



Highest A+ category ("Leaders") in the all-Russian project "Leaders in Corporate Philanthropy"

APRIL 2021

<image><image>



remained a competitive and reliable supplier to Asia-Pacific. In 2020, as we faced unprecedented challenges, Sakhalin LNG satisfied about 4.6% of the total Asia-Pacific market demand, topping the 2019 figure. The company successfully sold a record 41 LNG spot cargoes. Despite the low oil price environment, we managed to generate steady cash glow and execute favourable deals with our buyers.

Improving cost management and reducing unscheduled LNG deferment are the key contributors to Sakhalin Energy's competitiveness facing market volatility.

All of our achievements stem from teamwork, where applying a proactive approach across the entire chain of operations ensures our business success. This is directly reflected in our best-ever LNG production (11.62 million metric tonnes) in 2020. Our shareholders have acknowledged and praised our process safety and asset reliability, which propelled Sakhalin Energy to the top place in Shell's Integrated Gas Reliability League Table. This award reflects international recognition of our performance which would be impossible without Sakhalin Energy's professional team. By casting their votes, our employees have helped Sakhalin

<u>congratulation</u>

Energy to enter the list of top five employers in Russia's energy sector. In return, even in the current challenging times, when our revenue has shrunk significantly due the economic crisis and many other industry players have had to downsize their business and lay off employees, Sakhalin Energy has made every effort to continue paying competitive salaries and offering benefits to its employees, as well as providing opportunities for career growth and self-actualisation.

Dear colleagues, this time of change gives us new development opportunities. Our impressive performance will undoubtedly serve as a foundation for further work in line with our growth strategy. We all know full well that our future success depends on how much effort we invest in it today. That is why we all need to stay focused and work as hard as possible. We have a lot of things to build and create going forward. I am certain that Sakhalin Energy will pass this test with flying colours, as it has always done, and would like to express my most sincere gratitude to all of you for your professional efforts and attitude. Thanks a lot for your good work!

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The Head of Sakhalin Energy met with the employees of the company's production facilities and subdivisions. During the online meeting, Roman Dashkov spoke about the key events of the past year and outlined plans for 2021

director's column2

Six and a Half Thousand Kilometres to Go

This year, representatives of one of the most enigmatic and romantic professions will celebrate their professional holiday with a special feeling. And there is an explanation for that: Geologist's Day turns 55 years old. A word to our heroes of the occasion...

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DEAR COLLEAGUES,

On behalf of the Committee of Executive Directors and in my personal capacity, I would like to congratulate you on the occasion of our company's 27th birthday.

The global energy sector is going through a turbulent period, and the year 2020 brought on a new challenge, the COVID-19 pandemic, which further aggravated the already difficult situation, despite all of this, Sakhalin Energy continues to operate safely and reliably, meeting all of its commitments.

Looking back at the past year, we can confirm that the company has

Roman Dashkov Chief Executive Officer

Incoming!

There is very little left to the finish line of our marathon, but who will enter the top three leaders of the tournament table, still remains an intrigue.

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Sakhalin Energy employees chose a great way to support the socially vulnerable groups of the island region – see the photo report from the scene!

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april 2021

In Dialogue with the Team

Roman Dashkov, Chief Executive Officer, held a meeting with asset and department teams.

The virtual townhall event* agenda covered last year's highlights, business performance, HR issues, as well as Sakhalin Energy's priorities for 2021.

Outlining the company's business performance, the CEO pointed out that the past year had been extremely difficult in the context of challenges and the environment the company had to face. Nevertheless, Sakhalin Energy had managed to achieve excellent performance and to complete significant maintenance and upgrade scope. Throughout the year, all assets had demonstrated excellent reliability, resulting in above-target scorecard performance.

"Last year, we were forced to completely restructure our operations", Roman Dashkov pointed out. "In spite

of this, we managed to exceed our production targets by almost 10%. In this challenging environment, we had a record low number or unscheduled shutdowns across the integrated gas chain."

In order to move forward with confidence, the company will need to complete detailed equipment diagnostics and further ramp up its upgrade and modification efforts as part of the 2021 Turnaround Campaign. Updating our Corporate Management System, upgrading our business processes and optimising our cost base to stay within budget limitations will be the focus areas for 2021 across the entire range

of company business activities. Ensuring our financial robustness which, among other things, helps us to maintain a competitive EVP, will remain a key priority.

During the townhall meeting, asset team members had an opportunity to directly address the CEO. They asked questions about the impact of today's challenging market conditions on the company's long-term LNG commitments, about Sakhalin Energy's growth projects, changes in rotational schedules, as well as possible expansion of the EVP.

Commenting on the hottest topics, Roman Dashkov pointed out that Sakhalin Energy had developed a longterm growth strategy that allows the





The meeting began with the ceremony of awarding the best employees with the distinction "For outstanding achievements and contribution to the development of the company." Based on the results of work for 2020, the Committee of Executive Directors awarded the highest award to the company to Konstantin Kokorin (CEO Directorate), Marina Kim (Financial Directorate), Sergey Kirichenko (Technical Directorate), Ivan Shamonaev (Production Directorate), Alexander Lapin (CEO Directorate)

"By 2030, we will have to come up with a growth project funnel that will allow us not only to sustain our current production, but possibly expand it. Our objective is to find the right management solutions and improve the efficiency of our operations to sustain our EVP or improve it", said the CEO.

He then pointed out that the company continues to honour its commitments to staff and keeps looking for improvement opportunities. "We are indeed proud of the fact that we have managed to avoid downsizing, as opposed to many other companies in the oil and gas sector which have experienced massive layoffs. Our Employee Value Proposition stays strong, both in terms of salaries and in terms of benefits. For instance, every year we review which services covered by our medical insurance are in demand, as well as the framework of opportunities to supply such services."

In conclusion, Roman Dashkov added that, as the company faces a rapidly changing environment, learning from recent experience and good prioritisation must become the cornerstones of success. "Our performance will depend, to a large extent, on us consolidating our efforts to make prompt, flexible and progressive managerial decisions across the entire range of activities, real-time decisions that address challenges we face every moment. This is an objective for us, company leaders who comprise the Committee of Executive Directors: however, you must realise that it involves a number of lower-tier objectives driven by each and every one of you", added the CEO. *You can find the video recording of the townhall meeting, as well as the full address from the CEO, on our internal web site.



company to focus on effectively pursuing its goals for many years to come. "In view of our revised long-term

During the townhall meeting, employees at the production facilities had the opportunity to ask the Chief Executive Officer a question

plans, the company now places special emphasis on an effective and efficient backfill strategy. With regard to expanding our LNG production capacity, please note that LNG Train 3 remains part of our growth projects portfolio. Building Train 3 is a super-competitive option in terms of CAPEX spend per MTPA, and the most feasible way to expand existing LNG production capacity. It is up to the Russian government to decide on the best way to utilise feed gas produced offshore Sakhalin Island. We are actively engaged in these discussions – we have presented our proposals and will await further steps from Russian Federal authorities", stated Roman Dashkov.



<u>visit</u>

"There Is No One-Size-Fits-All Solution" "

Roman Dashkov, the company's Chief Executive Officer, paid a second working visit to the OPFC.



The delegation, led by CEO Roman Dashkov, included Production Director Grzegorz Kulawski, Technical Director Timur Gafarov, HR Director Alexander Sheykin, as well as managers of Sakhalin Energy's related units, such as the Asset Logistics Group, the Corporate Health Section, etc. Sakhalin Energy's only facility, which is currently in the construction phase, remains under the close scrutiny of the company management. Since the beginning of the year, high-ranking "blitz" visitors have already been welcomed to the site twice. The latter of the visits not only focused on assessing the status of binding assignments from the previous visit, but mostly on safety issues, which are considered a priority for further construction



At a meeting with contractor representatives, the CEO drew special attention to compliance with occupational health and industrial safety requirements, both on and off the construction site. The main emphasis on the construction site should be on careful planning, preparation and supervision of the work, so as to minimise the interference of simultaneous activities, especially if they are carried out in the same area. Roman Dashkov also noted that, due to a planned increase in the number of workers involved in construction and installation, the risk of occupational safety incidents and violations would increase significantly. The key challenge for the company and the contractors involved in the OPF Compression project is therefore to make every effort to prevent this risk from materialising. "Once again, let me note: we are all one team and we must understand t hat the quality of work and commitment of each employee influence the efficiency of the project as a whole. There is no one-size-fits-all solution, so we cannot do without strict ompliance with safety rules, identification of risk areas and constant field monitoring, which can significantly enhance preventive measures," said Sakhalin Energy's CEO





After inspecting the construction site, company and contractor representatives discussed the key solutions for each construction stage. The project team was tasked with completing the installation of steelwork, main process pipelines and check valves, and ensuring full readiness for the planned work in the summer of 2021. In addition, Sakhalin Energy's CEO highlighted the importance of timely detecting deviations from the design documentation and prompt decision making to eliminate them without loss of quality. Summarising the results of the visit, Roman Dashkov wished everyone successful work and expressed hope that capacities would be ramped up as soon as possible to meet the schedule

Prepared by Tatyana Derivedmid

event

Digital Technologies for Business

The Sakhalin Oblast Government held a joint meeting of the Council for Investments and the All-Russian Conference for Entrepreneurs "ZABIZNES: Rating of Regions. Sakhalin Oblast".

At the meeting, Elina Sidorenko, General Director of the Autonomous Non-Profit Organisation (ANO) "Platform for Addressing Entrepreneurs' Appeals", presented a new digital resource, which ensures that business appeals are addressed directly in the central offices of law enforcement agencies under the public control of business associations and the business ombudsman. The Sakhalin Oblast Government and the "Platform for Addressing Entrepreneurs' Appeals" signed an agreement on cooperation.

The Sakhalin Oblast presented its own digital platform launched at the initiative of Valery Limarenko, Sakhalin Oblast Governor. The portal makes it possible

to contact the regional authorities and submit applications for participation in projects online.

Portal https://investinsakhalin.ru/ru/ shows the investment declaration of the region, based on the portfolio of top-priority investment projects: the agricultural park, Sakhalin oil and gas industrial park, Korsakovsky construction park and others. It also features a catalogue of regulatory legal acts with an investor's route map available.

"Investments boost the development of the economy of Sakhalin and the Kuriles, ensure thousands of new jobs for the region's residents. Ensuring investment flows is critical, especially given the impact of the pandemic.



With the help of the portal, we have visualized the potential of the Sakhalin Oblast. The interactive map shows an entrepreneur the benefits, implementation timelines, specific lots where they can direct their funds. The digital service will be constantly updated. It is important for us to receive feedback from businesses to make the platform as convenient to use as possible," said Valery Limarenko.

Roman Dashkov, who took part in the meeting, supported the creation of the portal. "Such an information resource is definitely necessary. Entrepreneurs spend a



lot of time and energy looking for information about the rules of doing business in a particular region, about the infrastructure. The portal will benefit both large corporations and small and medium-sized businesses," said Sakhalin Energy's Chief Executive Officer.

At the suggestion of Roman Dashkov, and supported by the Sakhalin Oblast Governor, Elina Sidorenko held a special seminar for contractors of the Sakhalin-2 project on the topic "Solving Legal Problems of Entrepreneurs via ZABIZNES.RF digital platform".

"We are certainly interested in using digital technologies both in production activities and in organising cooperation with government authorities. Platforms can have many functions. On the one hand, they give an idea of the government's activities in relation to the business community, while on the other hand, they help to identify the "sore spots" that hinder business development," Roman Dashkov emphasised.

Natalia Gonchar

meeting

customers :

The Web as the New Meeting Place

In early March, Sakhalin Energy organised and held a meeting with Toho Gas, a buyer of liquefied natural gas.



natural gas production. In his turn, Shinichi Senda described the level of . LNG demand in the Jap-

Meeting with the Minister

The Head of the Ministry for the Development of the Russian Far East and Arctic meets with a delegation from Sakhalin Energy.

During the meeting with Minister for the Development of the Russian Far East and Arctic, Alexey Chekunkoy, Andrey Okhotkin, the Commercial Director of Sakhalin Energy, described outcomes of company's activities in 2020, including the record LNG production and potential development projects.

One of such promising projects is the construcanese market and thanked : tion of the Sakhalin Industrial Park which Sakhalin Sakhalin Energy for en- : Energy is developing jointly with the Sakhalin Oblast suring stable supplies. The : Government. Another agenda item was the strategy parties also discussed this : of "green" or carbon-neutral LNG, presented by the elimination of greenhouse gas emissions. This approach is consistent with the efforts of the Sakhalin Oblast Government in establishment of a trading system for carbon unit transactions at external and internal markets", said Andrey Okhotkin.

Alexey Chekunkov noted the high level of social responsibility of Sakhalin Energy and its significant contribution to secure fiscal sustainability of the host region. "We appreciate company's contribution not only in the development of the Sakhalin Oblast but also the Russian Far East as a whole", concluded the minister.

Every year the company's management pays a working visit to Japan, where they hold a series of face-toface meetings with the buyers of the Sakhalin LNG. Due to the coronavirus pandemic restrictions, this year the meeting of Roman Dashkov, Chief Executive Officer at Sakhalin Energy, and Shinichi Senda, Director and Senior Managing Executive Officer at Toho Gas, was held via video conference.

Roman Dashkov spoke about the company's performance in 2020, including the efficiency of liquefied

year's cooperation pri- : company this year. orities and those for the : longer term.

Despite the unusual format, the meeting . was held in a friendly atmosphere. The speak-

ers have known each other for many years; Mr. Senda has repeatedly visited Sakhalin, including the first Russia's LNG plant which set a new record in 2020 – 11.6 million tonnes : of LNG were produced and exported to • customers.

To conclude, both parties wished . each other further success, emphasised . the need for strengthening bilateral cooperation, and expressed confidence . that their mutually beneficial meetings . will continue. Evgeniy Chen :

"This is a complex, multi-component strategy providing for compensation, reduction and eventual

Natalia Gonchar



event

Vladimir Putin: "It is necessary to systematically support business investment projects"

Vladimir Putin, the President of the Russian Federation, held a meeting via videoconference on increasing investment activity which was attended by the government members and representatives of the business community.

The President stated that despite the negative trends in the global economy, Russia managed to overcome the downturn in the domestic economy with the help of timely measures to support industries and businesses and to reach its recovery. Vladimir Putin noted that last year, the decline in Russia's GDP was 3.1%. The decline was less than in many other countries of the world. At the same time, in Q4 2020 investments in capital stock even came out on top. Their growth was 1.2% over the same period of the last year.

The President noted that due to a targeted economic policy, the country avoided failure in the investment activity. The risks of investments in the Russian economy have significantly decreased. The priority is to make the investment environment more predictable and stable."Let me remind about the goal set. By 2030, the annual amount of fixed investment in Russia should grow by at least 70% in real terms versus 2020." The President noted that to reach this level, it is necessary to systematically support the investment projects of the domestic business. The President informed attendees about these activities. In particular, one of the key goals is development of infrastructure. Development of the facilities of this infrastructure did not stop even during the period of constrained restrictions. The second fundamental item to increase investments – the long-term predictability of conditions for implementation of projects for business representatives. In order to support industrial projects, the government improved the mechanism of special investment contracts.

"We have already offered both Russian and foreign investors a new mechanism of agreements on protection and promotion of investments when major significant projects receive the so-called grandfather's clause, that is fixed tax conditions for up to 20 years and the investments of investors can be reimbursed by the state at the expense of future tax revenues."

