



RUSCHEMALLIANCE

WITH RESPECT TO THE FUTURE

RusChemAlliance Environmental Report 2023



State nature reserve "Kotelskiy"

RusChemAlliance Environmental Report 2023

Notice of Kirill Seleznev to the readers of Environmental Report 2023, RusChemAlliance

Dear Readers!

Welcome to read the annual Environmental report.

RusChemAlliance LLC consistently follows the green practices, which include the balanced and socially acceptable combination of economic growth and preservation of a favorable environment for future generations.

South-west of the Leningrad Region, including coastal part of the Gulf of Finland is our business responsibility territory. There are two nature conservation areas of regional importance here: Kurgalskiy and Kotelskiy state nature sanctuaries. They have rich flora and fauna species diversity, including Red Book species.

Following social publicity principles, RusChemAlliance LLC regularly carries out the environmental events, where locals are also the participants and co-organizers together with the company employees and the contractors involved in GPC construction.

Event Plan, which is 74 environmental events for 47th region has actually proved its importance, so it follows up the current year. The main objectives are forming an accountable and conscious attitude towards environmental protection issues, fostering environmental culture, preserving natural ecological systems, natural landscapes and natural complexes for the locals of Kingisepp District in Leningrad Region.

2023 is a feature of 74 events held under the Plan, participated by over 4000 people, with 8820 saplings of trees and shrubs planted, about 1.2 tons of waste paper and over 70 kg of plastic lids collected and transferred for disposal.

RusChemAlliance environmental eventss are actively supported by the locals of Kingisepp District, regional executive authorities, environmental and public authorities of the Leningrad Region. Event attendees were awarded with numerous commendations and certificate of acknowledgement.

Our company aims high for social & environmental activities and intends to systematically make them come true in the upcoming years.



Kirill Seleznev
General Director,
RusChemAlliance LLC

Notice of Aleksandr Singurov to the readers of Environmental Report 2023, RusChemAlliance

Dear Readers!

RusChemAlliance is a young company, which ensures implementation of the project targeting the practical incorporation of a hydrocarbon monetization new economic model.

Our team strives for continuous optimization of the activities related to environmental protection and operations energy efficiency enhancement.

All this is covered in the Company's Environmental Policy. RusChemAlliance always follows rational approach to environmental management in accordance with the environmental management system, which fully meets the requirements of GOST R ISO 14001-2016/ISO 14001:2015, while doing business activities.

One of the most important activities of the company is environmental education and involvement in environmental activities of all the project stakeholders.

The Company developed and incorporated a number of environmental initiatives for different target groups. These groups include the company employees and their children, the Ust-Luga preschool institution pupils, the Krakow Secondary School grades 6-8 students, students of the St. Petersburg Mining University after Empress Catherine II, colleagues from contractors, representatives of local communities – and this is far from the full composition of the entire team who participate our environmental events.

We strive to carefully keep cultural values of the native minorities, which are Vod' and Izhora, being the indigenous inhabitants in Kingisepp District.

Let's safe a favorable environment and a rich cultural heritage for present and future generations!



Aleksandr Singurov
Chief Engineering Officer,
RusChemAlliance LLC

RusChemAlliance Environmental Report 2023

Notice of Denis Zubairov to the readers of Environmental Report 2023, RusChemAlliance

Dear Readers!

Welcome back again to the pages of our annual Environmental Report!

On of RusChemAlliance main principles in environmental protection is the minimization of negative environmental impact, involvement of the Company employees in achievement of environmental protection planned results.

At this stage of the GPC implementation status all the taken design solutions comply with the Russian Law and international requirements in environmental protection and ensure the negative environmental impact minimization.

Industrial environmental control and monitoring are regularly carried out on site.

In 2023, there had been 116 laboratory visits and 5824 testings done to the GPC facilities during the industrial environmental control.

Environmental special vigilance month had been introduced on Site aiming at continuous improving and enhancing the efficiency of the environmental management system, improving the environmental performance of the contractors involved in the GPC Construction.

Regular interaction with the contractors and subcontractors, the implementation of activities aimed at improving the level of knowledge, motivation, culture and competence of employees in environmental management issues, enabled us to reach positive indicators in violations elimination (7%) compared to 2022.

The Company takes a responsible approach to ensuring the requirements of environmental law and the implementation of environmental protection activities. In 2023, RusChemAlliance first released 1358 tiny arctic trouts to support water biological resources.

In 2024, it is also planned to release over 500 thousand tiny salmon fish into Neva and Narva rivers.

We will carry on our active environmental protection works for the benefit of the region and all its inhabitants!



Denis Zubairov
Head of Environmental
Protection Department,
RusChemAlliance LLC

RusChemAlliance Environmental Report 2023

Introduction

This environmental report is made based on the Regulations on Environmental Protection in RusChemAlliance LLC, approved by the decision of the Board of Directors (Minutes of Meeting No. 2 dated 28.09.2018).

Annual environmental statistic data, corporate reporting and EIC have been used to prepare the Report.

The Report covers the information about the environmental activities in RusChemAlliance, its S&A and contractors, involved in the Project implementation.

The Report includes the information about the actual impact indicators affecting environmental components and the actions taken to eliminate such impact.

The Report highlights the issues of Environmental protection management arrangement and financing issues while implementing the GPC.

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1. Project Overview

GPC is the joint project of Gazprom PJSC and RGD JSC aimed at the practical incorporation of a hydrocarbon monetization new economic model. Decision on the Project final configuration is taken in March 2019.

The Project includes the following facilities:

- Early Works. Main Site;
- Access Roads;
- Utilities, Infrastructure and Offsites. Non-Process Facilities;
- Gas Processing Plant;
- LNG Plant;
- Product Storage Area;
- Marine Shipment Terminal;
- Non-Public Railways;
- Linear Facilities between the Gas Processing Plant, LNG Plant and Product Storage Area;
- Flying Junction.

Project key plan is shown on Figure 1.



Figure 1. Project Key Plan

Complex is being built in Ust-Luga (Russia, Leningrad Region, Kingisepp District).

Complex are is about 1400 hectares. Complex construction will engage over 25000 specialists, and it is planned to create over 5000 permanent work places during the operations period.

The federal highway A-180 Narva stretches near the construction site, which is used to access the GPC territory.

Regional 41K-005 public motor road is located from the west side of the construction side (Kingisepp area – Krakolye). Kotly – Ust-Luga railway line of the Oktyabrskaya Railway lies nearby.

There is a large commercial seaport Ust-Luga within 15 km northeast from sites, in the mouth of the Luga River and in the southeastern part of the Luga Bay.

The distance to the nearest big localities from GPC is:

- 35km to Kingisepp;
- 60km to Sosnoviy Bor;
- 100 km to St. Petersburg.

Construction overview diagram is given on Diagram 1.

1. Project Overview

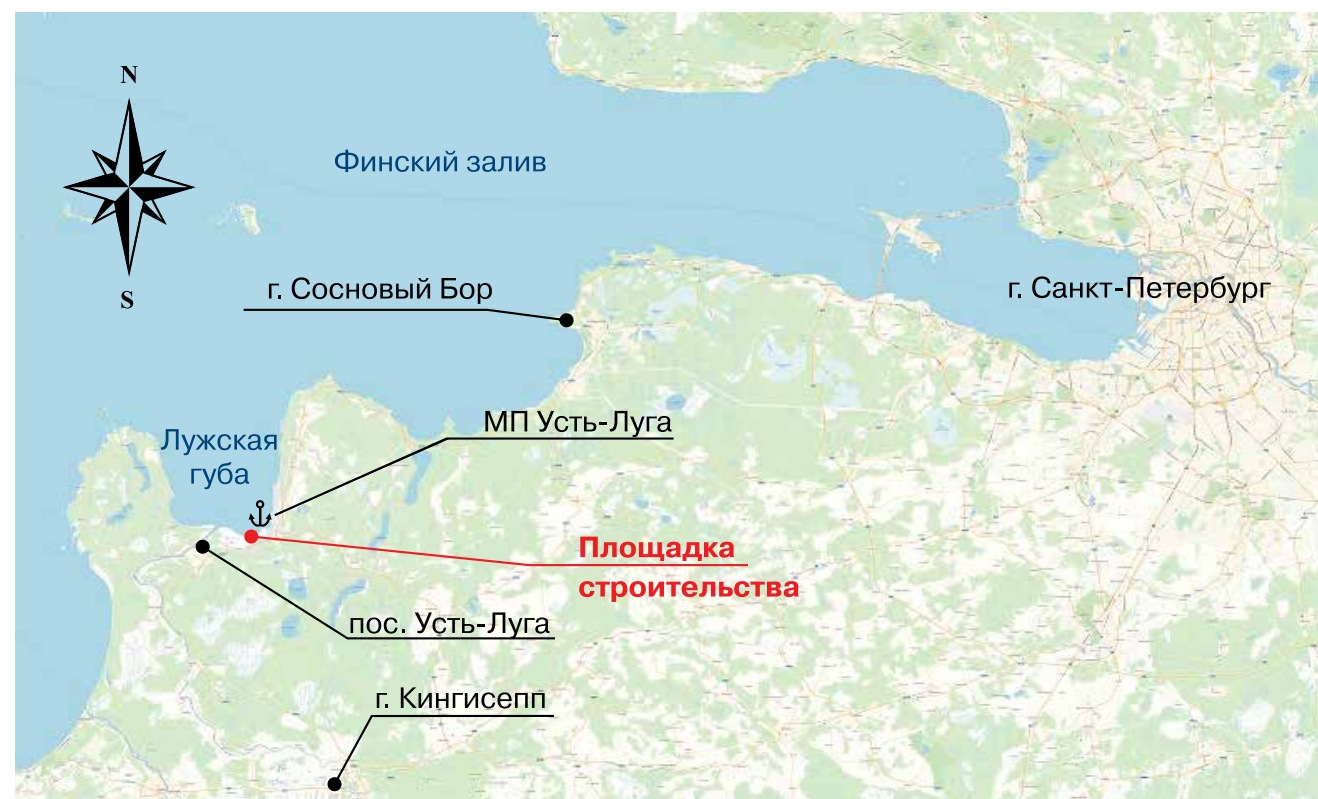


Diagram 1. Construction overview diagram

Feed gas for the company will be an ethane-rich gas produced by PJSC Gazprom from the Achimov and Valanzhin deposits of the Nadym-Pur-Taz region, supplied from the main gas pipeline of CS Gryazovetskaya – CS Slavyanskaya. Sales

products of the complex will be sales gas (C1), LNG (C1), LPG (C3-C4), ethane (C2) and pentane-hexane fraction (C5+).

Process diagram and sales product marketing structure are shown on Diagram 2.

RusChemAlliance Environmental Report 2023

1. Project Overview

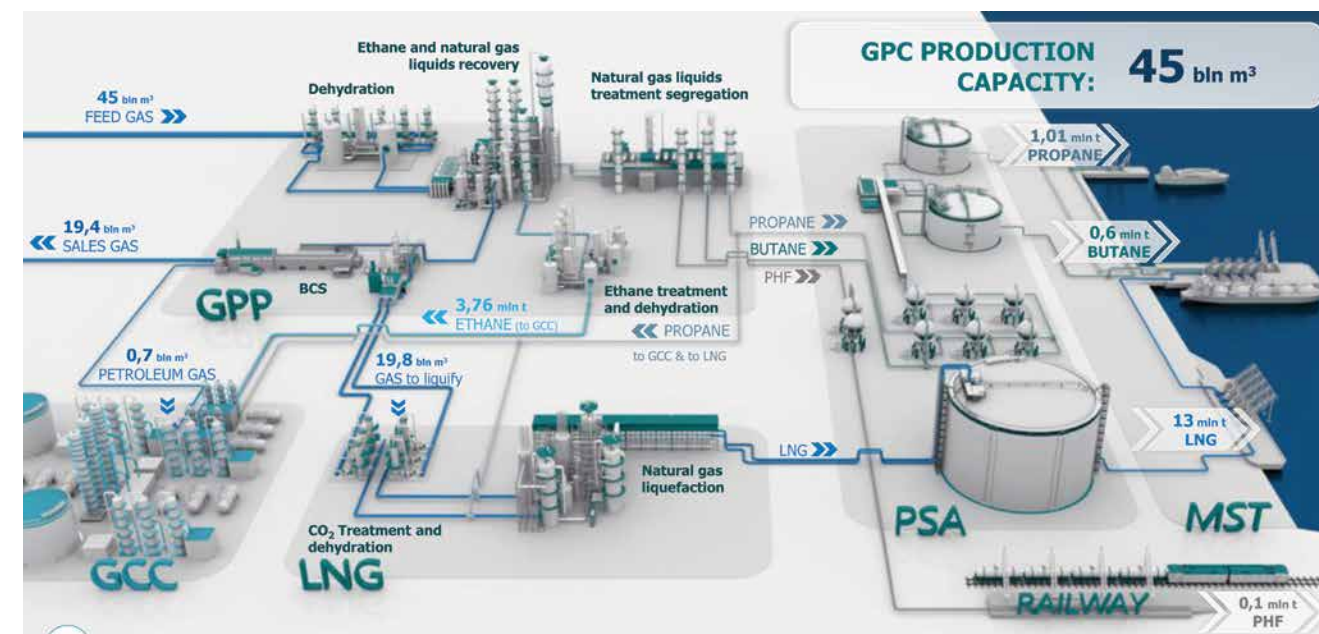


Diagram 2. Process diagram and sales product marketing structure

GPC products will be exported and supplied to the internal market of the Russian Federation.

Business targets

Processing: 45 BCMA.

Production:

- 19.4 BCMA of sales gas (C1);
- 13 MTPA of LNG (C1);

- 1.7 MTPA of LPG (C3-C4);
- 0.1 MTPA of PHF (C5+);
- 3.76 MTPA of Ethane Fraction (C2).

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2. Project implementation info for 2023

All the construction works were carried out by the contractors based on the contracts entered into under the Project implementation in 2023.

Early Works. Main Site

Main Site is located at 45ha land plot.

The following works are complete within the site preparation and levelling:

- geodesic control network development;
- reinstatement and site boundaries geodetic connection;
- stumps uprooting, underbrush and shrub clearance at the construction site followed by removing the residues to soil treatment area;
- removing and breaking rocks with removal to landfill;
- topsoil stripping followed by transporting part of it to a stockpile to be used for reinforcement, as well as part of topsoil transportation to a long-term storing to be used for site future reclamation works;
- unsuitable soil (peat) removal to reclamation materials production area;

- installation of site embankment foundation made of water proof soils;
- filling of embankment by imported soil with a layer-by-layer compaction;
- grading and levelling of embankment to arrange surface runoff;
- installation of water drainage facilities, making sure precipitations and melted waters are collected and diverted away;
- slopes reinforcement.

Main works are completed on 30.07.2023.

See site overview images on Photos 2.1–2.2.



Photo 2.1. Site preparation. GPP Trains 3, 4

2. Project implementation info for 2023



Photo 2.2. GPP flare site preparation

Access motor roads

For the company to operate during the operations period, as well as for the construction machinery to drive during the construction period and to enable the possibility of transporting oversized heavy lift cargoes to GPC site, construction of 9 access motor roads in envisaged with a total length of 17975 km, as well as 0,106 km fly-over junction over the railway road to Luzhskaya station.

Construction works include: installation of roadbeds, installation of embankment, lighting works, installation of beam-column joint, assembly of steel structures fly-over junction superstructures.

8 access roads to GPC were being built in 2023.

Main works are completed on 31.10.2023.

See site overview images on Photos 2.3–2.11.



Photo 2.3. AR 7214



Photo 2.4. AR 7211



Photo 2.5. AR 7210



Photo 2.6. AR 7211



Photo 2.7. AR 7212



Photo 2.8. AR 7260



Photo 2.9. AR 7261

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Photo 2.10. AR 7262



Photo 2.11. ACCESS ROAD 7220

Utilities, Infrastructure and Offsites. Non-process facilities

NPF are located on site adjacent with the GPP site and intended to ensure GPC operability in the whole.

NPF facilities provide the complex with the office and industrial buildings (administrative and amenity building, canteen, laboratories, rack-rooms, service buildings, repair shops, warehouses, fire station, gas detection stations, checkpoint, snow melt areas, domestic sewage pump stations, stormwater pump station, open waste storage area, cold storage, mercury waste storage, waste receipt and segregation shelter, barrels storage area, etc., as well as infrastructure of power supply, heating supply, water supply and sewage systems.

Starting from the Project implementation, there are 13 606 piles driven, 17 180 m³ of concrete works done below zero grade, 19 068 m³ of concrete works done above zero grade, 2 414 t of steel structures erected, 9901 m², 939 m of pipelines routed at the NPF site.

Construction overall progress is 14.2%.

Construction completion is planned on 31.10.2025.

Site overview photos are given on Photos 2.12, 2.13.

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Photo 2.12. Non-process facilities



Photo 2.13. Non-process facilities

Gas Processing Plant

GPP sales products are:

- methane fraction;
- ethane fraction;
- technical propane;
- technical butane;
- pentane-hexane fraction.

GPP includes UI&O facilities, 4 trains, technical security equipment systems and facilities (KITSO).
Starting from the Project implementation, there are 18 318 piles driven, 18 953 m³ of concrete works done below zero

grade, 3 564 m³ of concrete works done above zero grade, 193 t of steel structures erected, 9901 m², 507m of underground pipelines routed at the GPP site.
Construction overall progress is 2,3%.
GPP construction phase 1 completion (trains No. 1 and No. 2) is planned by 31.10.2025.
GPP construction phase 2 completion (trains No. 3 and No. 4) are planned by 31.10.2026.
Site overview photos are given on Photos 2.14, 2.15.

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Photo 2.14. UI&O Site



Photo 2.15. GPP Train 1 Site

LNG Plant

The LNG plant is designed to produce LNG by cooling the treated gas followed by selling it to consumers.
LNG Plant includes 2 trains.
In 2023 test piling is complete for the following titles: Amine Treatment Unit, Gas Dehydration Unit, Inlet Facilities Section.
Construction overall progress is 0,8%.

LNG phase 1 construction completion is planned by 30.09.2026.
LNG phase 2 construction completion is planned by 30.06.2027.
Site overview photo is given on Photo 2.16.



Photo 2.16. LNG Plant

Product storage area

PSA, railway loading rack and MST are being constructed to sale the GPC sales product.
PSA is intended for:

- intaking LPG and PHF from GPP;
- accumulation, cooldown and intermediate storage of LPG;
- accumulation and intermediate storage of LNG;
- intaking LNG from LNG production;
- accumulation and intermediate storage of PHF;

– degassing operations and cooling of LNG and LPG carriers given to be loaded.
In 2023 the following construction works completed: Construction overall progress is 8,2%.
PSA phase 1 construction completion is planned by 31.10.2025.
PSA phase 2 construction completion is planned by 30.09.2026.
Site overview photos are given on Photos 2.17, 2.18.

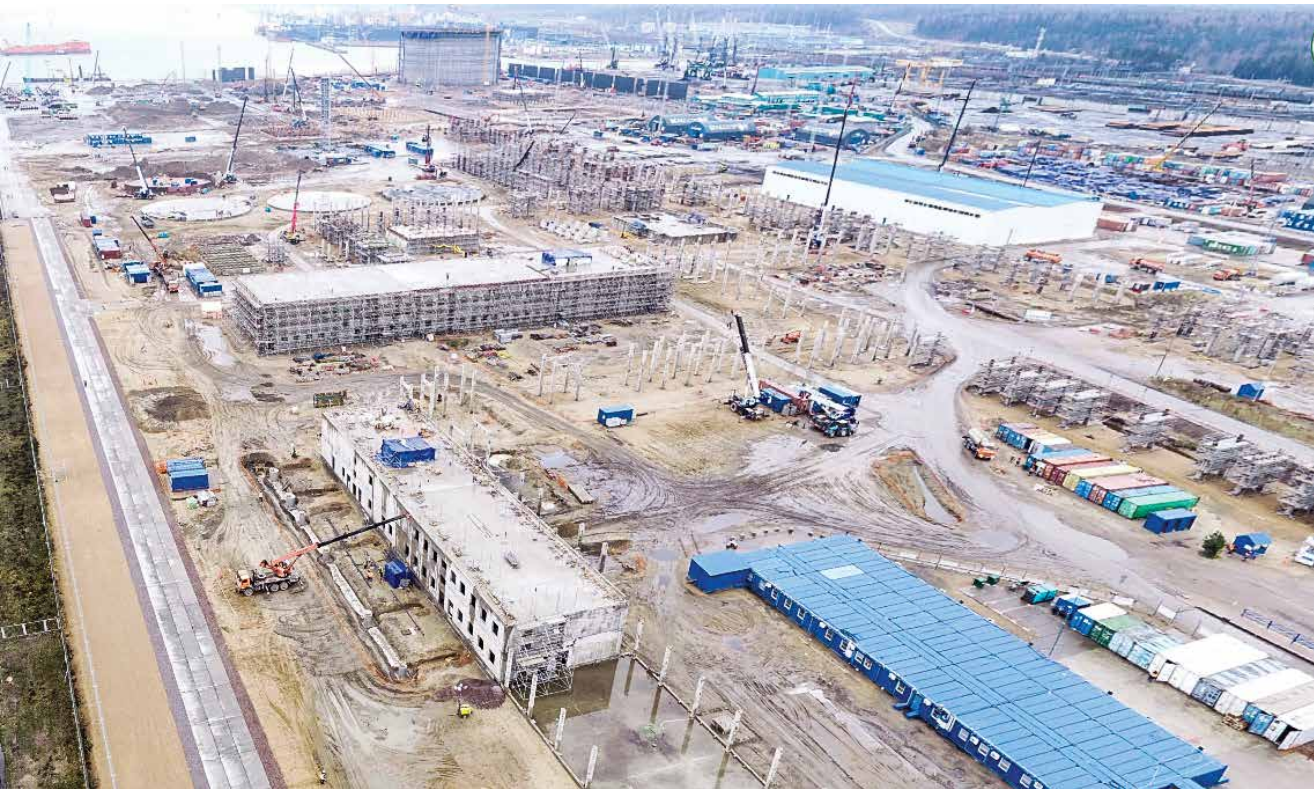


Photo 2.17. Product Storage Area



Photo 2.18. Product Storage Area

Marine shipment terminal (aquatic area and hydrotechnical facilities)

MST is intended for:

- intake and safe anchorage of design loads;
- shipment of sales products (LNG, LPG);
- ensuring border, customs and other types of control at the checkpoints across the state borders of the Russian Federation.

Sales product from PSA to MST is in-taken via process pipelines.

Stage-by-stage construction is envisaged for the following facilities:

- Process Jetty No. 23.1 (combined) for LNG and LPG shipment;
- reconstruction of the existing jetty No. 2 - Yug-2 multi-purpose transshipment complex for LNG and LPG shipment; pier; reconstruction of the existing jetty No. 1 Yug-2 MPTC followed by construction of jetties No. 25.1 (LNG shipment) and No. 25.2 (LPG shipment);

- Reconstruction of Ust-Luga seaport south aquatic area;
- Reconstruction of state border inspection post;
- Reconstruction of navigational range "Luzhskiy-Vstrechniy".

In 2023, the works were completed for lifting rocks and dismantling of gabion from aquatic area, installation of piles on mooring posts No. 1, 2, 3 and jetty No. 23.1 work area, on mooring posts No. 16, 17 and main mooring post No. 18 of Jetty 25.2, installation of shoring for foundation of mooring posts No. 1, 2, 3 of Jetty 23.1.

Dredging works in aquatic area, installation of piles, erection of steel structures are being carried out.

Construction overall progress is 3,6%.

Phase 1 construction completion is planned by 30.08.2024.

Phase 2 construction completion is planned by 30.08.2025.

Site overview photo is given on Photo 2.19, 2.20.

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Photo 2.19. MST Site



Photo 2.20. MST Site

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Linear Facilities

LF designer are intended to ensure process interconnection between GPP, LNG Plant, PSL Area, included in GPC.

Linear Facilities also include 110kV electrical lines aimed at supplying power to LNG and PSA from the distribution substation 110kV, located at GPP and energized from Substation 330/110kV Narva.

To set interconnection of the process sites within the linear facilities between the GPP, LNG Plant and PSA, the following utilities installation is envisaged:

- Methane pipeline from GPP to LNG Plant;
- Ethane pipeline from GPP to LNG Plant;
- Butane pipeline from GPP to LNG and PSA;
- Propane pipeline from GPP to LNG and PSA;
- Off-spec pipeline from PSA to GPP;
- Pentane-hexane pipeline from GPP to PSA;
- LNG boil-off gas pipeline from PSA to LNG;
- LNG pipeline from LNG plant to PSA;
- Dry LNG pipeline from LNG to PSA;
- End flash gas pipeline from LNG to PSA;
- boiler-house gas pipeline towards PSA;
- B 1 domestic and potable water pipeline from LNG to PSA;
- B3 service water pipeline (from GPP to PSA);
- B2 fire water pipeline from PSA to LNG (2 pipelines);
- K4H industrial and stormwater pressure sewage from PSA to LNG;
- K41H saline pressure sewage from LNG and PSA to GPP;
- K1H sanitary pressure sewage from PSA to GPP;
- Heating water pipeline from PSA to LNG (direct pipeline);
- Heating water pipeline from LNG to PSA (return pipeline);

- Instrument air line from LNG to PSA;
 - Plant air line from LNG to PSA;
 - LP nitrogen line from LNG to PSA;
 - 110kV overhead lines from GPP to LNG;
 - 110kV cable lines from transition to PSA;
 - Fiber optic cable lines (FOCL) from GPP to LNG and PSA;
 - 10kV cable at section from GPP to PSA;
 - 0,4 kV cable lines at section from GPP to PSA (power networks, electric heating, lighting, anti-corrosion protection);
 - Grounding networks;
 - fire alarm units (systems), field level;
 - Automatic process control system networks;
 - Telemechanic networks;
 - Telecommunication networks;
 - Technical security equipment set (KITSO);
 - Interconnecting piperack (between the LNG and PSA);
 - Motor roads for the facilities and utility corridor (between GPP and LNG Plant);
 - Motor road to LNG Plant;
 - Motor road to Product Storage Area.
- Machinery and equipment is mobilized to perform the works, piles are being delivered and driven in 2023.
- Work progress in 2023 was 0.1%.
- Construction completion is planned in the following due dates:
- Phase 1 – 31.10.2025;
 - Phase 2 – 30.09.2026.
- Site overview photo is given on Photo 2.19, 2.20.

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Photo 2.21. LF Site



Photo 2.22. LF Site

TSF 1.2, 1.3 (11 500 people)

TSF 1.2, 1.3 (for 11 500 people) construction works were carried out to accommodate contractor responsible for GPP construction in 2023.

Earth work, concrete works, installation of dormitory building steel structures, installation of hydroinsulation and heat insulation, foundations, intrasite pipelines routing, gas supply system installation, electrical works, network installation are being carried out.

Work progress is 34,5%.

Construction completion is planned on 30.07.2024.

Site overview photos are given on Photos 2.23, 2.24.



Photo 2.23. TSF 1.2,1.3 construction site



Photo 2.24. TSF 1.2,1.3 construction site

TSF 3.2 (7000 people)

Earth works, hydroinsulation installation, ventilation and conditioning external ducts installation, pits and chambers installation, modules installation were being done in 2023.

Work progress in 2023 was 28,3%.

Work completion planned date is 30.07.2024.

Site overview photos are given on Photos 2.25, 2.26.



Photo 2.25. TSF 3.2 construction site



Photo 2.26. TSF 3.2 construction site



3. Environmental management system

3.1. Creation of the environmental management system

RusChemAlliance declares its commitment to green practices, which means a balanced and socially acceptable combination of economic growth and the preservation of a favorable environment for future generations.

RusChemAlliance Environmental Policy approved by RusChemAlliance Board of Directors (MoM No. 28 dated 28.05.2020) is the basic EMS document.

RusChemAlliance Environmental Policy and Regulations on Environmental Protection shall be communicated to the in-house personnel and external stakeholders, first off to the contractors and vendors by posting on RusChemAlliance official website.

In its activities RusChemAlliance uses the list of Gazprom PJSC standartization documents, required to be applied during the project implementation in Environmental Protection.

List of Laws and other RLAs, which cover the requirements of the environmental protection applicable to RusChemAlliance, approved by the order and revised at least twice a year.

RusChemAlliance and its S&As form a vertically integrated company. To determine the common strategy for unification and standartization of the design solutions, used during the GPC implementation, apart from RusChemAlliance accepted CRDs related to environmental protection, there are currently the following standards being developed:

- Environmental Management System;
- Environmental Aspect Identification Procedure;
- Air Pollutants Emission Management;
- Water Resources Management;
- Waste Management and Handling;
- Industrial Environmental Control and Monitoring;
- Environmental Protection Reporting;
- Environmental Protection Documentation.

3.2. Environmental awareness

Continuous environmental awareness process to enhance personnel environmental knowledge and culture is the necessary condition for successful environmental management.

