CPC-R. At the same time, certain measures have been implemented differently, for example, the procedure for briefing of group visitors. The briefing takes place in a separate room at the central checkpoint building before the access control gate. The IT-assisted briefing is held in the form of a presentation, which covers basics of access control, on-site security, fire and industrial safety. The presentation was developed by Sakhalin Energy's Security Service with involvement of subject matter specialists. The briefing takes no longer than 20 minutes, which makes it possible to significantly cut the time for access badge issue.

The meetings highlighted the benefits of liaison between the CPC Security Service and other fuel and energy companies. A number of working conferences have already been scheduled for 2020, including ones on physical and economic security.





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# TO CPC'S STANDARDS

CPC'S REQUIREMENTS FOR SAFE OPERATION OF  
VEHICLES AT THE CPC LOCATIONS ARE BINDING  
UPON ALL CONTRACTORS OF THE CONSORTIUM

**S**tarstroy LLC, CPC's lead contractor, operates a modern fleet of state-of-the-art motor vehicles and special machinery. In total, there are 349 contractual vehicles, each of which has all required active and passive safety features to ensure accident-free road traffic (AFRT) and occupational safety and health.

In accordance with the terms and conditions of the contract with the Consortium, Starstroy's driving staff and users of vehicles (totaling more than five hundred people) have completed the defensive driving training with a specialized organization.

**ALL-SEEING SCOUT**

Every vehicle is equipped with the SCOUT, satellite vehicle monitoring, analytics and management system, which monitors the compliance with the safe driving parameters—speed limit, abrupt acceleration and hard braking in straight segments, acceleration and braking at curves, mileage and the driver's driving time. The SCOUT system makes it possible to

monitor the driver's behaviour and provides feedback to help him/her improve his/her driving style. The system enables preventive measures to be taken with regard to the driving staff.

Every month, AFRT engineers, jointly with motor vehicle mechanics, conduct on-road inspections aimed at fault prevention. They check vehicle paperwork and the drivers' compliance with the rules in place: whether they use a mobile while driving; whether safety belts are used by the drivers themselves and their passengers; wheth-

**HEALTH ABOVE ALL!**

Starstroy is licensed to conduct pre- and post-driving medical examinations, which makes it possible to check for the effects of industrial health and safety hazards and work contraindications, including alcohol, drug or other intoxication, as well as to control the drivers at risk.

If the pre-driving exam shows that a driver has high blood pressure or temperature, he/she will be immediately referred to his/her local health centre. This makes it possible to identify health problems in drivers in advance.

## THE DRIVER INCENTIVE POLICY MOTIVATES DRIVERS TO COMPLY WITH THE TRAFFIC CODE AND CPC'S SAFETY AND SECURITY REQUIREMENTS

er sounds and lights function normally. And last, but not least, they make sure the motor vehicles are used as intended.

**IN COMPLIANCE WITH  
PROCEDURES**

The Company has 34 procedures in place to ensure the safe operation







of the motor and special-purpose vehicles.

Each year, technical assessment of vehicles and oil spill response (OSR) equipment is carried out jointly with CPC-R representatives, and its results are used to certify the conformity of the vehicles' technical condition, performance, operating documentation and technical documentation to the contractual requirements and the preparedness to emergency response.

### STARSTROY LLC CONDUCTS ANNUAL TECHNICAL ASSESSMENTS OF VEHICLES AND OSR EQUIPMENT

Having been put in place in 2019 to incentivize drivers to comply with the Traffic Code and the Consortium's safety and security requirements, a driver incentive policy

is applied based on the quarterly and yearly performance. This has a positive effect on the driving performance and road traffic safety.

#### TO SAVE TIME

Pursuant to the terms of the contract with CPC-R, Starstroy is required to ensure 95% availability of equipment for emergency response in the Russian section of the Tengiz–Novorossiysk main oil pipeline.

For prompt response to emergencies, all of the Company's heavy and oversized vehicles have permanent permits to use federal, regional and intermunicipal roads.

Every spring and summer, the road owners impose limitations on axle loads, which cuts payloads dramatically. In such periods, Starstroy minimizes traffic on public roads, making greater use of service driveways. However, we do not confine ourselves to such a workaround and lobby the regional EMERCOM and Rosavtodor [Russian Federal Road Agency] representatives. Thanks to our close liaison with them, should any emergency occur, the Company's vehicles can use public roads for rapid deployment with no violations.

The Company monthly checks for amendments to transport laws, which allows it to make timely adjustments to its transport protocols. For instance, in 2019 we took out a passenger carriage licence for the in-house purpose. For operations in the Republic of Kazakhstan, the Russian vehicles were licensed for international haulage.



#### BETTING ON PROFESSIONALS

Every year, Starstroy participates in comprehensive joint practical drills (CJPD) organized by the Consortium, where it demonstrates the preparedness of its vehicles and machinery to emergency response. The CJPD on the Manych River, which took place on 28 August 2019, involved 24 vehicles deployed for a wide variety of tasks. A KAMATSU PC 130-8 pontoon amphibious excavator was used to clear and deepen a second-boundary firebreak along the 840m-long river bed; a TTM 3GM tracked amphibious all-terrain vehicle with an IM 77-324L truck loader crane was deployed to drag and set up second-boundary

Uzh-2M booms 850 m long; a UDS 114 pneumatic-tyred excavator on the MAN TGS 26 chassis successfully completed containment earth banks, earthen sumps, repair pits and waterfront clearing.

Modern heavy-duty machinery calls for skilled operators. Starstroy employs the best and most responsible drivers. One of them is Aleksandr Tokarev. He works as a driver

STARSTROY BOASTS A

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#### STRONG FLEET OF CONTRACTUAL VEHICLES

at the Novorossiysk Emergency Response Centre and has five related qualifications in operation of special-purpose vehicles: mobile pump operator, refueller driver, mobile steam generator operator, OSR tanker driver, and truck loader crane operator. Aleksandr takes good care of his vehicles and strictly adheres to the work safety guidelines and road traffic rules.



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# TAMING OF FIRE

DRILLS REGULARLY HELD BY THE CONSORTIUM HAVE SCENARIOS DESIGNED TO PRACTISE RESPONSE TO ANY EMERGENCY. A SCHEDULED DRILL INVOLVING RESPONDERS FROM CPC-K JSC, KAZTRANSOIL JSC AND TENGIZCHEVROIL LLP TOOK PLACE IN KAZAKHSTAN IN LATE AUTUMN 2019



The scenario for comprehensive joint practical drills (CJPD) held in the Republic of Kazakhstan on 29 November 2019 by the Caspian Pipeline Consortium (CPC) in coordination with the Maintenance and Emergency Response Contractor KazTransOil (KTO) with involvement of first-responder units of Tengizchevroil (TCO) called for remedial actions following an installation defect at the 20th km of the Tengiz–Novorossiysk main oil pipeline. According to the drill script, service wear resulted in a 10-cubic-metre oil spill, which spread over an area of 50 m<sup>2</sup>. Activities to contain and clean up the simulated spill were used to practise coordination between the first responders of CPC-K, KTO's Western Management Department of Operator Services (WMDOS) and TCO's Fire and Emergency Response Service (FERS).

Organized at the Tengiz Emergency Response Center (ERC), the classroom section of the CJPD included study of the drill plan and actions of individual units and participants. Classes in processes and methods for inland oil spill recovery, installation and operation of pump equipment and tanks for petroleum product gathering, the use of sorbents and sorbing materials,

ACCORDING TO THE DRILL SCRIPT, THE AREA OF THE SIMULATED SPILL OIL WAS

50 m<sup>2</sup>

and occupational safety and health were also held.

The practical section of CJPD took place at the 20th km of the Tengiz–Novorossiysk main oil pipeline between the source Tengiz PS and the Atyrau PS. According to the drill scenario, a pipeline person who discovered the accident reported it by radio to the Tengiz PS shift supervisor and to KTO's WMDOS operations controller: "A pipeline leak

was detected; there is oil spill; the approximate spill amount is to be determined." Within three minutes, the emergency was reported to the management of the Consortium's Eastern Region (ER), the competent functions and business units of CPC, KTO and TCO, the duty officer of the Emergency Situation Department of the Republic of Kazakhstan for the Atyrau Region and the official environmental organization.

The ER Security Service imposed access restrictions for persons and vehicles to the area of the simulated emergency.

An Operations Management Headquarters (OMHQ) was set up as the next step in the drill. The ER management appointed Viktor Miroshnichenko, Operation and Maintenance Manager, to run it.

The Tengiz ERC patrol team estimated the oil spill area and volume. The gas pollution level was measured in the area of the simulated spill; the danger zone was cordoned off; sorbent barriers and absorbing mats were placed. Specialized units of CPC, KTO's WMDOS and TCO responded to the accident site and deployed technical manpower and resources. In all, the CJPD involved over 20 pieces of vehicles and other specialized machines.



THE PRACTICAL SECTION OF CJPD KICKED OFF WITH THE SUNRISE





THE CJPD SCENARIO FOR THE REPUBLIC OF KAZAKHSTAN CALLED FOR REMEDIAL ACTIONS FOLLOWING AN INSTALLATION DEFECT AT THE 20TH KM OF THE TENGIZ – NOVOROSIYSK MAIN OIL PIPELINE



#### FORCE MAJEURE AS A PART OF THE SCENARIO

The simulated oil clean-up used a UODN[screw-type]-170-150-125 pump unit and a 50 m3 MR-NT flexible tank. Degassing was carried out where oil spilled from the pipeline. The contaminated soil and oil sludge were picked up by an excavator and loaded to a dump truck for removal to TCO's landfill. According to the drill script, the oil-contaminated soil during this operation spontaneously ignited; the fire spread to the excavator and injured the driver, who suffered second-degree burns.

Mobile fire teams of CPC and TCO were promptly deployed at the site of the simulated fire; an ambulance arrived. First aid was administered to the simulated victim, who then was hospitalized. The fire was contained and extinguished; the "burnt-out" vehicle was towed from the accident site with a crawler excavator, which

THE OPERATIONS MANAGEMENT HEADQUARTERS IS RUN BY VIKTOR MIROSHNICHENKO, CPC-K OPERATION AND MAINTENANCE MANAGER



also completed excavation of the contaminated soil and oil sludge.

The oil spill response was suspended for the duration of the "force majeure" event involving the excavator on fire. Once the work resumed, simulated repairs were made on the "affected" section of the oil pipeline by Tengiz ERC specialists, who cut out and replaced the spool (using a pipe cutter), installed an air-operated locking device (AOLD), applied girth welds and performed their radiography for quality assurance.

Once the radiography and environmental study in the area of the simulated emergency gave successful results, the OMHQ commander gave the order to fill and start the oil pipeline. The repaired section of the oil pipeline was simulated to be covered with protective insulation, and rehabilitation of the cleaned-up land was carried out at the work site.

The final stage of the drills included an individual knowledge assessment of each participant. Once the results were in, a CJPD report was submitted to the Tengiz PS shift supervisor, TCO's emergency operator and the operations controller of KazTransOil's WMDOS.

"Comprehensive joint practical drills in CPC's Eastern Region take place on an annual basis in accord-

and Fire Safety for the Eastern Region. "The primary purpose of the drills is to practise joint response to possible accidents at hazardous industrial facilities of CPC and TCO, including containment and clean-up of oil spills, with due regard to complicating factors, such as fire, unfavourable weather conditions, etc. Preparation for drills and rehearsal of responses to contin-

#### CJPD INVOLVED 20+ VEHICLES AND OTHER SPECIALIZED MACHINES

ance with the Coordination Contract between CPC-K JSC and TCO LLP," said Pavel Feklistov, Senior Engineer for Civil Defence, Emergency Response, Oil Spill Response

agencies in the course of exercises improve the preparedness of the first-responder units of CPC and its contractors to deal with possible emergencies."