Another key area should be the consistent reduction of investors' costs when implementing the investment projects as well as ensuring that companies have access to



The sourse: kremlin.ru

financial resources for implementation of the investment projects. The President added that the priority should be given to projects that will help achieve national development goals. First of all, it means ensuring health and well-being of people, growth of their income, real income, creating a comfortable and safe environment for life, development of modern, convenient digital services.

During the meeting, government representatives discussed measures to stimulate the investment activity and representatives of the Russian business community reported on successful tools for supporting business.

Summing up the meeting, Vladimir Putin said that the Russian government should work on proposals from the business community for amendments to tax legislation to stimulate investment. The key message for Russian entrepreneurs was the recommendation to invest profits in their own development, in Russia. More information about the meeting on increasing investment activity can be found on the President's website at www. kremlin.ru.

75th anniversary of the great victory

In Memory of This Momentous Event

The Administration of the President of Russia has presented Roman Dashkov, Sakhalin Energy's CEO, with a gift edition of Vladimir Putin's article "The 75th Anniversary of the Great Victory: Our Shared Responsibility to History and Our Future". As the cover letter explains, the gift was made to commemorate this momentous event.

In the article, the Russian President analyses in detail the root causes of World War II on the basis of unique archival documents and reflects on its consequences for the present, calling on us to draw lessons from the past. Vladimir Putin not only cites numerous historical facts, but also shares his family's memories of the war.

The key message of the article is that it is our responsibility to our past and our future to do our utmost to prevent such terrible tragedies from ever happening again. "I therefore felt it was my duty to compose this article about World War II and the Great Patriotic War," the President explains.

Vladimir Putin wrote the article after his conversation with the heads of the CIS countries in 2019 caused a stir in Europe and the world, and a number of politicians claimed that Russia was trying to rewrite history. "At the summit of CIS leaders, we all agreed on one thing: we must pass on to future generations the memory of the fact that the Nazis were defeated first and foremost by the entire Soviet people and that representatives of all republics of the Soviet Union fought side by side together in that heroic battle, both on the front lines and on the home front," Vladimir Putin clarifies. In his article, the Head of State emphasises the responsibility of all parties for the outbreak of World War II. He believes that the root causes should be sought in the terms on which World War I ended: it resulted in the signing of the unjust Treaty of Versailles. "World War II did not happen overnight or out of the blue. It was the result of a number of trends and factors in the global politics of the time. All the events that took place before the war fell into place to form one fatal chain. However, undoubtedly, the main factors that predetermined the greatest tragedy in the history of mankind were state egoism, cowardice, appeasement of an increasingly powerful aggressor, and the unwillingness of political elites to compromise. All the leading countries are to a certain extent responsible for the outbreak of the war."

Vladimir Putin also compares different systems of international security: The League of Nations and the United Nations (UN). If the League of Nations failed to prevent the war, though it was established for that purpose, then the principles of the UN Security Council are a unique mechanism for preventing a major war or global conflict.

President Putin calls upon future generations to remember the victories and tragedies of the Second World War. He comments on the folk tradition known as the Immortal Regiment: "This is the commemorative march that symbolises our gratitude, as well as the living connection and the blood ties between generations. Millions of people come out onto the streets carrying photographs of their relatives who defended their Motherland and defeated the Nazis. This means that their lives, the ordeals they endured and the sacrifices they made, and the Victory that they passed on to us will never be forgotten." In describing the courage of the Soviet people, Vladimir Putin mentions the battle for the city of Rzhev, where the Red Army lost more than 1.3 million people. This is the first time this number has been released. Millions of Soviet citizens fell in the liberation of Europe, and at the time, the Red Army's life-saving mission was recognised worldwide.

of international relations is one of the most important outcomes of World War II. The wisdom the leaders of the victorious countries demonstrated in Yalta in establishing the post-war world order is still expected today from current heads of state.

At the end of the article, President Putin shares his vision of the agenda for the upcoming summit with the leaders of the five nuclear states and permanent members of

the UN Security Council (Russia, China, France, the United States and the United Kingdom): the issues of preserving peace, strengthening global and regional security, strategic arms control, and countering terrorism. One particularly important item on the agenda is the situation in the global economy, particularly overcoming the economic crisis caused by the coronavirus pandemic. "Drawing on our shared historical memory, we can and must trust each other. This will be a solid basis for successful negotiations and concerted action in order to enhance stability and security worldwide, for the sake of the prosperity and well-being of all states. I do not exaggerate when I say that this is our common duty and responsibility towards the entire world, towards present and future generations," concludes Vladimir Putin.



The article contains an appeal to all states to make their archives public, as Russia has, and to publish classified documents of the time. "In this context, we would be eager to engage in broad collaboration and joint historical research projects," writes the President.

He draws attention to the need to continue the painstaking work of establishing the names and fates of all who perished during the Great Patriotic War: "Members of the search movement and of military, patriotic and volunteer associations have a special role to play here. And of course, close international cooperation is needed for such a common humanitarian task." In his opinion, the creation of the modern system

The article has an annex with excerpts from the unique archival documents cited by the Russian President, enabling readers to study these sources in more detail.

Source (full version of the article):

www.kremlin.ru

Gazprom and Shell Expand Cooperation

Gazprom and Shell signed an Agreement of Strategic Cooperation for a five-year period. The signing ceremony was held via video conference in the presence of Alexey Miller, Chairman of the Gazprom Management Committee, and Ben van Beurden, Chief Executive Officer of Royal Dutch Shell.

The signed document expands cooperation between the two companies. In particular, special attention will be paid to such areas as energy market studies, implementation of projects along the entire value chain, cooperation in the field of digitalisation of technologies and reduction of greenhouse gas emissions.

Alexey Miller and Ben van Beurden discussed the ongoing achievements of cooperation between Gazprom and Shell. In particular, they discussed the Sakhalin-2 project. Last year the project produced and shipped to customers a record-breaking amount of liquefied natural gas – over 11.6 million tonnes.





Special attention was paid to the decarbonisation of the European energy sector. It was noted that due to its environmental properties natural gas can play a significant role in achieving Europe's climate goals.

"Today, we have made a new step in the development of guarantees us new future achievements," said Alexey Miller.



Ben van Beurden

our cooperation. The very signing of the Agreement proves that our joint work has brought good results and that we establish ambitious goals for both the short term and the long term. Without any doubt, the experience we have accumulated guarantees us new future achievements " said Alexev Miller

gasification

One More Step Taken

The company's participation in the island region's gas supply programme, challenging paths and hard decisions, taking pride in your team – these are just some of the topics we discussed with Evgeniy Mikhalyov, Onshore Asset Support Manager at Sakhalin Energy.



- Evgeniy, the region's gas supply development programme is a hot topic in the Sakhalin Region - unsurprisingly, given the influence it has on everyone's life. A huge amount of work is planned for next five years (2021-2025). How much of it rests on the company's shoulders?

- As you are aware, Sakhalin Energy has been participating in work to supply Sakhalin with gas for a long time. We currently operate three gas transfer terminals. These are the Dalneve terminal (which supplies gas to the Yuzhno-Sakhalinsk CHPP-1 and the suburbs), the Boatasino terminal (which supplies gas to the Sakhalin – Khabarovsk -Vladivostok gas transmission system) and the Tymovskoye terminal, which we put into operation at the end of last year to provide the district with gas. We should note that gas will be taken from the Dalneye terminal for Kholmsk and Nevelsk, where the boiler houses are to be switched over to liquefied natural gas. In the future, the Tymovskoye terminal might be used to supply gas to Aleksandrovsk-Sakhalinsky, the former capital of the island. - They might not be "ancient history", so to speak, but they're still completed projects. What are you working on today?

- The Sakhalin Region gas supply and gas infrastructure development programme is a joint programme by the regional government and Gazprom. It provides for five gas distribution stations (GDS) to be developed in 2021-2022 to supply eco-friendly fuel to Dolinsk, Makarov and Troitzkoye (Anivskiy District), and to Korsakov and Leonidovo (Poronaiskiy District). Our company and Gazprom Transgaz Tomsk, our contractor for maintenance of the oil and gas pipeline, act together as the operator; we provide access to Sakhalin Energy's Trans-Sakhalin Pipeline System and furnish tie-in points with the necessary equipment. Work in Korsakov and Troitskoye will be completed this year, and we will move on to the other three districts next year.

- How will this work be done technically? How safe are tie-ins for a complex transportation system such as the oil and gas pipeline?

- Safety is always a priority for our company, and this project is no exception. The integrity of the pipeline will not be compromised. As for the technical aspects... be done successfully by the flaring systems at the LNG plant and OPF. That means it is now possible to use those branches for the gas supply programme. By the way, we applied this approach at the Tymovskoye gas transfer terminal.

- The main task of our employees is monitoring and supervision to ensure safety?

- Et cetera... Also a number of types of installation work. The project requires E&I specialists and electricians, and the onshore assets operations team and project group are actively involved too. We also receive support from legal, metrology, finance, the commercial directorate personnel...

- What is your role?

- To tie together all our specialists' efforts, be a point of contact between contractors and our employees, coordinate all the work, monitor all the processes... To keep things moving, make sure everything works. - Be between the hammer and the anvil, and get results.

 It might seem simple, but it's a very complex project, and kind of a personal one for me.

– In what way?

- I'm a second-generation resident of Sakhalin. My mother's family survived the 1952 tsunami that wiped out Severo-Kurilsk. They escaped by a miracle. Since then, Sakhalin has been our home. And when I see that my work is helping make things better for my fellow citizens, it feels amazing. I remember Denis Lutsev* and I arriving in Tymovskoye. We stood there looking at the fuming chimneys of the boiler house, aware that in two weeks' time, those fumes would be white smoke: people would breathe easier, there would be no soot on the snow, and nature would breathe a sigh of relief. It was an incredible feeling, there are no words for it... I felt proud of myself, my team, the company, knowing that we'd taken one more step to preserve Sakhalin's environment.

Interview by Elena Gurshal
* Onshore Assets Manager at Sakhalin
Energy

- Could you try to explain it so that even non-specialists will understand?

- Absolutely. I just hope the professionals won't be having words with me afterwards *(smiles)*. We have two ways of connecting to the pipeline. The first way was the one we envisaged during the design and construction of our facility. This is a branch pipe, a so-called T-shape pipe, with two valves (for double insulation) and a blind flange mounted on it. The gas distribution station's builders build their pipeline up to the connection point, dismantle the blind flange and connect to our system.

The second option required some outof-the-box thinking. The pipeline has valve sections located along its route, and each section has two 14-inch branch pipes designed for discharging gas in an emergency. In the course of operating the project's production facilities, we have seen that this can



In December 2020, Tymovsky District hosted an opening ceremony for the valve station at Sakhalin Energy's TGB-6 gas delivery point. Natural gas produced at the Sakhalin-2 project is sent from this asset to the Tymovskoye gas distribution station (GDS) which Gazprom has built as part of the Sakhalin Region gas supply and gas infrastructure development programme. In turn, the GDS will supply gas to municipal buildings and individual households. Archive photo

april 2021

planned shutdown – 2021

Sakhalin-2 Race Track Pit Stop

Running Like Clockwork

"We run like clockwork, with hands, gears, cogs, springs and so on. Remove just one part, and the clock stops. We have been operating like this since April 2020..." says of his company Evgeniy Udovenko, Head of Sakhalin Energy's Engineering and Technical Support Department. This comparison is particularly relevant in the run-up to the planned shutdown in 2021.



- Evgeniy, in your opinion, is preparation the most important thing?

- We need to be ready for everything – that's our key objective. Last year, planning for the planned summer shutdown, including a complete shutdown of the integrated gas system, was fully underway until around April, when the impact of the new virus became evident and it became necessary to rally the troops and take a sensible decision. Our task was, firstly, to assess the feasibility of the planned shutdown and, secondly, evaluate the risks. And thirdly, should the risks exceed acceptable limits, we were tasked with taking appropriate action and considering our options. Some 1,500 jobs to be done in the

– Almost like a "cocktail" with three ingredients?

- Far more than that. The total number of work orders was more than 1,600, with each order containing a number of sub-tasks. For example, a repair order for a pump includes additional electrical works, instrumentation, bearing services, etc. About 90 work orders have to be carried out on specialised equipment by teams including representatives of foreign manufacturers, and about 1,000 jobs are critical for us in terms of safety. So, when we had an idea of the scope of the work, we gathered data on the number of jobs that needed completing. We asked ourselves how these jobs could be carried out given the constraints.

We needed to understand what our possible scenarios might be, from the best-case to the worst-case scenario. The best-case scenario presumes that all restrictive measures are lifted. We therefore had to be realistic about the current situation: COVID-19 conditions, with mandatory staff quarantine prior to shifts, the complexities of mobilising foreign specialists and logistical arrangements... We called this the baseline scenario and took it as our reference when preparing for the planned works. We also developed two extra scenarios assuming deteriorating conditions, because you have to be prepared for any situation.

In the first worst-case scenario, we worked out all the risks related to delays in preparatory work. For example, if the erection of scaffolding is postponed for some reason, the consequences of this delay would make themselves felt in the schedule for repair work. The second worst-case scenario assumes the pandemic situation deteriorates, with potential border closures affecting the Sakhalin Region, and restrictions on movement not only between countries but also between regions of the Russian Federation. In this case, only local personnel would be available to carry out the work. Obviously, nobody wants the worst-case scenario to come to pass, but that

cess, and one that has to be carried out in short order, because a large number of specialists have to arrive at the same time. We will also have to develop access schemes for Sakhalin and the quarantine site. All the staff mobilisation plans are the responsibility of the transport management service.

When optimising production and costs, it is possible to move from annual planned shutdowns to a fouryear cycle - this format is optimal for many production processes.

The next key task in preparing for the planned shutdown is to make detailed lists of contractors. If we were operating under the standard, best-case scenario, this information would take a month to collect. However, as the company is currently operating in high alert mode, we are going to have to start gathering this information almost four months before work begins. Our technical and procurement services are running the process. What's interesting is that normally this work would have gone under the radar, but it's now the cornerstone of all our preparations.

Are you planning to use supplementary digital support?

The risk of foreign contractors and representatives of foreign manufacturing plants not being able to come is still the most relevant risk, despite all the relaxations. We know that we have about 90 critical jobs that need to be carried out by foreign specialists, so in the event the situation deteriorates, we have considered the possibility of replacing as many of them as possible with Russian contractors. We have identified a number of jobs that it would be safer to reschedule for a different, more suitable period, and jobs that we can do with remote vendor support by using a digital twin system. We had our first experience of this last year at the LNG plant, and this year we plan to roll out a similar network across the OPF. These tools could help us minimise the consequences of COVID-19 and the limitations related to it.

In considering this, we have to take into account all the technical features we need: fast wireless internet, soft-



integrated gas system were assessed under three catego- doesn't mean you don't have to prepare for it... ries: reliability, integrity and compliance with the Russian regulatory framework. Experts assessed each type of work and kept only the critically important work in the list, with compensatory measures, additional monitoring and regime issues being worked out for the rest. Some of the work that was planned initially, including the complete shutdown of the integrated gas system, has been postponed until 2021. This approach was agreed on by the company's committee of executive directors and fully supported by the shareholders of the Sakhalin-2 project. At the same time, we understood that the postponed work would have to be carried out in 2021, so we initiated preparations immediately after the planned 2020 shutdown was completed. In cooperation with the production units, we assembled a new portfolio of technical activities in the integrated gas system: it includes the work initially planned for 2021 (based on long-term planning), the activities carried over from 2020, and the activities for 2022. So long as the planned maintenance is successfully completed, we will be able to operate next year without a shutdown.

