

# HEALTH, SAFETY AND ENVIRONMENT

12

₽ BN

Investments  
in HSE improvements<sup>1</sup>

The Company's key HSE priorities comprise continuous improvement of workplace safety and reduction of accident and injury rates and occupational diseases. The Company's main professional and technology-related HSE risks include equipment failures and breach of organisation rules for high-hazard operations, as well as violation of regulatory requirements and safety rules by contractors.

To mitigate these and other safety risks, the Company manages them in accordance with the corporate standard based on qualitative risk assessment. The Company uses advanced international methods such as HAZID/ENVID (hazard identification), HAZOP (hazard and operability study) and PHSER (HSE risk review) **to assess technology-related risks** during design, construction, operation and liquidation processes. Technology-related HSE risks are managed by **the equipment reliability improvement programme**. Due to the importance of this production area and HSE, it has been singled out as a separate OMS component.

Reliability management is based on risk assessment at all stages of the production cycle, from design to dismantling and disposal. At the operational stage, the Company needs to ensure smooth and reliable operation of equipment throughout its life time and reduce the number of its repairs.

To this end, the Company uses advanced approach and assessment tools such as RCM, RBI and RCA<sup>2</sup> enabling us to rank equipment based on its criticality for production, focusing

on highly critical facilities, to implement a failure analysis system that identifies and classifies its causes, and to effectively manage the process using the statistics collected.

The assessment methods of **occupational risks in workplace safety** are designed to make sure that employees have no concerns about their safety when they start working on a new assignment. To mitigate this group of risks, the Company is developing various occupational controls and improving its safety culture.

The main programmes set to foster safety culture and leadership in this area include rating to subsidiaries based on HSE criteria, monitoring dangerous actions and hazardous conditions on a dedicated observation map, and conducting leadership safety behaviour audit.

As part of rating process, the Company's subsidiaries are assessed based on proactive (initiatives seeking to prevent accidents) and reactive (rates of injuries, accidents, road traffic accidents, etc.) criteria and are ranked according to the achievement of HSE targets.

Leadership safety behaviour audit is one of the key tools for line managers to control safety behaviour at the production facilities. This is a regular documented process of monitoring an employee's work on an assignment and his/her work areas/ places, followed by a conversation with him/her to correct dangerous or encourage safe behaviour.

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DRILLS  
AND TRAINING

sessions conducted

-21%

LTIF REDUCTION

y-o-y



Asset Reliability  
Management System on  
the Company's website

<sup>1</sup> Excluding joint and overseas assets. Including investments in occupational, fire and transport safety, civil defence, HSE; excluding environmental investments.

<sup>2</sup> The RCM (Reliability Centred Maintenance) methodology helps to identify and select maintenance focused on reliability. The RBI (Risk Based Inspections) methodology provides technical condition controls based on the risk analysis of technical devices. The RCA (Root Cause Analysis) methodology analyses losses that account for most of the damage in order to prevent them.

The observation map for monitoring dangerous actions and hazardous conditions enables us to involve personnel in the process of revealing dangerous actions and conditions, and promptly eliminate problems and mitigate the risk of incidents or emergencies while interacting with line managers on an ongoing basis.

**THE COMPANY'S KEY SAFETY IMPROVEMENT PROGRAMMES INCLUDE**

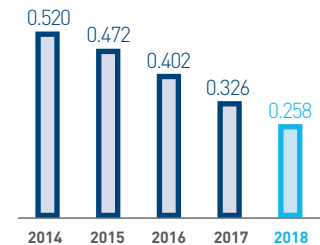
- > equipment safety reviews and alignment of production facility characteristics with workplace safety regulations;
- > upgrade of accident prevention systems;
- > emergency prevention and response plans;
- > control of compliance with HSE rules;
- > maintenance of safe working conditions and workplaces that fully meet statutory and corporate safety requirements;
- > provision of personal protective equipment;
- > occupational health initiatives.

In the reporting year, the Company registered one accident and 1,068 incidents at hazardous production facilities<sup>3</sup>.