RusChemAlliance Environmental Protection Department is responsible for preparation of RusChemAlliance personnel training plan for:

- Environmental Safety. Ensuring environmental safety by managers and specialists of the plant management systems (31 employees trained in 2023)
- Ensuring environmental safety during hazard class I-IV waste handling (9 employees trained in 2023).

Besides, Environmental protection department employees tool part in the following events in the reporting period to upgrade competences:

- XIV International Forum – Ecology, arranged by BUSINESS ELITE LLC;
- VIII International Scientific and Technical Conference – Environmental Safety in the Gas industry, arranged by Gazprom VNIIGAZ LLC;
- XXIV All-Russian Congress – State Regulation of Environmental Protection and Environmental Safety in 2023, arranged by Agency for Socio-Economic Development, Group of Companies;
- II All-Russian Forum – Ecology and Nature Management in 2023, arranged by Agency for Socio-Economic Development, Group of Companies;

- Online training – Preparation for the 2023 Reporting Campaign, arranged by Paradigma LLC;
- Online training – Emission to Atmosphere: standartization and control of pollutant emissions, arranged by Paradigma LLC;
- Webinar – Water Supply from Underground Sources; Water Intake Facilities Construction, Operations, Abandonment. Sanitary Protection Zone Arrangement, by Paradigma LLC;
- Online-seminar – Correct Paperworks for Waste Selling to Dispose off: guides and features, by Paradigma LLC;
- Webinar – Calculation of Green-House Gases Emission, Reporting and other Aspects of Climatic Regulating in the Russian Federation, by Paradigma LLC;
- XXXIII Environmental Forum, by Paradigma LLC;
- Webinar – Changes in Environmental and Sanitary Law in 2022-2023, arranged by Paradigma LLC;
- XXII International Forum – Big City Ecology, arranged by ExpoForum International LLC;
- Enterprise Environmental Specialist Annual Seminar – Problems and Practice of using the Environmental Protection and Management Russian Law, arranged by Paradigma LLC;
- Practical Seminar – Integrated Environmental Permit: preparation and obtainment, arranged by Industrial Ecology Legal Center LLC;

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3. Environmental management system

3.2. Environmental awareness

- XVII All-Russian Enterprise Environmental Specialist Seminar – Problems and Practice of using the Environmental Protection and Management Russian Law, arranged by arranged by Industrial Ecology Legal Center LLC;
- Seminar – Integrated Environmental Permit Obtainment, arranged by Federal Man-Made Impact Analysis Center.

For the Contractors involved in GPC construction, the following trainings conducted:

- Planned training under the special environmental awareness month (March), topic: "I-V hazard class waste handling works";

- Planned training involving Centre of Laboratory Analysis and Technical Metrology in Northwestern Federal District [TSLATI SZFO], under the special environmental awareness month (June), topic: "Industrial environmental control and monitoring on the construction facilities";
- Informing contractors under the special environmental awareness month (November), topic: "Key changes in environmental law".

357 environmentation inductions for the Company new employees and visitors conducted:

- 193 inductions in St. Petersburg office;
- 164 inductions in Ust-Luga office.

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3.3. Environmental aspects and objectives

Environmental objectives are set out and environmental activities based on the major environmental aspects determined annually. Relevant environmental aspects for RusChemAlliance LLC during the construction are as follows: pollutants emission into the atmosphere, impact on soils, flora and fauna, consumption of water resources.

Environmental objectives achievement indicators are given in Table 3.3.

Table 3.3. Environmental objective achievement indicator			
Environmental objective	Target indicator		Assessment of Environmental objective achievement in the reporting year (achieved/not achieved), main activities completed
	basic level	actual, for the reporting period	
1	2	3	4
No environmental accidents during the Project facilities construction	Number of accidents with environmental impact during the Project facilities construction	Number of accidents with environmental impact during the Project facilities construction	Objective achieved. To achieve the objective, the Company: <ul style="list-style-type: none">conducted 100% of inspections in accordance with the Monthly Schedules for joint inspection of the state of environmental, industrial, fire and occupational safety;arranged the Owner's construction supervision over the Construction works.
No major environmental violations	No notifications from the state supervision authorities on suspension of the construction works due to major environmental violations	Number of notifications from the state supervision authorities on suspension of the construction works due to major environmental violations is 0	Objective achieved. To achieve the objective in the reporting period, the following main activities are done: <ul style="list-style-type: none">All the contractors are informed about the Company's environmental requirements (included in agreements and EPC Contracts);IEM is carried out: 100%
Minimization of environmental negative impact	Scope of planned activities to be completed (at least 90%)	Scope of planned activities completed is 100%	Objective achieved. To achieve the objective, the following main activities are done: <ol style="list-style-type: none">The Company business unit managers are provided with electronic signatures.Electronic form incorporated for issue of single-use/ permanent pass via electronic document control system.Amendments to internal regulatory documents to exclude the requirements for signing paper requests, except for cases contemplated by the Russian Law, or in cases where there is no technical possibility to the documents in electronic form (for example, if electronic digital signature is not available).Approval and signing the company internal documents with temporary (up to 10 years inclusive) storage period by electronic signatures (except for cases, contemplated by the Russian Law, Gazprom PJSC CRDs, Company regulatory document requirements).Elaboration on switching to use enhances qualified electronic signature while signing outgoing letters.Elimination of storing paper copies of the documents in the business units (except for cases, contemplated by the Russian Law, Gazprom PJSC CRDs, Company regulatory document requirements, as well as business needs).Arrangement of segregation for collection of paper and cardboard waste generated from stationary and office works

3.3. Environmental aspects and objectives

Table 3.3. Environmental objective achievement indicator			
Environmental objective	Target indicator		Assessment of Environmental objective achievement in the reporting year (achieved/not achieved), main activities completed
	basic level	actual, for the reporting period	
1	2	3	4
Improvement of competence and awareness in resolving environmental issues among the Company employees, contractors representatives	Scope of planned activities to be completed (at least 90%)	Scope of planned activities completed is 100%	Objective achieved. To achieve the objective, the following main activities are done: <ol style="list-style-type: none">Number of trained is 100% off the planned needs, determined based on the Company Order No. PXA-П/109 "Approval of the Regulations of RusChemAlliance Employees Training Process" dated 08.08.2022.Publication of environmental information materials on the Company Intranet Portal in accordance with PR & Mass Media Department Plan.Conducting "Environmental Day" meetings with the contractors.Distribution of environmental information materials among the employees engaged in the Project and its visitors.Number of employees passed the environmental induction is 100% off the new employees headcount employed for 2023. It includes business travellers, company facility visitors, excursionists and other persons involved in the business activities of the company, but not being its employees.Emergency response drills conducted with the Contractor.EcoLider competition procedure and the assessment criteria for the contractors are determined. Competition results MoM is made.
Control over S&As to follow RusChemAlliance requirements in environmental protection law	S&A inspection schedule of RusChemAlliance is 100% completed	100%	Objective achieved. To achieve the objective, the Company completed 100 inspection in accordance with RusChemAlliance Joint Inspection Schedule to check environmental safety, industrial safety, fire safety, occupational safety in subsidiaries and affiliates in 2023

3.4. Environmental protection financing

Total costs for EP in 2023 amounted to 347.55 million rubles.

Labor costs and social security contributions (including deductions to extra-budgetary funds) of Environmental Department Employees amounted to 55.7 million rubles.

Money spent for IEC and IEM amonted to 277.14 million, including for:

- atmospheric air protection and climate change prevention – 97.9 million rubles;
- waste handling – 12.15 million rubles;
- protection and reclamation of lands, surface and underground waters – 105 million rubles;
- protection of environment against noise, vibrations and other physical impacts – 47.2 million rubles;
- preservation of biodiversity and protection of natural territories – 4.35 million rubles;
- other IEC areas – 10.5 million rubles.

Costs for disposal of wastes generated during the Company business activities amounted to 0.007 million rubles.

Costs for enhancement of employees qualification under the program "Ensuring environmental safety during hazard class I–IV waste handling" amounted to 0.026 million rubles, under program "Environmental Safety. Ensuring environmental safety by managers and specialists of the plant management systems" amounted to 0.207 million rubles, attendance at seminars amounted to 0.773 million rubles.

Costs for environmental awareness and forming environmental culture amounted to 13.6 million rubles.

Costs for development, incorporation and carrying out certification and inspection audits for environmental management system, complying with the requirements of GOST R ISO 14001-2016 amounted to 0.1 million rubles.

Indicator increased in 2023 compared to 2022 by 668.7% and associated with an increase of IEC and IEM scope due to the GPC next facilities construction had started, as well as due to implementation of Event Plan "74 environmental events for 47th region", approved by the RusChemAlliance Order.



State nature reserve "Kurgalskiy"



4. Effect indicators

Environmental effect indicators are set out by PD which obtained a positive conclusion issued by the state environmental expertise.

4.1. Atmospheric air impact

During the GPC construction the main atmosphere pollution sources are: transport and construction machinery/equipment operations; diesel power plants; welding and painting works; inert construction materials handling; machinery/equipment fuelling.

List of pollutant emissions in the atmospheric air during the construction period is given in Table 4.1.

Table 4.1. List of pollutant emissions in the atmospheric air during the construction period		
Pollutant hazard class	Indicative collective emission, t/period	Pollutant hazard class contribution, %
1	0,005	0,00002
2	53,137	0,23
3	13 377,552	58,84
4	6527,522	28,71
Hazard class is not determined	2775,408	12,21
Total:	22 733,624	

Designed level of maximum ground level concentrations will not exceed standard indicators of air quality in all the reference points of the closest residential construction and SPNA.

Impact on atmospheric air in the boundaries of residential area and SPNA during the construction period is assessed as short and acceptable.

4.2. Noise Emission

Noise emission sources during the construction period are vehicles, equipment, construction machinery.

Noise emission indicators during the construction period are given in Table 4.2.

Table 4.2. Noise emission indicators during the construction period		
Acoustic level, dBA	Standard dBA	Daylight hours only
Equivalent	Day: 55 Night – 45	48,4
Maxumum	Day: 70 Night: 60	65,2

Acoustic impact during the construction period in the boundaries of residential area and SPZ will not exceed the standard values during the day and night.

4. Effect indicators

4.3. Water sewage

Domestic and household wastewater, equipment pressure testing water, storm water and melt water effluents are generated during the construction.

Wastewater generation volume during the construction period for all GPC facilities in given in Table 4.3.

Table 4.3. Wastewater generation volume		
Domestic and household wastewater volume, thousand m³	Industrial wastewater volume, thousand m³	Surface runoff wastewater volume, thousand m³
7023,67	412,73	2292,58
Wastewater handling		
Removal to STP in Kingisepp town	Used for production needs	Installation of intrasite water ditches with an organized diverting to catch basins

4.4. Waste handling

Wastes are generated during the construction period due to preparatory works, maintenance and repair of vehicles, construction machinery, construction works, personnel vital activities.

Wastes generation volume during the construction period for all GPC facilities in given in Table 4.4

Table 4.4. Waste generation volume during the construction period		
Waste hazard class	Waste generation volume, t/period	Hazard class contribution, %
I	0	0
II	52,69	0,002
III	12 251,57	0,5
IV	143 042,91	5,3
V	2 531 380,26	94,2
Total:	2 686 727,44	

The Project envisages the actions to minimize the impact on Environment, including:

- minimization of waste generation;
- installation of waste segregation storage areas;
- monitoring of waste storage conditions;

- transfer of wastes to specialized entities to remove, neutralize, dispose.

Production and consumption waste handling planned scheme meets the requirements of epidemiological and environmental Law of the Russian Federation.



5. Environmental Assessment of the Projects

All accepted design solutions shall comply with the Russian Law and international requirements in environmental protection, ensure the lowest level of negative environmental impact per unit of time or products (goods) output, works performed, services provided as stipulated by the current regulations, with the requirements of the international financial organizations, and shall ensure minimum greenhouse gas emissions.

In accordance with the requirements of Article 28.1 of Federal Law No. 7-FZ dated 10.01.2002 "On Environmental Protection", the activities of the companies with significant negative environmental impact, as well as the individual process units, accepted engineering and process solutions shall fully comply with the requirements for achieving the parameters of the best available technique set out in the relevant information and technical reference books.

GPC ERGPC planned activities in accordance with cl. 1 of Decree No. 2674-r dated 24.12.2014 of the Government of the Russian Federation refer to the scope of the best available technique application requirements, to which the following information and technical reference books are applicable:

- ITS 50-2017 "Processing of natural and associated gas",
- ITS-29-2017 "Natural gas production",
- ITS 9-2020 "Thermal treatment of waste".

Regulatory documents in the field of environmental protection have been approved by the orders of the Ministry of Natural Resources of the Russian Federation:

- Process indicators of the best available technique for processing of natural and associated gas (Order No. 319 dated 21.05.2019),
- Process indicators of the best available technique for natural gas production (Order No. 471 dated 17.07.2019),

- Process indicators of the best available technique for waste disposal, including thermal treatment methods (Order No. 844 dated 12.11.2021).

As part of the design, an analysis of compliance with the requirements of information and technical reference books in terms of pollutant emissions was carried out by comparing the total emissions per process unit from each process up to final development of GPC ERGPC for each of the marker substances using emission process indicators approved by orders of the Ministry of Natural Resources of the Russian Federation. The analysis showed that for each of the individual indicators, the accepted process solutions fully comply with the regulatory requirements in terms of the best available technique application.

Prior to submitting the PD design documentation for the State Environmental Expert Review and the State Expert Review, a comprehensive assessment of the documentation compliance with the requirements of the Russian Federation Law, international norms and rules, and regulations in the field of environmental protection is carried out.

During the reporting period, 8,160 documents were reviewed in terms of their compliance with the requirements of the applicable Russian Federation Law in the field of environmental protection and for monitoring the best available technique and practices application at all stages of the Project.

As a result of the environmental assessment of the PD design documentation, the quality of documentation has been improved in terms of accepting modern environmental and energy-efficient solutions aimed at reducing environmental risks during the Project implementation.

complex within Ust-Luga ethane-rich gas processing cluster. Stage 6.3 Marine Shipment Terminal. Reconstruction of Ust-Luga seaport south aquatic area.

The hearings were recognized as having taken place by Resolution No. 2507 dated 07.09.2023 of the administration of the Kingisepp Municipal District.

5.1. Public hearings

In accordance with the Requirements for environmental impact assessment materials approved by Order No. 999 dated 01.12.2020 of the Ministry of Natural Resources of the Russian Federation, the public hearings took place in 2023 in the form of hearing the PD design documentation containing Environmental and Social Impact Assessment materials for Gas processing

5.2. Russian Federal Fisheries Agency Findings

As part of GPC ERGPC implementation in accordance with the requirements of Article 50 of Federal Law No. 166-FZ dated 20.12.2004 "On Fisheries and Conservation of Aquatic Biological Resources", the PD design documentation received

Russian Federal Fisheries Agency conclusion on approval of the activities included into the PD for three Sub-projects. Information about Russian Federal Fisheries Agency findings are provided in Table 5.2.

Table 5.2. Information about approvals issued by Russian Federal Fisheries Agency

Stages	Findings	Actions
Early Works. Main Site	Conclusion No. 07-05/13273 dated 18.12.2023 of the North-Western Administration of the Russian Federal Fisheries Agency	Letting lamprey larva with the minimum weight of 0.0005 g into the Luga River in the amount of 140,495 specimens or 1-year Atlantic salmon with an average weight of 18-20 g each one in the amount of 45 specimens
Stage 6.3 Marine Shipment Terminal. Reconstruction of Ust-Luga seaport south aquatic area	Conclusion No. Y02-4800 dated 22.11.2023 of the Russian Federal Fisheries Agency	Letting juvenile Atlantic salmon with an average weight of 9-18 g each one in the amount of 522 742 specimens in the Neva, Luga, Narva rivers
Stages 9.1, 9.2, 9.3. LNG Plant	Conclusion No. 07-05/8796 dated 10.08.2023 of the North-Western Administration of the Russian Federal Fisheries Agency	Not Required

5.3. State environmental expert review

In accordance with the requirements of Federal Law No. 174-FZ dated 23.11.1995 "On Environmental Expertise", in 2023 the PD design documentation for two Sub-projects received positive

conclusions from the State environmental expert review, information about it is provided in Table 5.3.

Table 5.3. Information on the conclusions of the State environmental expert review issued for GPC ERGPC

Stages	Conclusions Approval Order
Stage 6.3 Marine Shipment Terminal. Reconstruction of Ust-Luga seaport south aquatic area	Order No. 3238/ГЭЭ dated 19.12.2023 of Rosprirodnadzor
Stages 9.1, 9.2, 9.3. LNG Plant	Order No. 3095/ГЭЭ dated 22.11.2023 of Rosprirodnadzor

5.4. Establishing Sanitary Protection Zones

In compliance with the requirements of Federal Law No. 52-FZ dated 30.03.1999 "On Sanitary and Epidemiological welfare of the Population" and Decree No. 222 dated 03.03.2018 of the Government of the Russian Federation "On Approval of the Rules for the Establishment of sanitary protection zones and the Use of Land located within the boundaries of sanitary protection zones", Sanitary Protection Zone projects are being developed. The status of receiving resolutions on establishing the Sanitary Protection Zones is provided in Table 5.3.

Table 5.4. Status of receiving resolutions on establishing the Sanitary Protection Zones			
Project stage	Expert Findings	Sanitary and epidemiological findings	Resolution on establishing the Sanitary Protection Zones
Stages 5.1, 5.2, 5.3, 6.1, 6.2, 6.3, 6.4, 6.5. Product Storage and Loading Area, Marine Shipment Terminal	78-20-06.000.T.1488 dated 31.01.2023	47.01.02.000.T.000271.03.23 dated 03.03.2023	84-PC33 dated 04.05.2023
Stages 2.1, 2.4, 3.1, 3.2, 3.3, 3.4. Gas Processing Plant	01.05.T.54071.09.23 dated 31.08.2023	2024	2024
Stages 2.2, 2.3, 2.5, 2.6, 2.7. Utilities, Infrastructure and Offsites. Non-process facilities			

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6. Industrial environmental control

Control in the field of environmental protection is a system of measures aimed at preventing, detecting and stopping violations of regulations in the field of environmental protection, ensuring compliance by legal entities and individual entrepreneurs with the requirements, including legal regulations in the field of environmental protection.

RusChemAlliance LLC obligation on Industrial environmental control execution is stipulated by the following documents:

- Federal Law No. 7-FZ dated 10.01.2002 "On Environmental Protection";
- Land Code of the Russian Federation No. 136-FZ dated 25.10.2001;
- Water Code of the Russian Federation No. 74-FZ dated 03.06.2006;
- Forest Code of the Russian Federation No. 200-FZ dated 04.12.2006;
- Federal Law No. 52-FZ dated 24.04.1995 "On the Animal life Protection";
- Federal Law No. 174-FZ dated 23.11.1995 "On Environmental Expertise";
- Federal Law No. 89-FZ dated 24.06.1998 "On Production and Consumption waste";
- Federal Law No. 52-FZ dated 30.03.1999 "On Sanitary and Epidemiologic Well-Being of the Population";
- Federal Law No. 96-FZ dated 04.05.1999 "On Protection of Atmospheric Air".

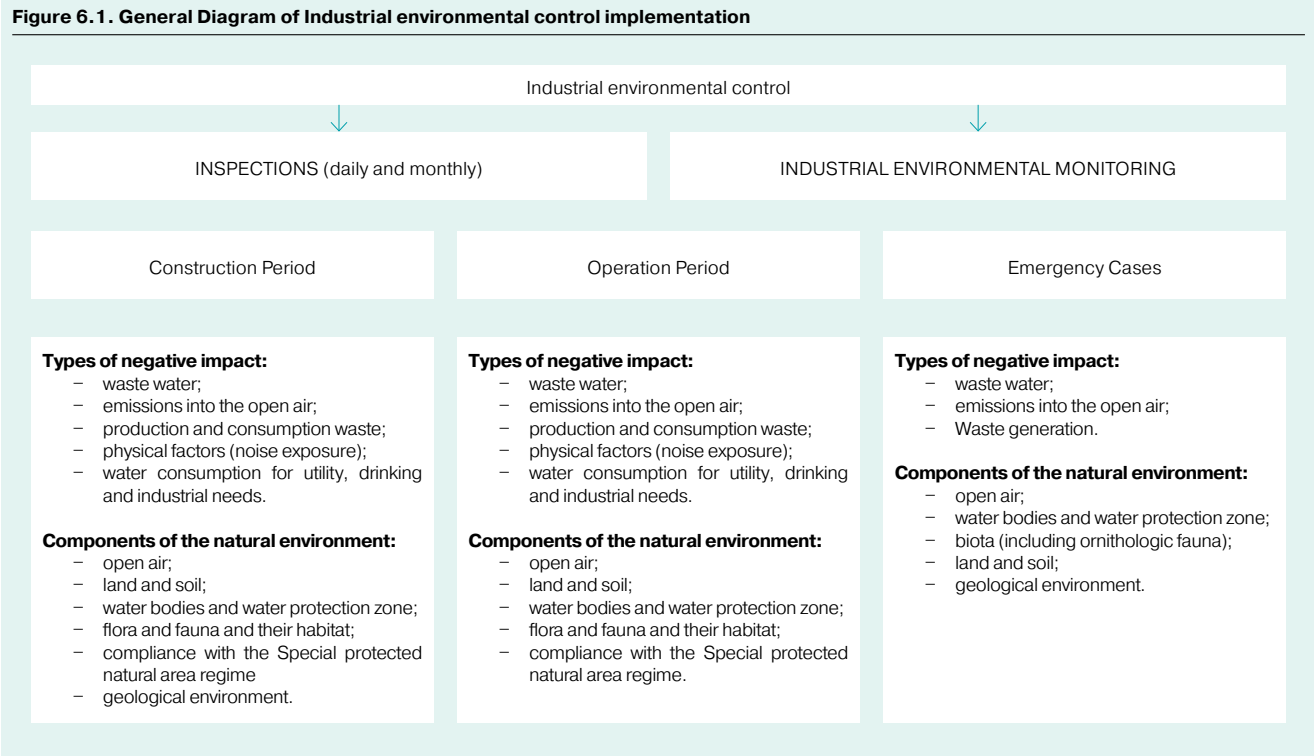
Industrial environmental control management is an integral part of the Environmental Management System.

Industrial environmental control general management in RusChemAlliance LLC is performed by the General Director.

The chief engineer is responsible for Industrial environmental control organization.

Responsibility for the Industrial environmental control implementation, coordination of the activities of the structural divisions and employees of RusChemAlliance LLC involved in Industrial environmental control planning, ensuring and implementation, control over elimination of violations identified during the Industrial environmental control implementation is assigned to the head of the Environmental Management Department.

General Diagram of Industrial environmental control implementation is provided in Figure 6. 1.



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6.1. Inspections

RusChemAlliance LLC inspections include:

- control of the environmental permits availability;
- monitoring over Environmental Impact fees to be paid in time;
- control over waste handling accounting;
- control over implementation of the recommendations set out in the State Environmental Expert Review conclusions;
- control over environmental protection systems and devices availability, technical condition and operating modes;
- control over environmental protection measures being available and justified, integral and completed in-time;
- control over compliance with the environmental requirements during execution of different work types;
- control over other aspects of production activities in terms of compliance with the environmental requirements established by the international standards, applicable Russian Federation Law and/or company regulations of Gazprom PJSC and RusChemAlliance LLC.

The persons authorized to carry out inspections at the Project construction sites in RusChemAlliance LLC are the chief specialists of the Environmental Management Department.

Environmental inspections are performed on a daily and monthly basis.

The result of daily control is a construction site inspection report, the result of monthly control is a Report on violations of the Russian Federation Law and the Owner regulations in the field of occupational safety, industrial and fire safety, environmental protection.

The monthly inspections are scheduled and included into the annual Schedule of joint inspections of the environmental, industrial, fire safety, and labor protection, which is approved by the chief engineer.

Since the beginning of 2023, 247 inspections of the construction site were carried out as part of daily control, as well as 12 scheduled inspections, in order to control the contractors' compliance with the requirements of the environmental law.

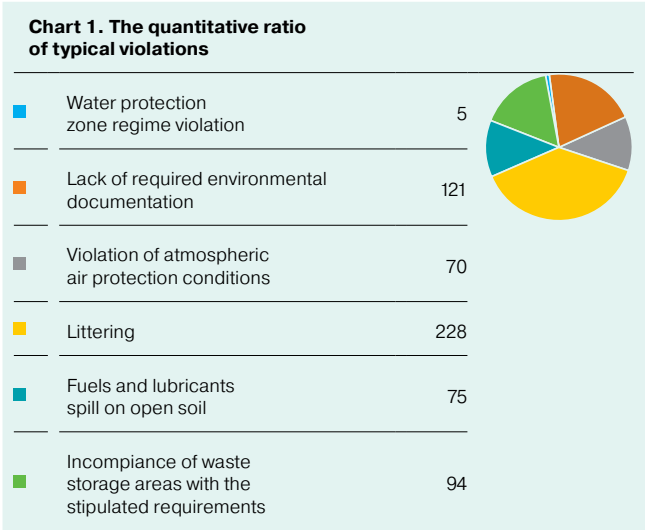
Based on results of the inspections, 117 Reports on violations of the Russian Federation Law in the field of environmental protection were prepared and sent to the contractors.

According to the inspection results in 2023, 1,404 violations in the field of environmental protection were revealed; 1,313 (94% of the total number) were eliminated. The violations elimination trend relative to 2022 is +7%.

Typical violations are as follows:

- violation of the regime of the water protection zone;
- required environmental documentation missing;
- violations of the air protection requirements;
- territory littering;
- fuel spills to the ground;
- non-compliance of the waste accumulation sites with the established requirements.

The quantitative ratio of typical violations is shown in Chart 1.



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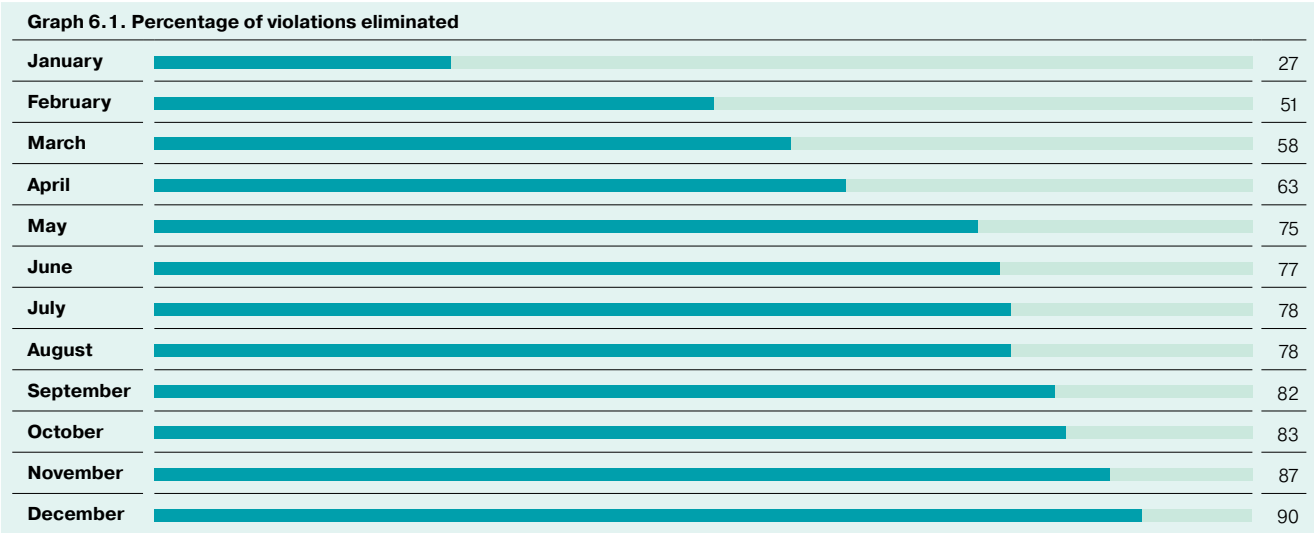
6.1. Inspections

In order to prevent violations of the environmental law requirements by the contractors, the following measures are being carried out in order to improve the level of environmental safety during the contractor's activities:

- 24 meetings with representatives of the contractors and subcontractors were organized and held, the Safety Day, in order to solve current problems in the field of environmental protection immediately;
- analysis of the contractors' documentation for compliance with the requirements of environmental law is carried out;
- issues of concern in the field of environmental protection are raised for discussion during the construction steering committees;
- weekly cleaning at the construction sites territory and adjacent territories;

- 4 site drills were organized and carried out;
- information stands are placed in the company's office and on the construction site, visual materials in the field of environmental protection were developed in order to increase the competence among employees of RusChemAlliance LLC and the contractors, as well as in order to form a conscious and responsible attitude to environmental protection issues;
- contractors are being informed about changes in the environmental law.

The results of corrective measures carried out by RusChemAlliance LLC during 2023 can be traced by changing the percentage of eliminated violations shown in Graph 6.1.