FIRE TEAMS ARE EXTINGUISHING A SIMULATED FIRE INVOLVING OIL-CONTAMINATED SOIL AND AN EXCAVATOR





AUTHOR  
PAVEL KRETOV

# FROM THE CASPIAN TO THE BLACK SEA

SITTING IN THE CASPIAN DEPRESSION OF KALMYKIA 70 KM FROM  
THE SHORE IS THE KOMSOMOLSKAYA PS. THE STATION WAS  
BROUGHT ON LINE IN 2003 AND REFURBISHED IN 2014 AS A PART  
OF THE EXPANSION PROJECT

**T**he station gained an even more prominent place in the CPC pipeline system in October 2016, when the PS's LACT units started receiving crude oil produced in the Caspian by LUKOIL PJSC. These days, the Komsomolskaya PS is the flagship of the six stations in CPC's Central Region.

## MODERN, HIGH-TECH AND BEAUTIFUL

Crude from the Filanovsky field and the Korchagin field being developed by

Lukoil PJSC has been flowing through the Tengiz–Novorossiysk oil pipeline since 1 October 2016. In late October 2016, the Consortium's Marine Terminal loaded the first tanker with oil from those Russian fields.

The oil company built a system of offshore and onshore oil and gas pipelines to pump hydrocarbons onshore. The Onshore Facilities project kicked off in 2013 and consisted of four phases, including construction of core facilities as well as a rotation camp, dormitories, a gas distribution

station, etc. Oil comes through an offshore pipeline to the tank farm of the head onshore facilities to be delivered into the system of the Caspian Pipeline Consortium for further export.

From a helicopter, both the CPC oil pumping station and LUKOIL's Onshore Facilities sitting 500 m away look equally modern, high-tech and beautiful. They could be mistaken for parts of a single whole, but for their different corporate colours: the Consortium's facilities are white-blue; those of the petroleum company are white-red.

## NEIGHBOURS AND COLLEAGUES

Andrey Saprykin, the shift supervisor at the Komsomolskaya PS, readily recalls the period of preparations for receiving LUKOIL's crude.



"There were pits excavated and a temporary field pipeline laid near the station to test and commission the oil metering station with the use of CPC-R oil. Upon completion of the stage, LUKOIL pipelines were connected, and oil intake was started in October," says Andrey Saprykin.

Incoming oil has some paraffin content, and this calls for some special measures to handle it. A shift supervisor needs to always make sure that the feedstock temperature never drops below 20 °C, which would increase its viscosity and cause sediment settling in tanks. When the crude temperature approaches the above threshold, the shift supervisor at the Komsomolskaya PS calls his/her colleague at LUKOIL's station and asks to start crude oil heaters. The PS of the oil producer's Shore Facilities has three such heaters, of which two are primary and one is standby.

"We stay in continuous communication with our LUKOIL colleagues; we are on a first-name basis with them and coordinate our adjustments," continues Andrey Saprykin.

The SCADA system allows the CPC staff to see all key parameters at their neighbours: oil tank levels, oil temperature and density, pump performance and inlet and outlet pressures.

"For example, if the inlet pressure at the Komsomolskaya PS is low, we can ask our colleagues to boost the flow rate. And if the pressure is high, they, in turn, can ask us to increase our intake," explains the shift supervisor.



Pressure changes can also require pigs to be run through the pipeline of the Shore Facilities, the tanks and process equipment to be filled, scheduled maintenance to be done on the metering units, and the whole thing naturally calls for coordination of efforts between CPC and LUKOIL technicians.



"We changed a lot of things in the original design, for instance, the arrangement of the power supply, water supply and ventilation systems, and relocated control cabinets," she says.

What Olga Simashkina contributed to the laboratory at the Komsomolskaya PS is her experience gained when bringing similar projects into operation. And these are quite a few. While with Transneft, Olga put the laboratories at the Skovorodino PS and the Uyar PS into service and helped set up laboratories at the Dzhalinda crude oil delivery and acceptance point and at the Kozmino and Ust-Luga specialized oil seaports.

It is expected that as much as 15 million tons from Russian fields in the area of the Caspian Sea will be received from PJSC LUKOIL Oil Company via metering stations of CPC's Oil Pump Station Komsomolskaya by February 20, 2020.

## DOUBLE CHECKING

This, of course, is not the whole scope of coordination. Representatives from the petroleum company by all means witness the metrological performance control of flowmeters, densimeters, temperature sensors, pressure gauges and viscometers. Besides, each morning a representative of the petroleum company witnesses the oil sampling from the automatic sampler at the Komsomolskaya PS's metering unit and delivery thereof by the CPC staff to the analytical laboratory, where he/she witnesses all tests and document preparation.

The analytical laboratory at the Komsomolskaya PS was put into service in mid-summer 2016. From the ground breaking to accreditation, this construction project was supervised by the current head of the laboratory, Olga Simashkina.





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# STANDARD-SETTING ACCURACY

RUNNING THROUGH THE ENDLESS STEPPES OF ASTRAKHAN OBLAST AND KALMYKIA IS THE 500-KILOMETRE-LONG AREA OF RESPONSIBILITY OF CPC'S CENTRAL REGION. THIS IS WHERE THE STREAM OF KAZAKHSTAN OIL IS JOINED BY RUSSIAN CRUDE PRODUCED OFFSHORE IN THE CASPIAN SEA



"The first oil from Kazakhstan hit the pipeline in the summer of 2001," recalls Oleg Sidorchuk, Lead Oil Metering Engineer, who, along with his colleagues from the Moscow Office, created the Commodity Transport Service of the Central Region literally from scratch and who was involved in staff recruitment. Today, with the PS personnel factored in, this business unit employs 18 people.

## EXPANSION AND MODERNIZATION

That evolution did not happen overnight. To begin with, cross-border crude oil used to be metered with a temporary custody transfer unit. Nor was there an in-house analytical laboratory—oil analysis was outsourced during the first years. But as time went by, both an in-house laboratory was set up and a permanent LACT unit installed at the Astrakhanskaya PS.

The increase in the throughput volume early this decade gradually raised an issue of a new LACT unit, which was eventually built in 2015 within the CPC Expansion Project.

"By that time, all three instrumentation lines were utilized to capacity, and that interfered with maintenance and repairs; we had to fit our activities into scheduled pipeline shutdowns. Now that we have a spare capacity, we can do metering on a line-by-line basis without slowing transmission down," explains Oleg Sidorchuk.

Now the LACT unit at the Astrakhanskaya PS uses ultrasonic flowmeters; these are much better than the previous turbine meters: it used to be that when pigs were run through the pipeline we had to switch metering to a stand-by scheme,

and that, in turn, also necessitated slowing down. The new flowmeters have a special shape that prevents paraffin deposits.

## THE CUSTOMS SERVICE GIVES A GREEN LIGHT

The operations of the Commodity Transport Service of CPC's Central Region are affected by the fact that it processes crude oil arriving from the territory of a neighbouring state. The Consortium employees file monthly reports with the Russian Customs. All equipment affecting the metering of Kazakhstan crude is customs-sealed.

"Before 2010, until a single customs space was set up between the Russian Federation and the Republic of Kazakhstan, the seals were affixed by both Russia and Kazakhstan. And the seals were checked on a quarterly basis by customs officers who came from the neighbouring country. Now we deal with the Russian customs authorities only; we invite officers to witness seal removal, for example, for maintenance on densimeters, flowmeters, etc.," says Sergey Aksyonov, Lead Manager

for Commodity Transport Operations, Central Region.

## IN-PROCESS

In 2016, CPC's Central Region, apart from transit of Kazakhstan petroleum, began taking in crude oil from the Filanovsky offshore field being developed in the Caspian by LUKoil. But that was preceded by retrofitting of equipment and installation of LACT units at the station in 2014.

The conversation is joined by Aleksey Dobrynin, an oil metering engineer, who is just back from the Komsomolskaya PS, where he was involved in state periodic verification of a stationary pipe piston prover (prover) used for metrological performance control (MPC) and verification of flowmeters on LACT instrumentation lines. Verification of the stationary prover and flowmeters on instrumentation lines is carried out every two years and once a year, respectively, and witnessed by a representative of the state regional standardization, metrology and test centre. The stationary prover is verified by matching the readings against the data of a first-class mobile prover brought to the station specifically for this purpose at that time.





"Stationary provers at the Kom-somolskaya PS and Astrakhan-skaya PS used to be verified using large-capacity reference gauging tanks, and that was very inconvenient. The line had to be flushed for 3 to 4 days in a row, and the cubic metres of water that were used for the purpose had to be first trucked to the station and then recycled," says Aleksey Dobrynin.

#### COMMITMENT TO RESULTS

There are some 6 thousand various metrological instruments to ensure that crude oil is transmitted and metered within the Central Region's area of responsibility. This figure includes the relevant equipment of six pump stations (e.g., the Astrakhanskaya PS alone has over one thousand of such measuring instruments), two LACT units and the pipeline infrastructure. Since the equipment is installed at hazardous industrial facilities, it is duly certified and is statutorily subject to regular metrological support.

"Our function monitors everything done by metrology contractors: we check the credentials of their specialists, the compliance with calibration and verification procedures, choice of proper reference standards, etc.," says Andrey Saprykin, Metrology Engineer.

Metrological service of equipment covers both calibration and verification. Verifications record and certify the metrological per-



formance of measurements rather than confirms them. What is important here is that they should not be worse than those specified in the procedures for measuring the target

three times more accurate than the equipment being tested, they too must be replaced on a regular basis. Here's an interesting fact: today the accuracy of pressure gauges on the Consortium's pipeline system is on a par with that of reference standards ten years ago.

We would like to end the story about the Commodity Transport Service of the Central Region with the words of Oleg Sidorchuk, Lead Oil Metering Engineer.

"In doing our job, we work in close coordination with all the other functions of CPC—with mechanics, electricians and many other technicians. And to be sure, all of us together are committed to the same goal."

#### CPC REGULARLY UPGRADES ITS METROLOGICAL FLEET, IMPROVING ITS ACCURACY

formance of measuring instruments. This mostly involves smart instruments, so when they need metrological adjustment it is done using special HART communicators. Calibration, on the other hand, determines the accuracy characteristics

process parameter. The results are documented with a calibration report and a certificate.

CPC regularly upgrades its metrological fleet, improving its accuracy. And because the law requires reference standards to be at least

AUTHOR  
DMITRY KONSTANTINOV

## CPC'S ENVIRONMENTAL PROGRAMME: YEAR'S RESULTS

THE WORLD'S LEADING FUEL AND ENERGY COMPANIES USUALLY REVIEW THEIR ANNUAL RESULTS IN FEBRUARY OF THE FOLLOWING YEAR. THE CASPIAN PIPELINE CONSORTIUM IS NO EXCEPTION





**A**s a good corporate citizen, CPC runs a number of charitable, educational, health and environmental projects within its corporate footprint on the permanent basis. The programme titled "Save the Homeland's Environment" sees its mission as supporting rare and highly valuable wildlife species. But it also has an educational project: it engages schoolchildren and students to teach them unique lessons about their local environment.

#### FISH DAY

The first date on CPC's calendar of paramount environmental initiatives in 2019 was 24 May. On that day, Astrakhan Oblast hosted a review of year four in the implementation of the Save the Homeland's Environment programme. The Consortium's partner in this environmental educational project was the Caspian Fisheries Research Institute (CaspNIRKh), and the subject of study and protection was the Russian sturgeon—an

has an important educational mission, teaching the younger generation to take care of wildlife and instilling environmental awareness in children. So, 30 demo lessons on the theme: "The sturgeon is an ancient fish, dating back to the age of dinosaurs. Let us save it for posterity" were offered at 10 schools in Kharabalinsky, Yenotayevsky, Limansky, Narimanovsky and Krasnoyarsky Districts of Astrakhan Oblast (each of these accommodates CPC's production facilities).

### ON 24 MAY 2019, ASTRAKHAN OBLAST WITNESSED A FINAL PROGRESS REVIEW OF CPC'S SAVE THE HOMELAND'S ENVIRONMENT PROJECT IMPLEMENTED BY CPC JOINTLY WITH CASPNIRKH

ancient, heraldic fish listed in the Red Book. Over the last 30 years the sturgeon population in the Caspian and Black Seas decreased 30 and 60 times, respectively, because of poaching. The only remaining way to preserve the species is to artificially breed and release the young into spawning streams.