So it tu kind of work?

ware, access to documents, videoconferencing and communications. Strong support from the IT and information management department is essential here.

- For each scenario, we have worked out both the likelihood of having all the people we need and the probability of getting the work done. We have agreed to make preparations for the baseline scenario, but we are working through all the risks in case we end up in a negative scenario (that entails a reduced workload) or an extremely negative scenario (where the resources, materials, and manpower we need to carry out the shutdown will all be unavailable). For each scenario, numerous measures were decided upon, risks were assessed and compensation measures were developed.

- How many staff are expected to be involved in total?

- More than 2,500 workers from almost all of Russia's regions, and foreign specialists as well. The General Coordinating Committee has decided that, depending on the current epidemiological situation, we have to evaluate whether personnel need to quarantine in order to access production facilities, and ensure that they do so if necessary. This is quite an intensive mobilisation pro-

- At the beginning of the conversation you mentioned that there would be no planned shutdown next year. Are we changing to a new maintenance system?

Yes, that's the plan, and we have always been working towards it. When optimising production and costs, one option is to move from annual planned shutdowns to a four-year cycle. This format is ideal for many production processes. We plan to shut down one process line every two years, then another process line the following two years. Moreover, in the long term, this will significantly reduce operational costs and help us to plan technical work.

That's as long as all the planned work is done, however. Right now, we are following the baseline scenario with no alternatives, since the situation makes this possible, as does the energy of the people involved in the preparation work. They are a force to be reckoned with!

Interview by Marina Moruga

BEGTH

апрель 2021



Vector on Climate

and to set up the necessary infrastructure to support climate projects.

green LNG

To date, an agreement has been signed with Izrael Institute of Global Climate and Ecology to take a greenhouse gas inventory of the region by the end of 2021. A regional climate centre, located at Sakhalin State University, is created. It aims to provide comprehensive research, education and expert support for sustainable development projects of the Sakhalin Oblast with low greenhouse gas emissions.

In order to implement the experiment, a working group (project office) has been created. It comprises representatives of the regional government, ministries, departments, and major enterprises of the region. In 2021, the project office is tasked with developing a climate programme and a related comprehensive regional action plan. In March, a roundtable on greenhouse gas reduction technology and climate change adaptation was held *(for more information, see Sharing Green Experience on this page)*. Also, there are plans to hold a climate week in May and a climate conference at the Sakhalin Oil & Gas Forum 2021.

HOW WILL IT AFFECT OUR LIVES?

Will the Paris Agreement change the lives of Russians? There will be no noticeable changes, no demands on the population in terms of adaptation or austerity. Some action will be taken at national, regional and corporate levels. However, each of us can do our bit to reduce greenhouse gas emissions.

Try to use your private car less often. Today, motor vehicles account for 80-90% of air pollution in large cities. Increase your household energy efficiency – turn off lights when not needed, reduce unnecessary hot and cold water consumption. Embrace sustainable consumption – stop buying things you don't need, do away with disposable items and packaging. Making each product or extracting and transporting raw materials requires some resources and energy, inevitably leading to greenhouse gas emissions.

Galina Fedorinova

Climate change is an enormous global challenge that transcends national borders. The problem calls for coordinated action at all levels and international cooperation to help countries shift to low-carbon economies.

12 December 2020 marked the fifth anniversary of the adoption of the Paris Agreement by the States Parties to the United Nations Framework Convention on Climate Change. What does the Paris Agreement mean for Russia, the Sakhalin Oblast and each of us?

WHAT IS THE PARIS AGREEMENT?

It is an initiative within the UN Framework Convention on Climate Change, which covers almost every country in the world. The agreement replaces its predecessor, the Kyoto Protocol, which was adopted in 1997 and expired in 2020.

The agreement requires countries to undertake certain actions to 1) reduce greenhouse gas emissions, 2) adapt to the adverse effects of climate change, and 3) reprioritise funding for climate change mitigation.

The first requirement, expressed quantitatively, is the one most frequently mentioned. It is necessary to prevent the global average annual temperature on the planet by 2100 from exceeding the preindustrial level by more than 2°C, and to do everything possible to keep the warming within 1.5°C. An average temperature during the period from 1850 to 1900, when the first near-global temperature observations began, is taken as the preindustrial baseline.

To do so, countries need to cut global greenhouse gas emissions in half by 2050 from their 1990 levels, when emissions were at their highest on record, and reduce them to zero by the end of the 21st century.

WHAT ARE RUSSIA'S OBLIGATIONS UNDER THE PARIS AGREEMENT?

The Paris Agreement, unlike the Kyoto Protocol, imposes obligations on all countries, but it is up to individual states to decide what their contribution will be. Russia claimed that it would reduce emissions to 70% of 1990 levels by 2030, taking into account the maximum absorption capacity of forests. So far, this commitment has been fulfilled: in recent years, emissions, adjusted for absorption, have averaged two billion tonnes of carbon dioxide equivalent, which is 51.6% of the 1990 level.

Russia is the world's fourth-largest emitter of CO2, the main greenhouse gas (about 4.6% of total global emissions).

Under the Paris Agreement, the Russian Ministry of Economic Development has developed a so-called climate package which, among other things, includes a lowcarbon development strategy of the country through 2050. The strategy considers two low-carbon development scenarios: a baseline one and an intensive one.

The baseline scenario suggests largescale improvements in the energy efficiency of the Russian economy, ensuring full forest regeneration, expanding the total forest protection area, and a significant reduction in clear-cutting. The baseline scenario would reduce the carbon intensity of Russia's GDP by 9% by 2030 and by 48% by 2050 relative to the 2017 level.

By shifting to the intensive scenario of low-carbon development, Russia will achieve carbon neutrality in the last third of the 21st century. This scenario envisages an increase in renewable energy generation, as well as large-scale electrification and digitalisation of transport and production processes in industries, a ban on clearcutting, and almost complete coverage of forests with fire protection. The strategy is expected to be approved in spring 2021.

The draft law on limiting greenhouse

gas emissions, submitted by the Russian

Government to the State Duma in

February 2021, provides for introducing

mandatory carbon reporting for businesses

with significant greenhouse gas emissions,

launching a carbon trading mechanism,

and implementing some climate projects.

The Government of Russia will set different

emission reduction targets for each sector of

the economy, taking into account the volume

of investment, proceeds from the sale of

goods and services, and the contribution of

each sector to government revenues of the

protect the world's and Russia's forests. It

requires the conservation of all the planet's

forests as the most stable "reservoirs" of

carbon and CO₂ sinks. Russia has an edge in

this respect. According to the World Wildlife

Fund, Russia's forests absorb about 25%

of the country's greenhouse gas emissions.

A proper approach to forest management

in response to ongoing climate change will

At the end of 2020, a decision was made to

experiment with greenhouse gas emission

trading in the Sakhalin Oblast. The most

important outcome of the experiment is

intended to be the development of a regional

system for this trading and its integration

with international systems. It is expected

that in the future, the systems of other

interested entities of the Russian Federation

could be integrated with this trading system,

as decided by the Government. According

to the draft federal law on the experiment,

the Sakhalin Oblast would achieve carbon

neutrality by 31 December 2025. There

are plans to take a regional inventory of

greenhouse gas emissions and absorption,

help to maintain this indicator.

THE SAKHALIN EXPERIMENT

The Paris Agreement is also important to

Russian Federation.

Sharing Green Experience

Sakhalin Energy took part in the round table to discuss technologies for greenhouse gas reduction and climate change adaptation. The event was organised by the Sakhalin Oblast Government together with Sakhalin State University and the Sakhalin Climate the authorities will introduce low – and zero-carbon technologies in different areas. Large oil and gas companies, Sakhalin-2 operator included, get down to implement programmes on reducing the carbon footprint.

Andrey Samatov, Sakhalin Energy Head of the Environmental Protection Division, believes that addressing the problem of greenhouse gas emissions does not make a separate element of the company's contribution, but is an integral part of the general system of environmental impact management. That is why Sakhalin Energy considers this issue together with other environmental aspects of its operation and measures to prevent and mitigate the negative impact. All these efforts are regulated by the Air Emissions and Energy Management Standard and other corporate documents. It was highlighted that, in terms of environmental responsibility, the company is aimed at meeting the global Sustainable Development Goals, including SDG No.13 Climate Action, which implies the reduction of greenhouse gas emissions. "We use such venues to reiterate that the concept of sustainable implementation of the Sakhalin-2 project is interconnected with the sustainable development of the host region. That is why we will try to share with all the stakeholders our experience in managing greenhouse gas emissions – both in terms of technological solutions, operational activities, and also in terms of the information about the best international practices," Andrey Samatov said.



Centre under the Year of Science and Technology.

The representatives of the regional authorities, the scientific advisory board to the Sakhalin Oblast Government, Sakhalin State University and business community got together to share their experience in carbon footprint reduction.

"The climate agenda is one of the top priorities for the Sakhalin Oblast Government. The goal is to have the greenhouse gas monitoring system up and running for the whole island region by, which is the most important issue, joining forces of all the stakeholders: authorities, business and scientific communities. The existing technologies enable the reduction of greenhouse emissions, and we're going to touch on some of them", Vyacheslav Alenkov said.

We already have worked out a set of measures which will guide our region towards carbon neutrality. These measures will also seek to reduce the emissions by means of development of the region's gas infrastructure, development of housing services and utilities, introduction and development of alternative energy, including hydrogen one. For that to happen,

Sakhalin Energy is working to boost its energy performance, following the Continuous Improvement Programme. Projects



aimed at optimising the production processes helped the company to get to the lowest values of emissions in the years of 2019 - 2020 within the whole time of operation. Moreover, last year Sakhalin Energy showed the record-breaking results in terms of process safety, which contributes to the region's environmental agenda as it is good for reducing greenhouse gas emissions.

The climate agenda is represented by the company's comprehensive Green LNG strategy aimed at reducing its carbon footprint and finding the supply channels for carbon neutral products. These projects will enable Sakhalin Energy to offset the amount of its emissions and also to tap into a new area – carbon credits. Deployment of the carbon trading system will be another task to complete under the pilot project in Sakhalin.

Marina Semitko

analytics

Review of the Global Energy Transformation Scenarios Presented by Royal Dutch Shell

The way global energy will develop is one of the key issues in the sustainable development concept of any energy company. At the present stage, energy is considered both a solution to a number of global challenges facing the humanity and its root cause.

With that in mind, energy companies, international organisations, research institutes, and industry experts focus on searching for the key factors and driving forces that will determine the dynamics and the course of development of the energy system.

The Shell Group has elaborated possible scenarios of the development of the global community and the energy sector since 1970s. The latest scenarios presented by Shell explore three likely paths for the global community to achieve the goals of the UN Paris Agreement on climate change based on the path the countries will choose in the context of the pandemic and the global economic crisis. These scenarios are called Waves, Islands, and Sky 1.5. The Shell team believes that each of the three options is possible but only Sky 1.5 represents the most favourable direction. It displays the world that has achieved the main goal of the Paris Agreement – to limit global warming to 1.5° in this century. Sky 1.5 is the epitome of how the world can succeed starting today, in the context of the pandemic and a global rise in greenhouse gas emissions.

The three scenarios are based on the path the global community will choose to recover from the issues of 2020 and on how the decisions made will affect the prospects for the development of the world's energy sector and the global environmental situation.

In the Waves scenario, the first response to the crisis is to repair economy: wealth comes first. Less attention is paid to welfare and environmental issues, until it begins to cause backlash. Afterwards, the world, much later but at a rapid pace, starts to move towards achieving the Paris Agreement goals, eventually transforming the energy and transitioning to net-zero emissions by the established deadline. This results in late but fast decarbonisation. In this scenario, the global temperatures will rise by 2.3° by the end of this century.

In the Islands scenario, the global community will be split as governments concentrate on their own security, with a new focus on nationalism, which threatens an already precarious geopolitical order. Despite that, the processes of reequipment, infrastructure upgrading and introducing "green" technologies continue, leading to net-zero emissions. Nevertheless, it happens much later than it is established by the UN Paris Agreement. The decarbonisation is late and slow. According to the scenario, a global temperature rise is expected to reach 2.5° by the end of the century. In the Sky 1.5 scenario, the initial response to the 2020 crises is to focus on handling the pandemic and the public concerns associated with it, primarily those of health. The experience gained through the sharing of best practices and the alignment of different interests help the world to find a way to a health support system that works not only for people and society, but also for the environment, which includes the achievement of the main goal of the Paris Agreement – accelerated decarbonisation now. Only the Sky 1.5 scenario will allow us to limit the global temperature rise to 1.5° in this century (Figure 1).





Figure 2. Carbon dioxide emissions by scenarios, gigatons per year

The Shell team notes that wealth, safety, and health will to some extent remain the objectives of the global community, but which of them people choose to prioritise will depend as recovery and development proceeds.

The global energy transformation will require profound structural changes. Yet, Shell states that the COVID-19 pandemic has required an unprecedented response from the global research, medical and pharmaceutical industries, including through active international collaboration and cooperation. The global community may use this unique experience in other areas of society, such as energy and the environment, but it may as well take the path of least find the respective indicators for each scenario in the table below.

The global energy will be transformed, the issue is the speed of the transformation. To achieve the climate goals will require accelerating electrification of the economy through renewable power sources but will also still require the use of liquid and gaseous hydrocarbon fuels in sectors that are hard-to-electrify, such as aviation, shipping, and heavy industry. At the same time, these fuels will steadily transition from traditional fossil fuels to low— and no-carbon sources as end-use technologies evolve. Such energy transitions are inevitable over time, but they will proceed at different paces in different places and in different industrial sectors.

Transformation will have costs and benefits. Taking steps towards the goal of the Paris Agreement could be rewarding both economically and environmentally, although the necessary actions involve costs. Yet, these overall costs of investing in energy transitions are expected to be successfully manageable. Moreover, triggers like the current COVID-19 crisis provide opportunities to transform traditional approaches and apply new ones that are better tuned to the urgent needs ahead.

Action accelerators are necessary to meet climate aspirations. Society is not currently on course to meet the goal of the Paris Agreement. That said, with sufficient acceleration along known pathways, it remains technically possible, although extremely challenging, to achieve these aspirations. Three fundamental action accelerators are needed:

Alignments of business and government policies. Global societies should be prepared for any scenario focusing on their resilience, but no one should remain a passive spectator.

Pioneer leaders. Many developing economies still focus on short-term social and economic programmes, forced to cast global issues aside. In this situation, the leading world economic systems and energy companies should play an important role; they are able not only to ensure their own development within the "green" energy framework, but also to make their experience and technologies available worldwide, to improve the health of the global environment and the well-being of future generations.

Advanced regulatory framework and incentives. There is no doubt that the agreements alone, even if enshrined in national law or stipulated in international treaties, will not make it possible to achieve such ambitious goals as those of the Paris Agreement. We need real steps. These include global interaction aimed at introducing new technologies, the development of emerging markets, the alignment and harmonisation of regulations and standards across industries, setting clear targets, eliminating barriers, and stimulating large-scale research and development.

Of course, the scenarios cannot predict an exact future, but they do allow us to obtain a qualitative insight into the options for the development of the global energy, which can help in making strategic decisions in the face of uncertainty of the future, when addressing complex energy and environmental issues regarding the company's development.

resistance.