By the end of 2023, there is a positive trend in the ratio of the number of detected violations to the number of eliminated violations, the efficiency of eliminating the detected violations and improving internal operational control by the contractors can be noticed.

Based on the graph above, a conclusion can be made that the share of eliminated comments has a positive trend compared to

the beginning of the year. Eliminated comments increased for +63%. The increase in the number of eliminated comments is associated with the contractors' management being involved in solving environmental management issues, as well as with improved monitoring of the construction sites condition by RusChemAlliance LLC.

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6.2. Industrial environmental control in the field of air protection

6.3. Industrial environmental control over water bodies protection and use

The procedure for the Industrial environmental control implementation for air protection is defined by the Regulation on the Industrial Environmental Control approved by order of RusChemAlliance LLC, according to which the following facilities are subject to regular control:

- emissions into the open air;
- defined and fugitive, stationary and mobile sources of emissions into the air;
- gas treatment facilities;

- open air at the boundary of the Sanitary Protection Zones (for process facilities where there are fugitive, linear and/ or plane sources of air pollution).

The main sources of emissions into the open air on GPC ERGPC construction site are emission sources from diesel power plants, internal combustion engines of road construction equipment, cargo handling activities, batch plants.

The results of the control over emissions into the open air as divided by hazard classes are provided in Table 6.2.

Table 6.2. Results of control over emissions into the open air		
Pollutant hazard category	Fact, TPY	PD, TPY
1st	0,000282	0,005
2nd	2,903755	53,137
3d	1457,642188	13 377,552
4th	936,525280	6527,522
Hazard class is not determined	315,726226	2775,408

The impact on open air during GPC ERGPC construction is calculated based on approved methods at least once a year. According to the calculation results, emissions do not exceed the standards established by the PD design documentation.

The impact is considered as short-term and acceptable.

In 2023, imported and bottled water was used by the contractors for utility and drinking needs during GPC ERGPC construction.

Utility waste water discharge into water bodies during the construction period is not provided. Utility waste water generated at the construction site is transported by trucks to the treatment facilities.

Surface waste water from the construction site is drained through a network of existing drainage ditches to the treatment facilities of New Communal Technologies LLC.

Data on water consumption and sewage are shown in Table 6.3.

Table 6.3. Water consumption and sewage quantities		
Type of water use	Fact, thousand m³/year	PD, thousand m³/year
Water consumption (industrial, utility and drinking)	183,974	2 597,08
PD, thousand m³/year	141,549	4 113,54

Control over use of water for industrial, utility and drinking needs, as well as wastewater control is carried out according to the process and operational characteristics of the equipment in use (capacity, operating time, volume of filled or emptied tanks) or using calculation and balance methods.

Based on the control carried out, the following conclusions can be made:

- the water quantities are recorded by construction contractors in the logs of water consumption and sewage;

- construction contractors have valid contracts with water supply and utilities organizations;
- unauthorized intake (withdrawal) of water from water bodies has not been recorded.

The water consumption and sewage quantities during the construction and installation works does not exceed the estimated quantities included in the PD. This fact indicates the rational water use.

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6.4. Industrial environmental control over waste management

During Industrial environmental control over waste management, regular control shall be ensured over:

- technological processes and equipment related to waste generation;

- waste management procedure;
- waste collection areas.

Information for 2023 on waste generation and management is provided in Tables 6.4.1–6.4.2.

Table 6.4.1. Information about waste generation			
Waste hazard class	Waste generated		
	Fact, TPY	PD, TPY	
1st	0	0	
2nd	0	11 902,54	
3d	12,325	16 613,29	
4th	10 975,22	938 331,62	
5th	1 060 979,62	1 617 642,16	

To assess waste management processes, visual observations are carried out, during which:

- waste generated and handed over to third parties is accounted for;
- waste collection, accumulation and regular waste removal is controlled;
- quantities, composition and hazard class of the waste generated is defined;
- availability of valid contracts with specialized organizations for waste collection, transportation, processing, treatment, and disposal is controlled;
- work execution is analysed in order to identify opportunities and ways to reduce the quantities and hazard degree of the generated waste;
- waste accumulation facilities and the adjacent territory (structural integrity, filling level, littering of the adjacent territory, etc.) is checked.

Based on the control carried out, the following conclusions can be made:

- generated waste accumulation is carried out at the waste collection areas in accordance with the norms and regulations;
- the contractors have valid contracts with specialized organizations for waste collection, transportation, processing, treatment, and disposal;
- waste is transported off site in-time, overfilling of the waste collection areas is not recorded;
- the contractors define the generated waste quantities, composition and hazard class, waste passports approvals are obtained, and records in the field of waste management are kept;
- selective accumulation of the generated waste is ensured.

Table 6.4.2. Information on waste management			
Table 6.4.2. Information on waste management	Waste disposal, tons	Waste treated, tons	Waste removed, tons
	Actual	Actual	Actual
1st	0	0	0
2nd	0	0	0
3d	6,3	3,35	0
4th	5471,03	63 517,19	2506,63
5th	805 618,77	17,5	78,29

The waste generated during construction and installation works has been transferred for disposal, treatment and

transportation off site based on existing contracts with specialized licensed organizations specified in Table 6.4.3.

6.4. Industrial environmental control over waste management

6.5. Control over availability of authorization permits

Table 6.4.3. Project waste management organizations	
Waste hazard class	Waste accepting companies
1st	Federal State Unitary Enterprise "Federal Environmental Operator"
2nd	
3d	Greentech LLC Ecological Figures LLC Ecolibra LLC Eurotrans LLC
4th	LIK LLC EcoExpertGroup LLC Leningrad Oblast Waste Management Company JSC
5th	LIK LLC Okhta LLC WestVtorMet LLC Industrial Renovation LLC M-steel LLC DM-trade LLC Ecopolus LLC EcoExpertGroup LLC Progres-Nerud LLC Leningrad Oblast Waste Management Company JSC

The quantities of the waste generated in 2023 do not exceed the estimated ones specified in the PD. This fact indicates that equipment and materials use was rational, the measures to

minimize waste generation were fulfilled, and the requirements of the design solutions were complied with during the works execution in 2023.

6.5. Control over availability of authorization permits

Certificates of state registration have been received for 28 contractors' facilities at GPC ERGPC construction territory. 20 facilities among them are of the III hazard category, 8 facilities are of the IV hazard category.

The list of the required environmental documentation depending on the category of the facility with negative environmental impact for work execution at GPC ERGPC is provided in Table 6.5.

Table 6.5. List of the required environmental documentation depending on the category of the facility with negative environmental impact	
The category of the facility with negative environmental impact	List of the required environmental documentation
III	- Certificate of the facility with negative environmental impact registration / update /de-registration; - inventory of emission sources; - calculation of acceptable emission norms; - industrial environmental control program; - action plan to reduce emissions into the air during adverse weather conditions; - waste passports; - waste accounting logs
IV	- Certificate of the facility with negative environmental impact registration / update /de-registration; - inventory of emission sources; - waste passports; - waste accounting logs

For 20 facilities with negative environmental impact, permits in the field of environmental protection have been received in full

by the contractors, for 6 facilities with negative environmental impact, some of the documents are under approval.



7. Industrial Environmental Monitoring

In accordance with RusChemAlliance LLC Regulations on Industrial Environmental Control, Industrial Environmental Monitoring at the project construction sites is carried out in accordance with the approved PD design documentation. The Industrial Environmental Monitoring Programs are being developed based on the Industrial Environmental Monitoring regulation included into the PD design documentation.

Industrial Environmental Monitoring is performed for in-time control and minimizing possible negative environmental impact during construction of GPC ERGPC facilities.

Industrial Environmental Monitoring includes the following parameters to be monitored:

- physical impact (noise);
- atmospheric air;
- surface waters and water protection zones;
- bottom sediments;
- topsoil;
- flora and fauna;
- geological environment.

The IEM program and regulations are developed based on the approved PD in order to record the construction process impact on the environment, develop proposals to reduce and prevent negative environmental impact using regular monitoring over the environment and its changes at the Project construction sites.

In total, 116 visits to the Project facilities by the laboratories were carried out in 2023, 37 specialists from specialized laboratories and scientific organizations were involved

- 5824 researches were conducted, including:
- 3086 chemical analysis of surface waters, including sea water;
 - 1185 air sample tests;
 - 624 chemical soil analysis;
 - 491 chemical analysis of groundwater and soil while making ground-water wells;
 - 238 chemical analysis of bottom sediments;
 - 200 physical impact examinations (noise researches);
 - 54 visual monitoring observations of the topsoil;
 - 64 visual monitoring observations of water protection zones at water bodies, aquatic biological resources;
 - 19 visual monitoring observations of flora, fauna and water organisms and fisheries;
 - 10 visual monitoring observations of hazardous geological processes;
 - 8 controls of pollutant emissions (calculation method);
 - 1 radiation pollution monitoring.

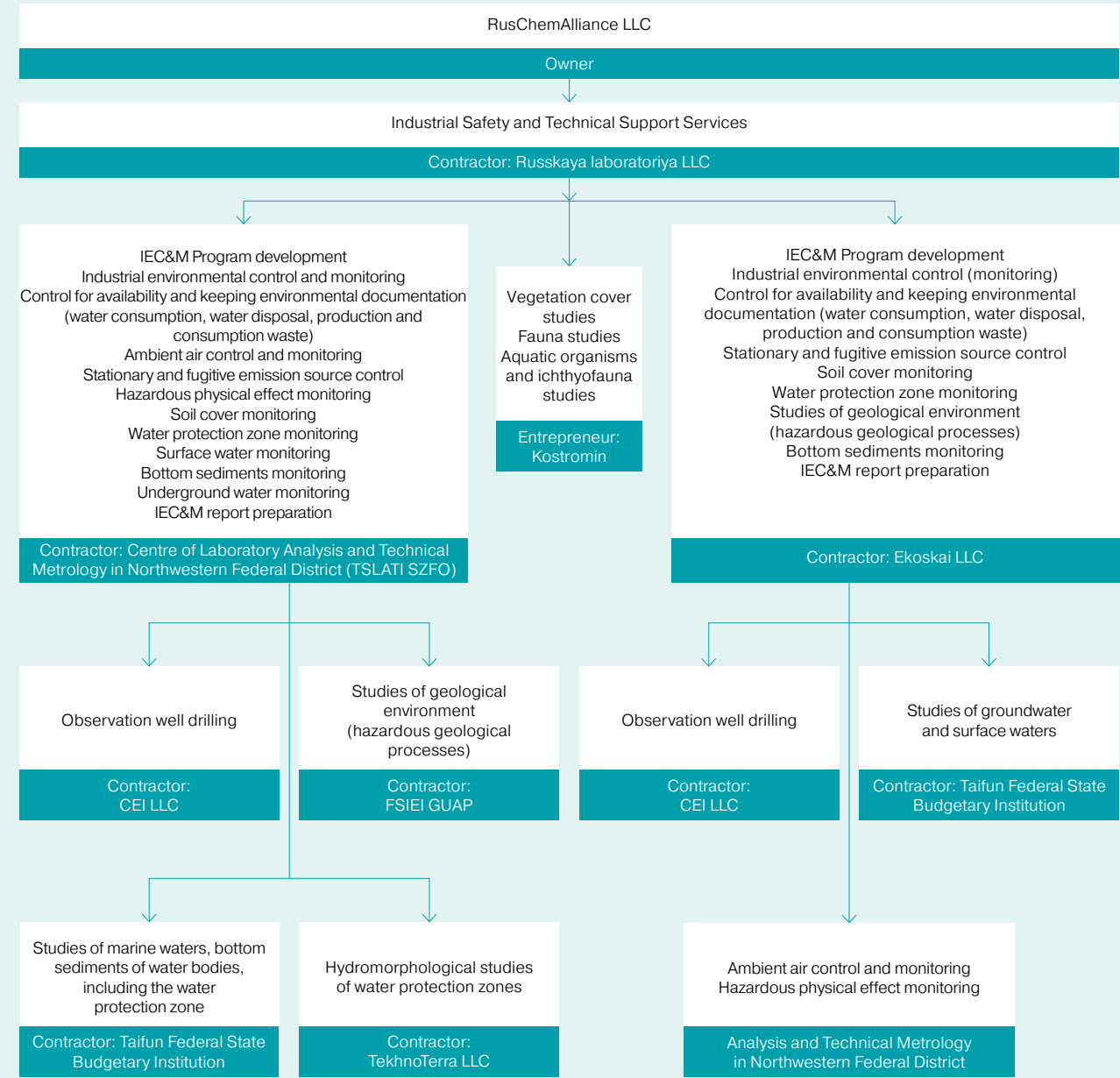
The organizations involved in IEM are shown in Figure 7.

RusChemAlliance Environmental Report 2023

RusChemAlliance Environmental Report 2023

7. Industrial Environmental Monitoring

Figure 7. Organizations involved in IEM



7.1. Physical impact monitoring

During physical impact monitoring, the noise exposure is observed.

In accordance with Gazprom Company Standard STO 12-3-002-2013, noise is measured during the daytime and at night at the residential area, which is located in the nearest proximity to the facilities, as well as on the border with the specially protected areas.

The monitoring stations were selected taking into account the wind direction, technical and territorial measurement capacities. Measurements are carried out downwind with reference to the existing and designed road network or industrial infrastructural facilities to which there are approaches or driveways.

The noise level measurements were carried out in accordance with GOST 31297-2005, SanPiN 1.2.3685-21, GOST 23337-2014.

To assess the noise levels, the measuring instruments were used to determine octave-band sound pressure levels, equivalent sound levels and maximum sound levels. The technical and metrological characteristics of the instruments meet the requirements of GOST R 53188.1-2019 and the instruments have valid state calibration certificates.

Physical impact monitoring is carried out once a month (during 1 day) for the entire construction period, with reference to the time of work, characterized by the greatest noise impact during the day and night, using the instruments.

- Observed parameters:
- constant noise sound pressure level;
 - equivalent sound pressure level and the maximum sound pressure level for non-continuous noise.
- Related measurements:
- temperature;
 - humidity;
 - wind speed and direction;
 - atmospheric pressure;
 - weather conditions.

Noise impact monitoring stations: T.1, T.2, T.3 are located at the border with the nearest residential area and at the impact border. The stations layout is shown in Figure 8.



Figure 8. Physical impact monitoring stations at the PP.MS construction site

7.1. Physical impact monitoring

Physical impact monitoring stations at the Access Road construction site

Noise impact monitoring stations: "Шн1", "Шн2" located at the nearest residential area borders. The stations layout is shown in Figure 9.

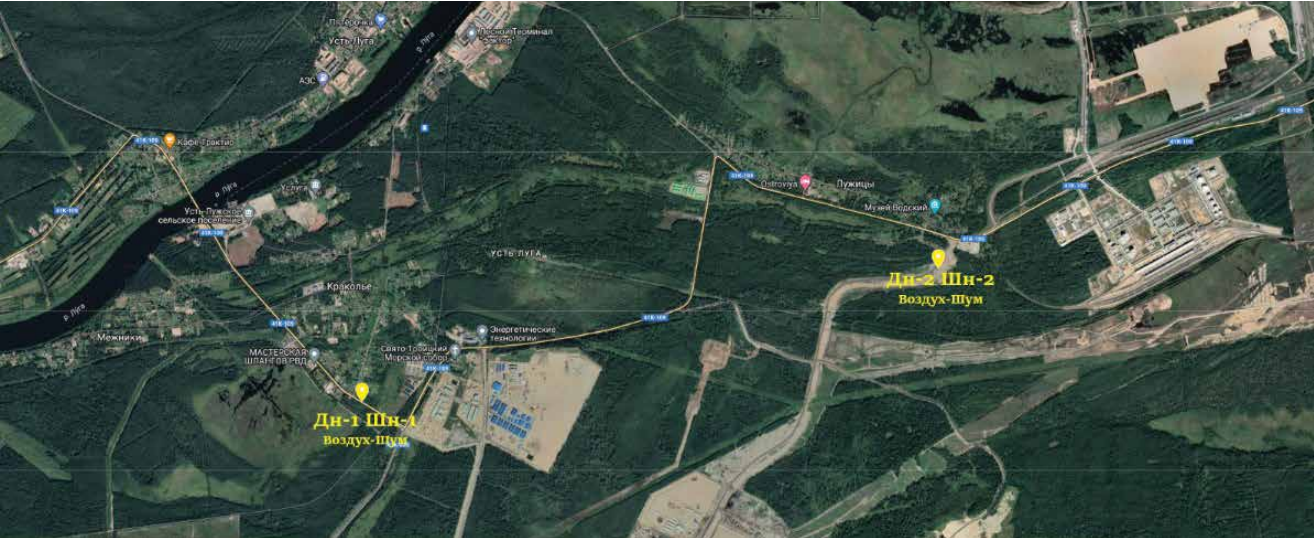


Figure 9. Physical impact monitoring stations at the Access Road construction site

Physical impact monitoring stations at the GPP construction site

Physical impact monitoring stations: "Шн1", "Шн2" located at the nearest residential area borders of Luzhitsy village, Krakolie village, are shown in Figure 10.

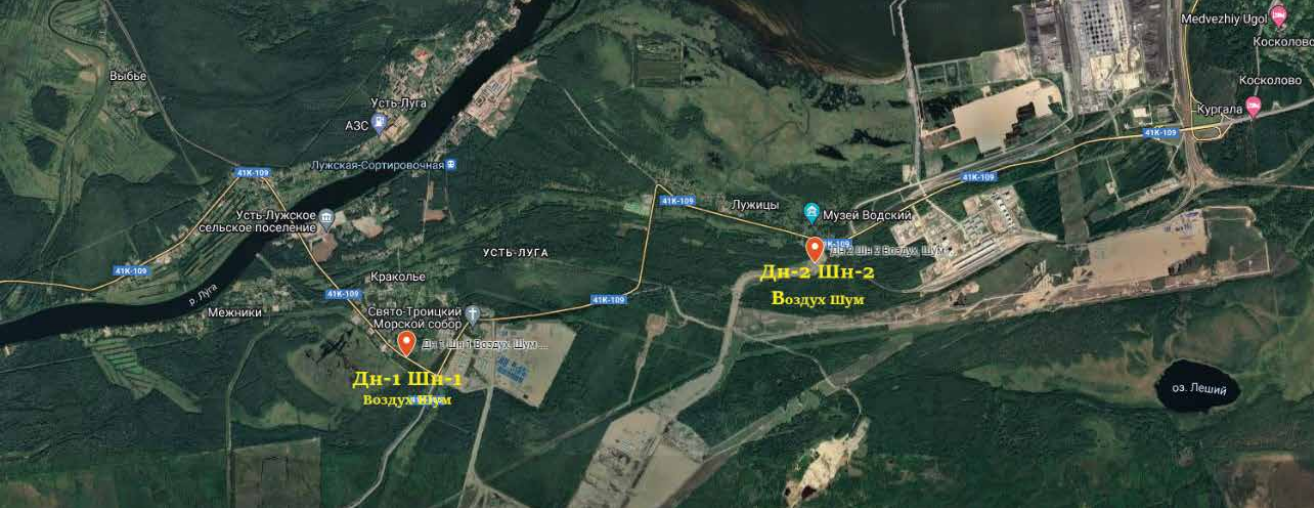


Figure 10. Physical impact monitoring stations at the GPP construction site

7. Industrial Environmental Monitoring

7.1. Physical impact monitoring

Physical impact monitoring stations at the NPF construction site

Physical impact monitoring stations located at the nearest residential area borders – Luzhitsy village (ШН1), Krakolie village (ШН2) – and at borders with the specially protected

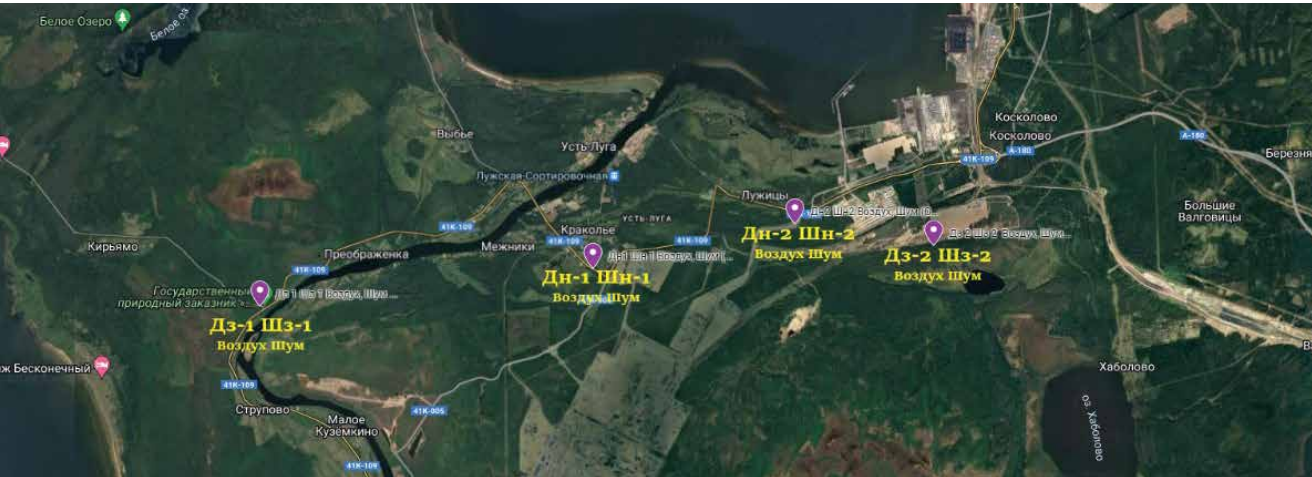


Figure 11. Physical impact monitoring stations at the NPF construction site

Physical impact monitoring stations at the LNG Plant construction site

Physical impact monitoring stations: "ШН1", "ШН2" located at the nearest residential area borders (Luzhitsy village, Koskolovo village) are shown in Figure 12.



Figure 12. Physical impact monitoring stations at the LNG Plant construction site

7. Industrial Environmental Monitoring

7.1. Physical impact monitoring

Physical impact monitoring stations at the PSL area construction site

Physical impact monitoring stations: "ШН1", "ШН2", "ШЗ2" located at the nearest residential area borders (Luzhitsy village, Koskolovo village) and at the borders with Kotelsky specially protected area – are shown in Figure 13.



Figure 13. Physical impact monitoring stations at the PSL area construction site

Physical impact monitoring stations at the linear facilities construction site

Physical impact monitoring stations: "ШН1", "ШН2", "ШЗ2" located at the nearest residential area borders (Luzhitsy village, Koskolovo village) and at the borders with Kotelsky specially protected area – are shown in Figure 14.

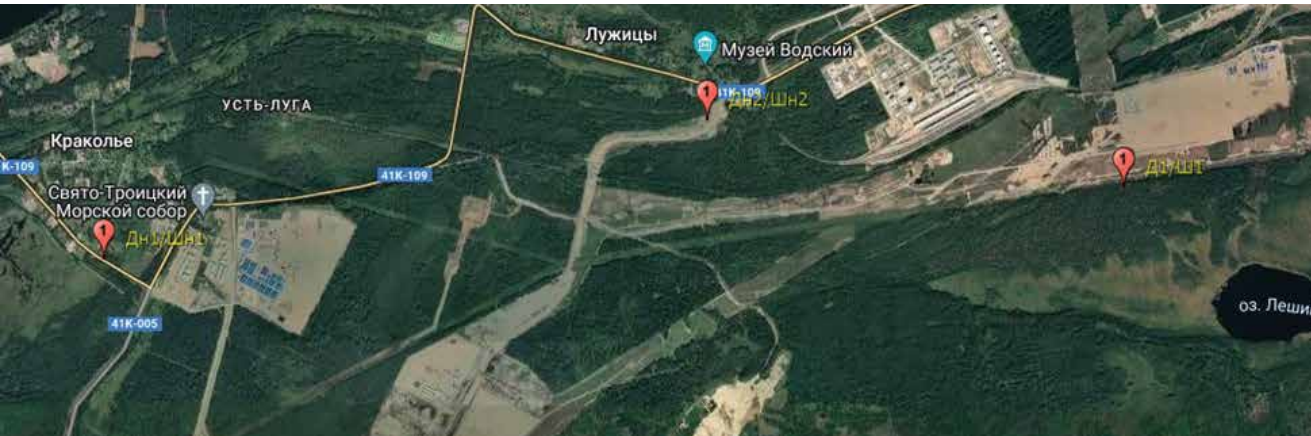
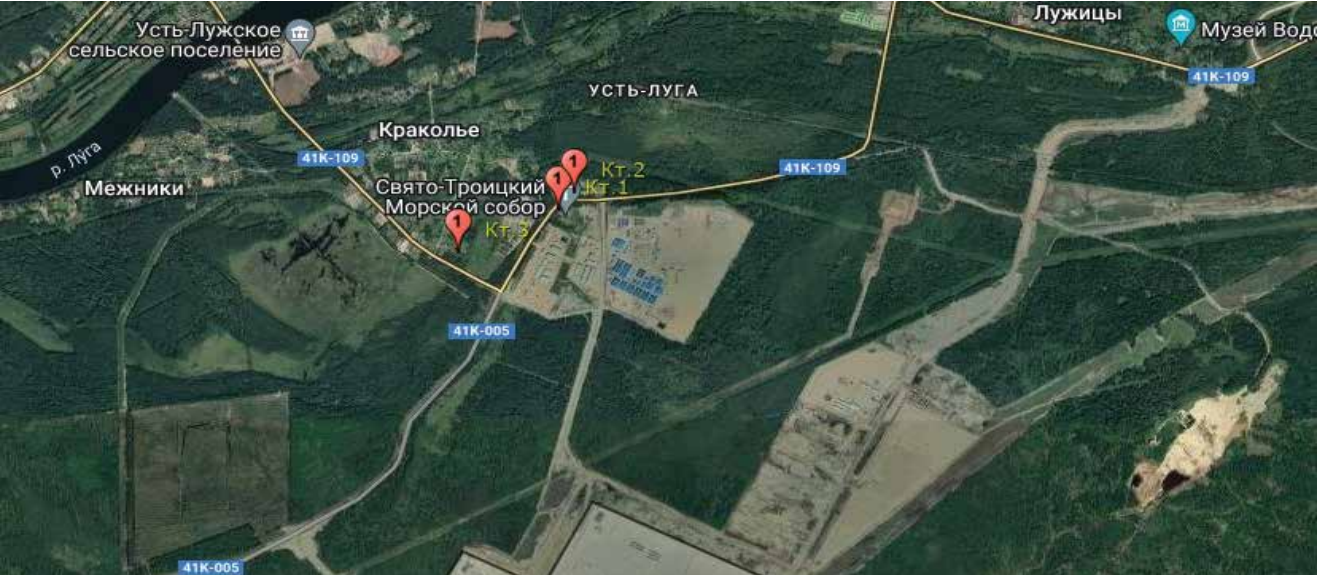



Figure 14. Physical impact monitoring stations at the linear facilities construction site

7. Industrial Environmental Monitoring	
7.1. Physical impact monitoring	
7.2. Air Monitoring	
Results of physical impact monitoring	
<p>The main source of noise is the traffic flow (not related to the traffic involved for the facility construction) along the public highway of the Leningrad Oblast regional significance Luzhitsy – Pervoye Maya 41K-109, located next to the monitoring stations.</p>	<p>The maximum and equivalent sound levels during the daytime and at night do not exceed the established standard values. Thus, the work execution on the construction sites does not affect the level of noise pollution at the adjacent territories.</p>

7.2. Air Monitoring	
<p>The list of observed parameters is determined based on the condition according to which the level of pollutants concentration according to the results of calculating the pollutants dispersion content in the air is equal to or more than 0.1 MAC.</p> <p>The main pollutants to be observed in the air were determined according to Gazprom Company Standard STO 12-3-002-2013, RD 52.04.186-89, as well as based on the results of calculations of the pollutants dispersion in the air given in volume "List of environmental protection measures" and the data on regional background indicators.</p> <p>The ambient air sampling is carried out once a month (during 1 day) at the GPP, NPF, PSL, Linear Facilities construction sites, once a quarter (during 1 day) at the LNG Plant construction site during the entire construction period with reference to the time of maximum construction equipment concentration (with sampling at 1 a.m., 7 a.m., 1 p.m., 7 p.m. local time).</p> <p>When placing the monitoring stations, wind direction, technical and territorial measurement capacities are taken into account. Measurements are performed downwind, taking into account the layout of monitoring stations when calculating the pollutants dispersion in the air with reference to the existing and designed road network or industrial infrastructural facilities to which there are approaches or driveways.</p>	<p>Air sampling and analysis, measurement of meteorological parameters are carried out in accordance with the requirements and recommendations of RD 52.04.186-89, SanPIN 2.2.1/2.1.1.1200-03* , "Instructions to hydrometeorological stations and posts".</p> <p>Measurements, sampling and results processing are performed in accordance with the requirements of GOST R 8.589-2001, STO Gazprom 2-1.19-297-2009, STO Gazprom 12-3-002-2013.</p> <p>To determine the pollutants concentrations in the air using instrument methods, the methods that meet the requirements of RD 52.04.186-89 are used.</p> <p>Observed parameters:</p> <ul style="list-style-type: none"> – pollutants concentrations: nitrogen dioxide; nitrogen (II) oxide; carbon (soot); sulfur dioxide; carbon oxide; suspended solids; inorganic dust; – related measurements: temperature; humidity; wind speed and direction; atmospheric pressure; weather conditions; – regional background indicators: benz(a)pyrene. <p>Ambient air monitoring stations are located on the border of the nearest settlements and on the border of the impact zone.</p>

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7. Industrial Environmental Monitoring	
7.2. Air Monitoring	
Air monitoring stations at the PP.MS construction site	
<p>Ambient air monitoring stations are located on the border of the nearest settlements and on the border of the impact zone. The stations layout is shown in Figure 15.</p>	
	
<p>Figure 15. Air monitoring stations at the PP.MS construction site</p>	
Air monitoring stations at the Access Road construction site	
<p>Air monitoring stations: "Дн1" and "Дн2" are located on the border of the nearest settlements. The stations layout is shown in Figure 16.</p>	
	
<p>Figure 16. Air monitoring stations at the Access Road construction site</p>	

7. Industrial Environmental Monitoring

7.2. Air Monitoring

Air monitoring stations at the GPP construction site

Air monitoring stations: "Дн1", "Дн2" located at the nearest residential area borders (Luzhitsy village, Krakolie village) are shown in Figure 17.