It was this event—the release of Russian sturgeon juveniles (aka underyearlings) bred by CaspNIRKh into the Volga—that became the focal point of a ceremony to mark the project completion in 2019. It was attended by representatives of the Government of Astrakhan Oblast, Rosrybolovstvo [Russian Federal Agency for Fisheries], CPC-R, CaspNIRKh, and the winners of the children's creativity competition, their parents and teachers. The ceremony included award presentation to the competition winners and a gala concert.

Apart from the practical objective—to increase the sturgeon population, CPC's Save the Homeland's Environment project in Astrakhan

Having gained new knowledge that was interesting and useful, the schoolchildren unlocked their creativity in the context of the competition to create the best environmental awareness promotion content. The jury named 27 entries the winners in the following categories: "Promotion Team," "Drawing/Poster/Leaflet" and "Functional Art." Their authors not only received valuable prizes from CPC, but were able to take a close look at and even touch the centre of attention—the fairly plump juveniles averaging some 0.5 kg—while visiting the deck of the CaspNIRKh research ship heading for the Volga delta to release the young Russian sturgeons in their habitat. A total of 1700 sturgeons were released in the past year under CPC's charity programme into the breeding areas.

#### COME BACK, WILD DEER

On 10 December 2019, the Stavropol State Agricultural University was receiving dignitaries. The Consortium's management and representatives from the state government

gathered there to review the regional project for protection and restoration of the population of spotted and red deer as a part of CPC's environmental educational programme, Save the Homeland's Environment. The project dramatically increased the total count of deer in the designated conservation areas of Stavropol Krai, which continues to grow.

As of this writing, there are no more than three thousand spotted deer living in their natural habitat—that is, in the wild—worldwide. The total number of red deer in the world generally looks more optimistic; however,

a subspecies of them, marals, are on the brink of extinction. The reason is their velvet antlers, much sought after as the elixir of life from time immemorial.

In 2018, CPC facilitated the resettlement of 11 specimens of spotted deer in the Russky Les [Russian Forest] nature reserves and 24 specimens of red deer in the Buguntinsky reserve and the Lesnaya Dacha [Forest Country House] reserves. In 2019, the Consortium took part in the release of 10 specimens of spotted deer in the Russky Les nature reserve as well as four specimens in

the enclosures of the Directorate for Designated Conservation Areas in Stavropol Krai.

In implementing its environmental initiatives, CPC not only enables the deer population in Stavropol Krai to be restored, but also promotes environmental awareness among the younger generation. For instance, 2019 saw lessons on the subject given to the children at preschools, orphanages and tertiary/higher educational institutions in the region. According to the kids themselves, the classes taught them a lot of useful stuff about biology. The project



ON 17 DECEMBER 2019, CPC'S  
SAVE THE HOMELAND'S  
ENVIRONMENT PROJECT WON  
THE 3RD PLACE IN THE BEST  
PROGRAMME FACILITATING  
THE SUSTAINABLE  
ENVIRONMENTAL  
DEVELOPMENT CATEGORY  
AT THE CORPORATE CHARITY  
LEADERS COMPETITION



IN DECEMBER 2019, STAVROPOL  
KRAI SAW ANOTHER STAGE OF  
CPC'S SAVE THE HOMELAND'S  
ENVIRONMENT ECO  
EDUCATIONAL PROGRAMME  
END WITH A CEREMONY OF  
RELEASING DEER INTO THEIR  
NATURAL HABITAT



also included environment-related creative competitions; their winners and runners-up were presented with awards by Nikolay Gorban, CPC General Director, and Ivan Kovalyov, First Deputy Chairman of the Council of Ministers of Stavropol Krai. As soon as the award ceremony ended, its participants boarded buses and set out for a wildlife sanctuary—to release deer in their habitat.

#### SAIGAS, CRANES AND TULIPS

On 11 December 2019, Elista witnessed a progress review of CPC's environmental educational project, Save the Homeland's Environment, in Kalmykia. Gathered in the Government Hall were top officials, such as Batu Khasikov, Head of the Republic of Kalmykia, Nikolay Mantsayev, acting Minister of Education and Science of ROK, Nikolay Gorban, CPC General Director, and other dignitaries. The meeting's agenda also included

CPC'S SAVE THE HOMELAND'S ENVIRONMENT PROGRAMME IS IMPLEMENTED BY THE COMPANY IN THE REGIONS WHERE THE ROUTE OF THE TENGIZ-NOVOROSSIYSK OIL PIPELINE GOES. THE WILDLIFE PROTECTION AND RESTORATION EFFORTS AS A PART OF THE PROGRAMME HAVE FOCUSED OVER THAT TIME ON RARE STURGEON SPECIES IN ASTRAKHAN OBLAST, SAIGAS, DEMOISELLE CRANES AND RARE SPECIES OF TULIPS IN KALMYKIA AND RED AND SPOTTED DEER IN STAVROPOL KRAI. THE CPC-R CONSORTIUM ANNUALLY ALLOCATES SOME 10 MILLION ROUBLES TO ENVIRONMENTAL PROGRAMMES



Photo by Garya Lidzhiyev

presentation of awards to the winners and runners-up of eco-related creative competitions.

CPC has been running the Save the Homeland's Environment programme in Kalmykia since 2015. It covers all 13 districts of the Republic and its capital. Schoolchildren are offered demo lessons on environmental subjects and creative competitions for the best awareness of the flora and fauna protection material. The teachers are also contestants in a video competition for the best lesson on the preservation of rare animal species. Sponsored by CPC, Kalmykia's schoolchildren joined the Save What's Unique environmental project for the third time last summer. In the summer camp of the Republican Centre for Creative Children, they had a good time and learned a lot of interesting things at the lectures of professional biologists and environmentalists. The Republic's parklands and public amenities hosted subbotniks [voluntary community work days] to plant seedlings.

In 2019, CPC continued its joint activities with the Chyornye Zemli

[Black Lands], a unique state biosphere reserve. This is Russia's only steppe, semidesert and desert reserve, which is situated in Kalmykia and was open in 1990. This area of 120+ thousand ha is home to saigas, demoiselle cranes, white pelicans, spoonbills, red-breasted geese, steppe eagles and other rare animals and birds as well as unique, endemic plants.

Because of the observed decrease in the population of saigas, these contemporaries of mammoths were listed on the Red Book of the Republic of Kalmykia in 2015. With the involvement of the Consortium, the number of saigas in the Chyornye Zemli wildlife sanctuary rose from four thousand in 2015 to seven thousand in 2018. Last year, the Chyornye Zemli reserve committed to upgrading, and the Consortium donated an Uaz-Patriot off-roader to the wildlife sanctuary for its needs.

In the Republic of Kazakhstan, the Consortium has joined forces with the government agencies, NGOs and specialized associations to implement a number of other

environmental projects. A case in point is the Kieli Kiik [Киелі Киік in Kazakh] programme with focus on preservation of the saiga population or the joint initiative with National

Geographic against the shoaling of the Ural River (Jayıq in Kazakh). This and other environmental projects will be covered in the next issue of CPC Panorama.

### THE SAVE THE HOMELAND'S ENVIRONMENT PROGRAMME IN THE REPUBLIC OF KALMYKIA INCLUDES JOINT ACTIVITIES WITH A UNIQUE WILDLIFE SANCTUARY, CHYORNYE ZEMLI



Photo by Garya Lidzhiyev



Photo by Garya Lidzhiyev



AUTHOR  
PAVEL KRETOV

# YOUTH, ENERGY AND EXPERIENCE

MAJOR CONSTRUCTION, REFURBISHMENT  
AND UPGRADING PROJECTS IMPROVE NOT  
ONLY THE PIPELINE SYSTEM. THEY OFFER  
INVALUABLE EXPERIENCE AND A TEST  
FOR PROFESSIONALISM TO PEOPLE, AND  
THE MOST TALENTED AND ENERGETIC OF  
THEM RISE UP TO THE CHALLENGE AND  
LEAD

It was a big responsibility: the station was to be commissioned as the very first of all such facilities. And trailblazers never have it easy.

"Those were standard-design stations, and to be sure, we mentored our colleagues from other PSs that were scheduled to go on stream later. We drew their attention to the most urgent issues," recalls Nikolay Boykov.

For example, in order to prevent voltage drops when mainline motors start, specialists suggested section-alizing and connecting the inputs at substations. Later on, PS-3, along with the other stations, fine-tuned the ball-valve opening system and adjusted the settings of the pressure surge relief system and the ventilation plants.

"Apart from matters directly concerning the oil pumping process, we also thought about the convenience of facility operation," continues Nikolay Boykov. "So, it was suggested that the block-valve control systems be moved from the wells to the surface after installing a special extension lead. This means there

is no need now for the operations personnel to go down for every little thing."

Nor industrial aesthetics were forgotten: to make it easy on the eye for the operations personnel, the iron-work walls in the control room were covered with plasterboard.

In November 2015, PS-3 was put into service, and the efforts to develop and improve it continued. Later on, the mainline pump station received new polymer-coated flooring.

"Subsequent operation of our station showed that it was impractical to use asphalt on subsiding steppe soils in the sections of the PS grounds with traffic of heavy machinery. So, we approached the company's management with an initiative, and it was approved: the flooring at such places was replaced with concrete slabs. Asphalt was kept only in the camp and around the administration and amenity building and the control house," continues Nikolay Boykov.

These days, the station is phasing out the cable lines linking the mainline pumps with the indoor switchgear to replace them with the ones of a larger cross section. The pipeline system is fast scaling up

its transmission rates, and this undoubtedly imposes new demands on the station's power supply systems.

A large scope of measures is planned at the station under the Debottlenecking Programme (DB-NP). The pressure control unit at PS-3 will be dismantled to be replaced with variable-frequency drives for mainline pumps and the fifth tank for the pressure surge relief system.

"The station's employees are on a fortnight rotation system, staying away from home for two weeks at a stretch. To provide a comfortable

last year. After the bleak Moscow weather, we were particularly impressed with the lawns blooming with exotic plants and with swarms of butterflies peacefully hovering over them, as if it's no autumn.

When leaving PS-3, we asked Nikolay Boykov a question:

"What do you think are the most important knowledge and competencies for a PS manager?"

"This job requires in-depth knowledge of equipment, regulatory documentation and good skills of assessing any potential industrial hazards. The station manager must be able to

## KNOWLEDGE OF OIL TRANSPORTATION ENGINEERING CAME IN HANDY FOR THE YOUNG PROFESSIONAL ON THE PS-3 CONSTRUCTION PROJECT

recreational environment for the employees, we worked between shifts to lay lawns and plant trees and shrubs throughout the PS area," says the station manager.

The CPC Panorama correspondents visited the station in late October

coordinate effectively the activities of various contractors, supervise the execution of work orders, etc. In all of the above competencies, CPC provides ongoing employee training and upskilling," emphasizes our interviewee. ●

**N**ikolay Boykov, Manager of PS-3 in Kalmykia, is just 32. He was appointed Station Manager in 2016, which means that he was not yet 30 at the time. He is the youngest chief of an oil transmission facility in the Consortium's Central Region.

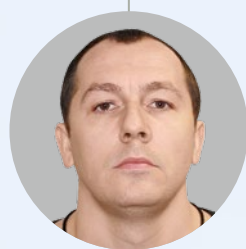
Nikolay joined CPC in 2011, having a degree with distinction from the Astrakhan State Technical University and hands-on experience with a major oil producer. He started as a PS operator, and a short year later he was promoted to operations shift supervisor at the Komsomolskaya Pump Station. Quickly building up his track record on the shop floor, he simultaneously was a distance learning student of the "Oil

Pipeline Design and Operation" speciality at the Samara State Technical University.

His knowledge of oil transportation engineering and the physics of the oil transmission process came in particularly handy for the young professional when new station construction projects got underway in CPC's Central Region within the Tengiz-Novorossiysk oil pipeline Expansion Project. Early in 2014, Nikolay was promoted to PS-3 Deputy manager in Kalmykia.