Next, the Shell specialists make four key conclusions:

Energy needs will grow. The growing population of the planet and the efforts to recover and develop economies and industries, as well as improve the quality of life, require global energy capacity building. You can

Prepared by Alexander Kiselev, Maxim Bakulin, Dmitry Shubny based on materials obtained from www.shell.com

Scenario	Population (million people)	Energy Consumption (EJ*/year)	Specific Energy Consumption (EJ/year per 1 mln people)	GDP (US\$ billion)	GDP per capita (US\$ billion per 1 mln people)
2020	7,795	389	0.05	128,019	16.42
Waves, 2100	10,875	756	0.07	753,969	69.33
Islands, 2100		552	0.05	502,502	46.207
Sky 1.5, 2100		648	0.06	744,130	68.425

* 1 EJ (exajoule) = 1×1018 J.



<u>award</u>

Top Rated by Shell

Sakhalin Energy has been recognized globally jointly by the Production Technology Global Discipline Head and Wells VP Discipline and presented with The Well Integrity Award for superb Well Integrity Management performance throughout 2020.

The award is in recognition for Sakhalin Energy's sustained efforts to improve its Well Integrity performance as well as helping to further Well Integrity globally. In 2019 Sakhalin Energy was already a runner up with honorable mention for the Well integrity award.

The year 2020 brought about challenges around the COVID-19 virus. The Sustained Well Integrity KPIs for Sakhalin average 96% for 2020 which is actively being managed and consistent with previous year's average. This top quartile performance demonstrates Sakhalin Energy's active effort and focus on well integrity. Closeout of Well Integrity Audit actions that were conducted

in 2019 were also closed out in 2020 which included rewrite of the WIT and SIT programs to include detailed description with inclusion of the grease ports in the barrier consideration.

2020 also saw the rollout of eWIMS 5 – electronic web-based system used to define, manage and monitor well integrity, which was supported, and beta tested by selected staff from Production and Technical directorates. The system has now been fully implemented to Sakhalin Energy. To help ease the rollout, Sakhalin Energy developed and ran a Sakhalin specific Well integrity course. The course focused on Well Integrity users and

specified Russian Federation specifics as well as Sakhalin Energy Local WIMS standards. The course was recorded so that it can be shared even after the course dates as needed.

As well as Sakhalin's efforts to focus on Well Integrity within our own company, Sakhalin Energy has also been recognized for leadership within the global Well Integrity community. Presentations on best practices in Sakhalin have been made to the global community and the global PT Leadership Team. These best practices include automated DCS alignment with eWIMS alarms which is a first globally for the Well Integrity Community. As well, the Sakhalin Energy Local WIMS was issued and has specific guidelines and requirements for cement and grease ports as part of the Well Barrier system.

Sakhalin Energy continues to look for improvement in Well Integrity; every year, a Well integrity Improvement plan is updated and issued that captures the strategy for future activities. In 2021, SCSSV (Surface Controlled Subsurface Safety Valve) and a general Well Integrity Self Health check will be conducted.



Well Integrity is a very critical part of Process Safety that ensures safe and sustainable production from Sakhalin Energy's assets. Well Integrity reaches across directorates, assets and disciplines. All of Sakhalin Energy should be very proud for this achievement.

Special Thanks for the continued support to Well Integrity Focal Point Assyl Akhmetov, Kirill Dzhen, Ruslan Klishch, Elizaveta Medzinovskaya, Elina Antonets, Olu Owoyemi

Automated eWIMS / DCS alarms system project team

CJ Affeld :



Maintaining Production Rates

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In early March, Sakhalin Energy Committee of Executive Directors (CED) presented awards to the winners of Continuous Improvement Awards for Q4 2020. Again, the awards ceremony was held online.

Nine teams were nominated to win. The victory went to the Production Directorate team of Egor Selivanov, Vadim Tupitsyn, Anna Platonova, Anton Mamkin, Alexander Markov and Andrey Shevnin. They successfully implemented an initiative aimed at maintaining the fuel gas heater control panel on Molikpaq Platform without interrupting the hydrocarbon extraction process *(for more details see Vesti, February issue).*



The problem is that even a short shutdown of the fuel gas system entails a shutdown of the process compressors, gas treatment system and the gas lift system. This results in a loss of oil production of up to 20,000 barrels per day and an increased consumption of diesel fuel. It was therefore decided to deactivate the fuel gas heater for repairs, while continuing to operate the system without heating in the meantime.

Thanks to this CI-initiative, the company not only avoided a loss of 10,000–12,000 barrels of oil production, but also managed to reduce the amount of flared gas to 5.5 million standard cubic feet and save 57.6 cubic metres of diesel fuel.

For more information on this and other initiatives, visit the CI Wiki website.

CED members congratulate the winners and express their gratitude to all finalists and nominees. Some of the initiatives proposed by the teams were:

• Backup Satellite Communication Channel for PA-A Platform;

• Revision/Adjustment of Auto-Replenishment Amounts, and Reduction of Materials Returned from Offshore Assets to Kholmsk Shore Supply Base;

• Implementation of Electronic Payment Document Turnover with Contractors;

• Chemical Treatment of Vessels;

• Optimisation of New Well Sections Drilling Process;

• HSE Competence Assessment Guide;

• Generation of Surplus Revenue through an Unconventional Approach to Calculating the Price of LNG Stock on-board the Gas Carriers;

• Cost Savings from Streamlining the Customs Declaration Process.

russian content

Steady Development

Meeting the challenge of Russian content development requires a comprehensive approach and efficient teamwork. Pavel Denshchikov, Head of Mechanical, Materials and Integrity Division and Maxim Makarov, Lead Mechanical Engineer of the Mechanical Static Subdivision elaborated on the matter.

- In view of the current external conditions and complex global epidemic situation, Sakhalin Energy considers the development of Russian Content (RC) as a strategic priority. Which measures and actions are being taken by engineering specialists in order to increase RC in the Static Equipment and **Piping PVFF category?**

Pavel Denshchikov: While preparing the new Russian Content Development Strategy for 2018-2023 we gave serious consideration to the assessment of RC development potential. First of all, we have identified the constraining factors and streamlined the steps needed to increase the use of Russian materials and services. In my view, the key factor in successfully realising this objective is a comprehensive approach, including standards harmonization, localization of foreign equipment and technologies as well as screening for Russian analogues of materials and equipment. In addition, we pay great attention to our work with Russian service companies, actively developing new areas of cooperation under the existing contracts with Russian contractors.

How do you rate the results of the harmonization of static mechanical equipment standards project, completed last year?

P. D.: Our team joined the project in 2018. Its primary objective was to establish equal conditions for foreign and Russian manufacturers in company tenders (procurement of materials, equipment and services). Since all assets of the Sakhalin-2 Project were designed and built in accordance with international codes and standards, all technical documentation, including specifications, procedures, manuals, etc. relies on those standards to a considerable extent. This creates certain constraints for engaging Russian companies. To help Russian companies to overcome this barrier, we compared the requirements of Russian and international standards and developed new harmonized technical specifications.

Given the complexity of the task, we can commend the recent results of this project: Russian analogues have been identified for almost 20 per cent of international codes and standards. Twenty-one technical specifications have been prepared containing technical requirements based on comparative standards' analysis. For advanced air purification filtering elements and driving belts for HVAC system fans, new standardized descriptions of materials have been developed for purchase through the SAP system. Maxim Makarov: A project design organization should be engaged for work with a number of technical specifications. This applies to developing localized specifications for process pipelines and piping based on GOST-standardized materials, which is required for further developing the harmonization project in our discipline.



Pavel Denshchikov and Maxim Makarov

ducts. We are planning to engage a Russian laboratory for lab testing of reference samples of Russian steel to confirm their mechanical and chemical properties under ASTM (American Society for Testing and Materials) standards. This would allow us to compare "apples with apples" in strength analysis of Russian and foreign steel, thus providing a basis for required calculations.

Simultaneously with the steel lab tests we, jointly with the Russian design institute "Gazpoject engineering" (GPE), are planning to proceed with additional design work for specifications in accordance with ASME (American Society of Mechanical Engineers) standards. Over the next three years, we are planning to develop six specifications for pipes with an operating pressure of 19 bar and 48 bar for low temperature carbon steel and stainless steel, including those used in a working medium where hydrogen sulphide is present. Successful implementation of this project would allow for purchasing a certain portion of tubular products for process piping from Russian manufacturers.

In 2019, the company launched a major project for screening for Russian analogues of shut-off and control valves to be used at Sakhalin Energy's assets. What has been done in the past two years?

M. M.: We have been implementing this project jointly with the Russian design institute GPE and teams of the Project Department and the Supply Chain Management Department, as well as the Russian Content Development and Vendor Relationships Subdivision Team. As a result of the first phase of work, 49 unique shut-off and control valves and 500 potential Russian analogues have been identified. GPE came up with a list of Russian manufacturers and models of shut-off and control valves with maximum compliance with our requirements. At the end of 2020, the second phase was completed, during which technical specifications for design, manufacture and testing of the said valves were developed. In their development, we took into account requirements of Russian standards and standards of DEP/MESC Shell, as well as additional requirements of Sakhalin Energy. Twenty-three data sheets for four types of shutoff and control valves (ball, butterfly, gate and globe valves) have been developed for 235 items.

cal analysis of proposals by Russian manufacturers, evaluation and selection of valve models have been carried out for further demonstration testing at the company's assets. Testing of Russian-made shut-off and control valves would allow for the assessment of quality, reliability and safety of domestic production. We are planning

Based on techni-

to select piping systems and valve models which would allow for testing free of additional risks and shutdowns. Right now, we are working on a testing programme that details scope, timing, operating environment and relevant criteria. After the testing, valves will be subjected to hydrotesting with subsequent disassembly to assess wear and tear. Based on the assessment, a decision will be made on the applicability of Russian shut-off and control valves at the company's assets.

Consideration is also being given to the possibility of purchasing Russian-made valves without demonstration testing in case of proven consistency with the company's requirements.

- Over the past few years your team has

significantly expanded the scope of cooperation with the Russian company SK INTRA. Please give some details regarding the new direction of this joint effort.

P. D.: Starting in 2016, specialists of SK INTRA have been performing works on restoring painting and coating and replacing piping thermal insulation under the Corrosion Under Insulation (CUI) mitigation Project. Since 2019, we have been developing cooperation

in the area of temporary piping leak repair comprehensive approach. We have achieved

P. D.: Cooperation in the area of local piping pressure tests with SmartPlug® is another important new development. The project started in September 2019 at the Eastern Economic Forum, during which Sakhalin Energy entered a tripartite memorandum with SK INTRA and the British STATS (UK) LTD. As agreed, STATS (UK) LTD. and SK INTRA would not only work together, but also would transfer expertise and build unique competencies of Russian specialists. Plans for 2021 include conducting the first hydraulic tests during the OPF shutdown.

- In addition to implementing major system projects aimed at sustainable increase of Russian Content, you deliberately target certain kinds of equipment and materials. -Please tell us about these projects in more detail.

M. M.: We have made some progress in localising HP hoses. We started this work in 2019, and in early 2020 a contract was signed with the Sakhalin-based "Hydropoint" for the purchase of general industrial HP hoses. Our next challenge is finding a reliable manufacturer of drilling HP hoses consistent with API (American Petroleum Institute) requirements.

Starting in 2020, a trial operation of Russian-made "MAS" pocket filters for HVAC system at the Molikpaq platform has been conducted

A trial of Russian-made reverse osmosis membranes for desalination plants at company platforms is planned for 2021.

Beyond that, we see a potential for Russian products (plate heat exchangers, relief valves etc.) as part of replacement programmes for obsolete equipment and cost optimisation.

P. D.: In conclusion, I would like to note that the input of relevant subject matter experts is very important in addition to a



Installation of INTRA SEAL clamps and INTRACOMPOSITE banding on the pipe assembly for testing

technologies. SK INTRA is a pioneer in the such great results thanks to the support and active involvement of the Standards Harmonisation Project Team, specialists of the Project Department, Supply Chain Management Department, SCM BFP Division and the Russian Content Development and Vendor Relationships Subdivision Team. Creating an enabling environment developing Russian Content under the Sakhalin-2 Project, while maintaining safe and effective operation of our production facilities is the key to the stable future development of the company. The transition to the use of Russian equipment and materials and adoption of localised technologies enhance economic effectiveness and reduce dependency on foreign suppliers, hence contributing to the growth of the competitiveness of Russian domestic products and to building the competences of Russian specialists. By Virginia Lakomova

- Could you give more details about this work?

M. M.: Since steel grades and standards regulating their production are different in Russia and abroad, we identified inconsistencies in materials and recommended performing further design and preparation of technical specifications based on the Russian standards for rolled tubular proRussian market in this field. In 2012, this company was the first in Russia to localize and implement an innovative technology, which considerably reduces costs and product loss as well as extends the life of piping.

M. M.: Last year the company purchased and installed the INTRA CASE 24" line clamp at the OPF-OET main oil pipeline section. Currently, preparations are being made for conclusion of a supplementary agreement for the purchase of INTRA CASE line clamps of other sizes. In addition, at the beginning of 2021, testing of composite IN-TRA SEAL clamps and INTRACOMPOS-ITE sealing wrap for restoration of defective pipe sections was successfully completed. As a result of the work done, the INTRA SEAL type has been approved for use at the company's facilities. Further commercial evaluation is being carried out with respect to the INTRACOMPOSITE wrap.

12 april 2021

Six and a Half Thousand K

This year, representatives of one of the most enigmatic and romantic professions will celebrate their professional holiday with a special feeling. And there is an explanation for that: Geologist's Day turns 55 years old. A word to our heroes of the occasion...



VSEVOLOD CHEREPANOV, CEO OF GAZPROM NEDRA Vsevolod, what does being a geologist mean to

you? What influenced your choice of career?

– Geology is not merely a science, and being a geologist is not merely a profession. It's a creative career that enables you to enter an endless realm of mysteries and enigmas, to experience the unknown and to make your own discoveries. I've always been interested in solving these sorts of problems. My choice of career was largely determined by my parents' profession. They were also geologists.

– Were you always certain that geology was your vocation? Who helped shape you as a professional?

I have never regretted my choice. Over time, I only became more and more certain that going into geology was the right decision. After all, geologists have a distinctive outlook, being willing to devote their lives to studying the underground world. I picked geology up little by little. I took my first steps in that direction as part of a geological survey in Western Siberia, where I worked my way up from the very bottom. In those days, there was a great deal of exploration for new hydrocarbon reserves, and the industry's luminaries often led large expeditions to find them. Being a young professional at that time, I wanted to

Roman Dashkov, CEO of Sakhalin En

reach their level. I still have fond memories of my first supervisors: V.A. Tugolukov, G.I. Oblekov and M.V. Masnick who became real mentors for me. To improve my knowledge, I studied the work of well-known geologists, whose reputations inspired me to keep growing as a professional.

-In your opinion, how different is modern geology from geology 30 years ago?

Geology, being the field of subsurface studies, has changed a great deal: specialists are now equipped with the latest equipment, computing power, and new technologies and methods. Plus, of course, the experience we have gained over the past 30 years!

Scientific and technological advances have provided modern geologists with unique software and advanced data processing methods and communication capabilities. Many aspects of geology might seem to have become clear and predictable thanks to these major breakthroughs and innovations. To this day, however, there are still major theoretical debates on the origin of hydrocarbons, the influence of tectonic plate movements on the geological environment, the pulsation of the earth and the processes behind climate change. I'm sure there are plenty of interesting challenges and discoveries left for future geologists!

Which exploration projects are currently shaping the oil and gas industry? What are the prospects for offshore geological exploration?