Figure 17. Air monitoring stations at the GPP construction site

Air monitoring stations at the NPF construction site

Air monitoring stations located at the nearest residential area borders Luzhitsy village, Krakolie village – ("Дн1", "Дн2") and at borders with the specially protected natural areas – Kurgalsky

State Nature Reserve, Kotelsky Nature Complex Reserve ("Дз1", "Дз2") – as shown in Figure 18.

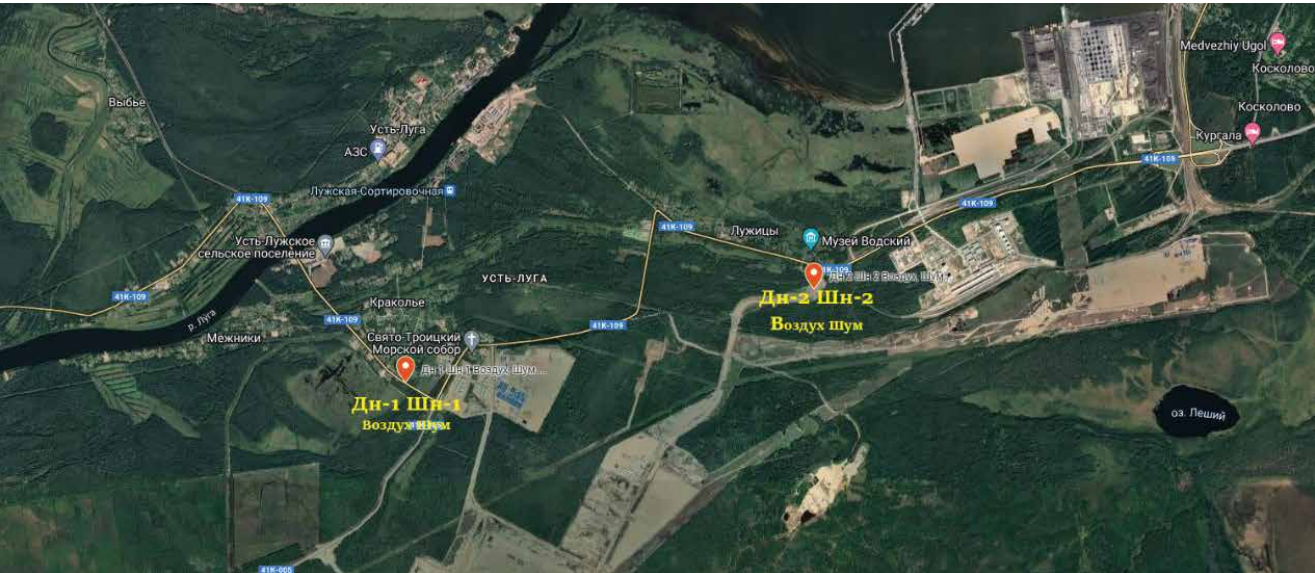


Figure 18. Air monitoring stations at the NPF construction site

7. Industrial Environmental Monitoring

7.2. Air Monitoring

Air monitoring stations at the LNG Plant construction site

Air monitoring stations: "Дн1", "Дн2" located at the nearest residential area borders (Luzhitsy village, Krakolie village) are shown in Figure 19.



Figure 19. Air monitoring stations at the LNG Plant construction site

Air monitoring stations at the PSL area construction site

Air monitoring stations: "Дн1", "Дн2", "Д2" located at the nearest residential area borders (Luzhitsy village, Koskolovo village) and

at the borders with the Kotelsky specially protected natural area – are shown in Figure 20.



Figure 20. Air monitoring stations at the PSL area construction site

7.2. Air Monitoring

Air monitoring stations at the Linear Facilities construction site

Air monitoring stations: "ДН1", "ДН2", "Д2" located at the nearest residential area borders (Luzhitsy village, Koskolovo village) and at the borders with Kotelsky specially protected natural area – are shown in Figure 21.

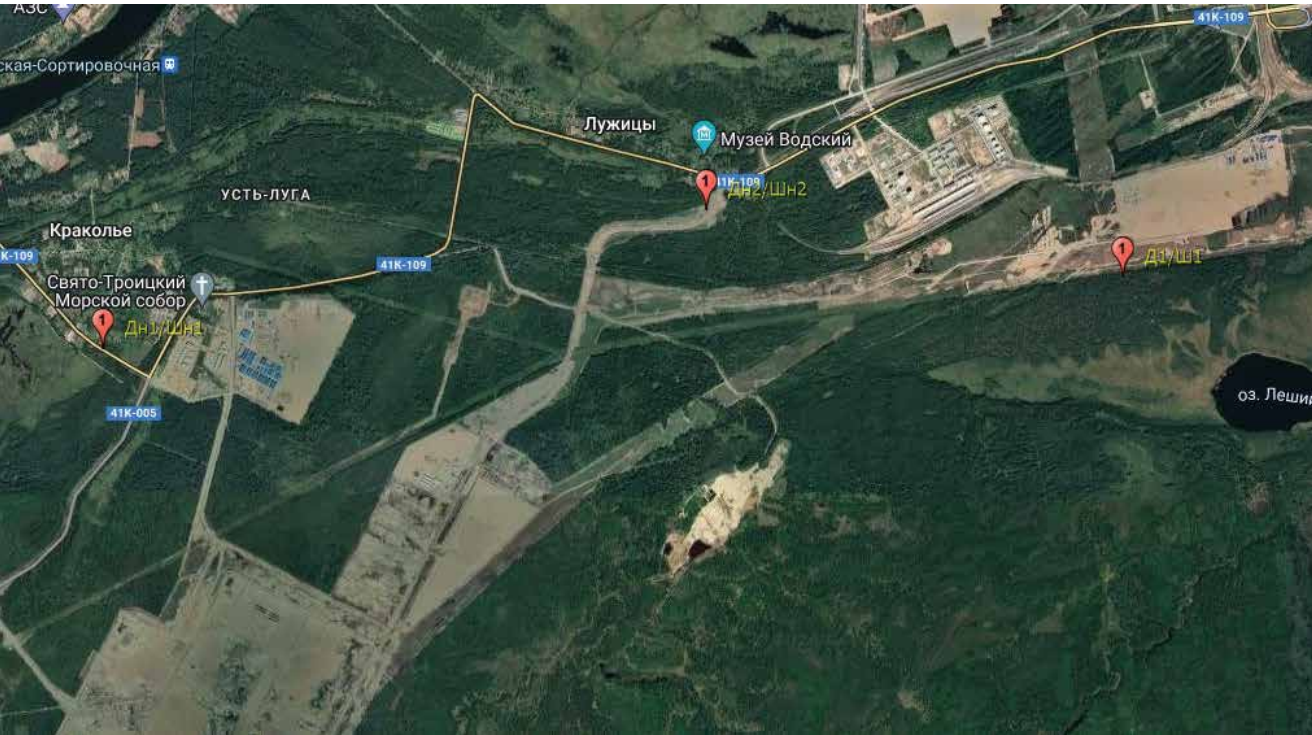


Figure 21. Air monitoring stations at the PSL area construction site

Results of the air monitoring

The degree of air pollution is low; concentrations of the identified substances are insignificant; one-time and average daily concentrations are below the detection limit of the method. Besides, the obtained results do not exceed the Maximum allowable concentrations of for one-time pollutants emissions into the air of the cities and rural settlements, established by SanPiN 2.1.3685-21. The work execution on the construction sites in 2023 did not have a significant impact on the quality of the ambient air.

7.3. Monitoring of water protection zones

The main qualitative indicators of water protection zones, determined before the construction startup, once a year during the entire construction period, once after the completion, are:

- erosional pattern density;
- grassed waterway areas;
- shrubby vegetation areas;
- trees and shrubs vegetation areas.

Visual monitoring of the water protection zone is carried out once a month during the entire construction period.

The integrated monitoring area of the water protection zone was determined based on the width of the water protection zone of the water body within the range from the background surface water sampling stations to the zone of possible impact of the facility under review.

During the route site monitoring it is defined if there are:

- no waste water effluents;
- no production and consumption wastes;
- no vegetation topsoil damages;
- no oil spills on the ground;
- no soil fills outside of the construction site boundaries;
- no unauthorized logging and local fire traces;
- no domestic waste water, industrial and domestic wastes littering the adjacent territory;
- no construction machinery and equipment other than at the designated roads.

Water protection zones at the PP.MS construction site are shown in Figure 22.



Figure 22. Water protection zones at the PP.MS construction site

7.3. Monitoring of water protection zones

Monitoring results at the PP.MS construction site

According to the results of route studies, it was found that the water protection zone was in a satisfactory condition, pollution and violations of the special regime of use, as well as erosion processes were not detected. The activities of the contractors

who perform works within the water protection zones are carried out in compliance with the environmental protection law. Water protection zones at the Access Road construction site are shown in Figure 23.

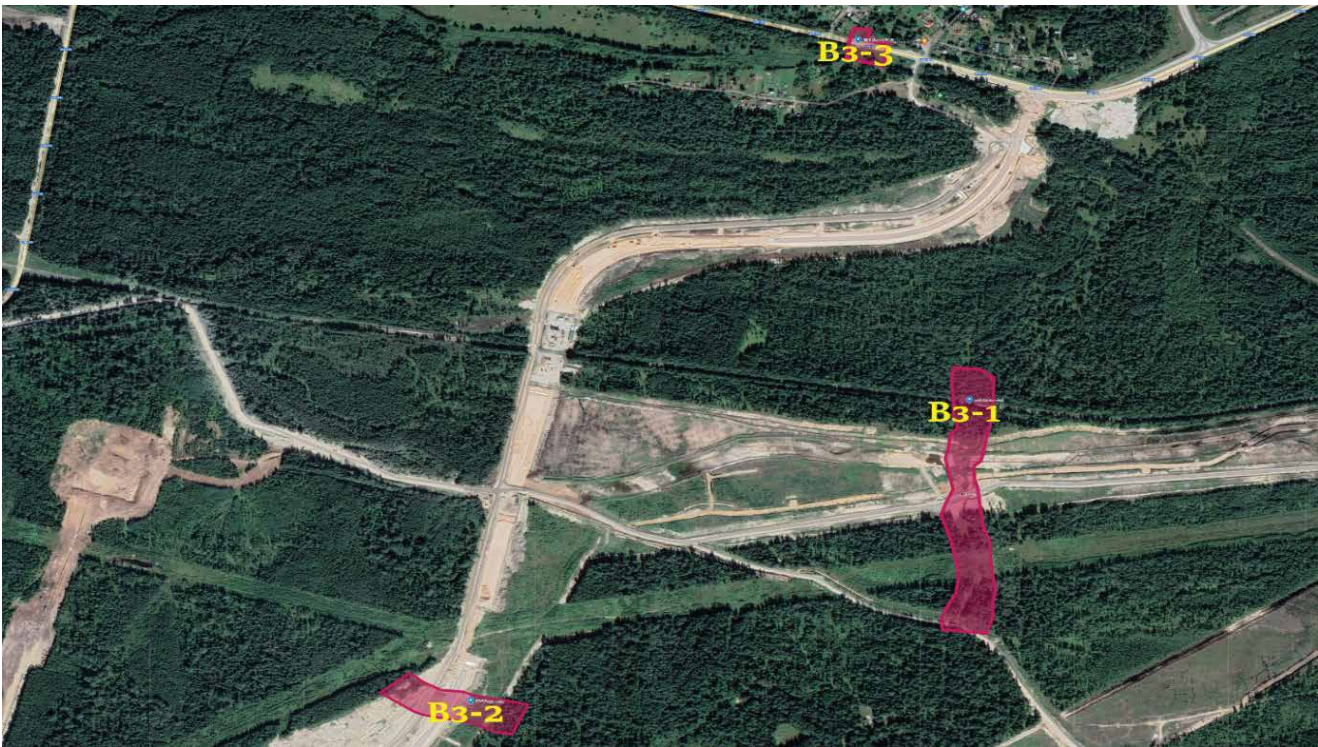


Figure 23. Water protection zones at the Access Road construction site

7.3. Monitoring of water protection zones

Monitoring results at the Access Road construction site

Minor erosion processes were detected in water protection zones "B31" and "B33" on the Luzhitsa River. These erosion processes are of a natural character, related to the riverbed bottom fluctuations. No erosion processes have been recorded in "B32" water protection zone.

Water protection zones at the GPP construction site are shown in Figure 24.

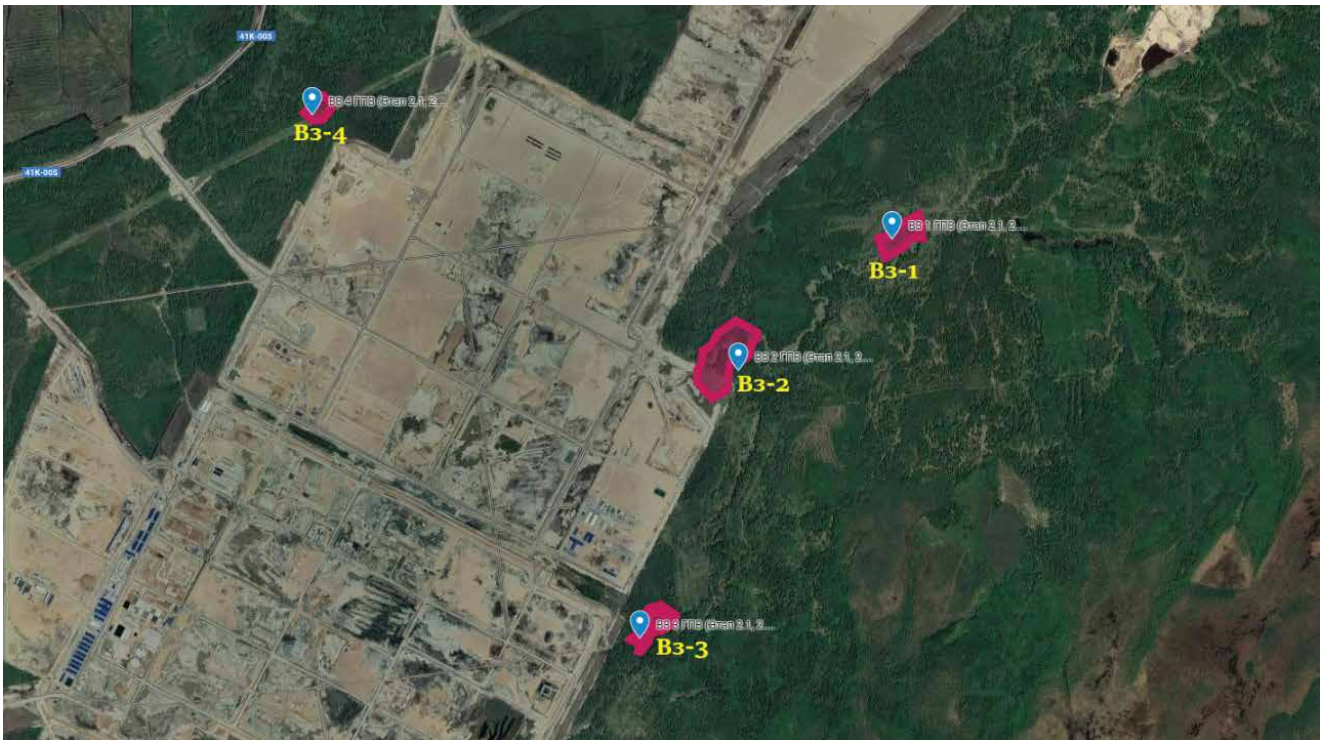


Figure 24. Water protection zones at the GPP construction site

7. Industrial Environmental Monitoring

7.3. Monitoring of water protection zones

Monitoring results at the GPP construction site

Minor erosion processes in 2023 were detected only in "B32" water protection zone on the Luzhitsa River. The erosional pattern density at this water protection zone is 1.81 km/km². These erosion processes are of a natural character, related to the riverbed bottom fluctuations.

Water protection zones at the LNG Plant construction site are shown in Figure 25.



Figure 25. Water protection zones at the LNG Plant construction site

Monitoring results at the LNG Plant construction site

According to the results of water protection zones monitoring, pollution and violations of the special regime of use, as well as erosion processes of the water protection zone, were not detected. All characteristic representatives of the plant community are present in the areas under monitoring. Soil

contamination with oil spills was not recorded. There are no soil fills outside of the construction site boundaries. Unauthorized logging and adjacent area littering was not recorded. Water protection zones at the PSL construction site are shown in Figure 26.



Figure 26. Water protection zones at the PSL construction site

7. Industrial Environmental Monitoring

7.3. Monitoring of water protection zones

Monitoring results at the PSL construction site

On the Khabolovka River, minor erosion processes were detected only at station "B32". The erosional pattern density at this station is minor and equals to 0.41 km/km². This erosion is a natural process related to the riverbed bottom fluctuations.

Water protection zones at the Linear Facilities construction site are shown in Figure 27.



Figure 27. Water protection zones at the Linear Facilities construction site

Monitoring results at the Linear Facilities construction site

The water protection zone is in a satisfactory condition, no pollution and violations of the special regime of use, as well as erosion processes were detected. The activities of the contractors who perform works within the water protection zones are carried out in compliance with the environmental protection law. According to the results of water protection zones route monitoring, pollution and violations of the special regime of use, as well as erosion processes of the water protection zone, were not detected. All characteristic representatives of the plant community are present in the areas under monitoring. Soil

contamination with oil spills was not recorded. There are no soil fills outside of the construction site boundaries. Unauthorized logging and adjacent area littering were not recorded. According to the results of route studies, it was found that the water protection zone was in a satisfactory condition, no pollution and violations of the special regime of use, as well as erosion processes were detected. The activities of the contractors who perform works within the water protection zones are carried out in compliance with the environmental protection law.

7.4. Monitoring of surface water bodies

Monitoring of the water bodies is organized in accordance with the requirements of the Water Code of the Russian Federation No. 74-FZ dated 03.06.2006, Decree No. 219 dated 10.04.2007 of the Government of the Russian Federation "On Approval of the Regulations on the Implementation of State Monitoring of water bodies" in order to assess the anthropogenic impact during construction on the surface water bodies and their resources, as well as control of the regime of water protection zones use.

The content and frequency of the surface water indicators to be monitored is determined according to the requirements of Gazprom Company Standard STO 12-3-002-2013, RD 52.24.309-2016, R 52.24.353-2012, GOST 17.1.3.07-82, as well as taking into account the construction technology.

Besides, according to GOST R 56063-2014, the water quality at the water body on the regional level is assessed both by general indicators common for all water basins in the country and by an additional list of priority pollutants specific only for this region. These components are determined based on the results of the engineering and environmental survey.

Surface water sampling at the construction site area is carried out once a month during the open water period (from the end of April to the beginning of November) and sampling from a depth of at least 0.3 m during the entire construction period.

Two stations are established to monitor surface waters:

- a background station within 1 km upstream of the pollution source;
- a control station within 500 m downstream of the pollution source.

The geographical coordinates of the sampling stations were clarified during reconnaissance work and determined taking into account the morphological characteristics of the shore land and possibility of sampling, presence of possible other sources of impact, and the estimated area of excessive water turbidity during construction.

Sampling, storage and preservation of surface water samples were carried out in accordance with the requirements established by GOST R 59024-2020, RD 52.24.309-2016, R 52.24.353-2012, as well as in accordance with the relevant regulatory and technical documentation. The devices used for surface water sampling met the requirements established by GOST 17.1.5.04-81. The integrated chemical analysis of the samples was carried out under laboratory conditions.

Observed parameters:

- hydrological and morphometric indicators: water flow rate, flow velocity, depth;
- generalized indicators: temperature, hydrogen index (pH), suspended solids, Biological Oxygen Demand (5 days), Chemical Oxygen Demand, dissolved oxygen, dry residue, electrical conductivity, turbidity, odor;
- substances concentrations: ammonium ion, nitrite anion, nitrate anion, bicarbonates, calcium, sodium, potassium, silicon, phosphates, chloride anion, sulfate anion, total iron, detergents (Anionic surfactants), non-ionogenic surfactants, phenols, oil products, zinc, copper, lead;
- regional background indicators: nickel, manganese, mercury.

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7.4. Monitoring of surface water bodies

Surface water monitoring stations at the PP.MS construction site

Surface water monitoring stations at the PP.MS construction site are shown in Figure 28.



Figure 28. Surface water monitoring stations at the PP.MS construction site

Results of surface water monitoring at the PP.MS construction site

According to the results of the conducted studies, it was found out that the odour of the surface waters taken from the Luzhitsa river corresponded to the background value and did not exceed the established MAC. The water sample at the control station on stream No. 4 has an obvious odour that exceeds the established norm by 1.5 times, and also exceeds the background concentration, most likely the exceedance has a local nature and is not related to the Project.

In the surface waters of the area under monitoring, the content of suspended solids varies in the range from 20 to 162 mg/dm³ for the Luzhitsa River and equals to 325 mg/dm³ for stream No. 4.

The background sample exceeds the utility and fisheries standards for Biological Oxygen Demand (5 days) and amounts to 1.3 MAC for utility water and 1.2 MAC for fishery, the exceedance is also noted at the control station "И.3" (1.1 MAC for utility water, 1.04 MAC for fishery), which is a regional feature

of the area. No exceedance was detected in the remaining control samples. Water quality according to torpho-saprobic indicators corresponds to the category "water pollution" both at the control and at the background stations (GOST 17.1.2.04-77). For all control stations, a reduced content of the indicator as compared to the background was revealed.

The COD index in the monitored waters ranged from 88.1 to 103 mg/dm³ in the Luzhitsa River and reached 11.4 mg/dm³ in stream No. 4, exceedance from 6.8 to 5.8 MAC for utility water was detected for all samples of the Luzhitsa river, including background, except for the Luzhitsa River surface water.

The salinity (dry residue) of the surface waters at the area under monitoring is high, ranging from 418 to 719 mg/dm³ for the Luzhitsa river and 755 mg/dm³ for stream No. 4, which does not exceed the established maximum allowable concentration (MAC). MAC exceedance by 1.3 times was detected in the background sample.

7.4. Monitoring of surface water bodies

According to the accepted classification, the controlled waters are "waters with relatively high mineralization", the background sample is "brackish".

According to the conducted studies, it was revealed that the content of calcium, magnesium, sodium and potassium in waters under monitoring was at a safe level, for all sampling stations it did not exceed the content standards established by SanPiN 1.2.3685-21 and fisheries characteristics.

Sulfate ions are present in high concentrations in all surface waters, the values for the Luzhitsa River range from 49 to 64 mg/dm³, for stream No. 4 they reached 93 mg/dm³, the MAC was not exceeded.

The concentrations of chloride ions for almost all the stations under monitoring, including the background sample, are below the research methodology value and are less than 10, chloride concentrations are at a very low level and do not exceed the established standards.

The content of phosphate ions is in the range of 0.13 mg/dm³ for the Luzhitsa River and in the range of 0.04 mg/dm³ for stream No. 4, which does not exceed the established fisheries standard (0.2 mg/dm³). Phosphate concentrations for all controlled samples are lower than the background value.

The concentration of ammonium ion in controlled natural waters varies in the range from 0.18 to 0.39 mg/dm³ for the Luzhitsa river and from 0.1 to 1.06 mg/dm³ for stream No. 4, which for all samples does not exceed the MAC value.

The content of hydrocarbonates is not subject to limitations, the concentrations of the indicator for all controlled samples are lower than the background value and amount to 24.4 mg/dm³ for the Luzhitsa river and from 24.4 to 36.6 mg/dm³ for stream No. 4.

The concentrations of nitrate ions and nitrite ions for the Luzhitsa river do not exceed the background value and have not revealed any excess of the established maximum concentrations. For concentrations of nitrite ions in controlled samples taken in stream No. 4 ("И4") and control station "И3" on the Luzhitsa river, MAC for fishery exceeding for 1.125 was detected, in accordance with SanPiN 1.2.3685-21 the values are not exceeded.

According to the conducted studies, it was revealed that the content of lead, zinc and copper was at a safe level, for

all monitoring stations it did not exceed the content standards established by SanPiN 1.2.3685-21.

In general, the soils in the Leningrad Oblast are characterized by high concentrations of copper, zinc, iron and lead – typomorphic mineral elements in the studied boreal landscapes, and therefore migration to surface sources takes place.

Concentrations of oil products in the surface waters of the facilities under monitoring ranged from 0.01 to 0.02 mg/dm³ for the Luzhitsa river and 0.16 mg/dm³ for stream No. 4. For all samples of the Luzhitsa river, the concentrations of oil products are below the established standards and do not exceed the background concentration.

The content of total phenols, detergents (Anionic surfactants), non-ionogenic surfactants is below the detection limit and does not exceed the established standards. Except for the control sample taken at station "И3", where the concentration of total phenols was 0.0007 mg/dm³, which is also at a safe environmental level.

Thus, there are three indicators in surface water that exceed the MAC and the background value:

- according to SanPiN 1.2.3685-21: odour (1.5 MAC for utility water), oil products (1.6 MAC for utility water), zinc (1.2 MAC for utility water);
- according to Order No. 552: oil products (3.2 MAC).

The detected excessive odour at station "И4" correlates with an exceeded content of oil products at this station, this pollution is local and is associated with the shallow depth of the stream, as well as the high migratory aptitude of oil products, which is not directly related to the Project execution.

Since during IEM, signs of unauthorized pollutants discharges into the water body from any sources were not recorded, it can be concluded that the water body was polluted from the sources located upstream of the GPC ERGPC construction site.

The background concentration of zinc in surface waters was 0.008 mg/dm³, which does not exceed MAC, but is a fairly high concentration of metal and indicates that the background and control samples match.

In general, the soils in the Leningrad Oblast are characterized by high concentrations of copper, zinc, iron and lead – typomorphic mineral elements in the studied boreal landscapes, and therefore migration to surface sources takes place.

7.4. Monitoring of surface water bodies

Surface water monitoring stations at the Access Road construction site

Surface water monitoring stations are located on the water bodies within the construction work impact zone (a background station within 1 km above the source of pollution; a control station within 500 m below the source of pollution) on the Luzhitsa river

("И1", "ИФ1"), ("И3", "ИФ3"). Sampling is carried out from one horizon (near the surface).

Surface water monitoring stations at the Access Road construction site are shown in Figure 29.