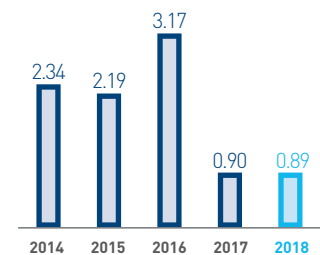
We are profoundly saddened to report that one employee died while working at the Company's production facility. After the death of a filling station operator as a result of a pulmonary heart failure caused by hydrocarbon poisoning, a detailed investigation was launched to develop an action plan minimising the risk of similar accidents going forward. In line with this plan, all of the Company's designated subsidiaries have put in place relevant prevention initiatives.

In 2018, FAR across the Company's production and service subsidiaries in Russia stood at 0.89. Number of fatalities involving contractors' personnel on the Company's sites decreased from 10 in 2017 to 4 in 2018.

**Lost Time Injury Frequency (LTIF)<sup>4</sup>**



**Fatal accident rate (FAR)<sup>5</sup>**



	2014	2015	2016	2017	2018
<b>Number of workplace injuries (persons)</b>	43	41	38	36	29
Injuries	41	39	35	35	28
Fatalities	2	2	3	1	1

Source: Company data

<sup>3</sup> To calculate the number of accidents in 2018, the Company used a new methodology as prescribed by Order of the Federal Environmental, Industrial and Nuclear Supervision Service (Rostekhnadzor) No. 29 On Approval of Methodological Guidelines for Classification of Technogenic Events in the Realm of HSE Taking Place at Hazardous Oil and Gas Production Facilities dated 24 January 2018. In line with these new guidelines, some of the incidents previously classified as first grade technogenic events or incidents, are classified as second grade technogenic events and no longer regarded as incidents starting from 2018.

<sup>4</sup> LTIF (Lost Time Injury Frequency) is the number of lost time injuries occurring in a workplace / total hours worked by all employees \* 1 million. LTIF is shown for the Company's production and service subsidiaries in Russia.

<sup>5</sup> Fatal accident rate (FAR) is calculated as the number of fatalities/ total number of hours worked by all employees \* 100 million. FAR is shown for the Company's production and service subsidiaries in Russia.

## Responding to emergencies

To ensure civil defence, the Company enhances the emergency resilience of its production facilities and trains its employees to respond effectively, including in harsh weather conditions.

The Company has an **Emergency Prevention and Response System**.

It is focused on:

- > planning and implementing emergency prevention initiatives;
- > protecting employees and production facilities;
- > enhancing the resilience of production facilities;
- > mitigating the risk of industrial emergencies;
- > minimising property damage from emergencies;
- > using relevant action plans to recover from natural and industrial emergencies.

The Company runs an annual drill and training programme for employees and managers to practise:

- > emergency alerts;
- > officer assembly and notification of the municipality's and facility's emergency teams acting as part of the National Emergency Management System (NEMS);
- > mobilisation of emergency and rescue units;
- > safe shutdowns of industrial equipment;
- > emergency localisation;
- > using personal protective and basic fire-fighting equipment;
- > providing assistance and aid to affected people.

### Prirazlomnaya – an island of safety

The Prirazlomnaya offshore ice-resistant stationary platform is a hazard class 1 production facility, which puts it in the highest risk category. The area occupied by this highly sophisticated complex is very small and risks arise when different types of work are performed there simultaneously. This makes the Company pay special attention to **the platform's safety**. To this effect, Gazprom Neft leverages the most advanced solutions available. Prirazlomnaya's safety system monitors industrial processes, as well as fire and gas alarm and emergency shutdown systems, and, in case of an incident, ensures safety with no need for human involvement (fail-safe mode). All processes are automated and backed up.

In 2013, the Company put into effect an action plan **for oil and petrochemical spill prevention and response** in the Prirazlomnaya platform area, which describes the most probable oil spill scenarios, indicates resources and manpower required for response, and sets forth procedures for interaction with professional emergency and rescue teams and government agencies. Following the update in 2018, the plan passed the state environmental review as required by the applicable Russian laws.

**The engineering solutions to ensure safety**, also include walls able to withstand temperatures above 1,000°C for two hours, a gas and fire alarm system, a fire and explosion suppression system<sup>1</sup>, capable of tackling gas explosions with

an inert gas (freon), and robust evacuation systems (lifeboats, rescue rafts, and bridge-like structures to facilitate the boarding process).

All wells are equipped with safety valves activated by the emergency shutdown **system**, to prevent blowout of formation fluids. An abnormal decrease or an increase in pressure detected by sensors will trigger an alarm. If the pressure reaches a critical level, the well pump will shut down and the valves, which can resist very strong pressure, will close to shut off the well.