Of course, there are many projects, but I would say some of the most important are the development of deep horizons of existing fields, the development of unconventional reservoirs and hard-to-reach areas, and research into the deep migration of hydrocarbons. The issues of extending the life of existing fields and increasing hydrocarbon recovery factors are also extremely relevant. I have no doubt that all the major discoveries to come will take place on the Russian shelf. Among them will be gas hydrate deposits as well as deposits in

large geological structures in new basins.

- How has the Sakhalin-2 project contributed to the development of the Russian energy industry?

Sakhalin-2 is unquestionably a unique project for the entire oil and gas industry. You have solved complex technical problems spanning the full cycle: hydrocarbon exploration, production, treatment, refining and transportation to many countries in the Asia-Pacific region.

Thanks to Sakhalin-2, wells with produc-



ergy: "Celebrating this holiday for the 55th time, we pay tribute to the labour deeds of Russian geologists, those who discovered and explored the Russian subsoil and whose selfless work helped to strengthen the economic power of our country. Today Russian geologists cherish the traditions of their predecessors and successfully fulfil their main task – to develop the mineral and raw material base. Increasing the capacity of new oil and gas production centres will enhance the efficiency and competitiveness of the Russian fuel and energy complex and create a solid foundation for its progressive development. On this professional holiday I sincerely wish all geologists health, prosperity, success in all endeavors and great discoveries!"



Roman Dashkov and Vsevolod Cherepanov at the Sakhalin Oil and Gas 2020 Conference

tion rates of millions of tons have been constructed for the first time. Also, in a first for Russia, you have gained experience in the construction and operation of gravity-based platforms, which have been carefully studied and taken into account in many new offshore development projects. And, of course, Sakhalin-2 is Russia's pioneer LNG project.

A shining example of technological innovation in offshore oil and gas production, Sakhalin Energy maintains the highest standards in all its activity, enabling the company to look to the future with confidence.

- What would you wish for those who want to take up geology?

Always be faithful to your vocation. After all, with knowledge, absolute professionalism, dedication and enthusiasm, you can make an invaluable contribution to the study and development of the country's natural resources!

STI

ilometres to Go



ALEXEY KHABAROV, HEAD OF DIVISION FOR SCIENTIFIC AND TECHNICAL DEVELOPMENT AND TECHNICAL DATA – Alexey, why did you decide to become a geologist? Was it a childhood dream?

- I have to confess that I am not a geologist in the usual sense of the word. I graduated from Tyumen Oil and Gas University, Faculty of Geology and Exploration, and I am a geophysicist by training, with a focus on downhole geophysical research. Geophysics is one of the tools of geology. In fact, both disciplines are inherently related, which is why I think of myself as a geologist in many ways. At the company, I run a team of experts in all areas of geology and field development.

Speaking about my career choice, everything is quite simple: I am a second-generation exploration geologist. My father was one of the first graduates of Tyumen Oil and Gas University and one of those involved in the exploration of Western Siberia. When I was a child, I would often see him with his backpack returning from long duty journeys and expeditions across the vast territories of Western Siberia, and I felt that there was something very exciting and mysterious about his work. Apart from that, I have always been fascinated by the very term "geological exploration". I used to picture myself sneaking through the woods with a backpack, overcoming all sorts of dangers. All of these things led me to follow in my father's footsteps. And although reality tends to be quite different and the conditions for offshore activities. We provide sort of a platform for advanced modern technologies, both in terms of geological exploration and geological analysis as well as in terms of methodology and the research that we carry out. In particular, one of the most innovative areas is 4D seismic, which helps us understand the geological structure and monitor the development of our fields.

- If we compare the techniques used 30 years ago with the ones used today, how different will they be?

- This is actually one of the topics my father and I often discuss. No matter what I tell him, I always get the same answer: everything was developed and invented 30 years ago, we should thoroughly study the works of our predecessors. There is some truth to this.

As a matter of fact, the foundations of everything on which we are standing today were laid many decades ago and even earlier in the centuries. Many of those laws still hold true and are still in use today. But the distinguishing features of our times are the speed and methods of information processing, the use of digital technology, the use of auxiliary algorithms that allow a single person to perform analysis in scope comparable with that done by entire departments of the past. There is no doubt that the level of material processing has increased, with digital and 3D geological and hydrodynamic simulation that enable previously unthinkable degree of detail.

Many times, I heard my father reasonably say that though we have learned how to press buttons, we still have to feel the rock. This is why a geologist's expertise, knowledge of the preceding experience, and understanding of the methodology itself are still in high demand. There are no auxiliary computing techniques that could serve as a substitute for a human, for human knowledge and specific professional intuition.

- As you said, your father believes that it is important for a geologist to feel the rock and to be intuitive. How important is this from your point of view?

- By its very nature, underground analysis deals with huge uncertainties. The object of research lies several kilometres deep. Basically, all we have is indirect information about an object, which is also presented as scattered points in space. If you apply drilled wells to the scale of a field, it will look like strings dangling from the ceiling in a room full of furniture. Our primary concern is to grasp the interior of the room. As professionals say, to grasp the structure of a field. Of course, we have not only well-drilling at our disposal but also other types of research, such as geophysics, geomechanics, and hydrodynamics, all of which have a wide range of tools and techniques. However, neither surface methods, such as seismic survey, nor downhole geophysical research provide accurate information about the structure of complex depth horizons. Therefore, when analysing the subsurface of fields, we always use a wide range of possible solutions and insights. Today, human intuition is not taken seriously when making complex business decisions, but despite all the tools and computers, it is the knowledge and experience of geologists, geophysicists and engineers that enable us to limit the range of possible solutions, discarding all unlikely scenarios.

- It turns out that geology is somewhat like medicine: human body still puzzles us despite many years of study.

- Indeed. I tend to think that medicine is somewhat akin to geology and geophysics. Doctor has to diagnose the disease, to identify its cause and prescribe treatment based on indirect indicators (i.e., pressure, temperature, or state of skin), or the results of laboratory tests (which also do not give an exact answer). And although computer technology is becoming increasingly common in medicine today, it is difficult to make a precise diagnosis and predict the course of a disease. The same is true for geology: without seeing the object of study and with a huge amount of information that does not always give an exact picture, we have to imagine what is inside and what processes are going on there.

- In that case, what depth can and should a geologist "look into"?

- As for petroleum geology, it is limited to some first kilometres. As a rule, geologists who work in this sector do not search any deeper than five kilometres. This is due to many factors.

First, the thickness of the sedimentary cover, in particular of the rocks where hydrocarbons are mainly accumulated and

Many times, I heard my father reasonably say that though we have learned how to press buttons, we still have to feel the rock. This is why a geologist's expertise, knowledge of the preceding experience, and understanding of the methodology itself are still in high demand.

generated (i.e., the depth of the oil parent rock where oil originates and where it migrates from). Second, the so-called reservoir characteristics of the rock (the ability to contain and release oil) deteriorate with depth. It is hard to expect high flow rates and highly profitable development targets at great depths, so they are of little interest to us.

- Do you think renewable oil is a myth or reality?

- It is a topic for a big discussion. Let's take as an example the Romashkino field in the European part of Russia. According to previous calculations, the reserves must have been depleted, but production continues to this day. There are similar assets, though perhaps of a different scale. Late-stage oilfields with a high degree of water

timates of the reserves and properties of the rocks we have to work with.

- Is it true that decisions on field development depend largely on geological data analysis and the following verdict? How responsible is this?

- It is the highest level of responsibility. Not only geologists but also experts in other disciplines are involved in the decision-making process for the development of a field. Last but not least, economists and sales experts are also involved. They calculate economic viability under specific geological, geographical, and logistic conditions. In each case, they assess the totality of factors: is it possible to extract, transport, and process the extracted hydrocarbons. No doubt, geologists stand at the origins of all these processes, and they work at the cutting edge. Their skills, expertise and work experience are used to analyse data and then 'pile' everything else on top of it.

- The more we talk, the more I realise that being a geologist is a vocation. What should a geologist be prepared for?

- Certainly, people of this profession are faced with a lack of information, despite all the achievements of science and technology. Every geologist needs to have a good imagination and spatial thinking. Armed with an incomplete set of data, they must be able to make an underground survey, discarding unrealistic options and finding a solution that will form the basis for the next steps in the design and development of an oilfield. Although expeditions that used to be associated with geology are no longer a reality of our lives, this profession remains exciting and fascinating.

First of all, geology appeals to people who are not inclined to routine work and are interested in complex spatial objects. Though I must admit that today the boundaries of geology are getting blurred with increasing integration into complimentary sciences.

- What is your vision of the geological profession in the future? How much will it change?

- The number one trend of the future is multifunctionality. The new generation of geologists must have in-depth knowledge not only in geology but also in field development, well construction and geophysical analysis methods. Geologists are increasingly implementing automation and artificial intelligence, new computer technologies and machine learning. Therefore, they must be up-to-date with the IT and have a good knowledge of computer programming.

- One more question then. Have you got a mentor and if so, who is he or she?

I have a deep respect for our predeces sors, the giants on whose shoulders we stand. These are people who made great decisions in difficult economic, political, and psychological conditions. These are people who laid the foundation of what we are standing on today. These are highly virtuous people of great generosity and encyclopaedic knowledge. My father is one of them. So, answering your question, I will say: he was and still is someone I want to be like. - On the eve of Geologists' Day, is there anything you would like to wish to your colleagues? Above all, I wish them not to lose their professional enthusiasm, to believe in their lucky star, not to be afraid of difficulties and uncertainties underground. Always keep improving your knowledge and professional skills, look to the future with courage and keep up with the times.

from my childhood dreams, I am not disappointed with it.

- What fields have you worked in so far?

-The list is pretty long. Over the years I have acquainted with most of the major fields in Europe, Western and Eastern Siberia, as well as in the Far East, and I have also participated in overseas projects in Vietnam, Venezuela, Brazil, and the Middle East.

– Are there any differences between geological explorations within the Sakhalin-2 project and other projects?

- Speaking about the sites being developed by our company, they are not unique from the geological point of view because they consist of typical sedimentary rocks that were formed under coastal and marine sedimentation conditions.

The project itself is quite interesting, both in terms of its technological aspects

cut have wells that produce oil flow again after a few years of dormancy.

– What causes this?

- In fact, we extract a smaller portion of oil that lies in the reservoirs. There are always stagnant zones that do not contribute to production. And if we leave that zone alone for a while, gravity causes the oil from those stagnant zones to penetrate the well drainage area.

By the way, there is another theory. It is based on the idea of feeding from underlying parent rocks or from deeper layers. This feeding enables reshaping and restoration of reservoirs. In my opinion, this is not very probable. Most likely, the main reason for this phenomenon is the probabilistic and, to a certain extent, inaccurate assessment of collector properties and reservoir structure that we are dealing with. There is always a range of uncertainty, as well as incorrect es-

(Continue on page 14)

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april 2021

VESTI Six and a Half Thousand Kilometres to Go

profession

(The end. See beginning on page 12)

There is a perception that the modern geologist spends more time on the computer and rarely engages in field research. Geology is no longer the same as it used to be: when bearded men roamed the taiga for months, with backpacks, compasses and a hammer. Together with Andrey Antonov, Lead geologist of the Drilling Programme Design and Implementation Department, we will try to understand how the profession has changed and what percentage of romance is left in it.



- Andrey, is your work more practical or theoretical?

- It is more theoretical, yet it would be premature to remove field geologists from the list of professions, despite the fact that the number of specialists involved in these activities has decreased significantly. Yet, it still remains necessary to recover rock samples and send them off for further examination.

Sure enough, data transmission and processing technologies have made great strides in the past 50 years: maps have gone digital, rock analysis can be done with a device no bigger than your home printer... Nevertheless, those bearded guys with backpacks have not completely disappeared, becoming protagonists of songs, books, and films.

– What was the way that brought you to **Sakhalin Energy?**

- I graduated with honours from the Faculty of Geology of Lomonosov structure of Earth has always preoccupied me. Geology offered me a perfect combination of skills and knowledge. It requires a good command of mathematics, physics, chemistry, a foreign language, programming, geography, and chemistry. Certainly, the opportunity to travel around the world and to meet people from other countries appealed to me as well.

- What countries are pinned with flags on your world map?

- There are still many blank spots on it. I have been to dozens of cities in Russia and Kazakhstan, as well as in France, Holland, and the USA.

The holiday was established by the Decree of the Presidium The Supreme Soviet of the USSR of March 31, 1966 year in commemoration of the merits of Soviet geologists in the creation of the country's mineral resource base. The holiday falls on the first Sunday of April, which is associated with the beginning of preparation for summer work and the gathering of the expedition.

first two years of studying at the Faculty of Geology my coursemates and I did practical training in Crimea: we collected specimens, carried out geological surveying and mapping, and made observation records. It is funny to look back at myself as a freshman able to describe main features of a mineral or a rock and failing to recognise a real specimen once it came into my hands, because it is a challenging problem even for an honour student.

By the end of the training, we came to see many things in a different way. If you are not ready to give up the comfort that you are accustomed to, then being a geologist is not for you. One more thing that makes this job relatively unpopular is the locationspecific nature of the work. Not every town or city provides jobs in this field. Software engineers, economists and doctors are needed in many places, while positions for geologists are not very common.

The ancient scholars Pythagoras, Aristotle and Pliny the Elder may be considered the first geoscientists. Their writings feature attempts of analytical reasoning about the Earth. The surviving comprehensive works also include the treatise "On Stones" written by the ancient Greek polymath Theophrastus (circa 300 BC).

- Who do you think cannot become a geologist?

- At first glance, there seem to be no limitations. I remember one day when students in the lecture room got too rowdy, and our Professor of Further Mathematics said with annoyance, "You can learn geology, but mathematics is something you have to understand." So, the charm of geology is that it has no complicated formulas, no multiple laws, no common opinions. I always think of my grandfather who graduated from two higher education institutions, Moscow Power Engineering Institute and Moscow State University.

He argued that to study at a university it is enough to be a person of average abilities, but to become a true professional you will need to abandon the "mediocre"; it takes diligence, hard work, and talent. A true geologist is not conceivable without the ability to grasp the immensity of the geological history of Earth. If you find it hard to imagine that once upon a time the territory where Moscow is now located was under the sea, that Siberia used to be as hot as the tropics, that the history of Earth has seen periods in which 80-90% of all living beings became extinct (without any human intervention), or if you believe that it is the Sun that revolves around the Earth, then you'd better forget about geology.

the planet is approximately six and a half thousand kilometres. We peeked into a keyhole for a second. That is how I would describe our knowledge of the planet.

- Quite impressive. "Only" six or seven thousand kilometres to go, and our capabilities will be matched by our quest for knowledge. I read that at the time when the Kola Superdeep Borehole was being drilled (it was more than 12 kilometres deep at that moment), it was believed that we would learn everything about the structure of the Earth's crust. But there is nothing down there -12 000 metres of ancient sedimentary or igneous rocks, which subsequently have undergone deep processing by pressure and temperature and have therefore changed...

Do we need such boreholes, such scientific projects, to better understand the structure of Earth? Of course, we do. Economic expediency determines a lot of things in our world. How much money can we make out of the acquired knowledge? Commercial benefit is likely to be negligible. Research methods are constantly evolving, but although geology has advanced since the Kola Superdeep was drilled, there is still a long way to go...

- One more mystery: what is oil? There are proponents of both organic and inorganic hypotheses of oil origin. Which one do you favour?

- There are facts supporting both of them. The organic theory is supported by hydrocarbon compounds found in oil, which are embedded in the structure of microplankton. How did complex polyatomic structures that are or were found in living organisms become part of oil? And it is not just one specific molecule or a unique chemical compound. Such compounds amount to dozens, if not hundreds.