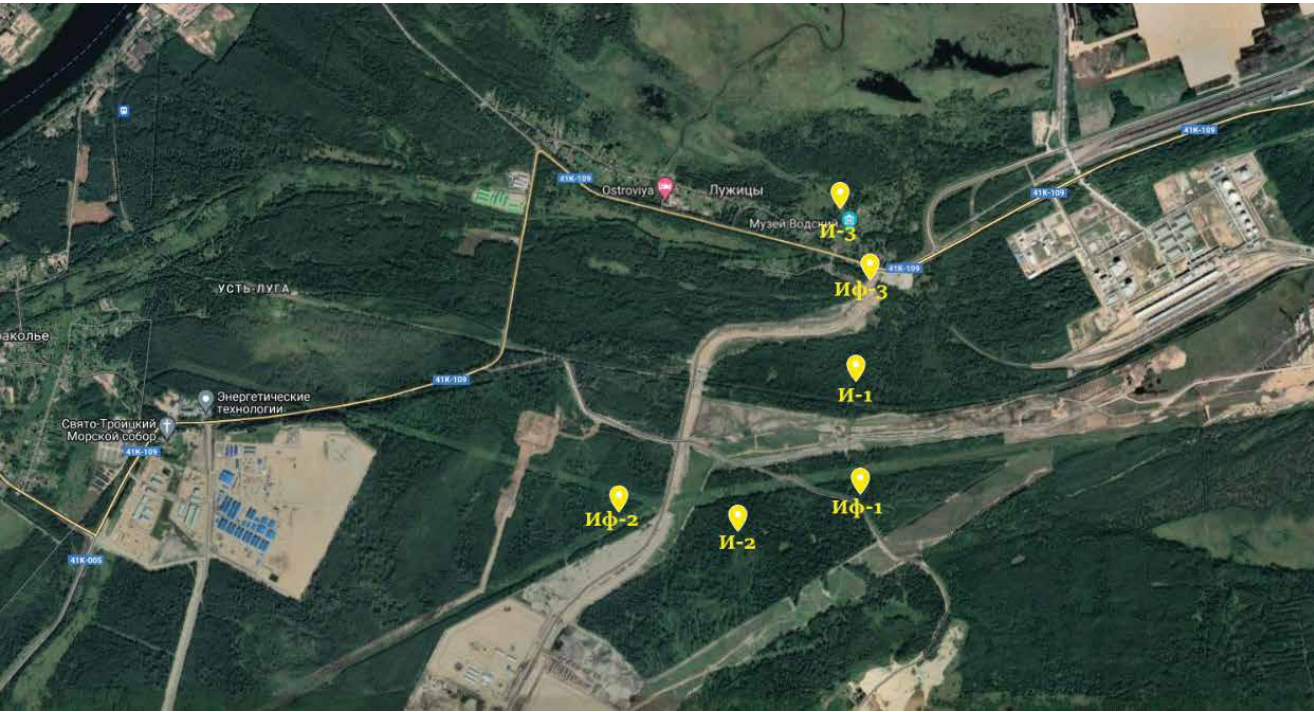


Figure 29. Surface water monitoring stations at the Access Road construction site

Results of surface water monitoring at the Access Road construction site

For the Luzhitsa River (stations "ИФ1", "И1"), the following conclusions can be made:

- the hydrogen index for stations "ИФ1" and "И1" varies from 7.20 to 7.22 pH, the surface water samples taken are normal (GOST 17.1.2.04-77);
- at control station "И1", the values of indicators: temperature, specific conductivity, odor, turbidity, BOD₅, COD, dry residue, bicarbonates, ammonium ions, nitrates, nitrite ions, phosphates, sulfates, chlorides, detergents (Anionic surfactants), non-ionogenic surfactants, oil products, potassium, calcium, silicon, manganese, copper, sodium, nickel, lead, zinc, mercury, dissolved oxygen, total phenols – do not exceed MAC and (or) values at the background station;
- iron content in the studied water samples varies from 0.96 to 1.43 mg/dm³. High concentrations of dissolved iron in the waters of the territory are caused by swampy

and peat-bog soils in the water catchment area, which is a regional specific feature;

- waters of the Luzhitsa River before construction, during engineering and environmental survey, were characterized as extremely dirty. The contents of the "suspended solids" and "iron" indicators at the background station and at the control station do not exceed the contents before the construction startup.

For the Luzhitsa River (stations "ИФ3" and "И3"), the following conclusions can be drawn: the hydrogen index for stations "ИФ3" and "И3" varies from 6.81 to 7.19 pH, the surface water samples taken are normal (GOST 17.1.2.04-77); at control station "И3", the contents of all indicators do not exceed the MAC and (or) the values at the background station. The indicators do not exceed the indicators recorded before the construction startup.

Surface water monitoring stations at the GPP construction site

Surface water monitoring stations are located on the water bodies within the construction work impact zone (a background station within 1 km above the source of pollution; a control monitoring station within 500 m below the source of pollution) on the Luzhitsa river ("И1", "ИФ1"), stream No. 4 ("И2", "ИФ2")

and on Luga river ("И3", "ИФ3"). Sampling is carried out from one horizon (near the surface). Surface water monitoring stations at the GPP construction site are shown in Figure 30.



Figure 30. Surface water monitoring stations at the GPP construction site

Results of surface water monitoring at the GPP construction site

In the surface waters of the Luga River during 2023, MAC and (or) values at the background station were not exceeded for all indicators except for BOC (5 days) and iron. High values of BOC (5 days) and iron in surface waters is a regional specific feature. High concentrations of dissolved iron in the waters of the territory are caused by swampy and peat-bog soils in the water catchment area. In the surface waters of the Luzhitsa river during 2023, MAC and (or) values at the background station were not exceeded for all indicators except for BOC (5 days) detergents (Anionic surfactants), sulfate ions and iron. High values of iron in surface waters is a regional specific feature. High concentrations of dissolved iron in the waters of the territory are caused by swampy and peat-bog soils in the water catchment area. The main source of sulfates in surface waters include processes of chemical erosion and dissolution of sulfur-containing minerals. Significant amounts of sulfates

enter water basins in the process of organisms dying, oxidation of land and aquatic substances of vegetation and animal origin and with ground water runoff. The waters of the Luzhitsa River before construction, during the engineering and environmental survey were characterized as extremely dirty, in particular according to "detergents (Anionic surfactants)" and "iron" indicators. The contents of "detergents (Anionic surfactants)" at the background station and at the control station did not exceed the contents before the construction startup. In the surface waters of stream No. 4 during 2023, MAC and (or) values at the background station were not exceeded for all indicators except for sulfate ions. This value in the water basins can be caused by the process of organisms dying, oxidation of land and aquatic substances of vegetation and animal origin and by ground water runoff.

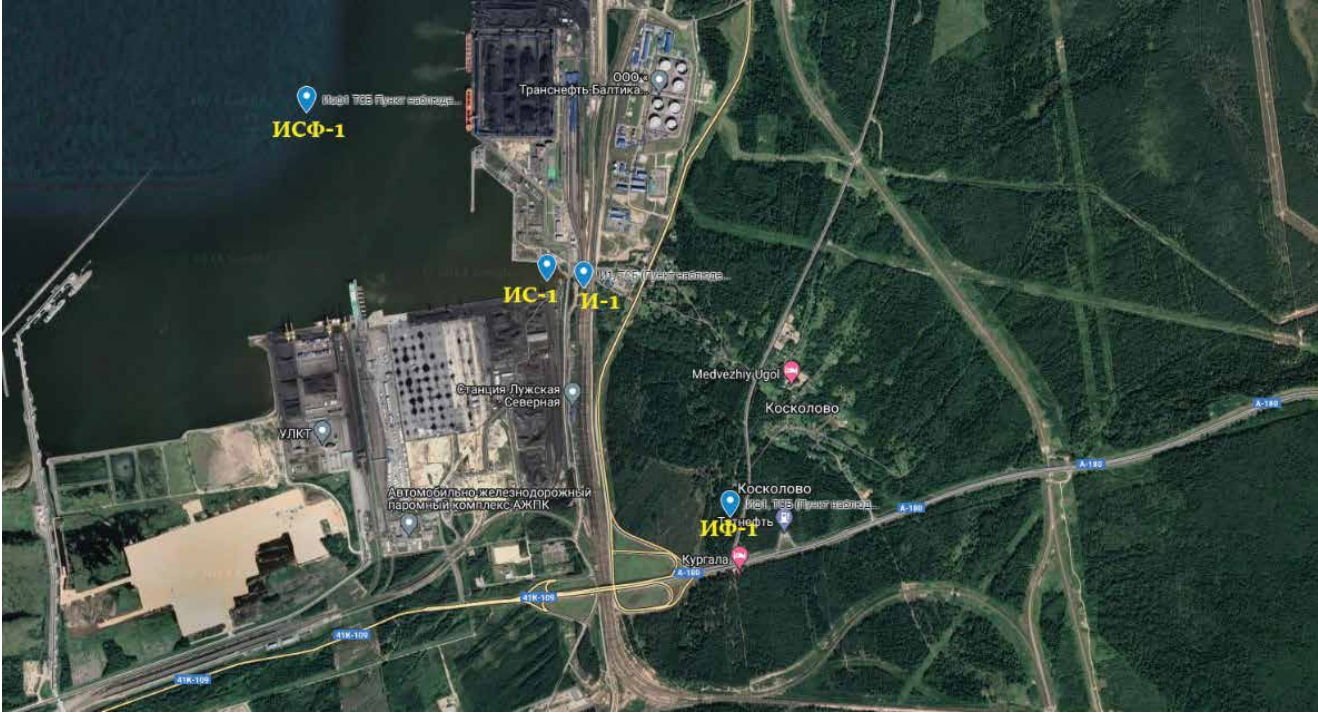
Surface water monitoring stations at the LNG Plant construction site

Sea water is monitored at the LNG construction site. The list of observed parameters is determined in accordance with GOST 17.1.3.08-82, GOST 17.1.5.05-85, Procedures for quality control of sea water, approved by the Ministry of Health of the USSR, No. 2260-80 dated 17.10.1980, as well as in accordance with the specifics of construction work within the considered aquatic area, taking into account the background values at the Luga Bay. Besides, according to GOST R 56063-2014, the water quality at the water body on the regional level is assessed both by general indicators common for all water basins in the country and by an additional list of priority pollutants specific only for this region. These components are determined based on the results of the engineering and environmental survey. Observed parameters: – generalized indicators: temperature, hydrogen index (pH), salinity, suspended solids, Biological Oxygen Demand (5 days), Chemical Oxygen Demand, dissolved oxygen, dry residue, floating matters; – concentrations of substances: total nitrogen, ammonium ion, nitrate anion, nitrite anion, sulfate anion, chloride anion, iron, lead, zinc, phosphorus total, oil products;

– meteorological conditions: wind direction and speed, weather conditions; – hydrological characteristics: wave, depth, speed and direction of the current. Visual observations of the sea surface (presence of oil film, scum, floating waste) are carried out during the entire construction period during the route surveys. If contamination is detected, the impacted area and the dynamics of its spread can also be determined using satellite data. Seawater sampling is carried out once a month according to cl. 1.2 and 2.4 of GOST 17.1.3.08-82 during the warm season (from May to December) during the entire construction period. Samples should be taken from standard hydrological horizons according to GOST 17.1.3.08-82. Taking into account the depths of the studied water area (up to 5 m), sampling is carried out from the surface horizon (0-1 m). The monitoring stations ("И1"- "И6") are located at a distance of 250 m from the construction area with 250 m distance between the stations and are shown in Figure 31.



Figure 31. Surface water monitoring stations at the LNG Plant construction site

7. Industrial Environmental Monitoring	
7.4. Monitoring of surface water bodies	
Results of surface water monitoring at the GPP construction site	
In the surface waters of the Luga Bay, MAC and (or) values at the background station were not exceeded for all indicators except for BOC (5 days) and iron. According to the engineering and environmental survey data conducted before the construction startup, the biochemical oxygen demand value at the Luga Bay was in the range from 2.5 to 25.9 mgO ₂ /dm ³ . Thus, the values of BOD ₅ at all monitoring stations do not exceed the values before the construction startup.	High values of iron in surface waters is a regional specific feature. High concentrations of dissolved iron in the waters of the territory are caused by swampy and peat-bog soils in the water catchment area. A visual inspection of the water area at the Luga Bay, control stations "И1"- "И6", showed no oil film, anthropogenic scum, floating waste or debris.
Surface water monitoring stations at the PSL area construction site	
Sampling of surface waters at the construction impacted zone in the Khabolovka river is carried out once a month during the warm season during the entire construction period. Sampling of sea water at the Luga Bay within the wastewater discharge point is carried out once a month during the entire construction period.	Sampling is carried out during the open water period (approximately from the end of May to the beginning of October) and possibility of sampling from the depth of at least 0.3 m. Surface water monitoring stations at the PSL area construction site are shown in Figure 32.
	
Figure 32. Surface water monitoring stations at the PSL area construction site	
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7. Industrial Environmental Monitoring	
7.4. Monitoring of surface water bodies	
Taking into account the hydrological and morphometric characteristics of the water bodies impacted by construction according to GOST 17.1.3.07-82 (item 1), RD 52.24.309-2016 (item 5.1), R 52.24.353-2012 (item 5), sampling is carried out from one horizon (near the surface). Samples of the Luga Bay sea water should be taken from the standard hydrological horizons according to GOST 17.1.3.08-82. The number of samples to be taken depends on the depths at the sampling area and varies from 1 sampling (near the surface) to three horizons: surface (0-1 m), intermediate and bottom (1 m from the bottom) and up to 4 horizons in some cases. Observed parameters of surface waters at the Khabolovka river: <ul style="list-style-type: none">hydrological and morphometric indicators: water flow rate, flow velocity, depth;generalized indicators: temperature, hydrogen index (pH), suspended solids, Biological Oxygen Demand (5 days), Chemical Oxygen Demand, dissolved oxygen, dry residue, odor;	<ul style="list-style-type: none">substances concentrations: ammonium ion, nitrite anion, nitrate anion, bicarbonates, calcium, sodium, potassium, silicon, phosphates, chloride anion, sulfate anion, total iron, detergents (Anionic surfactants), non-ionogenic surfactants, phenols, oil products, zinc, copper, lead; Observed parameters of surface waters at the Luga Bay: <ul style="list-style-type: none">generalized indicators: temperature, hydrogen index (pH), salinity, suspended solids, Biological Oxygen Demand (5days), Chemical Oxygen Demand, dissolved oxygen, dry residue;related measurements: floating impurities, water transparency, colour;concentrations of substances: total nitrogen, ammonium ion, sulfate ion, chloride ion, nitrite ion, nitrate ion, iron, lead, zinc, oil products, total phosphorus;meteorological conditions: wind direction and speed, weather conditions;hydrological characteristics: wave, depth, speed and direction of the current.
Results of the surface water monitoring at the PSL area construction site	
In the surface waters of the Khabolovka river, MAC and (or) values at the background station were not exceeded for all indicators except for detergents (Anionic surfactants) and iron. High values of iron in surface waters is a regional specific feature. High concentrations of dissolved iron in the waters of the territory are caused by swampy and peat-bog soils in the water catchment area. In the surface waters of the Luga Bay, MAC and (or) values at the background station were not exceeded for all indicators except for BOC (5 days) and iron.	High values of BOC (5 days) and iron in surface waters is a regional specific feature. High concentrations of dissolved iron in the waters of the territory are caused by swampy and peat-bog soils in the water catchment area. A visual inspection of the water area at the Luga Bay, control stations "Ис1" and "ИсФ1", showed no oil film, anthropogenic scum, floating waste or debris.
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7.5. Groundwater monitoring

The purpose of monitoring groundwater during the construction phase is to assess the degree of impact of preparatory and basic construction works on the qualitative composition of groundwater at the construction sites and in the area impacted by the construction.

Stationary observations of the groundwater regime are carried out at hydrogeological observation wells. Within the Project area, observation wells are made at the most informative points in terms of obtaining data about groundwater dynamics. The main task of this type of observation is to obtain data on changes in the level and chemical composition of groundwater, forecasting possible flooding.

The chemical composition and concentration of pollutants is determined in accordance with established requirements is performed as part of laboratory studies of the water samples. The list of the components to be determined is defined depending on the expected pollutants, taking into account the type of activities causing pollution.

During the construction period, monitoring of the groundwater regime is performed using the temporary hydrogeological wells that do not require special arrangement and, accordingly, no structural solutions for the arrangement.

Observations in temporary hydrogeological wells are performed by an engaged specialized organization with the necessary training and equipment, according to the standard drilling methodology during geotechnical surveys for construction in accordance with SP 11-105-97.

Observations are carried out in order to determine:

- groundwater level, chemical composition and temperature;
- possible increase in the level of aggressive groundwater impact;
- possible impact on natural landscapes: waterlogging, flooding, etc.;

- impact on designed facilities: flooding, erosion of foundations, etc.

The general groundwater hydrochemical parameters are determined in accordance with SP 11-105-97 (Part I). Laboratory tests of groundwater samples are carried out in accordance with clauses 5.11, 7.16 of SP 11-105-97 (Part I) and current state standards for relevant monitoring types. Observations of changes in hydrogeological conditions during construction should be carried out in accordance with clause 5.10 of SP 11-105-97 (Part I) and clause 8.2.9 of SP 11-105-97, Part II. Aggressiveness and corrosive activity of groundwater shall be defined in accordance with Tables 4-7 and Table 15 of SP 28.13330.2017. Stationary hydrogeological observations of the groundwater regime include visits to the wells, measurements of groundwater level and temperature, water sampling, and unstable components defining.

Water samples analysis with stable chemical components is carried out in stationary conditions. The depth and composition of groundwater are marked on the engineering and geological map. Groundwater pollution zones and its degree, and possible development of other engineering and geological processes are determined.

The laboratory soil investigation includes: soil sampling, soil texture defining, reduced number of physical and mechanical properties of disturbed soil with a given humidity and density of dry soil.

Observed groundwater parameters: generalized indicators: groundwater level, temperature; indicators of corrosion activity: hydrogen index (pH), chlorides, nitrates, nitrites, total iron, hardness: total, carbonate, constant; concentrations of substances (including specific compounds): oil products; regional background indicators according to the engineering and environmental survey data: lead, manganese, copper, zinc, nickel, mercury.

7.5. Groundwater monitoring

Groundwater monitoring stations at the PP.MS construction site

6 observation hydrogeological wells have been made. The monitoring stations are shown in Figure 33.



Figure 33. Groundwater monitoring stations at the PP.MS construction site

7. Industrial Environmental Monitoring
7.5. Groundwater monitoring
Results of groundwater monitoring at the PP.MS construction site
<div><div><p>Based on the results of soil chemical analysis, the following conclusions can be made.</p><p>The hydrogen index (pH) is from 7.1 to 7.6 pH units. The samples taken at stations "МГБ-1", "МГБ-2", "МГБ-3" and "МГБ-6", belong to the "neutral" group, at stations "МГБ-4" and "МГБ-5" – "weak-alkaline". According to the classification of A.M. Ovchinnikov, the groundwater at the monitoring site (from 254 to 321 mg/dm3) belongs to the "freshwater" according to the amount of total salt content (dry residue).</p><p>The total hardness is from 2.6 to 12.8 dH (degree of hardness), which corresponds to low hardness water for sample "МГБ-1", moderately hard for samples taken at "МГБ-3", "МГБ-3" and "МГБ-6" stations, and very hard water for samples "МГБ-4" and "МГБ-4".</p><p>The hardness of the water is caused by presence of major cations, mainly calcium and magnesium, with the values ranging from 36 to 161 mg/dm3 and from less than 10 to 58 mg/dm3.</p><p>According to the classification of O. A. Alekin based on the chemical composition all the waters under monitoring are divided into: hydrocarbonate calcium type 1 water at "МГБ-1", "МГБ-4", "МГБ-5" and "МГБ-6"; sodium hydrocarbonate type 1 at МГБ-2; calcium hydrocarbonate type 2 at МГБ-3.</p><p>Biogenic and organic matters: concentrations of ammonium ion, nitrite ion and nitrate ions are extremely low and range from 1.38 to 4.49 mg/dm³, 0.018 to 0.045 mg/dm³ and from 0.12 to 0.7 mg/dm³ accordingly.</p><p>In all samples, concentrations of such major anions as chlorides are below the detection limit of the research method</p></div><div><p>and are less than 10 mg/dm³. Sulfate values range from less than 10 to 62 mg/dm³. The concentrations of hydrocarbonates were found in the range from 52 to 893 mg/dm³.</p><p>Heavy metals and other inorganic pollutants. Iron content ranged from 0.051 to 20 mg/dm³. The most iron-rich groundwater was found in well "МГБ-3". The concentrations of copper and nickel vary in a narrow range from 0.0007 to 0.0031 mg/dm³ and from 0.002 to 0.007 mg/dm³, accordingly. Lead values range from less than 0.002 to 0.019 mg/dm³. Zinc content for all groundwater under monitoring was 0.014 mg/dm³. The concentrations of mercury, cobalt and cadmium for all the studied samples are below the detection limit of the research method. Arsenic values ranged from less than 0.01 to 0.03 mg/dm³.</p><p>Oil products and other organic pollutants. The content of benz(a)pyrene and detergents (Anionic surfactants) was detected in extremely low concentrations, and for all the studied samples it is below the detection limit of the research method. Concentrations of phenols and oil products ranged from 0.0016 to 0.0066 mg/dm³ and from 0.05 to 0.41 mg/dm³, accordingly.</p><p>Thus, the content of pollutant components in groundwater samples taken within the monitoring area were found in extremely small amounts.</p><p>The concentrations of heavy metals established during environmental monitoring are consistent with engineering and environmental surveys performed in 2020, and increases in the values were not detected.</p></div></div>

7. Industrial Environmental Monitoring
7.5. Groundwater monitoring
Groundwater monitoring stations at the Access Road construction site
<div><div><p>3 hydrogeological observation wells ("Л1", "Л2", "Л3") were made.</p><p>The monitoring stations are shown in Figure 34.</p></div><div></div><div><p>Figure 34. Groundwater monitoring stations at the Access Road construction site</p></div></div>
Results of groundwater monitoring at the Access Road construction site
<div><div><p>According to the hydrogen index, the water in wells "Л1", "Л2", "Л3" corresponds to the "normal" group (according to GOST 17.1.2.04-77). By type of hardness, the water in well "Л2" is low hardness water, in wells "Л1" and "Л3" it is moderately hard, carbonate.</p></div><div><p>MAC in groundwater at the construction sites is not subject to regulation by sanitary rules and standards.</p><p>According to the degree of aggressive impact on steel structures (in accordance with SP 28.13330.2017), water from wells "Л1", "Л2", "Л3" is moderately aggressive.</p></div></div>

Groundwater monitoring stations at the GPP construction site

All 6 hydrogeological observation wells are established with the coordinates and elevations indicated accordingly. The monitoring stations are shown in Figure 35.



Figure 35. Groundwater monitoring stations at the GPP construction site

Results of groundwater monitoring at the GPP construction site

According to the hydrogen index, the water in wells "Л1", "Л2", "Л3", "Л4", "Л5", "Л6" corresponds to the "normal" group (according to GOST 17.1.2.04-77). By type of hardness, the water in wells "Л1", "Л2", "Л4", "Л5", "Л6" is moderately hard, in well "Л3" is hard. In wells "Л1", "Л5" and "Л6", the water is non-carbonate, in wells "Л2", "Л3", "Л4" - carbonate.

MAC in groundwater at the construction sites is not subject to regulation by sanitary rules and standards.

According to the degree of aggressive impact on steel structures (in accordance with SP 28.13330.2017), water from wells Л1, Л2, Л3 is moderately aggressive.

The soil in "Л1" well is mainly composed of 0.05-0.1 mm fractions (fine sand particles according to GOST 25100-2020). The soil in well "Л2" is mainly composed of 5-10 mm fractions (large gravel particles (disintegrated rocks) according to GOST 25100-2020). The soil in wells "Л3", "Л4" and "Л5" mainly consists of 0.25-0.1 mm fractions (medium and large sand particles according to GOST 25100-2020). The soil in well "Л6" is mainly composed of 0.1-0.25 mm fractions (fine sand particles according to GOST 25100-2020).

Groundwater monitoring stations at the PSL area construction site

The laboratory soil investigation includes: soil sampling, soil texture defining, reduced number of physical and mechanical properties of disturbed soil with a given humidity and density of dry soil.

Observed groundwater parameters: generalized indicators: groundwater level, temperature; indicators of corrosion activity: hydrogen index (pH), chlorides, nitrates, nitrites, total

iron, hardness: total, carbonate, constant; concentrations of substances (including specific compounds): oil products, cadmium; copper; zinc; nickel; arsenic.

All 3 observation wells are established with the coordinates and elevations indicated accordingly. The monitoring stations are shown in Figure 36.



Figure 36. Groundwater monitoring stations at the PSL area construction site

Figure 36. Groundwater monitoring stations at the PSL area construction site

According to the hydrogen index, the water in wells "Л1", "Л2", "Л3" corresponds to the "normal" group (according to GOST 17.1.2.04-77), according to the type of hardness, the water in wells is moderately hard, carbonate.

MAC in groundwater at the construction sites is not subject to regulation by sanitary rules and standards.

According to the degree of aggressive impact on steel structures (in accordance with SP 28.13330.2017), water from wells "Л1", "Л2", "Л3" is moderately aggressive.

The soil in wells "Л1", "Л2" is mainly composed of 0.1-0.5 mm fractions (fine sand particles according to GOST 25100-2020). The soil in well "Л3" is mainly composed of 0.5-2 mm fractions (coarse sand particles according to GOST 25100-2020).

7.6. Bottom Sediments Monitoring

Monitoring of bottom sediment pollution is carried out at surface water quality monitoring stations in accordance with Gazprom Company Standard STO 12-3-002-2013.

Sampling, conservation and storage of sediment samples, as well as technical means used for sediments sampling, comply with the requirements of GOST 17.1.5.01-80, RD 52.24.609-2013.

Content and frequency of the bottom sediments observed indicators are determined according to the requirements of Gazprom Company Standard STO 12-3-002-2013, RD 52.24.309-2016, RD 52.24.609-2013, as well as taking into account construction technology and background values of the regional pollutant indicators.

Sediment sampling is carried out once a year during the entire construction period (during the warm season).

Defined indicators: generalized indicators: pH (aqueous and salt extract), texture, clay fraction proportion, organic matter content.

Related measurements: colour, odour, consistency, type, inclusions.

Concentrations of contamination substances: oil products, phenols, total iron, zinc, copper, lead.

MAC / TAC for bottom sediments is not subject to regulation.

There are no data on regional background concentrations of heavy metals in bottom sediments for the construction site.

When assessing the content of sediments in the samples, MAC for soils and TAC for different types of soils according to SanPiN 1.2.3685-21 were used as indicative standards.

Data on the statistical characteristics of the background sample distribution in the Leningrad Oblast soils were used as indicative standards for regional background concentrations of heavy metals.

Monitoring of bottom sediments at the PP.MS construction site

The sediments monitoring stations are shown in Figure 37.



Figure 37. Bottom sediments monitoring stations at the PP.MS construction site

7.6. Bottom Sediments Monitoring

Results of bottom sediments monitoring at the PP.MS construction site

Based on the results of chemical analysis, the following conclusions can be made.

In accordance with SanPiN 1.2.3685-21, acidic soils include soils with a medium reaction of less than 5.5 pH for salt extract (pH KCl <5.5), neutral soils – more than 5.5 pH (pH KCl >5.5).

According to the results of the monitoring, it can be concluded that the bottom sediments of the studied water bodies mainly belong to the "slightly acidic" group, the average value of the hydrogen index of salt extract of the bottom sediments in the Luzhitsa river is 5.4 pH units, in stream No. 4 – 5.8 pH units.

According to the texture composition, sediment samples belong to the type of loamy and clay soils, mainly represented by the "clay fraction" (<0.1%). According to the results of visual analysis, it was revealed that all samples had a liquid consistency, gray-black colour and earthy odour. Remains of grass, twigs, roots, bark and small stones can be found in the inclusions.

According to the monitoring results, it was found out that the content of organic compounds was at a safe level. The concentration of oil products ranged from 33 to 75 mg/kg for the Lzhitsa River and 188 mg/kg for stream No. 4 (MAC – 1000 mg/kg).

According to the results of the studies performed, it was found out that the content of controlled heavy metals in the bottom sediments of the survey area does not exceed the established maximum concentrations and is at a safe environmental level.

The iron content common to all the samples is higher than the determination limit of the method and is more than 5000 mg/kg. Phenol values ranged from less than 0.2 to 1.1 mg/kg for sediments from the Luzhitsa river and from less than 0.2 mg/kg for sediments from stream No. 4.

In general, the soils in the Leningrad Oblast are characterized by high concentrations of copper, zinc, iron and lead – typomorphic mineral elements in the studied boreal landscapes, and therefore migration to surface sources takes place.

The average quantitative content of metals of the 1st hazard class - lead and zinc – was 13 mg/kg and 67.6 mg/kg for bottom sediments of the Luzhitsa river, and 17 mg/kg and 81 mg/kg for bottom sediments of stream No. 4, accordingly.

The content of a moderately hazardous metal of the 2nd hazard class - copper - was 13 mg/kg for the bottom sediments of the Luzhitsa river and 20 mg/kg for the bottom sediments of stream No. 4.

According to the laboratory studies performed, it was found out that the content of most substances under monitoring in the bottom sediments at control sites does not exceed the established standards.