**AUTHOR**  
ALEKSANDR RYABETS,  
I&A TECHNICIAN, PS-5

## THE JOB I LOVE

I LEARNED ABOUT THE PROFESSION CALLED "I&A (INSTRUMENTATION AND AUTOMATION) SPECIALIST" WHEN I WAS IN HIGH SCHOOL AND ATTENDING A VTC (VOCATIONAL TRAINING CENTRE)

**W**hen I was choosing a profession, I had two choices: petroleum production operator and I&A fitter. After talking it over with my classmates, I decided that being an i-man would be much

more interestingly —you had to both know your way around complex instruments and do soldering ... And I opted for I&A.

It was at school that I first met monitoring and measuring instruments.

It would seem that a pressure gauge is just a dial and a hand: where's the catch? The catch is that it has innards: Bourdon tube, shaft pinion, sector gear, etc., to say nothing of the operating principle and engineering



analysis of transmission gears... Three years of classes, apprenticeship and successful exams followed: I learned the ropes of the profession, and upon finishing school I received a certificate of I&A fitter, second class, to go with my diploma. It was all I needed to get a job.

In the autumn of 2001, I was given a job at a gas booster station, and it was there that I started my professional life. Shortly thereafter I was drafted into the army, but the company kept my job for me while I was doing my military service.

my stuff in a marine context. Thanks to this expertise, I was promoted to boatswain (second-in-command) of the boat one year into my service.

After completing my service, I went back to my old job with the company. In 2004, I enrolled at the Volgograd Petroleum and Gas College, the Faculty of Process and Industrial Automation. It was the next step in my professional growth. In 2008, I graduated with a specialist's degree, 4th class.

I stayed in my job, but instead of just coasting along, I entered the uni-

my belt, I started looking for another job in the oil and gas sector. The fast-growing Caspian Pipeline Consortium was a prominent employer. Back then, CPC was completing its Expansion Project, and its new PSs brought on stream needed specialists, including in my profession. Having outlined my background in my CV, I was kicking my heels waiting for an interview invitation in the hope of landing a new job.

I'll cut to the chase: it was no walk in the park; the interview had two rounds. In the end, I was offered the job of I&A technician. Since 2016, I've worked at two pump stations of the Consortium. First, it was PS-4, where I had my probation and then worked on a rotation basis for a year, and then I was transferred to PS-5, which was not yet on stream at that time. There I had to be closely involved in pre-commissioning activities. The launch of PS-5 was a major milestone for CPC and a memorable event for all those involved in the creation of this state-of-the-art facility.

My job with a major international oil transmission company and eighteen years of overall service in the oil and gas industry is, to date, an enormous achievement for me, a result of commitment to my beloved profession and giving my all to it every day.

## A JOB WITH A MAJOR INTERNATIONAL OIL TRANSMISSION COMPANY IS THE PROFESSIONAL ACHIEVEMENT!

I served with the elite coast guard forces. On a coast guard boat, my profession was in high demand: marine navigation uses a lot of radio navigation instruments, from compasses to the most basic sounding leads, which you needed to know how to use and maintain. So the boot camp was an opportunity for me to review

versity in the specialty "Automated Information-Processing and Control Systems." In 2013, I successfully defended my graduation thesis, gaining the status of a university-educated professional.

After working for the company until 2015, with 14 years of experience and the highest, 6th class under

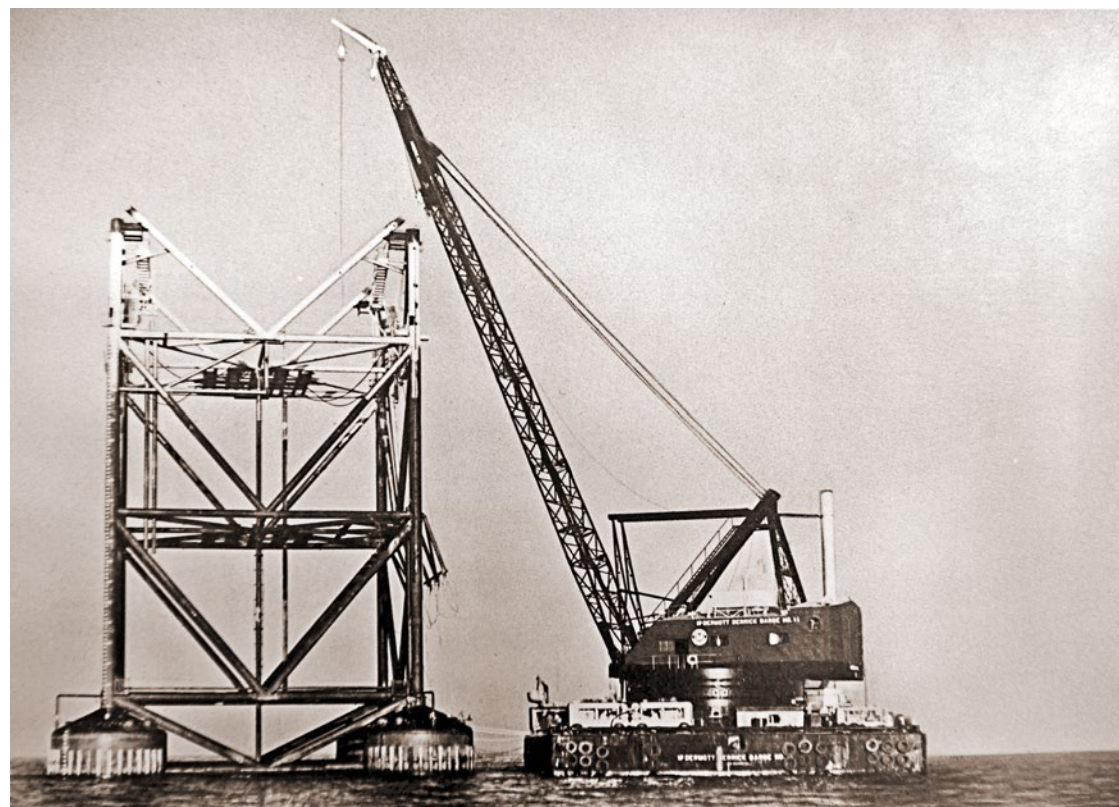




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# CREATING THE FUTURE

BACK IN 1989, IGOR VINOGRADOV, OUR COLLEAGUE FROM NOVOROSIYSK, WAS GIVEN AN INTERESTING BOOK, WHICH HE HAS KEPT SAFE SINCE THEN



**A** flashback. Igor Vinogradov, the then employee of Novorossiysk Shipping Company, was invited to a Chevron conference.

"Back then, the relationship between the two countries was booming, and negotiations of a potential pipeline system from Tengiz towards Novorossiysk were in progress," recalls our colleague.

It was just when one of the largest US oil companies marked its 110th anniversary, and guests from the USA gave Igor Vinogradov an anniversary publication of the corporation's history: 1879–1979. One Hundred Years Helping to Create the Future. The book was published 10 years earlier, to mark Chevron's 100th anniversary, and nowadays, when the corporation's has been around for over 140 years, it is certainly a rare book to find.

## AT THE FOREFRONT OF THE TECHNOLOGY AGE

It is noteworthy that in 1879, the year Chevron was founded, Thomas Edison invented the electric bulb, and Karl Benz the internal combustion engine. A new, technological era

was ushered in. Growing fast, the oil company emerged as a trailblazer rather than just a player on the new market. That became a cornerstone of Chevron's business philosophy and the reason for the corporation's spectacular success.

The book says that Chevron's earliest predecessor was Pacific Coast Oil Company founded in San Francisco in 1879. Oil products it made

out in Alaska in the mid-90s of the 19th century, it was Standard Oil kerosene that the adventurers used for warming up and cooking. In the early 20th century, Pacific Coast and Iowa Standard merged into a company called Standard Oil Company (California), or Socal for short, which became the leading kerosene manufacturer.

Socal's product line was not limited to oil products only. Having im-

network of filling stations at a furious pace. Comfort of car travellers was given serious consideration: the filling stations had ventilation, drinking fountains and WCs.

Soon, Socal expanded into the aircraft fuel market. Socal's product ensured that aircraft engines ran smoothly even at a low oxygen content and low temperatures, so it was hardly surprising that it was this company's kerosene that was used for the first solo nonstop transatlantic flight. By the way, here is an interesting fact: long before regular passenger air service was launched, the company started writing the names of towns and cities on the roofs of its tank farms, which was a great help in navigation to pilots crosschecking the route in flight with railway tracks.

In April 1917, the USA joined World War I. But long before the first US boots on European soil, America started supplying the fuels and lubricants to its allies. Ships, trucks, locomotives and tanks needed fuel, 80 % of which was supplied by the US oil companies. As Lord Curzon famously put it, the allies "floated to victory on a wave of oil." However,

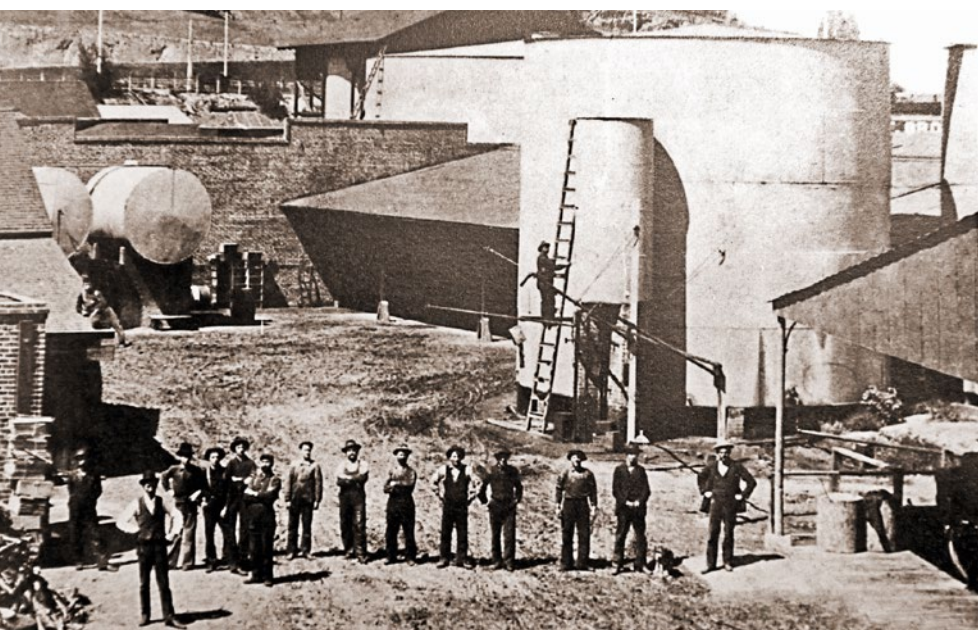


## TRAILBLAZING IS THE CORNERSTONE OF CHEVRON'S BUSINESS PHILOSOPHY

were marketed by the members of the Standard Oil trust. This enterprise built by John Rockefeller started in a San Francisco office with staff of just three, but in a few short years it acquired many other companies and opened its own offices in California, Oregon and Washington. Soon, Standard Oil was selling oil products in Hawaii. When the gold rush broke

proved the formula for bituminous asphalt emulsion, the company supplied it not only in the USA, but also to several dozen other countries. The extension of the asphalt road network and the resulting increase in the motor vehicle traffic gave the oil producers a new challenge, naturally enough, and Standard Oil Company (California) started to grow its





## CHEVRON'S WEALTH OF EXPERIENCE CAME IN HANDY IN DEVELOPING CPC'S CRUDE TRANSMISSION INFRASTRUCTURE



this literally dried up the US oil tank farms, and the US companies had to bend over backwards to restore the stocks. The specialists of Standard Oil Company (California) gave their all to exploration and kept discovering new oil fields.

In the decades that followed, the oil company expanded beyond the USA, operating in Canada, on Sumatra, New Guinea, in Bahrain and in Saudi Arabia. To transmit crude oil from the latter, the unparalleled 1720-kilometre Trans-Arabian Oil Pipeline was built from the Persian Gulf coast to the Mediterranean Sea in the harsh environment and climate in 1950. By the 1970s, Chevron had reached Africa, operating in Chad, Sudan, Egypt and Gabon as well as at the North Sea in Europe. When implementing the Ninian project in the North Sea, its participants, in May 1978, built one of the world's largest offshore platforms, which was capable of withstanding even 30-metre waves. Weighing 600 thousand tonnes, the platform is nearly 240 m high. Incidentally, that project can be said to have provided a blueprint for the crude oil transmission infrastructure of the Caspian Pipeline Consortium too; after all, the Ninian project was where began the oil and gas career of Andrew McGrahan, now Chairman of the CPC-R Board of Directors.