The most popular question to proponents of the organic, or biogenic, theory is about the manner and route of migration of oil from parent material to reservoir. After all, those reservoirs that we extract oil and gas from are not the place they originated from. How and when did oil and gas get to their reservoirs? The abiogenic theory is most often supported by a small number of oil reservoirs in volcanic or metamorphic rocks. And there are no rocks nearby that could generate the discovered oil accumulations.

- It reminds me of the chicken-or-theegg dilemma.

The truth is somewhere in between. Inorganic synthesis under natural conditions should not be completely rejected.

Moscow State University in 2007 with a master's degree. During my senior years at the university, I worked for a company that provided software solutions for creating 3D field models.

I joined Sakhalin Energy in 2012. I started out as a geologist at the Astokh and Piltun areas. The tasks ranged from writing reports to creating a conceptual sedimentation model of a field. Now I work in a team that carries out a drilling programme at the Piltun area of the Piltun-Astokhskove Oil and Gas Condensate Field.

- Why have you chosen geology?

- It is a family thing: my father worked as a geologist in the oil and gas sector. Also, I had a special interest in geography, chemistry and, to some extent, physics back in school. Besides, the topic of

- Would you agree that such a career can push modern city dwellers out of the comfort zone? Maybe that is the reason why it rarely pops up in career choice charts?

- I think geology and comfort are incompatible. This is especially the case for the fledging years, a time when it is essential to lay the groundwork for the future. Simply put, one has to touch, feel, and examine everything up close and personal. There is no other way to become a professional.

You can talk all you want about how to dig the ground, but until you take a shovel with your own hands, you won't learn a skill. Let me give you an example. After the

- Is it safe to say that we have explored the globe inside and out?

Certainly not! Three quarters of the Earth's surface lies under water: do we explore the seabed thoroughly enough? Satellite images will not help in deep water. Besides, there is Antarctica. This continent is also very poorly explored. The deepest borehole in the world is the Kola Superdeep. I will not quote exact figures of its depth, but let's round it off to 10 kilometres. And it is merely a microscopic prick on the surface of our planet! The average thickness of the continental crust ranges from 30 to 40 kilometres. We have not even fully uncovered it. The radius of

- Does geology help you experience a sense of love and respect for nature? Humans have long felt like masters of the world, yet nature often reminds us that we are her guests.

- I believe that it is not the profession that shapes one's attitude to nature. This attitude is formed in early childhood when the choice of life path is as far away as Mars. And as a geologist, I am one hundred percent sure that nature will take over. We must not fight it. We only need to protect it from ourselves.

- What advice would you give to yourself?

Keep that up!

Column prepared by Olga Moreva, Alyona Olovyanishnikova, and Elena Gurshal

infographics



The World through a Lens is Back

At the end of March, the traditional corporate photo competition The World through a Lens started. In the year of the company's 27th anniversary, it is timed, as before, to coincide with Oil and Gas Industry Workers' Day.

Not so long ago, a camera was a luxury. Today almost everybody has one – on their own, in their phones and tablets. We used to take pictures exclusively on festive occasions. Now, no one is restricted in their number and

For the first time in the competition's history, the organisers are extending the circle of participants and inviting everyone to join the photocreation – employees of the company and HR agencies, workers of contracting organisations, pher". For the first time in the history of the "The World through a Lens", works in various genres will be accepted from children aged 7-18.

According to the rules of the competition each participant may submit one to five photos in each

category. Works will be accepted until 1 August 2021 at ea@ sakhalinenergy.ru. Please remember to put "Photo competition" in the subject line.

Don't hesitate to get involved – the first ten and then every seventh author of the works have pleasant surprises. Let's team up and go on a fascinating journey called The World through a Lens!

If you have any questions on participation in the competition, please contact us by phone: 66 2544, 66 2032.

Yulia Vatutina



frequency.

When we take pictures, we want to capture the moment and keep it forever – that way we can stop time and enjoy the moment. When we communicate with each other, we exchange photos more and more often – so that we can talk about the important events in life more easily. But it is not only social networking sites where you can show your world view and make yourself known: try your hand at the World through a Lens corporate contest!

This is the 14th time the competition has been held at our company. This year, there will be many new features: meetings with photography gurus, photocrosses and workshops led by professionals.

family members, including children (read about their participation below).

Changes have also been made to the categories. After lengthy discussions with colleagues who have long been seriously interested in photography, we chose the following:

- Art Photography;
- Wildlife;
- Pets;
- Lifestyle.
- Microworld;
- Landscape;
- Portrait;
- Sakhalin Energy;
- Street Photography;
- Ecology.

There is one more surprise -a special category "Young Photogra-

16 april 2021

<u>society</u> Championship's Human Resources

The VI Regional Worldskills Russia championship has come to an end in Yuzhno-Sakhalinsk. 600 competitors and thousands of guests, 89 competences, an extensive business programme - these and other features of the event made it one of the key events of the first quarter for the Sakhalin region. Sakhalin Energy was a partner of the championship and an active participant in its agenda.

STRATEGIC DIRECTION

Alexander Singurov, Deputy Production Director of Sakhalin Energy, Head of Prigorodnoye production complex, addressed the plenary session on the strategy for providing human resources to the basic industries of the regional economy. He noted that recruitment and training of Russian talents



is the part of company's strategy, which is reflected in a number of in-house regulations. "Sakhalin Energy has been in business for more than 27 years, and we have achieved good results in terms of staffing the company with Russian members. For instance. in 2006 the share of local team members was 59 %, and today it is more than 94 %, while at the Prigorodnoye production complex the number is 97 %. Needless to say, we are proud of our unique international culture based on the synergy of the world's best practices in the oil and gas sector, and we are interested in foreign specialists sharing their knowledge and experience. At the same time, increasing the share of local staff members is a crucial task for us," added Alexander Singurov.

NEW COMPETENCIES HAVE BEEN ADDED

As one of the largest oil and gas operators in the island region, Sakhalin Energy is interested in highly qualified specialists trained in local educational institutions. In this regard, for the first time, a competition in the new competency "Oil and Gas

Production" was launched as part of the regional Worldskills Russia Championship with the active assistance of the company, which is another result of Sakhalin Energy's consistent work in addressing the staffing issue.

According to Alexey Tymchikov, Deputy General Director of autonomous non-commercial organisation "Professional Development Agency (Worldskills Russia)", "Oil and Gas Production" competence is one of the most challenging and promising part of the Championship. More importantly, it represents a realistic mechanism to address an urgent issue of training of skilled and demanded personnel, which for many years has been noted by enterprises of the fuel and energy complex.

FIVE FOR THE LOOK!

Twenty-five people decided to try their hand at the new competence. After a series of preliminary tasks, five students from Sakhalin State University Polytechnic Col-



Energy, therefore my participation in the competence is a way to make a statement", said Daniil Omelian.

The equipment at which the contestants would have to demonstrate knowledge and skills aroused their high interest: drilling rig operator training simulator, stands simulating various production processes related



lege were selected: Pavel and Nikolay Kalashnikov, Ivan Mochenkov, Daniil Omelyan and Sergey Urusov.

"I chose this discipline because I'm be-

ing educated to work in oil and gas sector

and would like to get a job with Sakhalin to oil and gas production. Under the three programme units, contestants had to service an injection well and pipeline valves as well as conduct well pulling-and-running operations.

"Not only we evaluate the correct sequence of actions, time spent on a task and understanding of the process, but, first of all, we pay attention to work safety, which is the first priority of our company." said Rim Gaisin, Competency Manager, Senior Championship Expert, Senior Concept Well Engineer of Sakhalin Energy. Besides him, four more experts were engaged. Three from Sakhalin Energy: Yuri Klishin, Head of Operations Training Subdivision; Ilya Groza, Head of Maintenance Training Subdivision, Ruslan Oblekov, Russian Content Advisor and one from Gazprom Dobycha Shelf: Timur Muratov, Deputy Head of Production Department. For two days they will monitor the performance of assignments by contestants, paying close attention to every detail.

It was not so easy for the participants to complete the tasks. But it made the victory much sweeter, giving an opportunity to participate in the Worldskills Russia National Championship, gain experience and grow into an experienced professional in-demand in the labour market. In the end, Pavel Kalashnikov became the competency leader, Nikolay Kalashnikov got silver and Daniil Omelian rounded out the top three.

An even more pleasant surprise for the participants was the final day of the championship, when, during an awards ceremony, Natalya Gonchar, Head of the Sakhalin Energy Corporate Affairs Department, said that the company had decided to invite the top three contestants in the Oil and Gas Production skills to the Sakhalin-2 Onshore Processing Facility (read more in the next issue of Vesti). where they would have the opportunity to study the operation of modern equipment that meets the best international standards, communicate with highly-qualified engineers and specialists, and learn from their unique experience. The young people will be proposed to complete a specially prepared technical assignment, and later they will present their work to the leaders of the Sakhalin Oblast Government and Sakhalin Energy. In addition, the winners of the competence will be guaranteed employment with the company, provided that they have only 3 "good" and "excellent" grades on their graduation diploma.



As part of the VI regional Worldskills Russia championship, the BabySkills children's game championship was held on Sakhalin for the first time. It was attended by 33 junior pupils – pupils of the South Sakhalin school № 6. The participants competed in five competencies, but one - "Civil Engineer" - the company representatives paid special attention to. On this site, children were asked to make a model of oil production equipment from a special constructor. Winners and awardees of all Sakhalin Energy's competencies received a memorable gift - a 3D book about the Sakhalin-2 project



Award ceremony for the winners of the "Oil and Gas Production" competence

Pavel Ryabchikov



personnel

To the Young, All Doors Are Open

We have already talked about Profinternship 2.0, a new online project carried out by the president's "Russia — Land of Opportunity" platform and the All-Russia People's Front. Last autumn marked the beginning of the third season of the student competition. In early March, the results and the winners were announced in Moscow.

The company took part in the project for the secondtime. Students were offered six cases to solve in such areas as chemical engineering, geology, economics, construction, and personnel management. Just as before, the cases were developed by company employees Dmitry Litus and Anna Platonova. For several months, they consulted with the students both individually and in groups, checked their solutions and shared feedback.

The students picked suitable cases both on their own and with the help of academic advisers. It is worth noting that this year showed a surge of interest in the company's cases — during the second wave of the project the company received 13 solutions, and during the third wave there were already 23. Geology cases were particularly popular.

Students from various educational institutions participated in the project. This year, the company allowed students of secondary educational establishments to compete, which proved to be the right decision, as they were very active and performed on par with students from tertiary educational institutions. Additionally, individual invitations to participate in the case project were sent to those students undergoing an internship at the company, and to the participants of the scholarship programme. In the end, the participants included students from Tomsk, Buzuluk, Stavropol, Ufa, Moscow, Saint Petersburg, Tyumen, and other cities. This time, the North-Caucasus Federal University was represented by seven students, making up almost a third of all the participants.

According to the project terms, participating students can receive an offer for an internship at the company. Due to the fact that it was the first event of this kind for Sakhalin Energy, which was even more difficult to organise in light of the pandemic, the decision was made to do an online



Nikolay Brovin

internship with all of the students who submitted work. A special programme was developed just for this purpose, which included eight lectures and a number of workshops. For two weeks, the company's specialists introduced students to Sakhalin Energy's business activity as well as the career opportunities offered by the Sakhalin-2 project.

As per the contest results, the best "solver" of Sakhalin Energy cases was Nikolay Brovin. He will be included in the list of potential job candidates as part of the graduate development programme.

The number of winners of the third season of the Profinternship 2.0 student competition totalled 589 students from 59 regions. They all gained unique experience and knowledge, not to mention an opportunity to intern at the country's leading companies.

On 1 February, the fourth season started. If you like working with students and have ideas for interesting tasks in various fields, contact Maria Nikolaeva at Maria.M.Nikolaeva@sakhalinenergy.ru

If there are students in your circle, invite them to

participate in solving the company's cases. They will get a chance to show what they are capable of, decide what they want to do for their internship and even become part of the talent pool, thus accumulating unique life experience.

The editorial office of the Vesti newspaper asked the contest winner Nikolay Brovin a couple of questions.

- Where do you currently study, Nikolay?

I am in my fourth year of studying Offshore Oil and Gas Fields Development and Operation at Saint Petersburg Mining University.

- Why did you decide to participate in the Profinternship 2.0 project?

I believe all students should participate in such contests. Waiting for the results is always exciting, and you get so many new opportunities. For example, I got the chance to participate in an online internship and become part of a success stories video for the Profinternship 2.0 project.

- How challenging or interesting was it to solve the company's case?

It took me one evening to solve the case, but it does not mean it was easy. There is not one true answer to the case, so you have to justify your solutions beyond any doubt. Students rarely get tasks of this type that require a certain degree of creativity. The university generally makes you substitute values into a formula and solve the equation, and that is it. Here you must utilise all your knowledge and wit.

- What made you choose this particular case?

It was a great fit for my specialisation, so I wanted to put my theoretical knowledge and abilities to the test.

- Why do you want to work at Sakhalin Energy?

I want to put my acquired knowledge into practice and work on real assignments in a team, as well as complete the training that the company offers. Studying fire flooding in lecture rooms is not quite as effective as working with stateof-the-art technologies on the Sakhalin-2 project. A picture is worth a thousand words, so to speak.

- What is your main goal and dream?

My main goal is to develop professionally in the oil and gas industry, consistently raising my qualifications. And when it comes to dreams, I would say fishing with my friends on Sakhalin.

Sergey Korovin

Fix the Roof Before It Starts to Rain – and Your Career Before You Finish School

Sakhalin Energy takes a proactive stance when it comes to working with universities. Each month, we get tens if not hundreds of resumes. The recruitment team's task is to pick the best. So, what makes a graduate the best? Let's try to answer this question together.

Young specialists chase their dream of working at Sakhalin Energy in different ways. Some enrol into a university and then just roll with it, hoping that employers will shower them with offers at the end of their studies. Today it rarely works like that. Big companies like Sakhalin Energy are interested in the best talent who have already determined the team.

their path and taken a proactive stance to achieve their goals.

We want to share three stories of recent graduates that we now proudly call our co-workers. They have managed to get the attention of a large employer and become part of

Egor Parfenov, Process Engineer of the Engineering Support Group (LNG Plant), Production Directorate: "Sakhalin Energy's graduate development programme* allows you to gain work experience at the company's various production facilities – from offshore oil and gas platforms to the liquefied natural gas production plant. Moreover, the programme offers continuous



c learning through participation in various trainings directly or

Men Bok Sun (Victoria), Engineer of the Production Support Subdivision, Production Directo**rate:** *"This programme* is a great* career start for inexperienced specialists as well as an opportunity to study further and learn more!"

Victoria's story can serve as a good example for Sakhalin high school students. While still at school, she participated in the

company's scholarship programme, which she won, and then proceeded to enrol into Far Eastern Federal University. During the further study Victoria has completed all four of her internships at various Sakhalin Energy subdivisions, getting excellent recommendations after each one. When a suitable opening appeared as part of the graduate development programme, the recruitment subdivision already knew the perfect woman for the job. Now Victoria works as an engineer in the LNG Plant team.



Anastasia Nagaeva, Junior Spe-

cialist of the HR Record Man-

agement Subdivision, Production

Directorate.

Anastasia's story should inspire

Sakhalin State University (SSU) students. In 2018, Sakhalin En-

ergy's recruitment team with the

support of the Supply Chain Management Department, held a series of lectures for students of the SSU Institute of Economics, Management and Law. The final event was a mini conference where the students, including Anastasia Nagaeva, presented their work. In 2019, Anastasia took an active part in the company's

business day at SSU. She was noticed and included in the

company's talent pool, and subsequently offered a job.



indirectly related to the oil and gas industry. This kind of experience is especially valuable and helps you become a competent specialist in your field."