Monitoring of the bottom sediments at the Access Road construction site

The sediments monitoring stations are shown in Figure 38

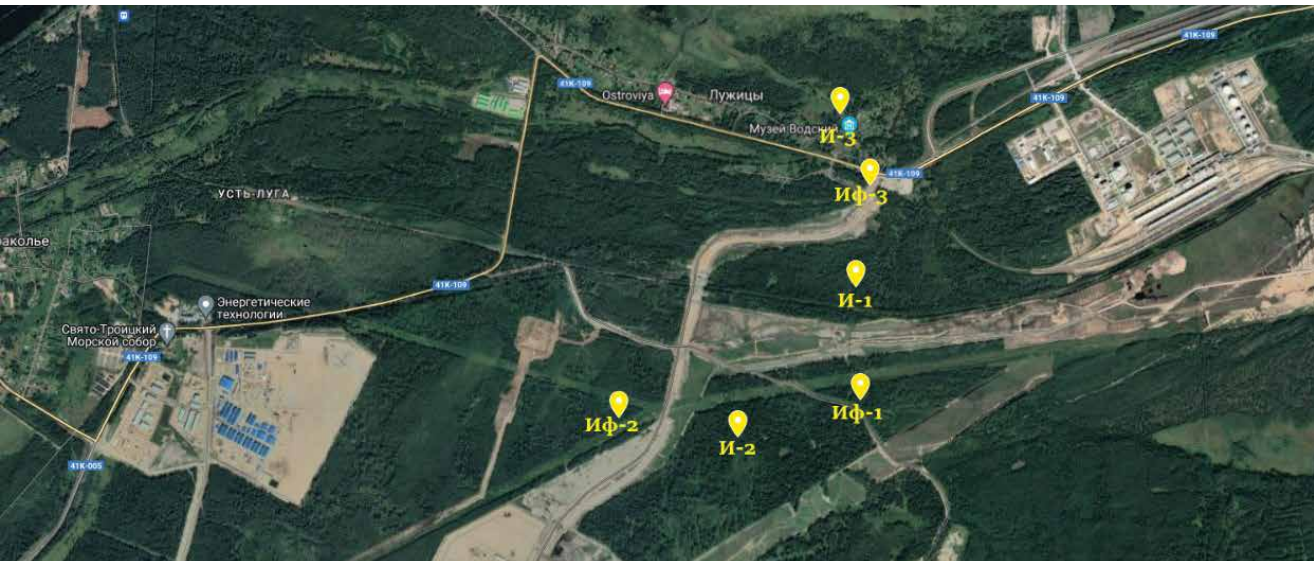


Figure 38. Bottom sediments monitoring stations at the Access Road construction site

7.6. Bottom Sediments Monitoring

Results of the bottom sediments monitoring at the Access Road construction site

MAC / TAC for bottom sediments is not subject to regulation. There are no data on regional background concentrations of heavy metal forms in the bottom sediments for these area.

Based on the results of sediments chemical analysis, the following conclusions can be made.

Index pH of the salt extract in the samples varies from 4.67 to 5.22 pH units, which corresponds to the type of acidic (loamy and clay) soils, pH KCl<5.5.

Index of pH in the samples varies from 5.96 to 6.34 (acidic medium).

The indicators at the background stations and at the monitoring stations do not exceed the indicators recorded before the construction startup.

The texture of the bottom sediments in the Luzhitsa River ("ИФ1", "И1") is represented by 0.1-0.25 mm fraction (fine sand particles) for 41-59% , 0.25–50 mm fraction (medium sand particles) for 35% (at station "ИФ1"), 0.05-0.1 mm fraction (fine sand particles) and other fractions for 10% (at station "И1"). The texture of the bottom sediments in the Luzhitsa River ("ИФ3", "И3") is represented by 0.1–0.25 mm fraction (fine sand particles) for 35-79%, by 0.05-0.1 mm fraction(fine sand particles) and other fractions for 10-23%.

Monitoring of the bottom sediments at the GPP construction site

The sediments monitoring stations are shown in Figure 39.

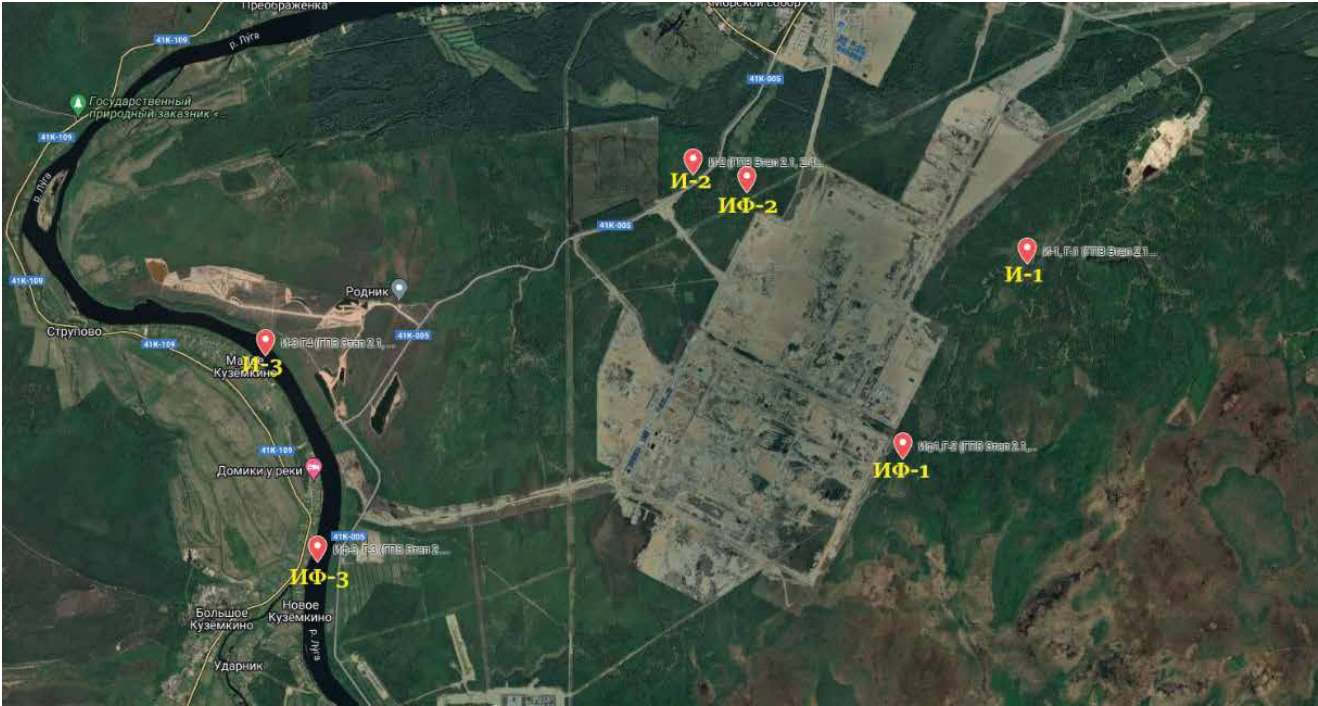


Figure 39. Bottom sediments monitoring stations at the GPP construction site

7.6. Bottom Sediments Monitoring

Results of the bottom sediments monitoring at the GPP construction site

Index pH of the salt extract in the samples from the Luzhitsa river varies from 4.83 to 5.12 pH units, which corresponds to the type of acidic (loamy and clay) soils, pH KCl<5.5; in the samples from stream No. 4 it varies from 4.42 to 6.76 pH units, which corresponds to the type of acidic (loamy and clay) soils, pH KCl<5.5 and close to neutral, neutral (loamy and clay) soils, pH KCl>5.5; in the samples from the Luga River, it varies from 7.16 to 7.35 pH units, which corresponds to the type of neutral (loamy and clay) soils close to neutral, pH KCl>5.5.

Index pH in the samples from the Luzhitsa river varies from 5.93 to 6.12 (acidic medium); in the samples from stream No. 4 it varies from 5.63 to 6.53 (acidic medium); in the samples from the Luga River it varies from 6.95 to 7.13 (neutral, alkaline medium).

The contents at the background stations and at the monitoring stations do not exceed the contents before the construction startup.

The texture of the bottom sediments in the Luzhitsa river ("ИФ1", "И1") is represented by 0.002-0.01 mm fraction (fine dusty particles) for 56%, <0.002 mm fraction(clay particles) and other fractions for 25-31%.

The texture of the bottom sediments at the background station of stream No. 4 ("ИФ2") is represented by 0.002-0.01 mm fraction (fine dusty particles)for 39%, <0.002 mm fraction (clay particles) for 29%, 0.01–0.05 mm fraction (large dusty particles) and other fractions for 27%; at the monitoring station ("И2"), it is represented by 2-5 mm fraction (small gravel particles) for 34%, 2 >10 mm fraction (small pebble particles) for 20%, 1-2 mm fraction (coarse sand particles) and other fractions for 18%.

The texture of the bottom sediments in the Luga River ("ИФ3", "И3") is represented by 0.1–0.25 mm fraction (fine sand particles) for 55–84%, by 0.25-0.5 mm fraction(fine sand particles) and other fractions for 11–38%.

Monitoring of the bottom sediments at the PSL area construction site

Sediment sampling is carried out at the Kabolovka river and at the Luga Bay once a year during the entire construction period, during the warm season.

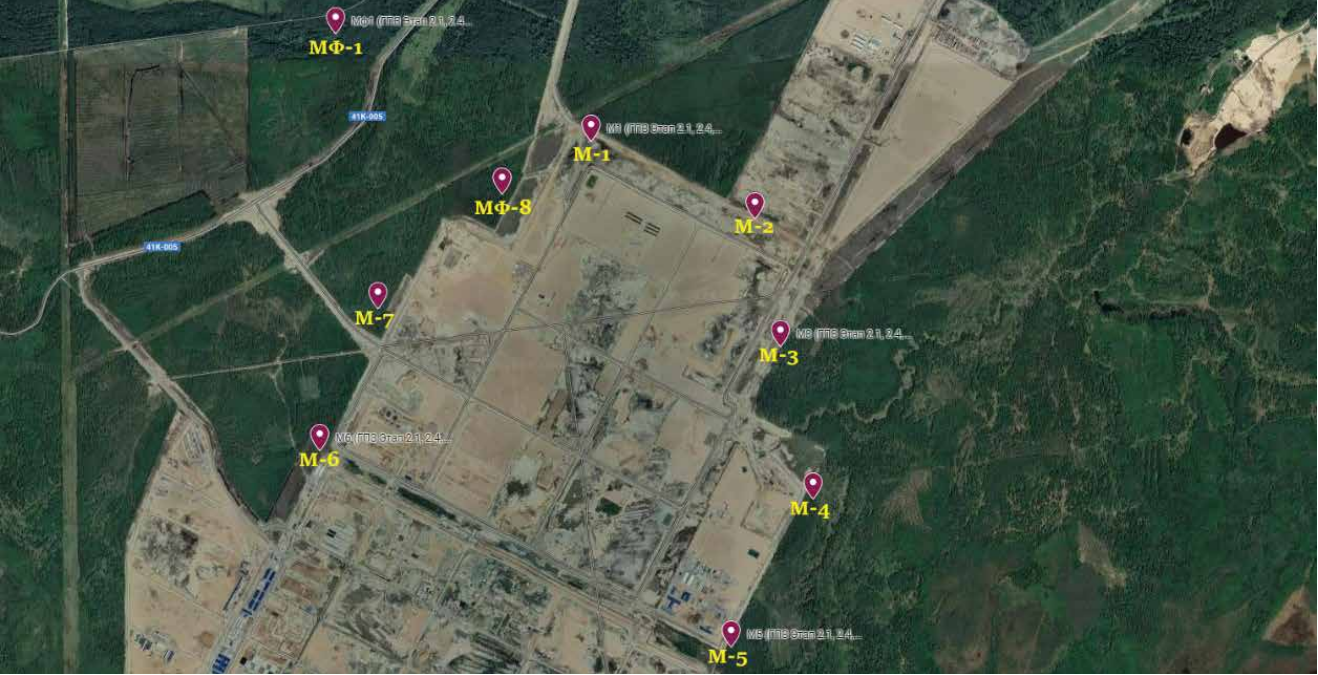
Monitoring of the bottom sediment pollution is carried out at the surface water quality monitoring stations (Gazprom Company Standard STO 12-3-002-2013 (cl. 5. 1. 10.4)).

Bottom sediments monitoring stations at the PSL area construction site are shown in Figure 40.



Figure 40. Bottom sediments monitoring stations at the PSL area construction site

7. Industrial Environmental Monitoring	
7.6. Bottom Sediments Monitoring	
7.7. Monitoring of land plots and topsoil	
The observed parameters of the bottom sediments at the Khabolovka river: generalized indicators: pH (water and salt extract), texture, clay fraction proportion; related measurements: colour, odour, consistency, type, inclusions; concentrations of polluting substances: oil products, phenols, total iron, zinc, copper, lead.	Observed parameters of the bottom sediments of the Luga Bay: generalized indicators: pH (water and salt extract), texture, clay fraction proportion; related measurements: colour, odour, consistency, type, inclusions; concentrations of polluting substances: oil products, phenols, total iron, zinc, copper, lead.
Results of the bottom sediments monitoring at the PSL area construction site	
The contents at the background station and at the monitoring station do not exceed the contents before the construction startup. MAC / TAC for bottom sediments is not subject	to regulation. There are no data on regional background concentrations of heavy metal forms in the bottom sediments for these area.
7.7. Monitoring of land plots and topsoil	
Sampling of the topsoil near the construction sites is carried out once a year during the entire construction period in summer or autumn. Sampling is carried out in accordance with GOST 17.4.4.02-17, GOST R 53123-2008. Soil monitoring stations are located along the boundary of the Project facilities within 20 m from the site boundaries. The monitoring stations are placed taking into account the construction site layout and the area elevations. There is one background station ("Mφ1") located outside of the impact area. At the same time, the landscape and the prevailing winds are taken into account. The location of the soil sampling points can be adjusted both taking into account soil types (matching soil types for the background and monitoring stations), with the location of the facilities (highways, infrastructural facilities, etc.), as well as with reference to the type of landscape, which is determined during a reconnaissance survey. Sampling is carried out according to the requirements established by GOST 17.4.3.01-2017, GOST 17.4.4.02-2017, GOST 17.4.3.03-85, GOST R 53123-2008.	Sampling means, conditions of conservation, storage and transportation are established in accordance with GOST 17.4.4.02-2017, as well as in accordance with the relevant regulatory and technical documents on methods for defining pollutants. The methods included in the state register of quantitative chemical analysis techniques are used to carry out the analyses. Observed parameters: generalized indicators: pH (water and salt extracts), texture; concentrations of polluting substances: oil products, total iron, cadmium, lead, zinc, copper, nickel, arsenic, mercury, benzapyrene. When assessing the content of sediments in the samples, MAC for soils and TAC for different types of soils according to SanPiN 1.2.3685-21 were used as indicative standards. Data on the statistical characteristics of the background sample distribution in the Leningrad Oblast soils were used as indicative standards for regional background concentrations of heavy metal forms.

7. Industrial Environmental Monitoring	
7.7. Monitoring of land plots and topsoil	
Soil monitoring at the PP.MS construction site	
Soil monitoring stations at the PP.MS construction site are shown in Figure 41.	
	
Figure 41. Soil monitoring stations at the PP.MS construction site	
Results of the soil monitoring at the PP.MS construction site	
Based on the results of soil chemical analysis, the following conclusions can be made. According to the results of the texture assessment for the soil at "M_ПКОЛ2", "M_ПКОЛ-3", "M_ПКОЛ-5", "M_ПКОЛ-6" and background sample No. 1 are represented by sands. The soils from sampling stations "M_ПКОЛ-12", "M_ПКОЛ-4", "M_ПКОЛ-7" are represented by loams and clay. According to the acidity level, all soils of the area under monitroing are acidic – index pH of the salt extract at all stations is less than 5.5 units. In sandy loam soils at the monitoring area, the content of oil products varies in the range from 7 mg/kg to 9 mg/kg, and in loamy soils – from 6 mg/ kg to 24 mg/kg, which does not exceed the MAC – 1000 mg /kg and corresponds, according to the classification of I. Pikovsky (1993), it is "background level of oil pollution". At the monitoring stations, the content of oil products is higher than in the background one. The lead content for sandy loam soils varies in the range from 20.7 to 31.2 mg/kg and for loams – from 10.9 to 32.8 mg/kg, which does not exceed the environmental standard	(32 mg/kg and 65 mg/kg). For the average sample at the monitoring stations, the background content (10.9 mg/kg) was exceeded by 2.3 times for sandy loam and by 2.01 times for loam. The concentration of zinc in sandy loam soils of surface horizons varies from 11.5 to 24.6 mg/kg and in loams – from 9 to 82.8 mg/kg, with an average value of 19.3 and 35.8 mg/kg, which is significantly lower than the established TAC of 55 mg/kg and 110 mg/kg, accordingly. The average values of the monitoring stations are characterized by a low value compared to the background one (30.8 mg/kg) for sandy loam samples and comparatively high for loam (by 1.1 times). The quantitative mercury content for sandy loam ranges from 0.04 to 0.132 mg/kg and for loams – from 0.029 to 0.112 mg/kg while MAC is 2.1 mg/kg. At the monitoring stations, the mercury content is higher than in the background one. For most of the studied samples of sandy loam and loam, no exceedance of cadmium concentrations were detected. Except for sand samples taken at the monitoring points "M_ПКОЛ-2" and "M_ПКОЛ-3", where the detected exceedance was

7.7. Monitoring of land plots and topsoil

1.8 MAC and 2.06 MAC, accordingly. The established background value is lower than the detection limit of the method and amounts to 0.05 mg/kg. For all monitoring stations, except for station "М_ПКОЛ-7", the cadmium content is higher than in the background one.

The registered arsenic concentrations in sandy loam soils vary in the range from 0.71 to 4.15 mg/kg and in loamy soils from 1.37 to 4.88 mg/kg, which corresponds to the standard value for acidic loamy soils (TAC 5 mg/kg) and exceeds the established TAC for sandy soils at stations "М_ПКОЛ-2" and "М_ПКОЛ-3" – 1.9 ODC and 2.07 TAC, accordingly.

The established background value also exceeds the established standard and amounts to 1.06 TAC, which indicates an increased background value of cadmium in the soils of the monitoring area.

A slight exceedance of background concentrations of heavy metals was noted during engineering and environmental surveys in 2020 (volume 0098.2019-01.1-000- SE-IEL-002-R0-RU) in half of the studied samples. The background concentration of arsenic was most often exceeded. Increased concentrations of arsenic in the soil refer to a regional feature of soils in the Northwest.

The nickel content in sandy soils varies in the range of 3.2 to 11.7 mg/kg and in loamy soils in the range from 3.4 to 15.3 mg/kg, which for all soils under monitoring is lower than the standard value of the TAC (20 mg/kg and 40 mg/kg).

At the monitoring stations, the nickel content is higher than in the background one.

The concentration of copper in sandy soils varies from 7.4 to 10 mg/kg and in loams – from 3.3 to 16.7 mg / kg, which is lower than the one established by the standards. At the monitoring stations, the copper content is higher than in the background one.

The content of organic matters – oil products and benzene(a)pyrene – is registered at a safe level, significantly below the maximum allowable content.

According to the conducted laboratory studies, it was found out that the content of most controlled substances in soils at the sites under monitoring is higher than in the background sample.

The revealed deviations from the regulatory values of SanPiN 1.2.3685-21:

- for arsenic it is 1.9 TAC ("М_ПКОЛ-2"), 2.07 TAC ("М_ПКОЛ-3"), 1.06 TAC (No. 1 background station);
- for cadmium it is 1.8 MAC ("М_ПКОЛ-2") and 2.06 MAC ("М_ПКОЛ-3").

Single cases of the established standards being exceeded for arsenic and cadmium concentrations were also revealed during engineering and environmental surveys in 2020. Therefore, it is likely that the increased cadmium content for the area under monitoring refers to local pollution before construction, and the increased arsenic content is a regional feature of the soils in the Northwest.

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7.7. Monitoring of land plots and topsoil

Soil monitoring at the GPP construction site

Soil monitoring stations at the GPP construction site are shown in Figure 42.

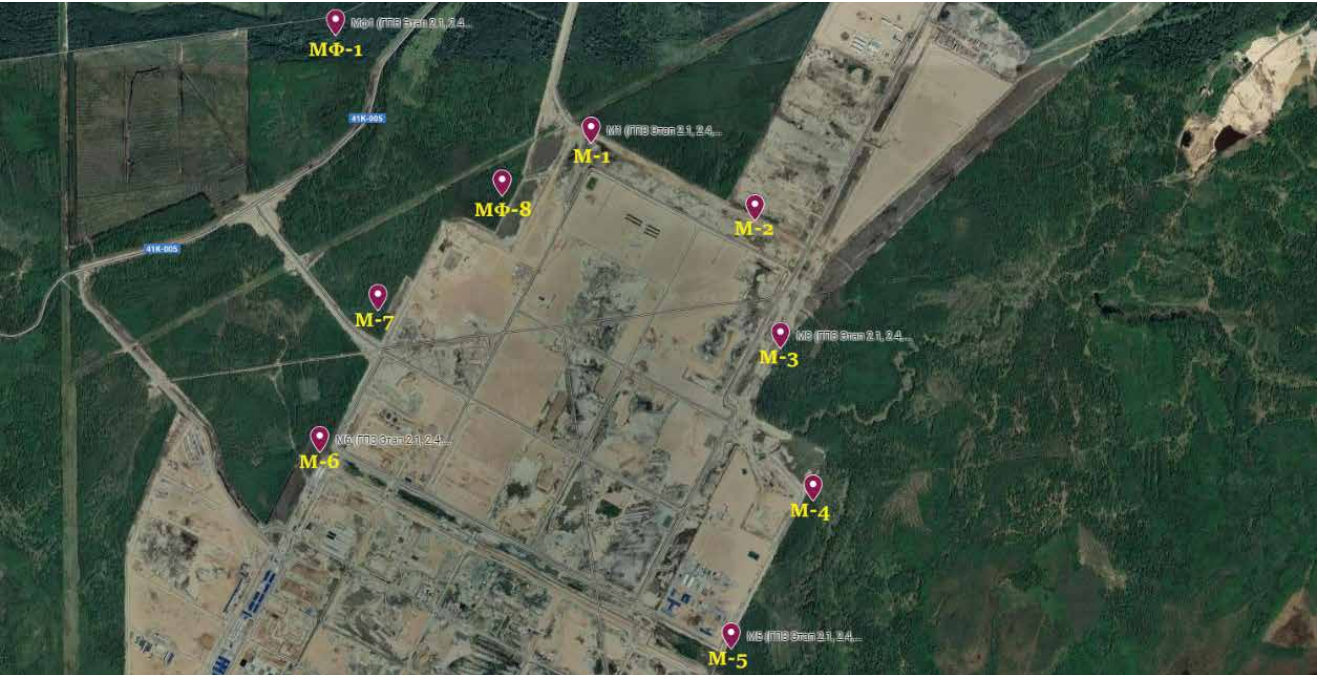


Figure 42. Soil monitoring stations at the GPP construction site

Results of the soil monitoring at the GPP construction site

At the monitoring stations, the contents of such indicators as "mercury", "oil products", "benz/a/pyrene", "arsenic", "copper", "nickel", "lead", "zinc" do not exceed the MAC (TAC) and (or) the values at the background station. The total value in all samples is < 16, which corresponds to the soil category "clean", "acceptable".

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Soil monitoring at the LNG Plant construction site

Soil monitoring stations at the LNG construction site are shown in Figure 43.



Figure 43. Soil monitoring stations at the LNG construction site

Results of the soil monitoring at the LNG construction site

In all the monitoring stations MAC/TAC values are not exceeded taking into account the error of measurements. According to such indicators as "zinc", "cadmium", "benzapyrene" and "oil products", there are no concentrations at the monitoring stations exceeding the background one taking into account the error of measurements.

The soils contamination level with heavy metals and arsenic was assessed in accordance with the requirements of cl. 22 of SanPiN 1.2.3685-21 "Hygienic standards and requirements for ensuring the safety and (or) harmlessness of

environmental factors to humans" based on the value of the total pollution index (Zc).

The total pollution index (Zc) in the studied soil samples has values from 4.88 to 19.63, only at stations M2 and M4 the soil sample was characterized as "moderately hazardous", in all other samples the soil belongs to the category "acceptable".

According to the texture classification of soils and rocks (according to N.A. Kachinsky) the soil at monitoring stations M1, M3, M5, M6, Mφ1 is fixed- sandy soil, and at monitoring stations M2, M4, M8 is sandy loam.

Soil monitoring at the PSL area construction site

Soil monitoring stations at the PSL area construction site are shown in Figure 44.



Figure 44. Soil monitoring stations at the PSL construction site

Results of the soil monitoring at the PSL construction site

In all the monitoring stations MAC/TAC values are not exceeded taking into account the error of measurements, except for the background point "Mφ1" according to "lead". The "lead" indicator exceeding TAC at the background station is not related to the activities at the facility. The values for such indicators as "arsenic", "cadmium", "lead", "zinc" at the motioning stations were not exceeded compared to the background one, taking into account the error of measurements.

Assessment of the soils chemical pollution level as an indicator of adverse effects on public health is performed according to

indicators developed during combined geochemical and hygienic studies of the environment with the existing pollution sources. Such indicators of pollution intensity, reflecting the pollution level and structure, include the concentration coefficient of chemical element (Ksi) and the total pollution index (Zc).

The total pollution index (Zc) in the studied soil samples has values from 0.34 to 40.41, and before the construction startup during the engineering environmental survey had values from 11.91 to 50.09. Thus, in August 2023, the total pollution index did not exceed the values before the construction startup.

7. Industrial Environmental Monitoring	
7.7. Monitoring of land plots and topsoil	
Results of the route survey at the land plots	
<p>The visual route survey at the land plots was carried out once a month.</p> <p>The main activities of the survey include:</p> <ul style="list-style-type: none">– checking the actual condition of the facilities and the facility area;– inspection of the established land acquisition boundaries;– control of traffic patterns for vehicles within the construction sites;	<ul style="list-style-type: none">– any spills of oil products, fuels and lubricants, accumulation of waste etc. (in case of violations being revealed, instrument control is carried out);– assessment of the impact on topsoil due to emergency situations (if any).
Conclusions based on the results of the route survey at the land plots	
<p>The site levelling was performed as part of the ongoing construction and installation works, which includes:</p> <ul style="list-style-type: none">– construction site cleaning off trees, usable timber hand over, cleaning of wooden debris;– stripping and removing of the topsoil layer with its further transportation to the topsoil laydown area;– site filling and levelling using subsoil including culverts installation;– TSF (temporary structures and facilities) construction. <p>To prevent flooding and waterlogging at the territory around the construction site perimeter, a network of ditches with</p>	<p>impounding basins and LTF was designed. Stormwater from the construction site is planned to be drained to the impounding basins, from which wastewater is transported to the treatment facilities.</p> <p>The temporary structures and facilities of the contractors involved in the construction are installed within the construction site land allocation battery limits.</p> <p>Based on the completed field works on monitoring the land plots and topsoil, violations of the land allocation boundaries were not recorded at the Project facilities, and contamination of land plots with process liquids and waste was not detected.</p>

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7. Industrial Environmental Monitoring	
7.8. Monitoring of geological environment	
<p>Field surveys of the Construction Site territory were performed by Space Center "Cosmolnform Center" Bureau of Aeronautics Shipping.</p> <p>Monitoring of the geological environment includes:</p> <ul style="list-style-type: none">– monitoring of geological hazards (groundwaters, flooding, frost heave);– monitoring of geological hazards in order to identify, record, assess the current condition and to predict its development. <p>Assessment of the geological hazards area in order to ensure necessary spatial reach and comprehensive analysis is performed using remote (satellite) measurements.</p> <p>A preliminary survey of separate facilities and adjacent areas is performed using high-resolution satellite images. Later on, based on the data obtained, visual route engineering and geological inspections are carried out.</p> <p>The purpose of the visual inspections is to assess the dynamics of the development of exogenous processes taking place at the immediate vicinity to the construction sites.</p> <p>The area of geological hazard visual inspections includes: site facilities and the adjacent territory within 50 m wide, linear facilities within 100 m corridor.</p> <p>The total length of the route observations is 14.370 km.</p> <p>Visual route surveys of the construction site help to identify possible engineering and geological processes caused by the construction activities. The processes shall be recorded and described.</p> <p>Monitoring of these processes is based on background measurements performed during the pre-construction period (survey period).</p>	<p>At the construction stage, the following parameters of engineering and geological processes are monitored during route surveys:</p> <ul style="list-style-type: none">– scale and speed of development of exogenous processes (area and nature);– impacted area, %; area, km2;– horizontal outlines and their development dimensions;– distances from the centers of waterlogging and flooding to the GPP facilities;– visual signs of the processes (based on the results of route engineering and geological monitoring). <p>The geological environment is monitored twice a year. Inspections are carried out at the end of the spring snow melt and during the autumn period.</p> <p>The route survey includes photographing and recording geometric dimensions of the processes using GPS, with further report issue on the processes during the survey period and comparing it with the data from the previous report.</p> <p>During the survey, all descriptions and sketches of changes in the geological environment and geological hazards or potentially hazardous areas related to natural factors, as well as violations of the operation technology, are recorded in the log, which is a document for recording the signs, according to which this process can be identified using remote measuring materials or maps. Reference to the identified natural features can be made using GPS receivers.</p>
The results of geological monitoring at the PP.MS construction site	
<p>During the monitoring, it was found out that the following types of potentially hazardous areas were common in the area under monitoring during the preparatory stage:</p> <ul style="list-style-type: none">– erosion processes, mostly crumbling and erosion rills at the water outlet areas;– eolian processes are most characterised by accumulation of eolian sand deposits;– waterlogging.	<p>Waterlogging areas were found at the LTF outlets into the Luzhitsa river. The distance from the waterlogging and flooding source to the Project facilities is about 100 m.</p> <p>According to the development scale and speed, all identified processes are inactive and not dangerous for construction.</p> <p>The affected area is 2% of the total area under monitoring and reaches 14.37 km.</p>

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7. Industrial Environmental Monitoring

7.8. Monitoring of geological environment

The results of geological monitoring at the Access Road construction site

Monitoring of potentially hazardous areas was carried out in April 2023.