# PETROLEUM: THE ORIGIN

OUR CIVILIZATION TOOK A TECHNOLOGICAL  
TURN MOSTLY THANKS TO PETROLEUM



**P**etroleum is comprised of thousand substances, of which about 80 to 90 % are hydrocarbon liquids.

Petroleum occurs at a depth of several dozen metres to 5–6 km. Petroleum reservoirs most often occur at a depth of 1 to 3 km. According to the prevailing theory, petroleum formed from the remains of ancient living organisms and algae; the process of petroleum formation takes 50 to 350 million years.

Archaeological evidence shows that humankind has been familiar with petroleum since the earliest times. About 6000 years BC, it was used as a binding material in construction. In Ancient Egypt, petroleum was used for embalming purposes.

Petroleum became a major commodity after kerosene was recovered from it. Before the advent of the internal combustion engine, petroleum was mostly used to derive kerosene only, all other by-products being discarded.

The world's first petroleum well was sunk in 1846 outside Baku, which was then a part of the Russian Empire.

A pipeline as a means for transmitting petroleum was suggested by Dmitry Mendeleyev in 1863. Russia's first oil pipeline was built in 1878 in the vicinity of Baku.

The world's first oil refinery was built in 1856 by chemist and pharmacist Ignacy Łukasiewicz, who also invented the kerosene lamp and created the kerosene production method by crude oil distillation. Petrol and other fuels were sold by pharmacists at that time.

The arrival of kerosene as a petrochemical product saved some species of whales from extinction. Oil lamps earlier used whale oil obtained from the blubbers of whales, as fuel.



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# LESSONS OF THE NORTHERN LATITUDES

THE AUGUST ISSUE OF THE MAGAZINE TOLD THE STORY OF THE TRANS-ALASKA OIL PIPELINE, WHICH WAS BUILT IN THE HARSH ENVIRONMENTAL AND CLIMATIC CONDITIONS. IN AND OF ITSELF, HOWEVER, THE PIPELINE WAS NOT UNIQUE—IT HAD NO FEWER THAN TWO PREDECESSORS IN ALASKA



lay the pipes on the ground without burying them. The last seam was welded in mid-February 1944.

The mainline connected the field outside the town of Norman Wells in the Northwest Territories, Canada, with the oil refinery in Whitehorse, from where fuels and lubricants were then transmitted via oil product pipelines to Fairbanks and Skagway in Alaska as well as to Watson Lake in Canada. In such a form, the pipeline system functioned until April 1945.

Overall, this pipeline did a great job. That is why, when the USA needed to ramp up fuel supplies to Alaska in the early 1950s and had to choose between rail and pipeline transport, they opted for the latter. It was decided to build a 1000-kilometre pipeline from Haines to Fairbanks. Haines was chosen as the starting point for the mainline be-



connected to Fairbanks by a road built as far back as during World War II—this made pipeline construction much simpler and faster.

Preparation of the pipeline route began in December 1953, during the polar night. Heavy machinery was widely used; thick woods and shrubbery were crushed using gigantic, 12-tonne metal spheres filled with water. Three crews were deployed on the route, each advanced at 1.5 km per day. However, in February 1954, progress slowed down because of the freezing weather. Only one building crew succeeded in keeping the machinery running. The machines were heated using kerosene burners; the engine

compartments were covered with tarpaulin.

Welding works on the pipeline started in April 1954. Nearly the entire length of the pipeline was

The second one, at the 150th km from Fairbanks, was secured against accidental runover by heavy vehicles. Outside the port of Haines, the builders faced hard solid rocks; around Fairbanks, permafrost.

At the same time, designed at the highest points along the route, five pump stations were being built. The greatest challenge was the PS in Donjek on unstable permafrost soils.

Installation of the Haines–Fairbanks pipeline was completed in October 1955, i.e., 22 months after the construction start; however, it was not brought on stream right away. Unforeseen issues cropped up after successful hydrostatic testing. In November, when there was still some water in the mainline, a cold wave hit, and numerous ice plugs blocked the pipeline. The maintenance per-

THE BUILDERS OF THE  
HAINES–FAIRBANKS OIL  
PIPELINE ADVANCED AT

1.5  
KM PER DAY

on the surface. Only two sections were the exception. The first one, at the 60th km from the port of Haines, was buried to secure it against landslides and rockfalls.

sonnel walked the line and tried to locate such spots by ear hammering on the pipeline. The pipes had to be cut, de-iced and welded back again at 28 places.

The first pipeline construction project started in the peninsula when World War II was in full swing. The USA had to do it because of the emerging situation in the Pacific theatre of operations: the Japanese landed on the Aleutian Islands, thus threatening Alaska as well. But how would one protect the remote peninsula and improve its defence capabilities? The US supreme command decided to build roads, for fast transfer of troops, and to run a pipeline from Canada, for fuel supply to the Air Force bases.

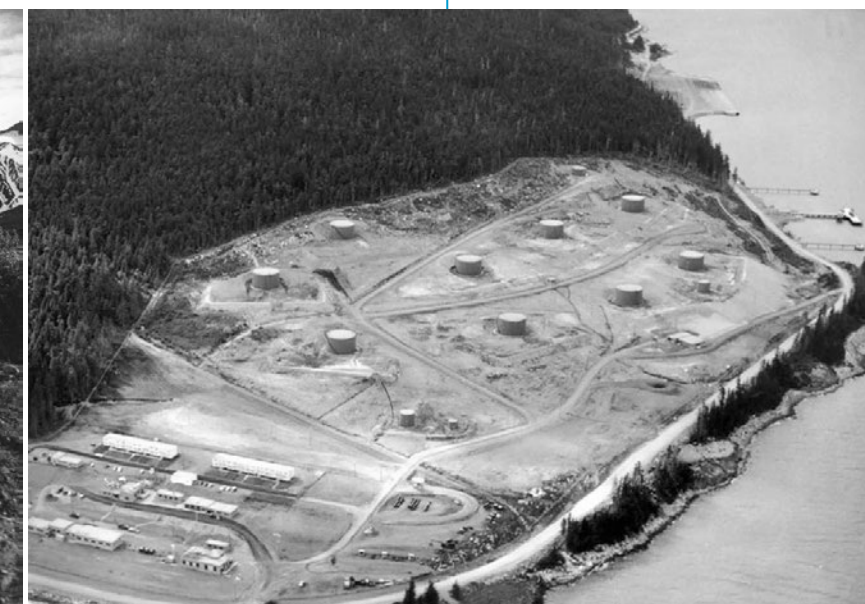
The first pipes of the linear portion were laid in the summer of 1943. The pipeline system, which

totalled over 2.5 thousand km in length, was built by 10 thousand civilian and 5 thousand military specialists. Most of the route ran through rough terrain; bulldozers

THE NORMAN WELLS-WHITEHORSE  
PIPELINE STAYED ON STREAM UNTIL  
APRIL 1945

had to cut through thick woods and got stuck in swamps. Given that Canadian crude stayed fluid even in severe frosts, it was decided to

cause it had an ice-free deep-water port equipped with all necessary hoisting equipment. Another important factor was that Haines was





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# THINK HAPPY THOUGHTS ONLY!..

LET EVERYBODY HAVE AS MANY EVENTS,  
MEMORABLE EXPERIENCES AND SMALL  
PLEASURES AS POSSIBLE!

## COMING FROM MY CHILDHOOD

I've liked to travel since I was a child. In summer, when visiting with my Gran, I tried to explore the surrounding grounds on the Q.T. An assault rifle on my shoulder, a handgun in my hand, and Granddad's military belt with a star buckle holding up my trousers, I was heading, as bold as brass, across the kitchen garden to parts unknown, "over the hills and far away," as Gran would put it. Having negotiated wild grasses as tall as shrubbery, making my head spin with their smell, I would emerge in front of prickly thickets, which seemed impenetrable for two reasons: the thorns caught my clothes and body, and there was also a multitude of crawling snails—how could anybody pass them over! After setting up a "great race" between the snails and a beetle and stuffed some wildlife into my pockets, I went on... And finally I saw a meadow, bulrush and a river! Back then it was a universe of my imagination and discoveries. Even when punished by Gran and made

to stand in the corner, in my mind's eye I was planning my next journey. I broadened my horizons, naturally enough, at school. I often thought about journeys to other countries. I imagined myself standing next to the great pyramids and the Sphinx guarding them. I wanted to walk down the streets of Germany, which caused so much grief to our country in the forties, and say

dreaming of travelling. My wife supported my enthusiasm. And it is now our family tradition to holiday in a faraway country. I agree with Gran: "Don't think about bad things, sweetie; dream of something good. Your thoughts shape your life!"

...And so we are here, on the Western Bank of Nile. Egypt. I am amazed by the grandeur of the pyramids of

## IT IS NOW OUR FAMILY TRADITION TO HOLIDAY IN A FARAWAY COUNTRY

hello to the Crimean khan, who was the reason I failed my test. And there were many more exciting destinations swirling around in my head!

## DREAMS COME TRUE

Years flew by... University, job, children—I was a regular Joe. But I kept

Giza. And here is the famous pyramid of Cheops, 146.6 m high. These places are linked to the kingdom of the dead. To be sure, I now have a stone from the land of pharaohs in my collection.

Austria. Vienna. A babel of tourists. A sightseeing tour of the city. And

all of sudden... a monument to the Soviet soldiers died when liberating Vienna from the Nazis, sitting at the very heart of Vienna. This, incidentally, is the only monument to a soldier with a gilded helmet and shield. You can hardly fail to feel proud of our great-grandfathers who fell and were buried in foreign parts.

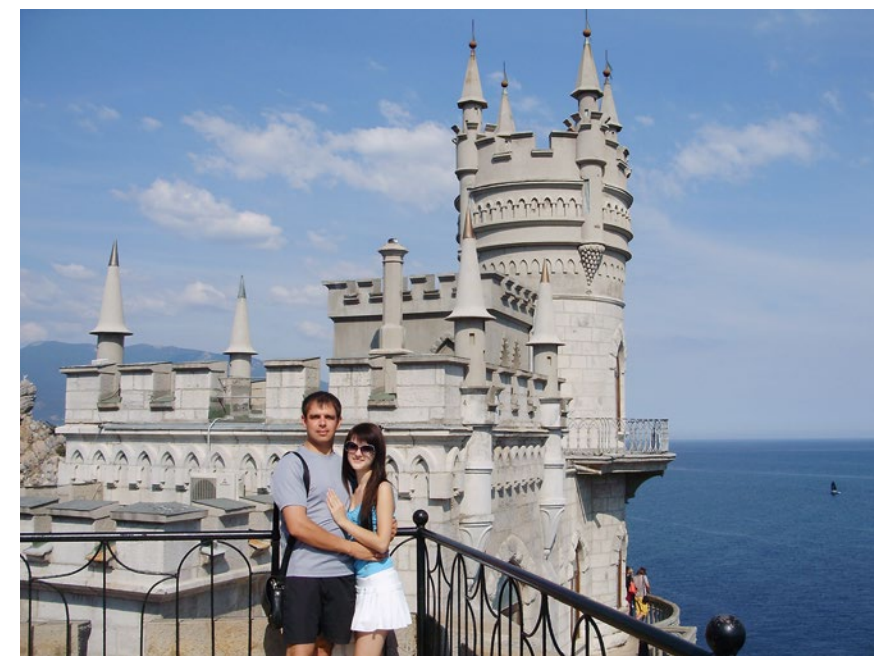
And now we are on the sunlit coast of the Crimea, on our way to see the Khan's Palace, Hansaray, in Bakhchysarai and to "say hello" to the khan. Tall, oriental-style towers; Persian carpets and rugs; basements with Greek amphoras, as tall as a man, for wine, grain and oil. Accompanied by strands of oriental music, the guide is quietly telling the legend of a Circassian beauty sold for the khan's harem. Unwilling to become his concubine, she jumped out from the tallest tower of the palace. The young Cherkess woman won the khan's heart; he blamed himself for her death and ordered a fountain to be built in the palace, called "The Fountain of Tears." Aleksandr Pushkin, who once visited the Fountain of Bakhchysarai, was captivated by this story. He picked a white rose and a red rose in the garden and put them in the bowl of the fountain. Whatever the season, the roses are still there, thanks to the staff and the museum—they grow these flowers.