The Company organises **emergency response training for its staff**. Exercises and drills take place in the Prirazlomnaya area on a regular basis to ensure maximum alignment of the response team in case of any emergency. Exercises are held both offshore, including in ice conditions, and onshore, to protect the coastlands of the Varandey settlement and remote islands.

In June 2018, after this plan was updated, the Company held a **large-scale oil spill response exercise** at the Prirazlomnaya platform and drills to protect the coastlands of the Varandey settlement and Dolgy Island from oil contamination.

The event featured the Company's own personnel and resources, including Ecoshelf-Baltika's professional emergency and rescue teams and Gazprom Avia's aircraft, as well as oil spill response personnel and resources of Varandey Terminal.

<sup>1</sup> Lower mechanical sensitivity of explosives through addition of inert gases.

## Emergency response drills and training sessions

Item	2014	2015	2016	2017	2018
Drills and training sessions	854	643	322	371	236

The reporting year's major initiatives included the following:

- > A unique training facility opened at the Omsk Refinery to provide opportunities for acquiring and practising work at height skills. The nine-metre-high three-tier complex is one of a kind in the Russian oil refining industry. It has 12 functional zones for all types of work at height, including those involving the use of ladders or moving across or along horizontal or vertical metal structures, slopes or piperacks.
- > The Company was the first member of Gazprom Group to implement initiatives focused on quenching blowouts at subsea wellheads: a relief well drilling programme was developed that allows for the use of a jack-up rig, and a quadrilateral agreement on quenching blowouts at subsea wellheads was signed.

Under the exercise plan, a leak from a storage tank would cause an oil spill into the Pechora Sea. Operating personnel, icebreaker fleet, and emergency equipment, both on-site and onshore, were mobilised for emergency and rescue operations, with the Pechora Sea monitored constantly using aircraft above Prirazlomnaya, Varandey and remote islands. Booms were towed to protect the coastlands. A rescue team, site camp, and equipment were flown to Dolgy Island. It was also the first time when the operations included rescuing wild birds that nest in coastlands.

**The exercise confirmed the Company's high emergency preparedness, with Gazprom Neft's emergency and rescue divisions joining forces with other participants and cooperating organisations to deliver effective response.**

"While the risk of emergencies is minimal thanks to technologies at Prirazlomnaya, we must always be prepared for any incident. Our key priority here is to safeguard the platform's personnel and ensure that we do not cause any harm to the Arctic ecosystem."

Andrey Patrushev  
 Deputy CEO for Offshore Development



Read more about ensuring safety in the Prirazlomnaya platform area

## Transport safety

Gazprom Neft's transport safety programmes include workplace control initiatives, defensive driving courses, safety briefings and training sessions, and monthly HSE meetings (stand-ups).

The Company's project teams seek to improve safety across Gazprom Neft's priority areas, which include air, water, and road transport, with dedicated roadmaps through 2019 in place. The project teams are responsible for drafting internal regulations, which set operating standards for all assets. In 2018, the Company drafted and approved a document that regulates workplace safety issues at the railway facilities and is aimed at mitigating possible risks and bringing the number of accidents to zero. Gazprom Neft was the first among oil and gas companies to develop such a document.

Training is an important part of transport safety programmes.

The updated road traffic safety management system launched in 2017 focuses on developing the ability of drivers to predict and avoid emergency situations. In 2018, the dedicated training sessions covered some 49,000 drivers working for Gazprom Neft and its contracting companies.

In the reporting year, the Upstream Division introduced 38 mobile road safety teams to prevent road traffic accidents, monitor drivers, oversee compliance with the operating rules pertaining to the road transport and special equipment, and examine the condition of roads and access roads.

In 2018, the Downstream Division began piloting a vehicle tracking system featuring an online control system and an AVL hardware to monitor driving behaviour. The pilot project involves assets transporting hazardous goods.

In 2018, Gazprom Neft's IT team completed an R&D project focusing on using the video analysis to improve road transport safety at the Company's sites. The researchers developed a tool based on a neural network algorithm

**The specific rate of road traffic accidents in 2018 went down by 20% compared to the average per specific rate in 2015–2017.**

to analyse and control driver behaviour. Artificial intelligence recognises violation of safe transportation rules by drivers, such as using a mobile phone, smoking in the car, being unbelted, or driving with third persons. The new system is self-learning. As soon as it accumulates sufficient data, it becomes capable of not only registering standard incidents, but also identifying the new ones.