During the survey performed in April 2023, 14 potentially hazardous areas associated with erosion processes, waterlogging, and flooding were identified at the Access Road Phase 1.

2 monitoring stations were also selected to control potentially hazardous areas occurrence in the future.

Based on the monitoring performed at Access Road Phase 1 in April 2023, the following results were obtained:

- 9 potentially hazardous areas were identified at 16 monitoring stations;
- Potentially hazardous areas refer to exogenous processes of the following types: erosion, waterlogging, flooding. Potentially hazardous areas of combined type are possible;
- based on the high space resolution WorldView-2.3 survey, the outlines were marked, the areas of all the potentially hazardous areas selected along the outlines were calculated;
- analysis of potentially hazardous areas identified during the monitoring in April 2023 was carried out;
- recommendations are given for taking protective measures against certain potentially hazardous areas increasing.

The results of geological monitoring at the GPP construction site

Based on the geological environment monitoring in April 2023, the following results were obtained:

- 5 potentially hazardous areas were identified at 8 monitoring stations;
- Potentially hazardous areas refer to exogenous processes of the following types: erosion, waterlogging, flooding.
- one potentially hazardous area of a combined type with significant (waterlogging and flooding) processes was recorded;
- based on the high space resolution WorldView-2.3 survey, the outlines were marked, the areas of all the potentially hazardous areas selected along the outlines were calculated;
- analysis of the potentially hazardous areas identified during the monitoring was carried out;
- recommendations are given for taking protective measures against certain potentially hazardous areas increasing.

Based on the results of the monitoring performed at GPP site in September 2023, the following results were obtained:

- 8 potentially hazardous areas were identified at 11 monitoring stations;
- potentially hazardous area refer to exogenous processes of the following types: erosion, flooding and waterlogging (a combined obvious type), waterlogging;
- based on the high space resolution WorldView-2.3 survey, the outlines were marked, the areas of all the potentially hazardous areas selected along the outlines were calculated;
- analysis of potentially hazardous areas identified during the monitoring in September 2023 was carried out;
- recommendations are given for taking protective measures against certain potentially hazardous areas increasing.

The results of geological monitoring at the LNG Plant construction site

Field surveys of the LNG Plant construction site were made in April and September 2023.

Based on the geological environment monitoring in April 2023, the following results were obtained:

- 3 potentially hazardous areas were identified at 9 monitoring stations;
- Potentially hazardous areas refer to exogenous processes of the following types: waterlogging, flooding. A combined potentially hazardous area was identified: with both waterlogging and flooding;
- based on the high space resolution WorldView-2.3 survey, the outlines were marked, the areas of all the potentially hazardous areas selected along the outlines were calculated;
- analysis of the potentially hazardous areas identified during the monitoring was carried out.

The results of geological monitoring at the LNG Plant construction site are shown in Figure 45. The colors correspond to the potentially hazardous area types: yellow – "waterlogging and flooding"; blue – "flooding".

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7. Industrial Environmental Monitoring

7.8. Monitoring of geological environment



Figure 45. Outlines of the potentially hazardous areas for Stages 4. 1, 4.2 – LNG Plant in WorldView-2.3 satellite image

The results of the geological environment monitoring at the LNG Plant construction site in September 2023 showed that most of the potentially hazardous areas identified in April 2023 were eliminated during the site construction, its borders strengthening and drainage system elements reinforcing.


The results of geological monitoring at the PSL construction site

Based on the monitoring in April 2023, the following results were obtained:

- one combined potentially hazardous area was identified: with both waterlogging and flooding at 6 monitoring stations;
- based on high space resolution WorldView-2.3 survey, outlines were marked, the potentially hazardous area was calculated, which is 25,299 m²;
- analysis of the potentially hazardous area based on field data and high space resolution monitoring data was carried out.

The results of the geological environment monitoring in September 2023 showed a significant transformation of landscapes in the 50-meter zone due to preparations for the construction at the new site.

7. Industrial Environmental Monitoring	
7.8. Monitoring of geological environment	
7.9. Monitoring of flora and fauna	
The results of geological monitoring at the Linear Facilities construction site	
<p>Route observations of site facilities and the adjacent territory within 50 m wide, linear facilities within 100 m corridor (with a total outline length of 37.726 km) were carried out. Route descriptions and photographic materials were processed in the office.</p> <p>During the monitoring, it was found out that erosion processes were common in the surveyed area: erosion rills at the water outlets, waterlogging.</p> <p>In general, the entire Linear Facilities construction site is divided by roads and natural terrain (forest, wetlands, ravines), drainage facilities (open-type ditches).</p>	<p>According to the results of the monitoring, 2 potentially hazardous areas associated with visible waterlogging and erosion processes (scree processes) were identified.</p> <p>Waterlogging was found at the background sampling areas along the border of the water protection zone of the Luzhitsa River. The distance from the waterlogging and flooding source to the Project facilities is about 100 m.</p> <p>According to the development scale and speed, all identified processes are inactive and not dangerous for construction.</p> <p>The affected area is 2% of the total area under monitoring and reaches 13.0 km.</p>
7.9. Monitoring of flora and fauna	
<p>The purpose of the research is to obtain reliable up-to-date information about the composition and state of flora and fauna, vegetation and wildlife at the possible Project impact zone, including an inventory of rare species, valuable ecosystem components, analysis of valuable / critical habitats, and assessment of the Project impact on biological diversity.</p> <p>To achieve this purpose, the following tasks were identified:</p> <ul style="list-style-type: none"> – inventory of flora and fauna and biota communities based on a complex of field work using file materials; – comprehensive assessment and analysis of the current ecological status of biological diversity; – assessment of habitat and distribution, including identification of valuable/critical habitats; – obtaining data on quantitative indicators (flora and fauna species density, number); – identification of rare species and communities; 	<ul style="list-style-type: none"> – identification of alien species and facts of biological invasions. <p>In summer and autumn period, analysis of the maps, the results of field zoological and botanical research was performed. Zoological observations were carried out along the routes and on sites using standard methods. As part of the route observations, the number of invertebrates and vertebrates was taken into account, species diversity was estimated, and the approximate population density of animals (herpetobiont insects, soil insects, amphibians, reptiles, birds and mammals) was determined.</p> <p>Assessment of the vegetation cover was carried out based on the field inspection materials.</p> <p>Routes were laid in all types of habitats adjacent to the facility site and located within potential impact area.</p>
Monitoring of flora and fauna at the PP.MS construction site.	
<p>Flora monitoring stations at the PP.MS construction site are shown in Figure 46.</p>	
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7. Industrial Environmental Monitoring
7.9. Monitoring of flora and fauna

Figure 46. Flora monitoring stations at the PP.MS construction site
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7.9. Monitoring of flora and fauna

Fauna monitoring stations at the PP.MS construction site are shown in Figure 47.

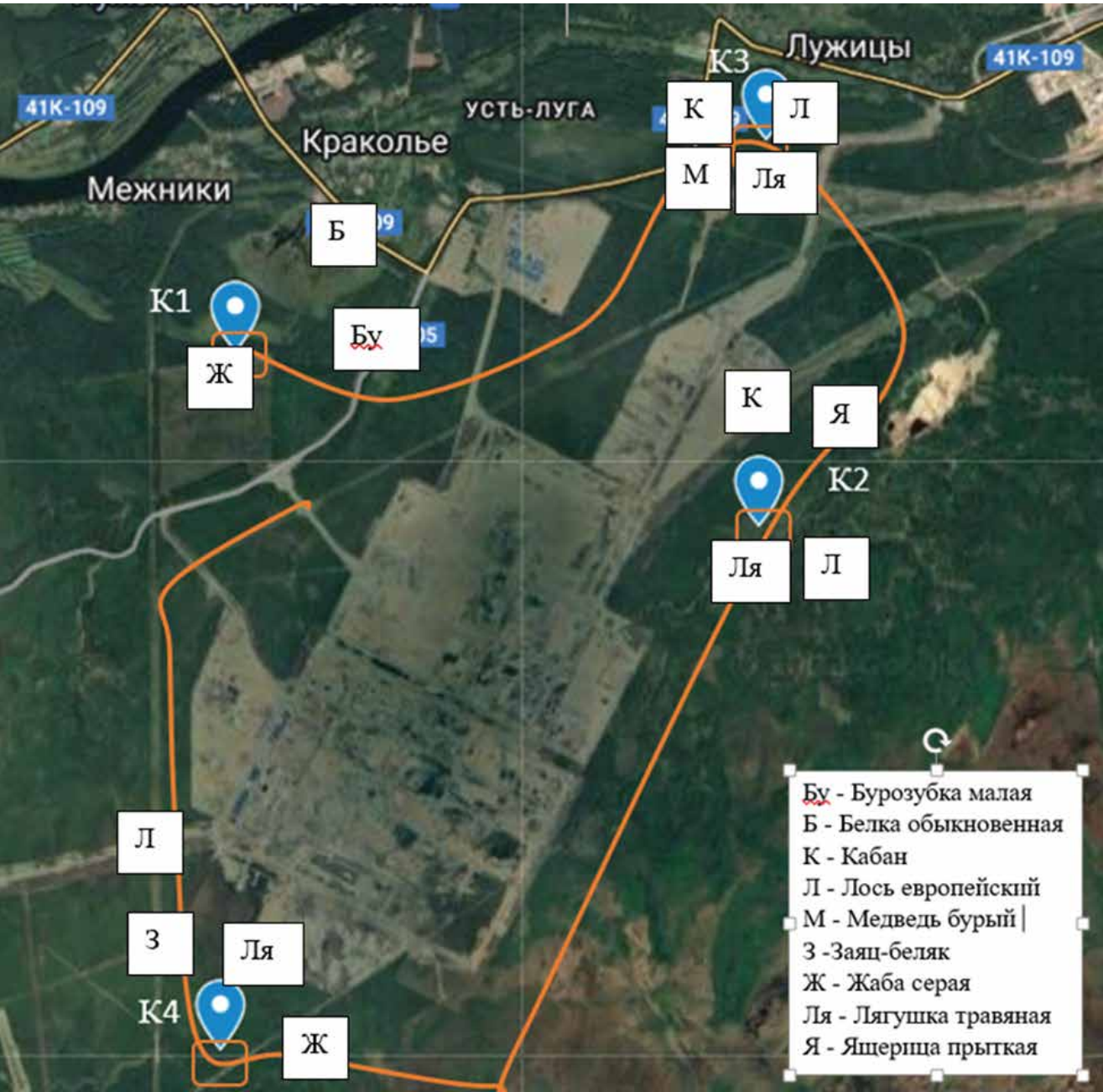


Figure 47. Fauna monitoring stations at the PP.MS construction site

7.9. Monitoring of flora and fauna

Monitoring of flora and fauna at the GPP construction site

Flora monitoring stations at the GPP construction site are shown in Figure 48.

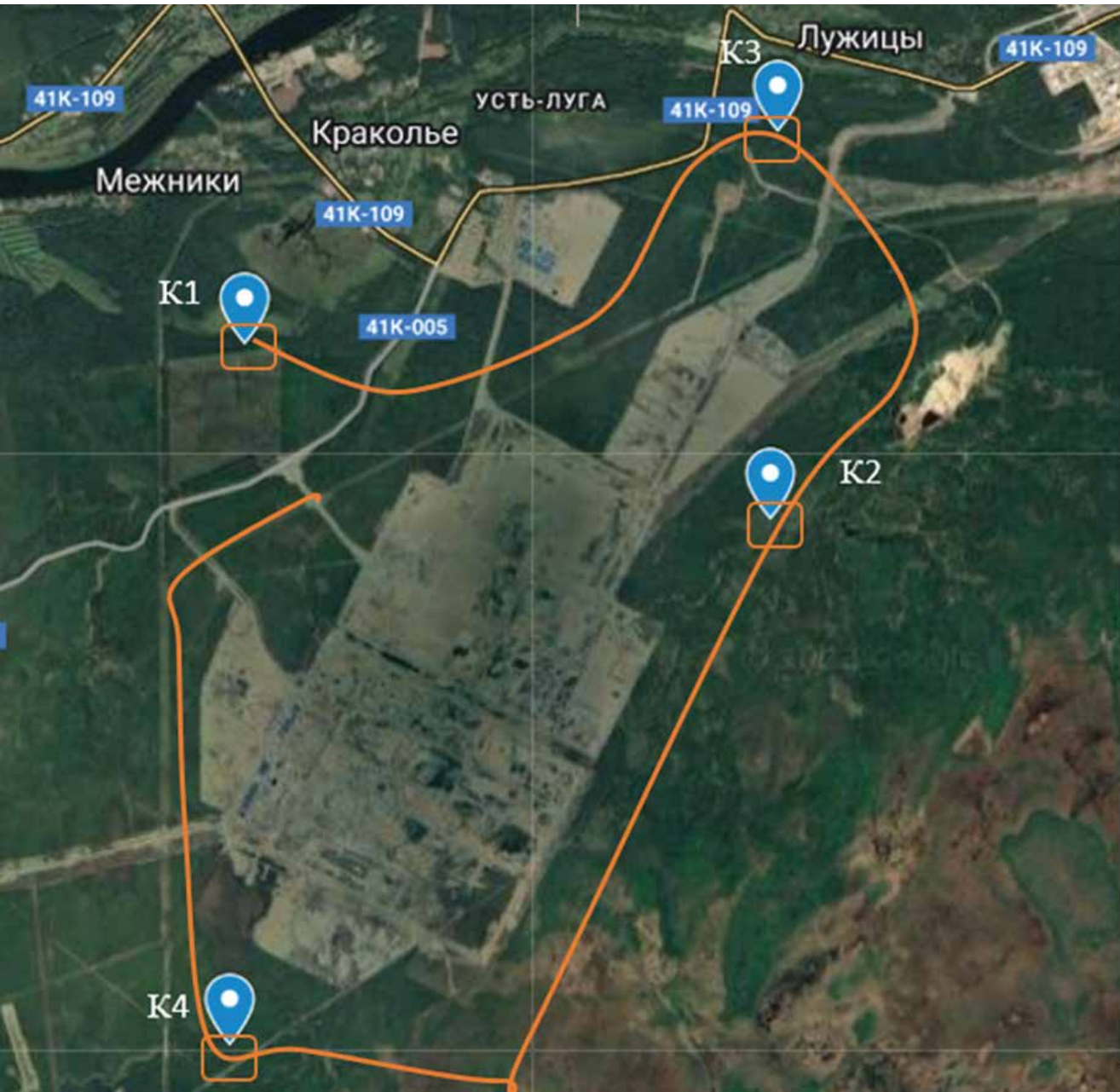


Figure 48. Flora monitoring stations at the GPP construction site

7.9. Monitoring of flora and fauna

Fauna monitoring stations at the GPP construction site are shown in Figure 49.

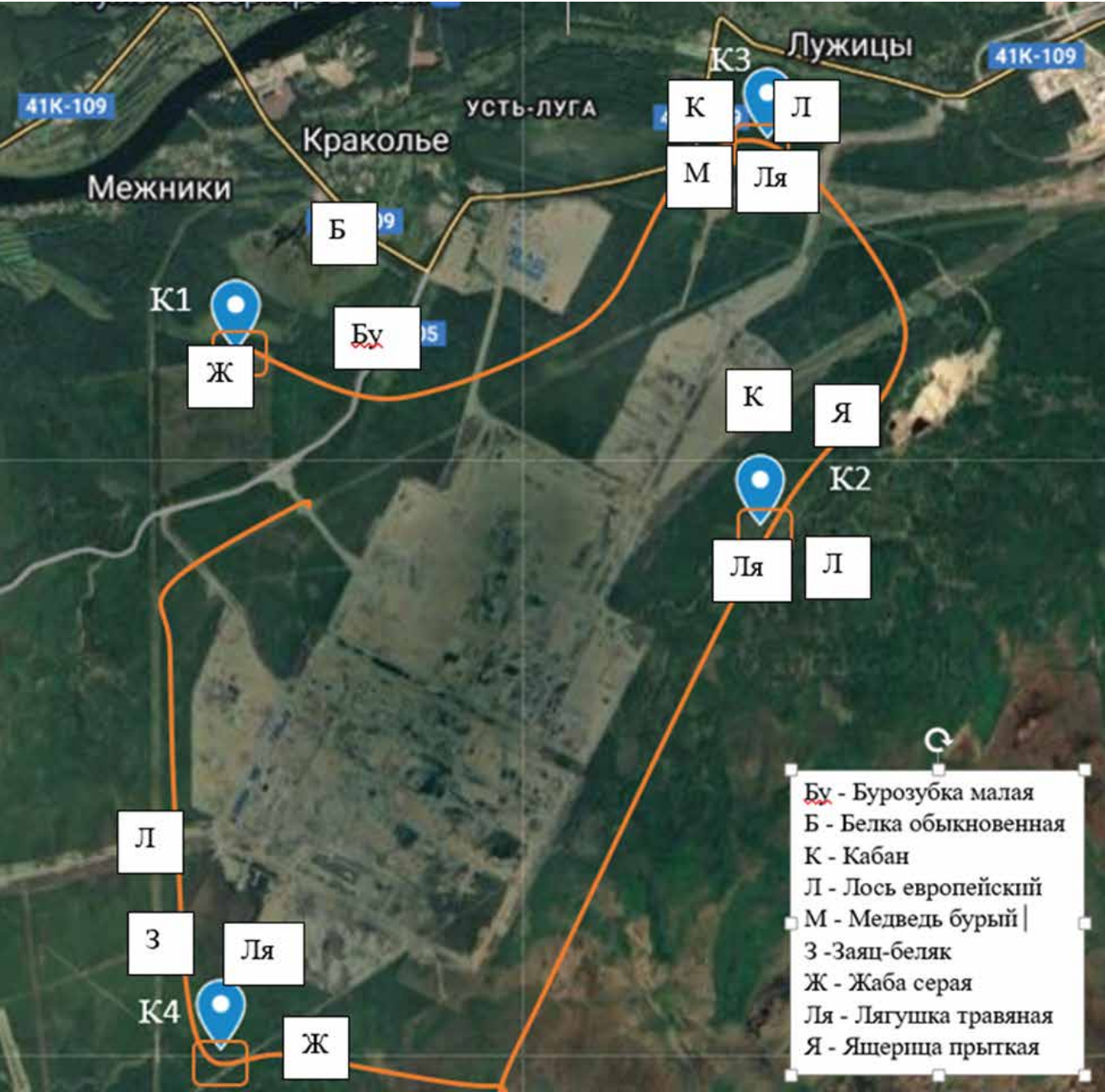


Figure 49. Fauna monitoring stations at the GPP construction site

7.9. Monitoring of flora and fauna

Monitoring of flora and fauna at the PSL area construction site

Plant world monitoring stations at the PSL construction site are shown in Figure 50.



Plant world monitoring stations at the PSL construction site are shown in Figure 50.

7.9. Monitoring of flora and fauna

Animal world monitoring stations at the PSL construction site are shown in Figure 51.



Figure 51. Animal world monitoring stations at the PSL construction site

7.9. Monitoring of flora and fauna

The monitoring results at the Linear Facilities construction site

Flora monitoring stations at the Linear Facilities construction site are shown in Figure 52.

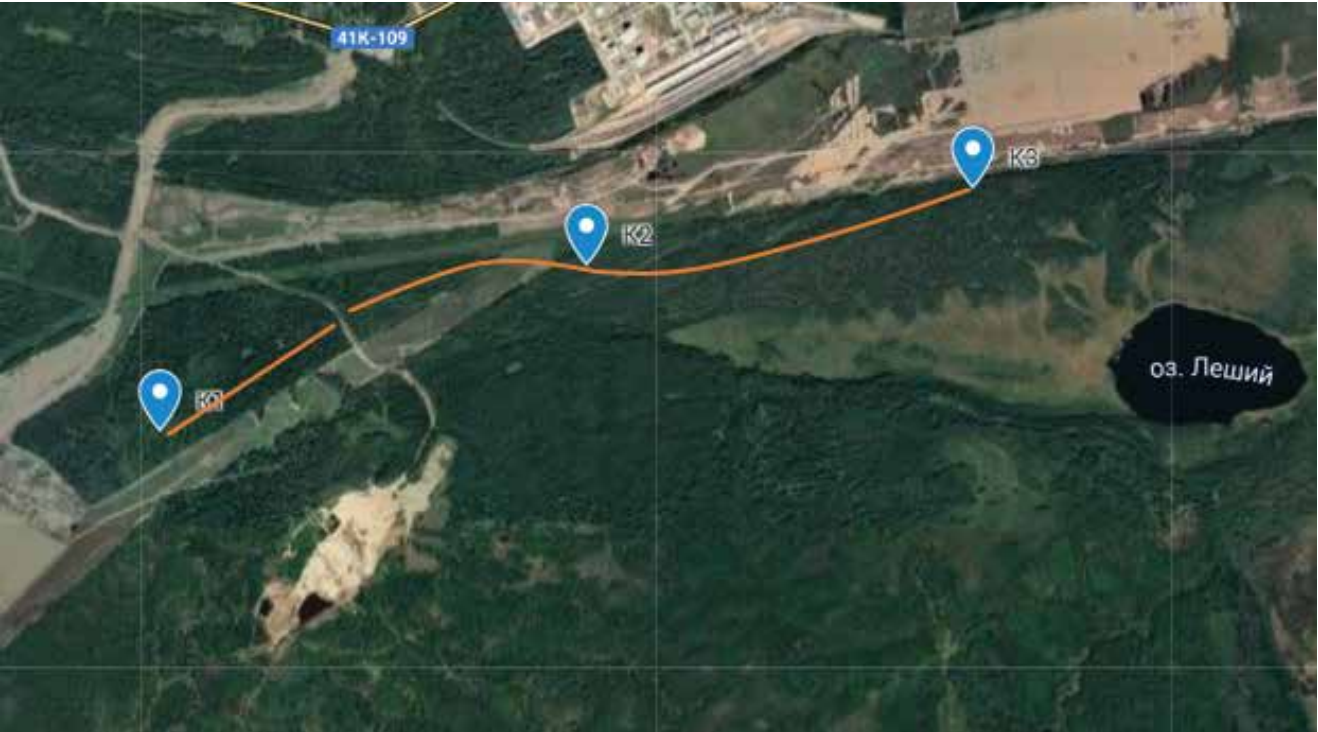


Figure 52. Flora monitoring stations at the Linear Facilities construction site

7.9. Monitoring of flora and fauna

Fauna monitoring stations at the Linear Facilities construction site are shown in Figure 53.



Figure 53. Fauna monitoring stations at the Linear Facilities construction site

Flora and Fauna Monitoring Results

Impact on flora and fauna at the facility under monitoring during the construction period is associated with anthropogenic load on the natural zoocenosis and phytocenosis (air pollution and

input of the pollutants contained in fuel products, area littering, terrain and topsoil disturbance, noise pollution, etc.).

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7.10. Photos of the Research Monitoring

The industrial environmental monitoring process is shown in Photos 7.10.1.–7.10.5.



Photo 7.10.1. Air sampling and noise levels measuring

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7.10. Photos of the Research Monitoring



Photo 7.10.2. Surface water sampling



Photo 7.10.3. Route observations at the water protection zone

7.10. Photos of the Research Monitoring



Photo 7.10.4. Topsoil route monitoring



Photo 7.10.5. The industrial environmental monitoring at the construction sites



8. Negative impact prevention

8.1. Environmental accident prevention and response

In order to prevent from environmental accidents at GPC, exercise the skills to eliminate the environmental accidents, environmental trainings and the drills are conducted with the personnel.

Trainings are conducted to exercise the employees interaction mechanisms during the emergency situations, methods of response and elimination of consequences, handling of wastes generated during the elimination of accident consequences.

Training sessions involving contractors various business units are held on a quarterly basis with attendance by RusChemAlliance representative.

12 training sessions have been arranged with contractors employees starting from the beginning of 2023.

4 drills have been conducted, named as follows:

- actions for containment and elimination of the emergency, occurred due to spring high water period (67 persons and 20 units of special equipment involved);
 - actions for containment and elimination of emergencies, occurred due to oil spills (20 persons and 12 units of special equipment involved);
 - actions for containment and elimination of conditional oil spill in the sanitary protection zone of water intake well 1 for household and potable water (36 persons and 8 units of special equipment involved);
 - actions for containment and elimination of emergencies, occurred due to oil spills (39 persons and 10 units of special equipment involved).
- Activities are shown on Photos 8.1.1–8.1.4.



Photo 8.1.1



Photo 8.1.2



Photo 8.1.3



Photo 8.1.4

8. Negative impact prevention

8.2. Environmental special vigilance months

Environmental special vigilance months take place, in order to continuously improve EMS, enhance EMS control, upgrade environmental results of the contractors involved in GPC construction.

Activities are aimed at:

- improving knowledge and competence of the contractors employees in environmental issues;
- increasing the level of contractors employees motivation to comply with EP requirements while doing duties and responsibilities under the GPC Construction;
- increasing the level of contractors employees culture to fulfil the EP requirements while doing duties and responsibilities under the GPC Construction;
- forming a conscious and responsible attitude of contractors employees towards EP;
- improving contractors managers leadership for all levels in EP;

- involvement of the stakeholders in achieving the planned results in EP.
- The subject of the month and practical exercises aimed at developing useful skills are trained during the vigilance month campaign.
- Vigilance month involving different contractors are carried out quarterly.
- Starting from the beginning of 2023 4th vigilance month arranged with the contractors employees for the topics below:
- Production and consumption I- V hazard class wastes handling;
 - IEC and IEM at the construction facilities;
 - Atmospheric air protection;
 - changes of environmental law in 2023.
- Photo recording of the event is given on photos 8.2.1–8.2.4



Photo 8.2.1



Photo 8.2.2



Photo 8.2.3



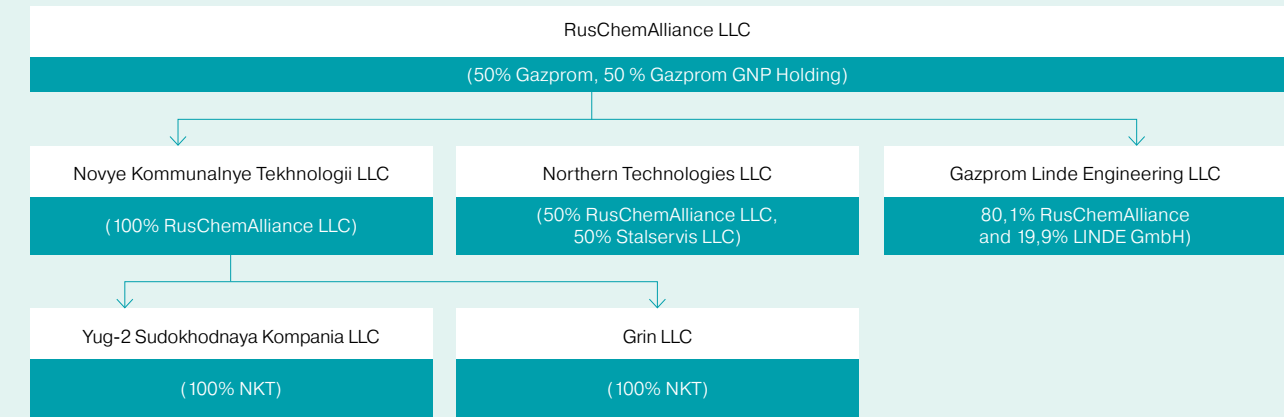
Photo 8.2.4



9. Inspection of subsidiaries and affiliates

RusChemAlliance S&A Structure is shown on Figure 54.

Figure 54. RusChemAlliance S&A Structure



S&A are inspected with the check-lists to confirm S&A business activities compliance with the law and other applicable rules and regulations related to environmental protection.

6 inspections in S&As took place in 2023 according to 2023 schedule for joint inspections of the state of environmental safety,

industrial safety, fire safety, health safety in RusChemAlliance subsidiaries and affiliates.

35 violations of environmental law identified based on inspection results , 23 closed-out, 12 pending.

10. Inspections of supervisory authorities

30 inspections conducted by the supervisory authorities for GPC facilities, have been attended, including:

Rosprirodnadzor North-Western Interregional
Administration – 20 inspections;

Rostekhnadzor North-Western Administration –
10 inspections;

No violations of the environmental law in RusChemAlliance activities identified based on the inspection results.