A year flies by quickly. And now we are in Israel. Jerusalem. The Church of the Holy Sepulchre, where the Holy Fire descends every year. Small Palestine. Surrounded by the Muslim world, Bethlehem is the custodian of the Church of the Nativity.

During the summer season, our family tries to holiday at resorts on the Black Sea coast—CPC promotes treatment at the resorts and pays some of the cost of our holidays.

## AMONG FRIENDS

Telling my friends about faraway countries, I often recall various anecdotes. Collecting anecdotes is now my second hobby. My first enthusiasm is hunting and fishing! It is popularly believed that the time spent hunting and fishing





does not contribute to ageing. What man wouldn't feel immensely satisfied when walking through a winter forest in hunting gear in the hope of good game. It is nice to push your boat from the shore and breathe in the freshness of summer fishing early in the morning at sunrise. I hunted at Lake Lysy Liman in Stavropol Krai, at Beysugsky Liman in Kuban and in the forests of Saratov Oblast. I fished on the Volga river, Kirpitsky Liman, the Manych river...

Every fishing or hunting trip ends with a picnic with friends. We make a fire, roast meat or cook our famous fish soup. And to make the waiting easier, I "take out" my second hobby. I like it when my friends laugh—laughing makes people younger and extends their lives!

"Well, let's have it, Seryoga!" And I start going through my stock of amusing life stories...

"One day I was in Egypt. The guide warned the tourists about Egyptian fraudsters who con naive holiday-makers. But our people have to make their own mistakes! Not ten minutes later, a Russian woman 'took the bait.' 'Photo on camel, one dollar!' shouted an Egyptian, drumming up business.

The girl gives him her camera to take a photo and mounts the camel. In response to a command from its owner, the camel rises up to its gigantic height. The ship of the desert indeed! The photo is taken. Laughing, the girl waits for the camel to drop to its knees so that she can dismount, but its owner wants another five dollars for that. It is a high drop. We feel for her, but the camel only obeys its master. She had to cough up! But this is not the end of her troubles: the Egyptian refused to give the camera back to the girl unless she forked out another five dollars..."

My friends laugh, and I continue, while stirring the fish soup in the kazan: "We come to the Dead Sea. Approaching the water, the guide gives us a safety briefing: 'Be careful when getting in the water, don't let it get into your eyes or nose because it is very salty and...' And it is at this moment that we hear the shout of a man who takes a running jump into the water... Common silence for a few seconds, and then an angry roar of the diver! The guide continues quietly: '...you can end up like him.' The bloke took a long time in the shower on the beach."



The soup with a huge carp was finger-lickin' good! Everybody complimented me, but were confused: this is a hunting trip, we have no fishing rods, but we are eating fish! Only my friend Viktor was quiet, eating without saying a word. He of all people knew how the unlucky carp ended up in the kazan. So I had to spill the beans...

"You all went shooting ducks on the eastern side of the liman, while I and Viktor decided to boat over to the western shore. There are bulrushes there; it's a good hiding place. You'd scare up the ducks, and we'd shoot them. And this is the way it happened: the gaggles of ducks you scared up descended on us! It was a good hunt; we brought down enough for a roast. But on our way back, Viktor's oar caught on a net. He raised the entangled oar and saw an enormous carp there! 'Let it go,' I say. 'This is not our net; keep your nose out of it!' But he took the bit in his teeth. He was pulling the whale of a fish into the boat. The last tug was so strong that the carp dropped



into the boat, but—oh, the horror!—its tail hit Viktor's shotgun, which flipped overboard and sank in the blink of an eye... We had our hearts in our mouths."

The listeners turned as one to Viktor, asking him: "Is it true?!" "And what happened next?" "And then..." I went on. "To be sure, autumn water is not July's, but there was no choice. Viktor got undressed and plunged in. He found his gun and tried to get back into the boat, but it was easier said than done! It is an inflatable—it gives way, and water rushes in. Several attempts later, to avoid sinking the boat, the stuff and me with the carp, Viktor had to swim behind the boat as far as the shore, as a kind of guard of honour!"

There was no end of laughter!.. And Viktor laughed too. I told many more gags to the guys that day, who nearly split their sides laughing and kept asking me: "How do you come up with such yarns?!" And I tell them: "I took lessons from no lesser man than the comedian Aleksandr Ponomarenko himself!" And I proudly show them

a selfie with Ponomarenko on my phone. I stayed at a sanatorium with the stand-up last summer; and the photo came in handy now! Everybody is having a good time, and I am happy: so I've given you, my friends, a few extra days of life... Tomorrow

pleasure. Their reasonings and prattle delight me. They are quick on the uptake. I can see they are copying me: "monkey see, monkey do." This year, we took Seryozha along when we went to the mountains. His first steps on skis, assisted by an instruc-

## MY SONS ARE QUICK ON THE UPTAKE; THEY TRY AND COPY ME

it's back to the grindstone and family problems that need solving. We help each other with advice and action.

### SONS

I spend my free time with my children. We have two. Roma is three, Seryozha six. Spending time with them, whether on a walk in the woods, at the zoo, splashing around in the river, downhill sledging or doing any household chores together, is pure

tor, have been recorded and are preserved in the family photo album. Sometimes, my wife, Oksana, and I look through the photos of our kids; how we wish for them to be happy when they grow up! I now understand full well the words that I took down when still a teenager: "One day I will understand, sure enough, but, pray God, not too late: you take nothing from this life, but you can leave something behind..." ●





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## IN THE STATE OF FLOW

I WAS BORN AND RAISED IN THE CITY OF ATYRAU, AND KAZAKH NATIONAL TRADITIONS WERE INSTILLED IN ME BY MY PARENTS



### NAURYZ

Every year on 22 March, our entire family celebrates Nauryz [also Nowruz], "the birth of spring". This holiday of springtime renewal, love, fertility and friendship came to us from Persia, where it originated more than 3 thousand years ago. In this day and age, Nauryz is also celebrated by the peoples of the Middle East, Turkey, Iraq, Afghanistan and Central Asia.

On this day, we meet with our relatives at the house of our grandfather, the most senior and respected member of our family. We all wear national clothes; a celebratory atmosphere prevails. The young people sing songs, dance, have fun and play national games. Everyone has their hands full: the women are cooking traditional dishes for dastarkhan [festive board]; the older people are preparing meat for beshbarmak—a must for any celebration. The word beshbarmak translates as "five fingers": nomads have preferred eating with their hands since time immemorial.

And so we all sit down at our dastarkhan, start tasting the treats and desserts that have been prepared, washing them down with traditional drinks. And without wasting any time, we take turns to stand up and wish good things to each other. If we fell out with any of our relatives or hurt anybody during the year, we go to that person, ask their forgiveness and hug them, leaving all grudges and

is the most senior and respected among the attendees.

Personally, I get great vibes from the Nauryz festival! If you were in my shoes, I'm sure you'd feel the same emotions, because all of your near and dear ones are next to you; everybody is in high spirits and happy. I don't think you need anything else to be happy.

### A STORY WITH A SEQUEL

I try and put my free time to the best use possible. I play the guitar, billiards, do sports and go on a journey once a year if I can.

I took up playing guitar during my junior year. I was motivated to learn to play the instrument by a girl next door. I wanted to attract her attention by playing and singing. This is a story as old as the hills; many have probably experienced something like this as teenagers. I was in a fix: there was no one at the time I could turn to learn to play, nor did I have a guitar.

Summer came and went; school started; and I went on daydreaming. One day the principal presented our new chemistry teacher. The young man was called Yerzhan Zhiyenbay; he was very reserved and mostly taciturn. One day during a break, Yerzhan-agay entered our classroom (the word agay translates as "patron/teacher") and announced that he wanted to offer a free guitar class

### NAURYZ IS A HOLIDAY OF SPRINGTIME RENEWAL, LOVE, FERTILITY AND FRIENDSHIP

bitterness behind in the past year.

The floor is then taken by the senior aksakal. He bestows bata. The word bata means intent, wishes, blessing. If there are no aksakals in attendance, then this honour is given to grandmothers. Should there be no grandmothers either, then the blessing must be given by whoever

during off-school hours. I was on cloud nine and enrolled on the spot.

When I told my father about my ambition, he supported me, as he always did, took me to a music shop and bought me a guitar. Without wasting any time, I began to attend the class of Yerzhan-agay. I'll never forget his words at the first lesson:



"The guitar is an instrument that always has room for improvement of your playing."

That was 10 years ago, and I still keep on improving my skills and enjoying myself in the process. I played at concerts and student events and have a wealth of positive, memorable experiences. But most importantly, I found a hobby I can enjoy for the rest of my life.

By the way, I forgot to tell you the end of the story that started it all. It was about a teenage innocent crush on a girl. Having learned to play the guitar, I went to the girl's door, invited her to come outside and sang a song by Zveri [band, the name means "The Animals"], the songs of which topped the charts at that time. The girl was ecstatic! We remained friends until we finished school. And I always associate the guitar with good times and memorable events.

### OPEN TO ALL

My other hobby is billiards. This is a very exciting game! Carom, Russian billiards, Free Pyramid, Combination Pyramid and pool are some of





its varieties. Ex-Soviet people tend to prefer Russian billiards and Free Pyramid. Billiards is a good reason for friends, who are always busy, to gather around a billiard table. When I'm playing this game, I'm in flow. I started to use the words "in the flow" after reading a book entitled Flow: The Psychology of Optimal Experience by Mihály Csíkszentmihályi, a well-known psychologist and professor in the USA.

When researching creative people, the professor discovered that they are happy because they are in the state called flow when they have their eureka moments. The author builds a theory that details the idea of flow in his book. It can be experienced by absolutely anyone, and you, too, probably got in flow more than once in your life. It is a state of complete identification with what are you doing, when you forget about time and even yourself, when you get a second wind rather than feel tired. And this is how I, when playing billiards, forget about time, minutiae, everyday cares and unresolved issues.

I also enjoy evening walks in the open air and travelling. So far, I've only been to several cities in Russia and Kazakhstan with friends; new destinations are calling out to us!

I hope I haven't bored you with stories about my hobbies, my dear colleagues. I wish you happiness and inexhaustible inspiration for your enthusiasms! ●

#### AUTHOR

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## A PERFECT COLLEAGUE

WE SPEND MOST OF OUR TIME AT WORK,  
AND COLLEAGUES BECOME A SECOND  
FAMILY FOR US

**A**ny group or team has amazing people who contribute some of their individuality to the workplace atmosphere and the mood of others! I will be talking about a very attractive and bright person. The meanings of the word "man" hardly need any explanation, but "imposing," borrowed by Russian from the French word "imposant," means "interesting, charismatic, elegant, impressive."

Our colleague is a good listener and conversationalist, full of folk wisdom and proper life hacks. He has good manners and knows the rules of etiquette. He has a regal posture and dignified manner and radiates self-confidence. It is pure pleasure to talk to such a person.

His work reflects his lateral thinking and quick reflexes in emergencies, which does not go unnoticed by the management, who appreciate such an employee and listen to his opinion. Kindness is inherent to him. He will never leave a person in the lurch, whatever his own circumstances. He values justice above all else. He likes to take the weak and the downtrodden under his wing. Sometimes he assumes responsibility for the well-being of his colleagues

and does everything to help them in a difficult situation.

This person has the unique ability to cheer people up. How else can you explain the loud, rippling



laughter that is heard from time to time around our office! His broad, infectious smile activates all his face muscles and leaves no one unaffected; after all, it is impossible not to smile back. Thus, although possibly unaware of it himself, our colleague promotes face fitness and makes the entire team younger. His naturally imposing stature is enhanced by a look that smites you even at a distance.