Egor's story should interest students involved in scientific work. In 2019, Egor along with a team of students from the Kazan National Research Technological University had a guided tour of the Prigorodnoye Asset. The tour was offered to the winners of the contest for the best student scientific association at the Oil and Gas 2019 International Youth Scientific Conference. It included a meeting with process engineers to discuss a scientific project, and of course an interview with the recruiters. This is how Egor got himself into the talent pool -and in 2020, he received an offer to join the process engineering team.

Here we provided only three motivational examples, but there are many more where those came from. The key to each one of them is the student's proactive stance at the earliest stage. This is what we are trying to teach students at each of our events to increase their chances of finding a good job.

* Graduate Development Programme

Maria Nikolaeva

18 april 2021

VESTI

<u>ecology</u>

<u>corporate culture</u>

Meeting International Standards: Keeping Updated

One of the main requirements of the international funding involved in the Sakhalin-2 project is that Sakhalin Energy has a Health, Safety, Environment and Social Performance (HSE and SP) management system in place.



Russian Registry representative hands over the certificate to Jane Alcock, Head of HSE Department

This system has been developed and implemented, and since 2010 the company has undergone certification and regular approval for compliance with OHSAS 18001 (occupational health and safety assessment series) and ISO 14001 (environmental management system) standards. In addition, each year the certification association Russian Register conducts surveillance audits of all assets and functional units of the company to confirm our compliance with the established standards.

In 2018, the International Organisation for Standardisation (ISO) released ISO 45001, which superseded OHSAS 18001. The new document is aligned with the updated ISO 14001 and ISO 9001, and sets out the interrelated processes for all management systems within an organisation.

Many of the points migrated from OHSAS 18001 to the new ISO 45001; the purpose of the standard remained the same as well-to help organisations in ensuring employee health and safety. The main differences are found in the approaches and the tools applied, namely:

• IISO 45001 is based on processes, while OHSAS 18001 is based on procedures;

- Unlike OHSAS 18001, ISO 45001 is dynamic in all aspects;
- ISO 45001 deals with both risks and opportunities, whereas OHSAS 18001 covers risks only;
- Unlike OHSAS 18001, ISO 45001 embraces stakeholder views.

This standard focuses on the company's operating environment and emphasises the responsibilities and impact of management in respect to HSE systems. Moreover, the new standard, based on OHSAS 18001, aims to significantly improve occupational safety.

The benefits of implementing ISO 45001 are obvious to us. In addition to requiring that occupational health and safety risks are identified and analysed, this standard also applies a risk-focused approach to the health and safety management system in general, in order to ensure its efficiency and continuous improvement in the changing environment. The publication of ISO 45001 in 2018 was followed by a three-year transition period ending March 2021, during which organisations applying OHSAS 18001 had to update their HSE management system to comply with ISO 45001. This February, Russian Register performed an audit of our company. We successfully passed ISO 45001:2018 certification and proved that our business processes operate efficiently and meet all international requirements. Following the results of the ISO 45001 audit, Dmitry Kazarin, Head of HSE Contracts and Assurance Subdivision, says: "It is important to understand that we all work in an organisation where transition to the new standard did not require any specialised training, because the approaches adopted by Sakhalin Energy in line with the Goal Zero initiative are aimed to consistently improve the health and safety of employees as well as company assets and the environment. This involves the ongoing contribution of each employee to an HSE culture that meets the most demanding industry and statutory requirements."



Neural Networks for Whales

Sakhalin Energy took part in the XI International Conference "Marine Mammals of the Holarctic" (1-5 March, Moscow). The biennial conference is organised by the Marine Mammal Council (MMC), a unique expert association uniting more than 160 leading Russian and foreign scientists and specialists studying the biology of marine mammals.

The conference is a platform for discussing issues related to the number, status and protection of marine mammals, for an exchange of experience and methods used in the latest zoological research. Traditionally, the conference is attended by leading experts from all over the world, including Russia, the USA, Japan, Kazakhstan, Ukraine, Norway, Finland, Germany, and Great Britain.

This year specialists of Sakhalin Energy presented their experience in developing and using neural networks to identify gray whales off the north-eastern coast of Sakhalin based on an analysis of an array of photos.

The Marine Mammal Protection Plan (MMPP) makes it possible to take into account all the risks of production activities and to take timely measures to mitigate negative impact. Passages for vessels to bypass the main feeding areas of gray whales have been set up, vessel speed has been limited, and safe distances to animals have been established. Another key component to MMPP is the presence of marine mammal observers during shipboard operations in the areas with a high probability of a whale encounters (implemented as a separate programme since 2003). condition of the animals and the environmental impact they are subject to.

Not a single incident with marine mammals has been registered since Sakhalin Energy started its production activities on the north-eastern shelf of Sakhalin. This proves that the management of the environmental aspects of the company's activities and the actions implemented to minimise the impact are effective.

In 2019, Victor Vodovozov and Sergey Starodymov, Sakhalin Energy's employees, developed and tested a pilot solution for recognising gray whales based on images from the existing photo catalogue and using a neural network – modern digital artificial intelligence and machine learning technology.

A neural network is a mathematical model arranged according to the principle of nerve cell function in a living organism, which makes it possible to compare images and identify complex dependencies. This technology significantly simplifies and automates the gray whale identification process.

The monitoring specialists take about 30,000 photographs of gray whales every field season, therefore the office analysis of the images is a laborious and



Photo-identification studies of the Sakhalin gray whale feeding aggregation have been conducted since 2002. In 2020, the number of gray whales included in the Sakhalin photo catalogue totalled 332 individuals. Their number grows annually, mainly due to new calves arriving with their mothers at the coast of Sakhalin for the first time.

The results of long-term monitoring indicate the well-being of the GW Feeding Aggregation in close proximity to the offshore production facilities of the company. According to experts from the Western Gray Whale Advisory Panel of the International Union for Conservation of Nature, the sub-population grows by 2–5% per year. time-consuming process. The idea of using artificial intelligence to solve scientific problems is based on the experience of applying neural networks in systems that require fast and reliable analysis of a large number of images, for example, the Safe City complex.

During his speech, Lead Specialist of the Sakhalin Energy Environmental Monitoring and Biodiversity Conservation Subdivision Sergey Starodymov said, "The first gray whale identification results obtained using neural networks have shown that the software solutions we are applying will make it possible to use automatic identification of gray whales in the field in the future. This will significantly simplify and speed up the work of research teams and reduce photograph analysis time." The company is currently actively working to improve the automatic identification system. The experience gained will allow Sakhalin Energy to use the developed algorithms in other areas of its activities which require graphical information analysis. The Gray Whale Monitoring Programme – a comprehensive programme for monitoring gray whales off the north-eastern coast of Sakhalin Island, implemented by Sakhalin Energy, is an integral part of the national strategy for the conservation of one of the priority protected wildlife objects, which is included in the Biodiversity Conservation and Ecological Tourism Development federal project (part of the Ecology national project).

Photo-identification is an effective study and monitoring method with minimal impact on animals, since individual whales can be differentiated visually based on characteristic markings (blotches, patches, scars, etc.) on their sides, back, and tail fluke. Each "pattern" is unique and can help to identify the animal. During the long-term integrated diagnostic monitoring programme, photo-identification provides answers to questions about the dynamics of the feeding aggregation, the distribution and movement of gray whales between areas during the feeding period, the physical







Incoming!



Spring has come. And just like that, it launched a full-scale assault – bombarded winter with a barrage of above-zero temperatures and flooded the enemy's snowy forces with meltwater, all while preparing its green berets for landing. In short, combat activities are now in full swing. The problem is, we are not exactly behind enemy lines but at the very forefront of climatic battles, which means serious risk for our health if we dare step outside. Therefore, the fifth checkpoint of our winter marathon was devoted to outdoor safety.

CHASING THE LAST SNOW

Naturally, this kind of safety has a lot to do with winterrelated risks. After all, although the calendar winter did surrender quite unconditionally, the actual one is still very much with us. Hillslopes are still covered with snow, inviting outdoor enthusiasts to ski and snowboard to their hearts' content. Ice fishing fans won't let the calendar fool them either and will use every opportunity to pull out their rods.

Moreover, on 20 March the winter outdoor types were joined by the participants of the "Skis for Good Deeds" charity campaign (you can read more about it in the photo report on page 22). The participants, company employees along with their families, not only managed to apply safety theory in practice, but also to collect additional Winter Safety Marathon points for their teams. How could one not go outside? It's clearly beyond our power!

DON'T DRIFT AWAY

And this is exactly what people do: they get out into nature, engage in extreme downhill skiing, and get onto the ice while ignoring rescuers' warnings, behaving as if they were guaranteed to land on their feet. Unfortunately, the numbers paint a different picture. Just from January 1 to 10, 2021, the Yuzhno-Sakhalinsk trauma hospital received 958 patients!

And how many "baby mammoths" (which is what they call fishermen trapped on a drifting ice floe) have set off on an unscheduled sea journey this year? First there was an ice breakaway in Makarovsky District on 20 January, then near the village of Starodubskoye on 1 February, and later between Malkovo and Svobodny Cape on 4 March. And these are far from all the incidents, and only avoided taking a tragic turn thanks to the professionalism of rescuers and the luck of fishermen.

These were the examples that kicked off the presentation for the participants of the winter marathon's final stage. Of course, after this vivid exploration of possible dangers the



Many marathon participants have pointed out that seated work in the office or at home often leads to back pain. This problem can cause serious consequences which can be avoided by following the tips at the company's internal website (COVID-19 page, "Information Materials" section). Check it out and try doing exercises to keep back pain at bay! And do not forget to send lifehacks on how you handle this challenge to ea@sakhalinenergy.ru. We are going to publish the most interesting and useful of those along with recommendations from Corporate Health Section experts in upcoming issues of our paper.

participants were advised on how to behave safely when skating or ice fishing and what to do if you fall under the ice.

THE ACTIVE AND THE BEST

E&M DEPARTMENT

LOGISTICS DEPARTMENT

It is worth noting that the marathon participants were not limited to these topics. They had to follow this stage's broader subject matter, but otherwise could fully utilise their imaginations.

For example, employees from the Corporate Affairs Department bolstered the list of questions for discussion with information about dealing with depression and tips on how to stay in shape when working remotely and boost your immune system using specific and non-specific methods. They also dismantled a couple of myths around COVID-19 vaccination and reminded people of seasonal dangers (such as ice and snow falling from roofs and bears waking up from hibernation). We will talk about the best presentations and the most distinguished teams from corporate divisions when reviewing the results for the entire marathon. And now, as per tradition, we will name our fourth stage heroes.

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148 145

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Mind you, some participants can still compete for third place. Based on the fourth stage results, it is currently held by the team from the Pipelines Subdivision, followed closely by the Technical Directorate. One cannot help but wonder: does the subdivision have what it takes to keep their "bronze", and will the first two teams remain on their pedestals? The intrigue intensifies.

However, everything is crystal clear when it comes to the individual participants that have distinguished themselves. Based on the fourth stage results, it was decided to reward eight people:

• **Dmitry Alipchenkov and Kristina Andreeva** (Commercial Directorate) prepared interactive materials to use in winter safety briefings for those who come to Sakhalin.

• Igor Malinov (Production Directorate), Evgenia Diamantidi (Corporate Affairs Department) and Pavel Feoktistov (HSES Department) took an active part in a social project for the Gorniy Vozdukh Sports and Tourism Complex volunteers and contributed to the promotion of effective intervention techniques.



• Sergey Strezhnyov (Engineering and Maintenance Department) provided first aid to a passerby that had fainted.

• Anton Serzhanin (Technical Directorate): in his free time, he held a briefing on safe snowmobile handling for those interested.

• **Dmitry Barinov** (KCAD) noticed below-normal pressure gauge readings on the fire suppression system's gas cylinders.

The first Winter Safety Marathon closes in less than two weeks. It is still necessary to intervene in any unsafe situations at work and beyond, as it is the proactive attitude of every single individual that determines our shared success. So, let's head into the homestretch with confidence in our joint victory!

Pavel Ryabchikov

april 2021

20



Sakhalin Energy employees went skiing to support the socially vulnerable groups of the Sakhalin Oblast. The first charity event this year "Ski for Good Deeds" was coincided with the company's birthday and launched a new season of the corporate programme "Hurry Up for Good Deeds!"*



① On a Saturday morning in March, more than 100 people, including company's employees, contractors, their relatives and friends, gathered at the Triumph Ski Center to support the athletes



② After a safety minute, the athletes were greeted by the head of the Organizational Support division Alexander Lapin, who thanked all the partners of the competition for their support: the school of the Olympic reserve of winter sports, the "New Generation" charitable foundation, as well as the doctors of the Health Prevention Center, who carried out basic diagnostics of the state of health to everyone. The host of the competition, senior instructor of the school of the Olympic reserve of winter sports, Lyudmila Losinskaya, wished success to the participants

photostory



③ "Geomatics", "Dream Team", "Rozhkov Team", "The Toughies", Solyanka... – nine teams (five mixed and four men's) took part in the four-stage race at 500 metres. The Makarov family became an inspiration for all the participants: "Makaryats" were among the first to come from Korsakov and immediately energised everyone with an excellent mood



⑤ Family races on six argamaks and one on a snow tube became the "accompaniment" of the ski race. In the race on snow tubes, Alfred Zaynullin won an unconditional victory, in the race on argamaks, Yuriy Lopashchuk, Igor Bitytskiy and Felix Kahn became prize-winners. The undisputed star of this race was the only representative of the female part – Tatyana Shapiro





The eminent Sakhalin skier, master of sports Lev Kroyt took part in the race, the youngest participants in the relay were 12-year-old Dana Kireeva and Lesya Makarova. Despite the fact that the level of training and age of the participants differed significantly, all athletes confidently walked to the finish line and fought for victory with all their hearts!



We did it! The results of the ski race determined two gold medalists: Dream Team (7.07 min.) led in the mixed teams and Sakhalin Winter (5.05 min.) in the men's race

*As part of the campaign, every employee could make a charitable contribution – under the terms of "Hurry Up for Good Deeds" programme, the money raised will be doubled by the company

© Grzegorz Kulawski, Production Director, closed the event by thanking those present for not only coming to share their positive emotions with each other during the event, but also for taking part in the charity event. "It's great to see so many smiles from people who are playing sports for a good cause. I urge you to continue supporting this initiative of goodness in every way possible!" – Grzegorz Kulawski addressed the participants

Chronic Fatigue. What to Do?

What is chronic fatigue syndrome? According to Wikipedia, it is a medical condition involving prolonged fatigue which cannot be alleviated even by long periods of rest.

Chronic fatigue syndrome indicates a severe decline in vitality and significant nervous and mental exhaustion. Low batteries. Power leakage. What can we do? As Karlsson-on-the-Roof used to say, "you should become a mother to yourself...", or at least a best friend. In short, take care of yourself.

To get energy and a taste of life, you need to focus on four basic elements: healthy sleep, a healthy diet, exercise and mental health.

SLEEP

Healthy sleep is sleep in which the body has enough time to rest and recover. It requires certain conditions: • fresh air in the bedroom – we need oxygen. It is better to sleep with a window or, if this is not possible, to air the bedroom before going to bed;

• complete darkness. Any source of light disrupts the release of melatonin, the sleep hormone;

• a proper attitude toward rest. The bedroom is no place for a TV set. Using phones in bed is also a bad idea;

• keeping a consistent sleep schedule. Go to bed at night and get up in the morning at around the same time;

• sleep should last at least seven or eight hours.