Data from the vehicle trackers are transferred online to the operator who responds to dangerous actions of drivers or hazardous situations in real time as well as generates reports on the driving quality for the management of the subsidiaries.

### Road transport monitoring system

Since 2017, Gazprom Neft's production assets have been implementing an IT-based vehicle tracking system to monitor the implementation of obligations relating to the safety of the Company's road transport contractors. The system analyses information about drivers, vehicles, permits and licenses, reviews data from vehicle tracking devices and makes reports on the driving

style similar to those used by large transportation companies, monitoring speed, sudden acceleration or braking. In 2018, the Company continued developing the tracking system, with over 7,000 contractor vehicles being connected to the system and additional barriers introduced to control the access of vehicles and drivers to the Company's facilities.

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## Health and safety

The Company's health protection and disease prevention system is designed to:

- > ensure health and well-being of the Company's employees;
  - > align an employee's health condition and physical abilities with the job characteristics and requirements;
  - > identify and eliminate workplace health hazards;
  - > raise employees' awareness about occupational health.
- > promote healthy lifestyles (including vaccination, healthy living awareness campaigns, alcohol and drug abuse prevention initiatives, insurance activities);
  - > investigate health-related incidents and analyse disease (disability) incidence.

These activities are governed by the legislation and the Occupation Health Programme corporate standard. To increase responsibility across the supply chain, the Company introduced health protection into contractor management. Among other things, Gazprom Neft controls medical check-ups of contractor employees and makes sure that contractors have an effective emergency medical response system in place.

To achieve these goals, the Company undertakes to:

- > assess and minimise occupational disease risks;
- > ensure safe and hygienic working and living conditions across its field sites;
- > implement comprehensive prevention initiatives to reduce disease incidence among employees;
- > arrange for medical examinations;
- > identify and monitor cardiovascular disease risk groups;
- > prevent contagious and non-contagious diseases (vaccination / therapeutic and preventive nutrition);
- > develop an emergency medical response framework (first medical aid and evacuation capabilities, first aid training for employees);

In 2018, the Company launched a three-year project to create a health protection system designed to prevent or mitigate accidents. The project focuses on identifying employee health risks and bottlenecks for implementing key medical and rehabilitation initiatives.

### Protective clothing for the Arctic

Providing employees with protective clothing and personal protective equipment is an important component of the Company's care about their health and safety. The reporting year saw the Company complete a major project of creating a new uniform for Prirazlomnaya employees. The new hi-tech clothing for offshore operations will ensure protection from extreme cold, wind, rain, sea salt, and open fire. It also comes in bright colours to enhance the safety of personnel working in the harsh Arctic environment.

#### MAIN FOCUS AREAS

1. Building barriers to prevent exposed employees from accessing production facilities. The Company has established uniform requirements and qualification standards for clinics conducting medical examinations to screen out dishonest counterparties. Gazprom Neft also started developing a local system of automated pre-tour/pre-shift medical check-ups which integrates medical equipment and software. The system allows for an early identification of many diseases and online monitoring of the employee's condition to detect fatigue, sudden health impairment, or stress. Based on the results, the system can notify the relevant employee, dispatcher, and the doctor.
2. Building barriers to reduce injury severity and provide an effective emergency medical response. The Company consistently improves its resource allocation and trains its employees to provide better aid at each phase of response – from early identification to post-resuscitation care.
3. Building barriers to reduce the likelihood of incidents (occupational hygiene, disease prevention, and promotion of healthy lifestyle). This project focuses on turning healthy living from a formal initiative into employee's primary need.

### Award of the Russian Health and Safety Week

The Company's Occupational Health System Programme for 2018–2020 won the top prize in the nomination for Advanced Occupational Disease Prevention and Employee Rehabilitation Solutions of the Health and Safety competition held as part of the Russian Health and Safety Week 2018.

The reporting year saw Gazpromneft-Khantos implement an automated pre-trip check-up system. It takes the system 90 seconds to evaluate both standard health indicators (heart rate and blood pressure) and psychophysiological state of employees to minimise the risks of employees reporting for duty in dangerous states (ill health or intoxication).