Such a man is impossible to miss in a crowd. He commands attention with just a gesture or a turn of his head.

He has a perpetuum mobile hidden inside him, which keeps generating creative ideas. Repose is not his thing; he is much more inspired by a conversation with others. He loves highbrow discussions, so he makes friends with knowledgeable people, who can teach him something interesting.

When talking to his colleagues, he can pick up bad vibes, and when the storm is about to break, he, as a good lightning rod, would catch any flashes and lightnings, and our office enjoys clear skies once again! ●



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# THE WAY OF THE WARRIOR

BY TRAINING, I AM PHYSICIST; BY PROFESSION, PROGRAMMER. I IDENTIFIED MY GOALS IN LIFE WHEN STILL A TEENAGER, BUT I HAD TO SPEND SOME TIME DEALING WITH THE NECESSITIES OF LIFE. I WANT TO, CAN AND MUST LIVE MY LIFE LIKE A SWAN, CRAYFISH AND PIKE



## SOUL-SEARCHING

Some 20 years ago I woke up to the fact that I had achieved a lot, but I still felt empty inside. How do you come to peace with yourself and learn to manage time? It was then that I discovered for myself the world of Carlos Castaneda, learned about his Way of the Warrior. It turned out to be something close to my heart and easy to understand. Further spiritual searches led me to the Code of the Samurai (Bushidō) and the Zen practice of concentration. That was how I found my new way. This is no hype; many of us are "warriors" in our lives, and for many people it comes naturally, without any navel-gazing... By and large, the Way of the Warrior is the ability to stay the course and enjoy life. As Japanese poet Bashō put it: "The Way of the Sword is forged in an ordinary cabin."

Self-control and goodwill, willingness to do what is right and to sacrifice oneself, total commitment and joy of the process, self-discipline and will, the ability to rule your emotions and body, the notion of honour—oriental martial arts help you develop these qualities. The most radical and "aristocratic" of them is sword fencing. A duel does not last long and is fought with total self-control and respect for the opponent. The same goes for true karate; it just takes a whole lot more effort.

## RETURN TO ONESELF

The main reason for my taking up fencing with a Japanese sword (katana) was my striving for mindfulness. Nobody knows what it is until they experience it. In a state of mindfulness you achieve an insight into life and yourself, deep intuition and total self-awareness.

We usually see the world through the thick blinds of speculation. When we focus on a thing, our brain tries to pull up its name from the memory, all thoughts, images and emotions associated with it—in other words, it recalls. If the thing is totally new, the brain tries to compare it with similar things—in other words, it memorizes



it. We do not just enjoy the beauty of a flower when we are looking at it; a multitude of thoughts, images and emotions are rushing through

we are now or make our usual commute on a weekend. In other words, most people kind of sleep even when they are awake... Mindfulness is the

BY AND LARGE, THE WAY OF THE WARRIOR IS THE ABILITY TO STAY THE COURSE AND ENJOY LIFE

our heads in that time. While our attention is focused almost exclusively on watching the "film inside," our body is on autopilot. That is why we sometimes forget how we got where

state of awareness: you are aware of what it is you are doing; if you are observing, then that is all you are doing; if you are thinking, then you do not let your thoughts go wool-gathering.





This can open up an inexhaustible source of inner knowledge for you.

#### MEDITATION

In Moscow, I used to train at the dojo 4 to 6 times a week and did workouts at home. When training at home, I would accidentally cut the ceilings or chandeliers with my sword, and sometimes it would catch on my leg, arm or head... Do a number of suwari kata iaijutsu movements in the morning instead of exercises, and you sweat like a pig. This is the technique of drawing your sword and attacking your opponent as quick as lightning. It is hard and painful, unnatural for Russians traditions and physiology. The technique must be honed to perfection. You leap and strike when you pause suspended in mid-air. This is a levered technique that uses every last drop of energy.

The important thing in fencing is not the ability to strike down your opponents, but your ability to concentrate, be self-aware and use the mindfulness techniques. If you let your thoughts wander off even for a moment during a fight, you'll be struck right away. This is called "filling the void with fullness." That is why fencing is very useful for training yourself to be alert, finding your inner centre and achieving "inner silence" as taught by Castaneda.

If there are practitioners of kobudō or kendo among my colleagues or people who want to take them up, I recommend visiting the Novorossiysk dojo; you can look it up online. Dzogchen teachings say that you never learn anything, but only recall what you already know. In summer, it is nice to train in the mountains, by the sea—here, nature itself will help you remember that you are a great fencer.

#### IN SEARCH OF TRUTH

I read a lot—history, linguistics, psychology, esotericism, philosophy... But what we find in books is, first of all, the truth for the author. This is not necessarily the truth for me. There can be no authority when you

are trying to understand your life and psyche.

Even you should not be an authority for yourself—after all, what used to be true for you yesterday may no longer be true today. You need to know how to anchor yourself in the here and now—only then will you see the world without contaminating it with your own nature and mood. And you'll see everything as it is, gaining real-world experience.

#### UNDERGROUND...

When a student, I was big on spelunking. There is a cave in Kamskoye Ustye, where a tunnel gradually shrinks and you are crawling into infinity, into darkness; you feel increasing pressure on all sides, and you are even losing your footwear... At some point you realize that you can't back up, that what lies ahead is unknown and you are panicking because of claustrophobia. Fortunately, the tunnel led to a spacious cave, although it did end in a drop several metres deep...

I once went underground alone at night, without even switching on my torch. And I understood that it was all about self-control and engagement. Relaxing, I started to feel

the better. This is like crucifixion and resurrection, like when the Universe passes through a singularity...

#### ...AND IN THE SKY

Since my student days, I've dreamt about parachuting, about testing myself and experiencing new sensations, but was not allowed because of my eyesight. In our market economy, it is now possible. Pay 450 rubles (that was in 2002; the prices have certainly changed since then) and jump with a round dome from 800 m. Pay 800 bucks and take AFF (Accelerated Free Fall from a height of 4500 m) training. And so, one fine day, I took the plunge and joined the AFF programme to check and reinforce mental combat techniques in such an extreme sport. During my 8th jump, I let my enthusiasm run away with me (I started braking hard to hit the circle). As a result, I "took it easy" on a wardrobe door with great benefit for my soul for two months...

When you break a limb or suffer from some ache—this is no accident; it is a hint. By the way, you can look up the classification of causes of diseases and injuries in a book entitled *Diagnostics of Karma* by Sergey Lazarev.

YOU NEED TO KNOW HOW TO ANCHOR  
YOURSELF IN THE HERE AND NOW –  
ONLY THEN WILL YOU SEE THE WORLD  
WITHOUT CONTAMINATING IT WITH YOUR  
OWN NATURE AND MOOD

at home on the sharp stones of the narrow tunnel and even managed to lie down and rest.

Generally speaking, pain makes it possible to understand many things in life. It points to the biggest problem, which, once sorted out, you can forget about and get new invaluable knowledge... Sometimes, you have to go through great pain in order to change the situation dramatically for

One year after my injury, I took up parachuting again. 50 seconds of flying at 200 kmph relieves you of any stress. Give it a try!

#### IN LIEU OF EPILOGUE

Hesiod said: "A man who puts off work is always at hand-grips with ruin." This is the root of problems when you decided to do something and didn't. If you don't know what



to do, do nothing; pay attention to the signs, and things will take care of themselves. And if you know, but aren't sure, it's better to take action, even if it turns out to be a mistake.

You may never achieve mindfulness, but you need to strive for it all the same... When I fenced, all manner of thoughts kept going through my head, and a whirlwind of feelings through my heart. Yet I had my work cut out for me, and that was great! ●





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## RULED BY THE MUSES

WHAT BECOMES OF OUR LIFE IF IT IS DEPRIVED OF MAGIC? I'LL  
TELL YOU: A DREARY PROCESSION OF DAYS! DO I BELIEVE IN  
MAGIC? YES!

**M**y magic is creativity! After all, poetry, painting and photography — these are all but an idea born in your head and brought to life, which means pure magic!

### HER MAJESTY POETRY

It was the first to enter my life. I was still very young when I started composing funny little poems; as I grew older, they became more meaningful and sometimes heavy; my style evolved. It is impossible to explain how your brain generates lines; it's as if somebody is dictating, and all I have to do is put all these words to paper. Reams of writings! A world of emotions in my verses! Sometimes I read my poetry and can hardly believe that it was me who wrote it because the emotions are in the past now, I have changed, and the verses seem to be no longer mine.

I did translations of French poetry into Russian at uni, and then I even

wrote a poem in French! I've always welcomed new experiences!

I believe that poetry is some sort of survival instinct. After all, poetry brings catharsis, takes away your pain and heartache. And then you move on.

Sometimes, when I dream about the future, I come up with verses such as these:

\*\*\*

I am always on the run. This is my way.  
And my carriage turned into a pumpkin while underway.  
And my pages turned into rats overnight.  
I stand alone behind the curtain in the night.

All printed pages have been read by me.  
I ignore what is not mine — this is the way I was brought up.

I must play my role, and that's what I do.  
Only I don't play by the rules.

If I take a look into the crystal ball, I see  
That my house has a blue roof.  
That two miracle boys are playing in the garden.  
And that I'm sitting nearby and I am happy.

So what if my pages turned into rats overnight,  
And I'm alone, standing behind the curtain at night.  
I still play my role. This is how it should be.  
What is important to me is that I play by my rules.

\*\*\*

Lord, how I yearn for a house  
Chock-full of magical stuff!  
May it be full of light and comfort,  
Let it be all ours! Our very own place!

Lord, how I long for love,  
A love that would keep autumn at bay!



Keep the passion going,  
Please, Lord, pretty please!

Lord, how I wish for children!  
Little ones, the spitting image of us!  
For warm lights around the house  
To light the way for passers-by!

Lord, how I want to live  
A life that would show  
Our grandchildren how to love,  
And how to live their lives without boredom.

Lord, please hear me,  
Help me take the plunge!  
I know you'll forgive me everything!  
And will make my dreams come true!

\*\*\*

In order to fully understand a poem, it must be recited by the author himself; so I make occasional videos of myself performing my own poetry and post them on social media for my friends to listen to.

I have accumulated many poems over the years; I reread them and



travel down memory lane; some people write diary entries, I write poetry...

### "A LA PRIMA" [ALLA PRIMA]

The second magical dimension to my life is Painting. What a joy it is to hold in your hands a freshly painted picture smelling of oil! I paint "A la prima" [alla prima]; this is an Italian term; it means "at first glance" [at first attempt], or "in one sitting". With this technique, a painting is completed in

one session, without waiting for paint layers to dry. Three hours — and a picture is finished!

My enthusiasm for painting led me to join the International Plein Air [painting event] called "Montenegro 2018". Each morning we woke up early and went to the seashore to draw; it was unusual but fascinating! Our event ended in an art exhibition, and all participants were awarded certificates.







either crawling on the floor with a camera (yes, it does happen!) or filming from above, perched on a ladder, or repositioning lights. Not all studios have state-of-the-art wheelable equipment, so you sometimes have to lug it around. After a shoot I am all in, but I come home, upload my photos, start sorting through them, and I get a second wind. The next step is photo correction, retouch. This now is pure creativity; here I'm operating as a free spirit; this is so engrossing it is sometimes only at 2 am that I realize I've been in the zone and disconnected from reality.

I am person who is result-oriented; photography helps you get a result fairly fast. And this is gratifying and inspiring you to do more shoots!

So this is the way I live, like in Agnia Barto's poem: "Amateur drama club, photography club, but I also want to sing."

I am but a beginning artist, but I already have a following; I am happy that my paintings find homes! One of my paintings lives in China, in the city of Shanghai.

Everybody can draw; what is important is not to be afraid! Art therapy brings fun and colours to our lives!

#### TIME FREEZE

I took up photography in 2012, completed the Fresh Idea photography course, but did not yet find myself as a photographer. And it was not until 2018, after I met a wonderful photographer, that I understood, having watched him in action, full of energy and a sparkle in his eye, that I wanted to photograph people!

That meeting gave me a tremendous impetus to further growth. I went back to school and graduated from

the Higher School of Photography several months later. After my training, having overcome my fears and doubts, I started doing studio shoots. My friends helped me in that by becoming my first models!