DIET

A balanced diet should provide you with essential nutrients. The daily carbohydrate-protein-fat ratio should be 4:1:1. Divide your plate into three equal parts so that two of them are filled with carbs and the remaining one is divided evenly between proteins and fats.

Google "balanced diet" to see many beautiful pictures. Colour-coded pyramids or plates will show you exactly what you should eat and in what proportions. And of course, you know that you should drink enough water.

EXERCISE

Your body needs exercise. You can start by giving your body at least a half-hour walk after work or at lunchtime. Don't set yourself giant goals. No need to break any records, just keep moving. Your body will be very grateful by giving you endorphins and you will feel happier.

Increase your mobility. Don't go overboard. Remember that you are doing it to feel better. Later, you will have the energy to do more than just walking.

A life hack: work out with a personal trainer. It won't do to play wag, and gradually you'll get used to it.

Choose what suits you best: team games, zumba, yoga, pilates, swimming... The motion is the goal. Don't wait for inspiration. And remember that the endorphin rush comes after the workout, not before it.

Start your day with a contrast shower. It gives you a boost of energy and improves your mood. Try it, it's really cool. No joke! Dopamine release is almost doubled after a contrast shower.

MENTAL HEALTH

Mental health is a state of well-being where you live up to your potential, cope with the usual stresses of life, can work

productively and efficiently, and can contribute to society.

A psychologist may be useful to you in the following cases:

- you are short of energy;
- you just feel like complaining;

• you have frequent conflicts with your nearest and dearest;

• you have constant mood swings;

• you feel sad, frustrated, angry or irritated and you do not understand why;

• you are continually annoyed by someone who has not done anything wrong to you;

• you can't name at least a couple of things in life that make you happy or bring you pleasure, and it's been going on for a long time;

• you find it hard to say no and hard to ask for anything.

Asking for help from a psychologist is a proper and normal thing to do. A psychologist does not make diagnoses or tell you that there is something wrong with you. A psychologist can help you become aware of your potential, understand what is stealing your energy, and teach you how to avoid such things. You will gain your own insights: "Wow, so that's how it all works with me!"

A specialist can teach you about useful techniques, such as relaxing by breathing, calming disturbing thoughts, and many others. Psychologist Polina Gaverdovskaya says, "You can't change yourself, but you can master yourself. That's enough."

A healthy lifestyle offers many different roads, rather than a single one. It is not a rigid system, but a variety of options. Choose your approach, without testing your willpower and without strains. Adopt this philosophy and you will see the results. You will feel your energy reserves renewed and you will be able to manage them. Enjoy every single day.

Olga Navalikhina

Virus Shall Not Pass!

In Sakhalin Oblast, the "Virus shall not pass!" campaign dedicated to safe behaviour during the COVID-19 pandemic has officially begun.

It is held under the "Safety is Important!" partnership programme, jointly implemented by the Chief Directorate of MChS of Russia for the Sakhalin Oblast, the regional Ministries of Education and Healthcare, and Sakhalin Energy. "This campaign is especially relevant now that we are living through the COVID-19 pandemic. In Russia, vaccination against coronavirus is well underway; however, it does not guarantee 100 % protection. Today, it is vitally important for us to know and observe safety rules, that is why we can only welcome such educational initiatives," said Vladimir Kuznetsov, Minister of Health of the Sakhalin Oblast, commenting on the start of the campaign. According to Maria Skokova, Lead Specialist of Sakhalin Energy's Social Performance Subdivision, one of the key events of the campaign will be an art contest of the same name, which will accept works until 16 April. All works must be, first, original, and second, dedicated to the theme of the contest – safe social behaviour during a pandemic or epidemic.

ВИРУС НЕ ПРОЙДЕТ!

Стань участником конкурса и выигрывай призы!



contestants are allowed to participate either in a specific category or in all categories at once, one person (team) can only send one entry," amplified Maria Skokova.

Suggested ideas for contest entries include protective face masks with elements of painting, appliqué, or other arts and crafts techniques; drawings, photographs, collages with a message on the given topic; videos in the format of a mini-play, clip, cartoon, animated postcard filmed with a camcorder, camera, or phone with the video recording feature.

All works for the contest must be sent via e-mail to senya_spasatel@mail.ru with "For the Virus shall not pass! contest" in the subject line. Entries will be accepted in electronic format only. The winners and prize-winners of the contest will be announced at the awards ceremony in May 2021. To learn more about the campaign, see the Contest Regulations on the website www.senya-spasatel. ru.

"There are no age restrictions for participants, both individual artists and creative teams may enter the contest. We will also be happy to see family projects. Although In the future, the organisers intend to hold educational activities as part of the "Virus shall not pass!" campaign in schools across the region to inform children on various ways to protect themselves against infectious diseases.

Before the launch of the campaign, a cartoon titled "Virus shall not pass!" was presented during the second round of dialogue meetings on the 2020 Sustainable Development report. In this animated film, Senya, the character in the Safety is Important! partnership programme, teaches the viewers what behaviour rules should be followed during a pandemic. The cartoon is available on the programme website at www.senya-spasatel.ru.

Pavel Ryabchikov



survey

Equation of Changes

The Russian expression "average temperature across the hospital" sounds ironic, but from the point of view of sociology, not medicine, the measurement results will be guite representative. Today we are analysing the results of three surveys at once: Sakhalin Energy employees and contractors took part in two of them, while representatives of stakeholders answered the questions of the third one (see infographics). Everyone who responded and expressed their opinion helped us turn blind spots into visible ones and solve an equation with an infinite number of variables.

LET'S SCORE A GOAL TOGETHER

We would like to add "with Vesti newspaper". A little over a year ago, we already conducted a survey about the corporate news outlet. Back then, its results were presented as a chess game between readers and editors. Not much water has flowed under the bridge since then, and we are still one team that plays against boring materials and incomplete information. We are a team that scores a goal in your favour, dear readers!

First, some general information: about 300 people took part in the survey. We are so excited that the contractors also shared their opinion. The majority of respondents consider Vesti to be an important source of information about the company's activities, and more than one-fourth see publications as a positive reinforcement for professional growth. We were pleased to learn that family members or relatives of our respondents get the relevant information from Vesti.

Despite the fact that two-thirds of the employees read electronic issues of Vesti, some of the staff prefer the "good old" paper version. Therefore, some of the suggestions on how to improve the newspaper feature recommendations to come up with an interactive format of Vesti with a feedback form or to develop a mobile app so that you can read the newspaper anywhere.

Speaking about topics, the company's plans, production news, interviews with managers, publications about professions and career growth are still the most popular. Readers show great interest in the articles about Sakhalin Energy social performance

(it has been suggested that we write about the participation of the employees in public activities of the city and region), the company's charity events and the principles of personal and social safety. Some of the readers prefer to learn about analytics, sports, medicine, and environmental issues. The survey participants really liked the publication about the results achieved by our employees in a waste management campaign. There are suggestions to continue with this topic. All of a sudden, another topic has taken over our lives ("thanks" to COVID-19), and the company's efforts to fight this scourge are of no less concern to Vesti readers.

Visual readers ask to add more photo reports to the pages of the corporate newspaper. We also received some suggestions to publish a column which can be called "One day in the life of ... " more often. However, why limit ourselves only to production landscapes when an eye of a photographer is also able to reveal the secrets of professions. It would be interesting to take a peep into the work of ecologists, drillers, and metrologists, just to name a few.

While some of our readers are interested in "personal files" of the employees, others would like to learn more about the viewpoints of the company's top managers. "The leader's attitude towards a particular issue is much more interesting than just a narration about something." "It would be great to learn the opinion of each individual member of the Committee of Executive Directors on the same issue."

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Other

There are also requests to publish interviews with old stagers of the company and the oil and gas industry. Our readers appreciated the articles about the history of the Sakhalin-2 project. They are curious to learn about the early days of the company's development - as difficult as the period described in How the Steel Was Tempered by Nikolai Ostrovsky. "I really liked the interviews with the employees who shared their recollections about the history of the company."

The news coming from the HR Directorate spark a lot of interest too: our readers learn a lot about the new activities of this division and suggest topics to be covered on the pages of Vesti (it will be our pleasure to deliver all the suggested topics to our colleagues from the Directorate and ask them to cover these topics in the next issues).

Here is another unusual, but very interesting suggestion. Perhaps it will be possible to give it the green light. "What about something like "Wheel of Fortune"? I mean interviews with randomly selected employees. Each of them will have to answer ten identical but non-standard questions."

We received many interesting suggestions in response to the question that goes like, "What workshops would you like to see in Vesti issues?" To a certain extent, these suggestions disguise the desire to learn more about how managers and employees cope with the new reality (lockdown, remote work, changes in the oil and gas industry, etc.). The respondents to the survey would like to know how to escape stress, how to



manage emotions during the pandemic and extended shifts, and how to organise their work properly in the new realities. There are also more specific recommendations: "Workshops where our leaders teach us their methods of moving up the career ladder, time management techniques and work-life balance."

Now, the icing on the cake: our readers are ready to learn about the international cuisine (after all, our company is international), about our employees' hobbies, about travelling to different parts of Russia and the world and the history of Sakhalin Island. It is worth mentioning that all these columns can be found on the pages of Vesti, but, apparently, now there is a need to provide more content for them.

One of the important topics of online interviews was the following: "If I could change something in Vesti, it would be ... " It relates to readers' wishes for the corporate newspaper. Our readers strongly believe that the editorial staff has to continue keeping eyes on the ball, or rather, on the continuous improvement.

The time flashed by as we analysed your answers. We did not touch on many interesting ideas, but all your comments and suggestions will be carefully studied and discussed. Let's practice together to send a ball or a puck (it doesn't really matter) right into the gates. After all, we all remember our slogan: "Making Vesti Together!"

ASSESSMENT OF SAKHALIN ENERGY'S SOCIAL PERFORMANCE AND LOCAL IMPACT Stakeholder groups What Sakhalin Energy's programmes have contributed Which of the following SDGs are significant for the the most to the sustainable development of the region? company's business? Safety is Important! Independent agency -- 33





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survey :

Me and Sakhalin: A Lifetime Love Story

In February, Sakhalin Energy completed an employee survey where everyone could share their feelings about Sakhalin. The responses of the participants can make an interesting novel about our island (each of them being a separate chapter). The online "interview" sets the direction for our cooperation with the region to benefit both the island and the company.

More than 700 people took part in the survey. Many of them answered open questions and left detailed comments. It is an indirect proof that the topic of "relationship" between people and the island where they live and work is more than relevant. Thank you all for being sincere.

What makes an average employee of the company? Analysis shows that it is a mature family person. At the same time, they have a strong bond with Sakhalin and feel like a part of it (511 votes). The advantages of living on the island include amazing nature, good jobs, authentic culhalf of the votes). Professional fulfilment opportunities, a pay package, confidence about the future – that is what a job here can ensure. But attachment to the island grows out of many details and of a unique local charm: walks with friends, bright ashberries, the smell of fresh smelt, landscapes featured by Sakhalin artists, reading books on the seashore, conversations with fellow countrymen always ready to help, the amazing history of the region...

However, some participants wondered what the survey could change. After all, Sakhalin Energy does not have to deal



ture, and a good climate. The respondents believe these are the factors that make our region so special. However, when asked whether they plan to leave the region in the future, some of the survey participants did not have a precise answer. According to the respondents, some of the reasons for a possible relocation include high prices of goods and services, a long transport "leg", education, and healthcare quality, as well as an "uncomfortable" climate.

The next set of questions helped us determine the degree of involvement of the company's employees into the island's culture. The responses divided the participants into two categories: those who feel the "heartbeat" of Sakhalin and keep it going, and those who are sure that the most interesting things happen outside the region. Answering the last question, the respondents got to describe their feelings about the island as a place to work and to live. The answers that came in were completely opposite to each other but shifted more towards a "lifetime love story" (about with all the social and economic issues of the region, this is not its focus area or its responsibility. This statement is only partly true. The company is both us and our attitude to the territory of presence. It largely determines the quality of our life and the lives of those around us. There are many things we cannot change, but there are also things that we are able "to fix".

To wrap up our "story", I would like to point out that the survey results will help the company to update its social performance agenda, which will focus on the initiatives regarding the environment, education, culture, safety, and volunteering. Sakhalin Energy works closely with the authorities, the public, the international community, and leading experts, and it does a lot to change the feelings about the region of both its residents and visitors for the better. For Sakhalin, and, therefore, for all of us, this is an impetus for development and prosperity. There is no other way.

To Be Continued

Pristine Russia: Bound for Sakhalin, the first nature festival, was held in Yuzhno-Sakhalinsk at the end of 2020. This year, residents of four districts of the island will be able to visit the exhibition. A series of activities was launched by the Nevelsk Museum of History and Local Lore.

The exhibition is comprised of two parts. The first one presents a selection of photos of rare animals from the wild areas all across Russia, from Kaliningrad to Sakhalin, while the second one shows the unique nature of the Sakhalin Oblast in the works of Sakhalin photographers and Sakhalin Energy employees. The photos take the visitors on a unique trip full of discoveries and vivid impressions.

During a month time, the museum will host exhibitions, art classes, workshops, quizzes, educational activities and much more. The visitors of the exhibition will enjoy fascinating lectures where they can learn about the animal life of Sakhalin in the folk art of indigenous people, about the ancient spring festival dedicated to the awakening of bears, about a fish owl, a rare species of fauna, and its role in the religious beliefs of the Ainu people. At workshops, you can make a fish-shaped polymer clay pendant, felt toys, and volumetric paper figures on a flat surface with your own hands. In the Nature of the Nevelsky District hall, everyone will have an opportunity to draw a real-life stuffed owl. There is a thematic photo op area on the second floor, where you can take nice pictures as souvenirs.





The Steller's sea lions have become the hallmark of the Nevelsky District, as they make the region so unique and especially charming. The rookery was formed in 1967-1968, on a 400-metre-long and 6-metre-high breakwater protecting the port from the storms. This breakwater with a sea lion rookery is considered one of the most exceptional places in the world, as it is located within the coastal zone of the town. Every year, 300 to 1200 adult specimens come here. A viewing deck with stationary binoculars for Steller's sea lion watching was opened in Nevelsk in 2018 as part of the My Neighbour Steller's Sea Lion project. The project was organised by Boomerang Club with the support of Sakhalin Energy as part of the Energy Social Initiatives Fund activities.

Following the dwellers of Nevelsk, the residents of Kholmsk, Korsakov, and Nogliki will have an opportunity to visit the exhibition. In Kholmsk, the opening is scheduled for early April, while it will take place in June in Korsakov. The season will close in Nogliki in August–September.

Nikita Nikiforov

Evgenia Diamantidi

Crossword puzzle results

The results are in for the best crossword puzzle, «Coronavirus in our lives», published in the March issue of the Vesti newspaper.

Almost all those who sent in answers managed to do it. Among them were Igor Levitsky, Dmitriy Perel, Ivan Ostashko, Ludmila Karpina, Yuriy Lopashchuk, Ivan Los, Valery Sukhoruchkin, Galina Fedorinova, Alexander Loktionov and Elena Arkhipova. The winners were the first five applicants on the list who completely solved the crossword puzzle.

Congratulations to the winners and thank you all for your active participation. Prizes and gifts have been prepared for all the erudites (please contact Yulia Vatutina, tel. $66\ 2544, +7\ 914\ 759\ 4070$).

SALIN ENERGY

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