Photography is no walk in the park. You need to choose the right studio, do image design, make a shooting plan.

### PHOTO CORRECTION, RETOUCH IS PURE CREATIVITY; HERE I'M OPERATING AS A FREE SPIRIT; THIS IS SO ENGROSSING!

The shooting itself is a process that is very physically demanding: you spend 2 to 3 hours moving about, often in an uncomfortable position — you are

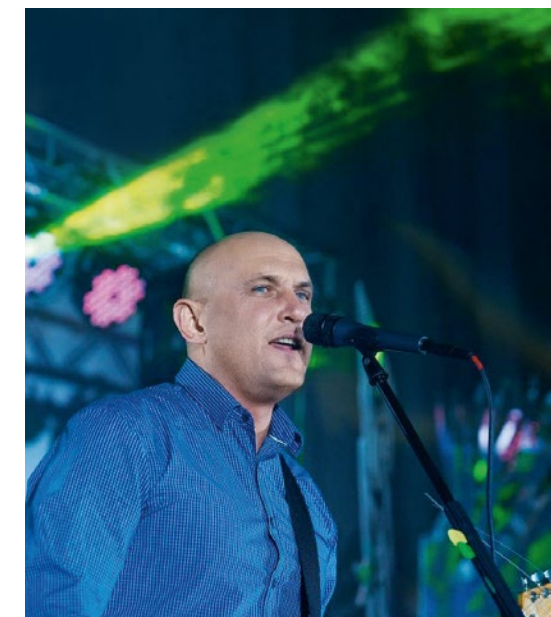
My hobbies turn my life into a series of memorable days, help me live and be happy each and every day! And the joy of living — this is magic! ●



**AUTHOR**  
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OIL PRODUCT PUMPING STATION OPERATOR, CPC MARINE TERMINAL

## IN THE WORLD OF MUSIC

AS A CHILD I ATTENDED A CHILDREN'S MUSIC SCHOOL TO LEARN TO PLAY THE PIANO. LATER I WAS BIG ON SPORTS, BUT NEVER DROPPED MUSIC



**A**t twelve, I wanted very much to learn to play the guitar, and this is something I managed to do myself. It was no problem for me to learn the guitar; I knew musical notation. Sometimes I spent days on end practising guitar riffs; I loved it: time flies when you're having fun.

At fourteen, I put together my own band of classmates and boys next door. The band is still around, known as Svoyo Delo ["Our Thing"]. I started writing songs myself, and that was great fun—not doing covers, but creating your own stuff!

We performed at concerts and local rock festivals. To be sure, we'd

like to make the Rock & Roll Hall of Fame and top the charts; we'll carry on!

Music has greatly influenced many generations of people. I hope some great talents will appear down the road to give the world perfect harmony and fill music with new colours. The art of music is forever! ●





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# SAINT PETERSBURG IN WINTER

I WANT TO SHARE MY MOBILE PHOTOS WITH YOU. I OFTEN HOLIDAY  
IN ST PETERSBURG. I ENJOY WALKING IN THE EARLY MORNING AND  
IN THE LATE EVENING, WHEN YOU CAN CATCH SOME MAGICAL,  
INCREDIBLE VIEWS THROUGH YOUR LENS



Krasnogvardeysky (Red Guard) Bridge. You can see the Saint Nicholas Naval Cathedral in the background. This is an early winter morning, when people are hurrying to school and work. When the city is still asleep, lit up by street lights, but the morning is already illuminating the sky



The embankment of the Griboyedov Canal, which leads to the Church of the Saviour on Spilled Blood. Night, bright lights, flickering shadows... It's as if you were within an illustration in a fantasy book about myths and legends of St Petersburg



Saint Petersburg in winter is frozen and ineffably beautiful!



Our contemporary is having his photo taken as a memento with a lady of a bygone era, using a monument to Peter I as a backdrop. Very symbolic!..



Yuzhnaya Roshcha, Moskovsky Prospekt [South Grove, Moscow Avenue]. This photograph is centred on sunset clouds, as seen from an aircraft window



CPC PRESS SERVICE

# CPC PANORAMA: DIGITAL UPGRADE

SINCE 2013, WHEN THE CPC NEWS CORPORATE NEWSPAPER REINVENTED ITSELF AS A FULL-COLOUR MULTIPAGE MAGAZINE CALLED CPC PANORAMA, IT HAS PUBLISHED AS MANY AS 28 ISSUES

In each issue of the magazine, we tried to cover the Caspian Pipeline Consortium's current industrial, social and environmental events in as much detail as possible and describe CPC's people—their achievements, interests and creative output.

The magazine is a quarterly, which, naturally enough, makes it impossible to tell the readership about the most urgent and breaking news. The print version provides a quarterly review and summary of what we think are the highlights of in-house news and events within CPC's scope of operations.

## GOING ONLINE

An important dimension of the magazine's "virtualization" is to

push the envelope of a paperback. The traditional tools of journalism—text and photo—can be fleshed out online with interesting videos, animations and 3D graphics. When taken together, all of the above will give a VR effect, a 360 deg view of the highlights of what takes place every hour of every day in Nur-Sultan, Moscow, Atyrau, Astrakhan, Elista, Stavropol, Krasnodar and other

population centres along the route of our pipeline system—from Tengiz to Novorossiysk. We can source and publish such information 24/7, which is a good supplement to the paper version of the magazine, appearing as it does once a quarter.

When setting up a "personal" website for the magazine, we had a number of purposes in mind. First, to bring breaking news to the readers as quickly as possible and reported in a language that is more graphic and alive than that of press releases. Also, we'd like to reach a wider readership, including through new sections and website functionalities.

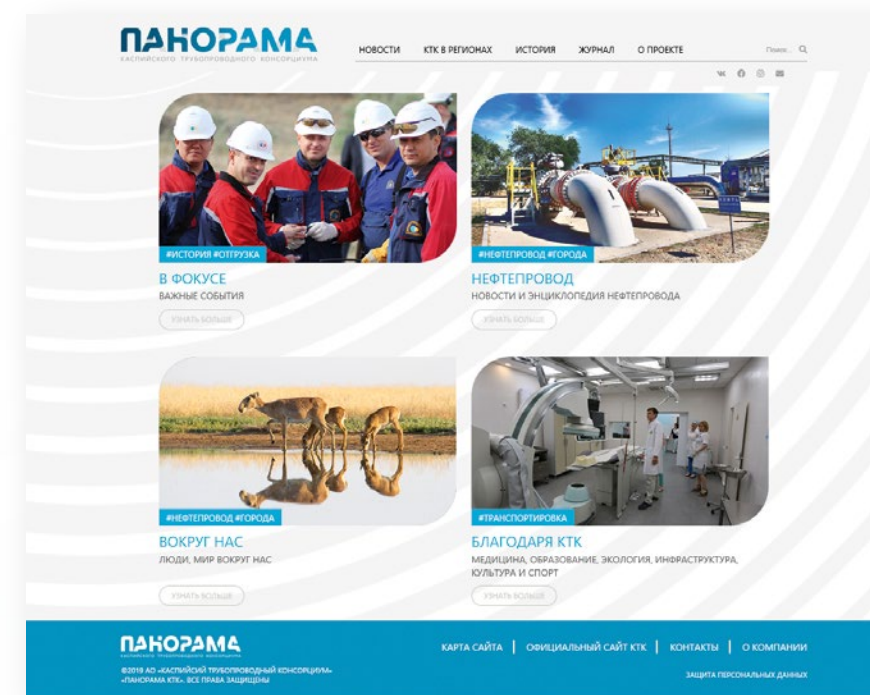
## STRUCTURE AND NAVIGATION

Four major sections of the website featured on its home page structure its content by areas of focus. The "Focus On" section puts a spotlight on key events of the Consortium and the industry as well as CPC's industrial and social contributions to them.

The "Oil Pipeline" section offers coverage of industrial news; progress in execution of technical programmes; the history of CPC and the oil pipeline sector in general; and corporate Safety and Security Rules. The Consortium's socially oriented initiatives are the focus of the "Thanks to CPC" section.

The "Around Us" section gives a broader picture of everything that is happening along the crude transmission route in the provinces: local news, culture and sports. In this section, we will also talk about CPC's and other people, their rich and varied personal stories, interests, enthusiasms and achievements. This is also where you can take tests, and competitions are in the pipeline.

In designing the website navigation, we did our best to show all vertical and horizontal structural links in as much detail as possible in order to demonstrate how every component of the pipeline system operates and how it interacts with its footprint area—from the job creation



to the implementation of social programmes, such as CPC's Support of Young Talents or Save the Homeland's Environment.

You are invited to learn our words of art in the "Oil Pipeline Encyclopaedia" section. We believe that such information will come in useful not only for our CPC colleagues, but for all fuel and energy professionals as well as for students of the subject.

## 24/7 AVAILABILITY

Moreover, the readers will be able to use our "hotline"—a direct line to the editorial office, which makes it easier to deal with such matters as may arise and publish contributions from new authors. The editors, in turn, get a new tool, a two-way line to readers, which makes for better understanding of user preferences. Send in your stories, and we will publish them, subject to compliance with simple rules and editing!

Live interviews, video reports, webcasts and podcasts give each of the published events an up-close and personal look. State-of-the-art digital technologies, such as automatic hashtag filtering, make it possible to supplement the webpage content with up-to-date news tailored for local or sectoral audiences. There

are also a news aggregation section, official "About Us" information and much more.

## IN THE SPIRIT OF THE TIMES

These days, when digital transformation is emerging as the main tool for improving the performance of industrial undertakings, the online presence of CPC Panorama serves in a similar capacity. Novel digital technologies expand outreach; the magazine becomes more trendy and appealing to young readers, who currently not only represent a significant segment of public opinion, but are also a talent pool.

It can be said that we are witnessing a new, third, stage of evolution of the corporate publication. Whereas in 2013 it morphed from a broadsheet to a bulky colour magazine, today, in 2020, it is time for its "digital upgrade." A mobile app for the CPC Panorama website is in the works for streamlined access from smartphones and tablets. Its download link will be posted on the website and in the next issue of CPC Panorama.

We wish all readers and users a pleasant reading/viewing/communication experience on the website at [www.cpc-online.ru/](http://www.cpc-online.ru/)





# ON A HIGH NOTE

THE TRADITIONAL CHARITY PROGRAMME "NEW YEAR AND CHRISTMAS TOGETHER WITH CPC" WAS HELD IN ALL OF THE CONSORTIUM'S RUSSIAN REGIONS OF OPERATIONS DURING THE LAST DAYS OF 2019



**T**his programme, which includes theatrical performances and New Year's gift-giving, was first implemented in 1997. In 2019, the Consortium allocated over 27.6 million rubles for the implementation of the "New Year and Christmas

Together with CPC" programme, with more than 13.6 thousand participants. The event brought joy both to children and adults, many of whom are in need, being boarders of foster care and remedial institutions, patients of social care facilities, people with disabilities...

The New Year performances had a warm family ambience. CPC's representatives did their best for their guests to welcome the New Year with a positive mindset because it is the key to people's health, success, and well-being!





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**PANORAMA**  
CASPIAN PIPELINE CONSORTIUM

CPC PANORAMA Corporate Publication. No. 1 (28) february 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](http://vashagazeta.com). Tel.: +7 (495) 988 18 06.  
E-mail: [ask@vashagazeta.com](mailto:ask@vashagazeta.com). General Director: Vladimir Zmeyushchenko. Editor-in-Chief: Vilorika Ivanova. Project Editor:  
Ksenia Piskareva. Art Editor: Tatiana Kalinina. Designers: Tatiana Kalinina, Gulnara Aglyamutdinova. Production Director:  
Oleg Merochkin. Photographs: CPC Press Service. Printed by PROPRINT: [www.proprint.moscow](http://www.proprint.moscow), тел.: +7 (499) 490-44-62.  
Circulation: 100. It is forbidden to use any content without the consent of the editorial office.



CASPIAN PIPELINE CONSORTIUM:

# A TIME-TESTED INTERNATIONAL PROJECT



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