11. Project financing

Environmental Protection Department is the business unit involved in project financing raising.

Environ Consult CIS LLC has been involved as the environmental and social consultant by RusChemAlliance to assess the Project impact on environmental and social spheres.

In 2023, it developed the ESIA documentation package considering GPC project new configuration, including the following reports: Environmental and Social Impact Assessment, Non-Technical Summary, Gap Analysis, Information Memorandum, Environmental and Social Standards, Respect

for Human Rights Assessment, Stakeholder Engagement Plan and Camp Management Plan and Policy.

ENSOR LLC is an environmental and social advisor on behalf of the Lenders.

ENSOR representatives conducted an assessment trip to construction sites in order to conduct a comprehensive audit of the Project compliance with lender's requirements during the reporting period.

Draft Environmental and Social Due Diligence Report has been prepared based on the audit trip.

12. Biodiversity conservation

In accordance with the conditions of the Fishery Conclusions, it is required to ensure releasing fish fries into water bodies of the North-Western fishery water area.

Activities for releasing fish fries planned during the GPC implementation. Stage 1. Access Roads completed in Q4 2023 under contract between RusChemAlliance LLC and Federal

Breeding and Genetic Selection Center for Fishery "Glavrybvod"

According to the terms and conditions of the contract 1358 tiny arctic trouts released. Contract price amounted to 968 thousand rubles (excluding VAT).

Event is shown on photos 12.1.1–12.1.2.



Photo 12.1.1



Photo 12.1.2



13. Voluntary environmental liability

In 2023, RusChemAlliance implemented Event Program for environmental and social important activities "74 Environmental Events for 47th Region" (hereinafter – Event Plan), which became a successful continuation of interaction with local residents in the region of CPC project implementation in the Leningrad Region, which began a year earlier.

Event Plan included the events, recommended by the Company environmental and social consultant Environ Consult CIS LLC considering the international best practices, including policies and standards for environmental and social stability of International finance corporations.

Target group of the Plan in 2023 is:

- Preschoolers of Municipal Budgetary Pre-school Educational Institution "Detskie Sady", Ust-Luga and Vistino;
- Students of Krakolye Secondary General School and Vistino Secondary General School;
- Children, living in the Leningrad Region aged from 6 to 17, being on wellness holiday in health camp Rosson after Yury Shadrin;

- Children of Donbass, being on wellness holiday in the Leningrad Region;
 - Students of Petersburg Mining University of Empress Catherine II and St. Petersburg State Forestry University after Sergey Kirov;
 - Locals of Kingisepp District, Leningrad Region and tourists visiting above;
 - Indigenous Minorities living in Luzhitsy and visitors of Votic culture center of Ust-Luga cultural and recreation center.
 - Visitors of Votic culture center;
 - Company employees and family members;
 - Contractors personnel involved in GPC implementation.
- In 2023, 74 environmental activities carried out, including 8820 seedling trees and shrubs planted, about 1.2 tons of waste paper collected and transferred for recycling, over 70 kg of plastic caps collected and transferred for recycling.
- Over 4000 people took part in the events/activities.



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13. Voluntary environmental liability

On 16.02.2023 the Company joined to ecological & charitable project "Caps of Kindness" to collect plastic waste on the territory of St. Petersburg and Leningrad Region.

Plastic caps waste containers were places in St. Petersburg office and Ust-Luga office premises in order to actively involve the company employees in waste segregation in the office and at home, following green office principles.

In 2023 the company workers jointly with the GPC contractors collected over 70 kg of plastic waste and transferred for recycling to the ecological & charitable project "Caps of Kindness".

All the proceeds from giving recyclable materials for recycling are applied towards helping children with disabilities: contributed to the purchase of a specialized stroller for a 6-years-old Matvey Zakharov, and a technical rehabilitation tool (walking frame) for a 9-years-old Ilya Butorin, being wards of the Charitable Children Fund of Russia.

Librarian green corner was opened on 30.03.2023 in infant school of Vistino in Kingisepp District of the Leningrad region.

Event was arranged on the eve of the celebration of the Birds International Day, which is traditionally celebrated on April 1st. Young villagers were shared the information about the bird kinds populated in the native areas, rare and endangered birds protected according to Red Book. The children prepared poems, took part in a quiz and team games.

A bookshelf stylized as city houses was installed, and 60 colorful publications about nature, animals, plants and ecology were presented to children during the event. Each participant of the event was given a present, which is "Coloring book with ecology-related logical and entertaining tasks" and a sweet prize.

On 12.04.2023 a celebration event dedicated to World Aviation and Cosmonautics Day took place in infant school of Ust-Luga in Kingisepp District of the Leningrad region.

Infant school students took part in a space performance prepared by the teaching staff of the educational institution. Children were given out 20 new colorful books about the planet

Earth and its inhabitants, including a collection of geographical tales about Ladoga and a book with useful tips on how a small person can help a big planet.



The Company supported environmental events in St. Petersburg and the Leningrad Region on 22.04.2023.

The employees once again participated in the All-Russian Cleanup Day "Green Spring", organized by the V.I. Vernadsky Nongovernmental Ecological Foundation together with Gazprom PJSC on the territory of the public space "Flagpole" near the Gazprom Arena stadium. The participants of the cleanup contributed to the improvement of the territory of the Flagpole space, and also planted about 300 trees and shrubs.

40 employees of RusChemAlliance LLC, including 11 children, collected garbage and dry leaves on the territory of the Primorsky Victory Park. Eco-master classes on painting kites, creating propellers and rubber-powered airplanes were traditionally organized for the youngest participants of the cleanup. In addition, everyone had the opportunity to join the game "Ecologic", prepared by the Committee on Environmental

Management, Environmental Protection and Environmental Safety of St. Petersburg.

In addition, a series of eco-cleanups were carried out on the territory of the Kingisepp district, Leningrad region by forces of the GPC ERGPC contractors. Approximately 100 cubic meters of garbage were collected and transported to the landfill, as well as landscaping activities were carried out for:

- Lenryba district in Ust-Luga village;
- water protection zone of the Luga river;
- burial places of fallen Red Army soldiers in Ust-Luga village;
- coastline of the Gulf of Finland in Logi village, Vistinskiy rural settlement;
- village cemetery in Luzhitsy village.

The Company took part in the event "Garden of Memory" in Saint Petersburg on 28.04.2023.

The annual public environmental event "Garden of Memory", dedicated to the World Forest Planting Day, took place in the park of the St. Petersburg State Forest University named after S.M. Kirov in the Vyborg district of St. Petersburg on 28.04.2023. RusChemAlliance employees, representatives of the Peter the Great Botanical Garden and the Northwestern Federal District Department of Forestry participated in the event.

Specialists of the Project Technical Support unit took part in the event together with students of the Forest Technical University, they planted ten coniferous trees of the pseudotsuga variety. This plant is an evergreen conifer, long-lived, capable of growing in natural conditions for up to 700 years.



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The Company organized an ornithological excursion on the territory of the Kokkorevsky State Nature Reserve on 20.05.2023.

An ornithological tour was organized on the coast of Lake Ladoga for RusChemAlliance employees and their family members, which was attended by 55 people, including 15 children aged 5 to 16 years.

An ornithological tour of the Kokkorevsky Nature Reserve territories in the Vsevolozhsky municipal district of the Leningrad Region was conducted for the participants by Pavel Glazkov, Candidate of Biological Sciences, professional ornithologist, author and presenter of the animal channel "Two of each kind".

Alexander Markovsky was another invited expert. He is the Chairman of the Board of the Karelian regional public

organization "Northern Environmental Coalition", Candidate of Biological Sciences. He spoke about the features of artificial nesting sites in specially protected natural areas of the Leningrad region and clearly demonstrated how to install birdhouses and nestboxes.

The event ended with a creative master class on creating a souvenir - a wooden badge in the shape of an eagle and a titmouse, which were painted by the ornithological tour participants as they like. Each handmade item turned out to be individual, unlike others, and will remain in memory of the environmental event.

The Company organized environmental trips to the Russian Quarantine and Rehabilitation Centre for wildlife animals "Veles" from 04.06.2023 to 18.06.2023.

The Environmental Protection Department organized three trips of volunteers to the Russian Quarantine and Rehabilitation Centre for wildlife animals "Veles". The event was attended by the Company's 30 employees and their family members, as well as representatives of the All-Russian Society for Nature Protection.

The volunteers collected about 600 kg of woody forage for the ungulates of the Veles center, which makes up a 2-week

diet of eight adult moose. In addition, the participants of the environmental trip handed over to the center 110 kg of fresh vegetables and fruits, as well as 5 units of gardening equipment, 500 pairs of gloves, 200 kg of wood pellets and in-demand medicines: 14 ampoules of sedatives and analgesics for clinical examinations of animals and 10 general anesthesia vials for cats and dogs.



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The Company organized a "Green Shift" at the Rosson children's camp from 29.06.2023 to 10.07.2023.

The environmental project "Green Shift" was implemented in the Rosson Children's Sports and Recreation Camp named after Yu.A. Shadrin located in the Kuzemkinskoye rural settlement of the Leningrad Region with the support of the Leningrad Region Committee on Natural Resources and the Directorate of Specially Protected Natural Areas of the Leningrad Region.

The project was included in the regional program of the Year of the Knowledge Team, announced by Governor Alexander Drozdenko in the Leningrad Region in 2023.

"Green Shift" is a developed program of events for children from 6 to 17 years old, which allowed participants to get acquainted with the current agenda of environmental protection, gain practical skills and useful habits of caring for nature, as well as learn a lot about the animal and plant world of the region from professional ecologists and experts whose lives are devoted to studying wildlife of the native land.

More than 400 children took part in each of the project's events, 160 of whom are enrolled in the ranks of the "ecoschoolers" – the future environmental leaders of their family, home, school, city and country. Additional activities with experts were organized for such children.

Volunteers from the Leningrad branch of the All-Russian Society for Nature Protection presented a theatrical performance during opening of the "Green Shift". It was about the hazards of environmental pollution and the urgent agenda of protecting natural resources from anthropogenic impact.

The young "ecoschoolers" went through the dedication ceremony and got familiarized with the code and conduct rules of environmental leaders: to protect and take care of our smaller

brothers, protect green spaces, water bodies from pollution, plant new trees and take care of them, save tap water, clean up garbage always and everywhere, sort household waste and recycle, apply all your knowledge and efforts to take care of nature, animals and plants, as well as to bring knowledge about nature loving to people around you.

The festive opening ended with the launch of large kites into the sky, which became a reusable alternative to disposable balloons and did not damage nature.

Well-known environmental experts conducted interactive classes for children. The following experts took part in the "Green Shift":

Vladimir Fyodorov is a professor, ornithologist with 40 years of experience, author of more than 100 scientific papers and popular scientific publications;

Irina Varganova is a researcher at the Botanical Institute named after V.L. Komarov, Russian Academy of Sciences, botanist. She has been conducting Plant Watching botanical excursions in St. Petersburg since 2020;

Pavel Glazkov is a biologist, author and presenter of the animal channel "Two of every kind";

Anna Doronina is a Candidate of Sciences in Biology (Ph.D. equivalent), a specialist in flora and fauna of the Leningrad Region, an expert of the All-Russian Society for Nature Protection.

Anna Doronina conducted a field excursion especially for children from the "Traveler Training Center" based in a tent camp on the Rosson territory on the opening day of the "Green Shift" dedicated to wild plants found in the vicinity of the camp.



RusChemAlliance LLC organized master classes, natural materials-made photo zone and installed a natural art object on **03.07.2023** in the Rosson Children's Sports and Recreation Camp named after Yu.A. Shadrin.

One of the most interesting master classes turned out to be the one on creating florariums. This new trend in floristry did not allow the children stay indifferent. The participants created mini greenhouses from stabilized moss, succulents and decorative stones with colorful sand, which they can take home, under

the guidance of the dean and students of St. Petersburg State Forestry University named after S.M. Kirov.

The second master class was about making magnets made of wood with an imprint of a favorite plant or flower.

Natural art objects and comfortable sunbeds for relaxing in the tent camp "Traveler Training Center" and a natural materials-made photo zone - a work of art created by the hands of children – also appeared on the territory of the camp.

A large-scale ecological festival "Water Day" was held on **05.07.2023** within the Green Shift project, the guest of honor of which was Anton Tereshonok, head of the Northwestern Department of the Directorate of the Specially Protected Natural Areas of the Leningrad Region.

An ecological quest with eight game stations on land and water was organized for children. Teams of 12 people started every 10 minutes and were tested in a rope park, participated in intellectual competitions, conducted experiments and solved puzzles together with experts from the Environmental Volunteer Association "Earthlings". The tasks were about water, its properties, the Luga River and the Baltic Sea. The most spectacular tests turned out to be water battles on kayaks and relay races on an air trampoline.

10.07.2023 was the last day of the Green Shift and started with the intellectual game "Quiz! Please!" which tests with author-developed questions related to ecology.

The Green Shift project has become a real opportunity for children to develop, gain new knowledge and become

After the end of the competition, a large gala concert was held at the Rosson Children's Sports and Recreation Camp with the participation of creative teams of the Leningrad region and the winning teams were awarded with souvenirs with the logo of RusChemAlliance LLC: shoppers, reusable cups, and much more that will help children replace disposable items in everyday life.

The event program on this day was concluded with a creative competition of unit performances dedicated to the Day of Water, the characters of which were the Baltic ringed seal, listed in the Red Book of the Leningrad Region, and other inhabitants of the water expanses of Russia.

active environmentalists. The children have become not only "ecoschoolers", but also, perhaps, future environmental leaders who can contribute to the preservation of the environment.



The Company took part in the All-Russian campaign "Water of Russia" on 22.07.2023.

The Company's employees and their family members took part in the All-Russian campaign "Water of Russia" within the big BALTIC RALLY festival in Vyborg. The place of cleaning was the shore of the Vyborg Bay of the Baltic Sea. Over

170 bags of garbage were collected by combined efforts. RusChemAlliance employees were awarded a diploma for their active participation in the campaign.

During the period of 01.08–12.08.2023 RusChemAlliance employees together with Luzhitsy villagers held a series of events "Friendship Week" at the Votian Culture Museum.

A series of events "Friendship Week" was organized for indigenous minorities on the territory of the Votian Culture Museum in Luzhitsy village, Leningrad region, with the participation of employees of RusChemAlliance LLC and contractors involved in the implementation of the GPC ERGPC.

Agrotechnical measures were carried out on the territory adjacent to the museum to maintain the "Friendship Garden"

planted in 2022, gabion grilles for a fire pit were made and installed during the week. In addition, a batch of craft packaging for the traditional Votian drink – fireweed tea (200 pcs.) was made, disposable shoe covers were replaced with a reusable alternative – felt slippers with the museum's logo (30 pairs), and a submersible pump for watering was handed over to use.

On 10.08.2023, a joint cleanup took place on the eve of the celebration of the Votian Culture Day during the "Friendship Week".

About 30 people took part in the event – employees of RusChemAlliance LLC, Limak Construction LLC, Velesstroy LLC and local residents. The volunteers touched up the painting of previously installed hardscape elements on the territory of

the museum, made and installed 4 wooden boxes for planting medicinal herbs and an element of the well head, which was painted with traditional ornaments from epics and fairy tales of the Votian land.



The ECO FAMILY DAY company outing took place on 19.08.2023.

The Environmental Protection Department has been the initiator of environmental activities for RusChemAlliance employees and their family members on the territory of Okhta Park for the second consecutive year.

In 2023, the program is based on the Zero Waste concept aimed at minimizing the amount of waste by reducing consumption and using reusable items.

To comply with the concept principles when organizing the event:

- printed disposable banners were replaced with the screens;
- it was decided to use glassware instead of plastic and paper analogues;
- containers for separate waste collection were installed;

- reusable water bottles for each participant were prepared and water coolers were installed;
- souvenir products for the winning teams that will help their owners to introduce eco-friendly habits were offered;
- master classes for children on upcycling were planned;
- and much more.

The Eco Family Day was attended by the Company's 300 employees and their family members. A team quest in the open air with active and intellectual tasks on topical issues of ecology and environment was held for the participants.

During the day, there was an open-air museum of recycled materials, an environmental lecture hall with the best speakers in the field of environmental education, as well as a family game library with board games.



On 28.08.2023, support was provided to children of Donbass staying in the Leningrad region.

An excursion along the ecological trail of the Kurgalskiy State Nature Reserve was conducted for children of Donbass who are on vacation at the Rosson children's camp located in the

Kuzemkinskoe rural settlement of the Leningrad region together with inspectors of the Directorate of Specially Protected Natural Areas of the Leningrad Region.

The Company took part in the All-Russian campaign "Save the forest" on 23.09.2023.

The Environmental Protection Department, together with representatives of contractors involved in the Project construction, took part in the All-Russian campaign "Save the Forest". The event to support reforestation of the region, initiated by the Kingisepp Forestry, was held on the territory near Kallivere village.

Representatives of RusChemAlliance LLC, Renaissance Heavy Industries LLC, Rokada LLC and Velesstroy LLC took

part in the all-Russian campaign "Save the Forest". A total of 8,800 pine seedlings were planted within the campaign. Each planted coniferous tree will absorb up to 4 kg of carbon per year in 10 years.

The planting of trees within the All-Russian campaign "Save the forest" is part of the national project "Ecology". The goal for 2023 is to plant 70,000,000 trees in Russia.



The Company opened the first interactive ecological trail for children in the Leningrad region on 20.09.2023.

The opening ceremony of the first interactive ecological trail in the Leningrad region took place in October on the territory of a kindergarten in Ust-Luga village, Kingisepp district. The unique project was implemented with the involvement of the GPC ERGPC contractors – Gazstroyprom JSC and Velesstroy LLC.

An interactive ecological trail is a space on the territory of a kindergarten where children aged 1.5 to 7 years can study the environment, get familiar with plants, insects, birds and animals of the Leningrad region.

A team of experts from the Leningrad Regional Branch of the All-Russian Society for Nature Protection has been working on the information content of the interactive ecological trail for six months. It was important not only to spark the interest of children, but also to engage them in the fascinating process of learning about the world around them and the natural features of their home region.

"The main task of the construction of an ecological trail for children was to create a harmonious space for the development of creative potential and environmental education," said Denis Zubairov, Head of the Environmental Protection Department. – We have installed many interactive educational boards with pictures, created a sensory stand with different materials: cones, chestnuts and acorns. Lawns and flower beds, a tactile path and a natural materials-made photo zone, bird feeders and birdhouses, as well as art objects in the form of a family of hares made in the topiary technique also appeared on the territory."

The central place was taken by the summer amphitheater, where it is planned to hold environmental lessons for children and stage creative performances and performances which characters are nature inhabitants.

The opening ceremony was attended by Natalia Mirkasimova, Head of the Ust-Luga Rural Settlement Municipality, and Pavel Kazaryan, Head of the administration of the Ust-Luga Rural Settlement Municipality. The guests of honor were Elena Rummyantseva, Chairman of the Committee on Education of the Kingisepp Municipal District, Fyodor Stulov, Acting Chairman of the Committee on Natural Resources of the Leningrad Region, and Alexander Siluyanov, Director of the Leningrad Regional State Public Institution "Directorate of Specially Protected Natural Areas of the Leningrad Region".

As part of the festive program, kindergarten students welcomed the guests with concert performances, conducted a tour of the trail and showed a performance of the finger puppet theater. Each participant of the event, big and small, was able to leave their wishes to the kindergarten and make their dearest wishes, which were placed in a "wish capsule". They will definitely come true, because the new space has already received its name – the Valley of Magic and Nature "Elfiya"!

The project of interactive paths for children has a huge potential for implementation in the Leningrad region. Its main goal is to instill in children from an early age an interest and love for nature, to cultivate a careful attitude towards it, because humans are a part of nature and live thanks to it.



54 cubic meters of garbage were removed by the Company in Luzhitsy village from 20.10.2023 to 31.10.2023.

RusChemAlliance LLC held a series of cleanup days for the improvement of the village located in the immediate vicinity of the GPC ERGPC construction sites. Big cleanups took place in the Votian Culture Center, in the adjacent territories and in the village cemetery. In addition, a household waste landfill located in a nearby forest area was eliminated.

Fallen leaves and roadside debris were collected in the village, 54 cubic meters of waste were taken to the landfill during

the clean-up. Up to 15 people took part in each of the events, and 3 units of special equipment were involved in the works. The cleanup was initiated by the Environmental Protection Department of the Company, which was able to attract contractors involved in the construction of

Residents of Luzhitsy village took an active part in the community cleanups.

The Company held an ecological relay race (EcoGTO) for children of Ust-Luga on 31.10.2023.

An ecological relay race "EcoGTO" was held for 6-8 graders of the Krakolye secondary school in the village of Ust-Luga. The event was held at the Kingisepp sports complex.

A real celebration of sports and environmental education was organized for 45 schoolchildren with the support of the Leningrad branch of the All-Russian Society for Nature Protection. Each participant of the EcoGTO relay race had to go through fourteen topic-based stations, seven of which were intended for passing the All-Russian Physical Culture and Sports standards "Ready for Labor and Defense" (GTO), and the other seven were intended to test knowledge of various areas of biology and ecology with an emphasis on the natural diversity of the Leningrad region.

Experts of the environmental club "Earthlings" created at the St. Petersburg State Budgetary Institution "Youth House "Tsarskoselskiy" of the Pushkin district of St. Petersburg, representatives of the Interregional movement "Friends of

Protected Islands" and volunteers-environmental engineers of the Regional Public Organization "Youth of St. Petersburg" were involved in activities at the environmental stations.

The winners of the EcoGTO relay race were 14 schoolchildren who showed the best results when passing each of the 14 stations. In addition, the 6th graders team was awarded a cup in the nomination "The most eco-friendly team", the 7th graders team was awarded in the nomination "The most cohesive team", and the eighth graders turned out to be "The most athletic" at this holiday. All participants of the EcoGTO relay race were awarded diplomas and memorable gifts that will help them introduce new eco-friendly habits.

The topic of eco-friendly habits was running through the event, during which a separate collection of plastic and caps was arranged for the ecological & charitable project "Caps of Kindness". All waste has been handed over to the purchasers of recyclables.



On 03.11.2023 the results of the Environmental Poster Contest were summarized.

From October 20 to November 03, 2023, a competition was held to create an album of environmental posters on the following topics:

- "Let's learn how to use paper responsibly!",
- "Batteries, give up!",
- "Energy Saving Tips",
- "Give up single-use plastics!",
- "Eco-friendly habits".

The contest is timed to celebrate the dates of the environmental calendar – the World Paper Free Day (October 26) and the International Energy Saving Day (November 11).

Students and graduates of the Empress Catherine II Saint Petersburg Mining University and St. Petersburg State Forestry

University named after S.M. Kirov, as well as the Company's employees and members of their families were invited to participate.

Through open corporate voting, RusChemAlliance LLC determined the winners, who were awarded prizes useful for maintaining an ecological lifestyle.

14 posters were submitted to the Contest, five of them were created by the children of the Company's employees.

The objective of the Environmental Poster Contest was, first of all, to draw attention to issues of environmental protection, respect for natural resources and reasonable consumption.



On 09.11.2023 a lecture was held for students of the Empress Catherine II Saint Petersburg Mining University.

In order to keep young people aware of the real environmental agenda, a lecture on environmental volunteering was held for students of the Mining University. The participants of the meeting learned about the work of the oldest environmental public organization "All-Russian Society for Nature Protection", about the environmental projects of RusChemAlliance LLC,

which are being implemented in the Leningrad region. Special attention was paid to the importance of the Trope47 project, within which 47 equipped trails with a total length of 310 km will be created in specially protected natural areas of the Leningrad Region by the beginning of 2024.

An environmental lesson was held for children from the Kingisepp Resource Center on 15.11.2023.

On the day of the celebration of the World Recycling Day, the Environmental Protection Department of RusChemAlliance LLC held an environmental lesson "Secrets of recycling" for 30 children aged 6 to 16 years. The event was held at the state institution for orphans and children without parental care "Kingisepp Resource Center for the Promotion of Family-Based Care.

During the environmental lesson school students learned a lot about what familiar things are made of, what natural resources are behind the production of certain materials, concluded that it is necessary to take care of the environment and recycle everything that can get a second life. The participants could familiarize themselves with samples of new materials made of

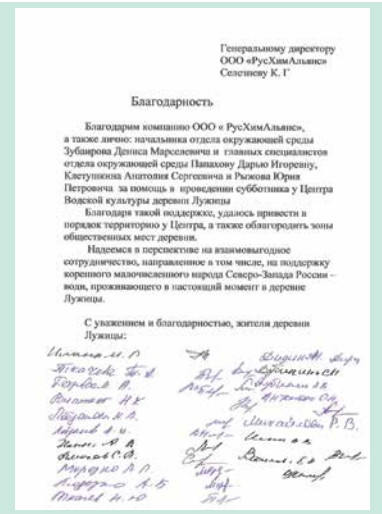
plastic, textiles, tires, and tetrapack produced at processing plants in St. Petersburg and the Leningrad region.

The plot-role-playing game "Factory" gave the resource center students the opportunity to master practical skills in resource conservation and waste reduction - each participant tried himself/herself as a director, an environmental protection specialist or with the help of acting could transform into specialized equipment: a pressing machine, a shredder for plastic, a flotation machine and a waste incineration plant.

The school students played board games on sorting garbage and received recommendations from volunteers (organizers of separate collection actions) at the environmental lesson.



Rewards

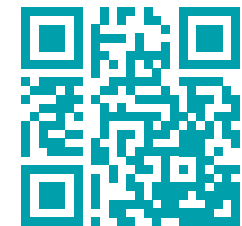




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Interactive augmented reality project "Observe the ecosystem of the reserve"



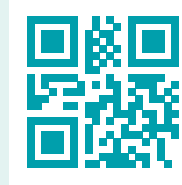
RusChemAlliance LLC draws your attention to the interactive augmented reality project "Observe the ecosystem of the reserve". Study the natural features of the flora and fauna of specially protected natural areas near the Gas Processing Complex within Ust-Luga Ethane-rich Gas Processing Cluster - Kotelsky and Kurgalsky reserves, observe rare species of plants and animals of the Leningrad region and participate in a quiz to test your knowledge about the ecosystem of the reserves.

Interaction with state authorities and non-profit organizations

In 2023, public organizations and state agencies became partners of RusChemAlliance LLC within the implementation of the program "74 environmental activities for the 47th region":



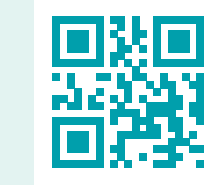
V.I. Vernadsky Nongovernmental Ecological Foundation;



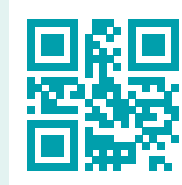
Leningrad regional branch of the All-Russian public organization "All-Russian Society for Nature Protection"



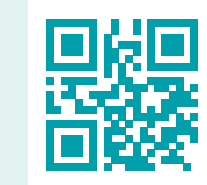
Leningrad regional state public institution "Directorate of Specially Protected Natural Areas of the Leningrad region"



Environmental movement "Separate collection"



Interregional public organization "Garbage.No.More"



Ecological & charitable project "Caps of Kindness"

Danil Khusainov (Art Photographer) is Photograph Author for RusChemAlliance Environmental Report Pages. Photos are made at nature conservation areas, which are Kotelskiy and Kurgalskiy State Nature Reservations located close to GPC.

Main terms and acronyms. Glossary

Name	Definition
RGD	RusGasDobycha Joint-Stock Company
ABR	Aquatic Biological Resources
TSF	Temporary Site Facilities
GPC, Project	Gas Processing Complex within Ust-Luga Ethane-Rich Gas Processing Cluster
GPP	Gas Processing Plant
POL	Petroleum, Oil and Lubricants
GGE	State Environmental Expert Review
RCA S&A	RusChemAlliance and Subsidiaries and Affiliates
NPR	Non-Public Railways
EES	Engineering Environmental Survey
STF	Sewage Treatment Facilities
Company Regulatory Document	CRD
LF	Linear Facilities
LTF	Local Treatment Facilities
MST	Marine Shipment Terminal
NEI	Negative Environmental Impact
AES	Allowable Emission Standard
BAT	Best Available Technique
AWC	Adverse Weather Conditions
RLA	Regulatory Legal Act
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
HGP	Hazardous Geological Processes
NPF	Non-Process Facilities
EP	Environmental protection
Env	Environment
Report	RusChemAlliance Environmental Report for 2023
AR	Access Road
Gazprom PJSC	Gazprom Public Joint Stock Company
PHF	Pentane-Hexane Fraction
PD	Project Documentation
PHA	Potentially Hazardous Areas
TS	Top Soil
PP.MS	Early Works. Main Site
IEC	Industrial Environmental Control
IEM	Industrial Environmental Monitoring
DD	Detailed Design
SPZ	Sanitary Protection Zone
LNG	Liquefied Natural Gas
LPG	Liquified Petroleum Gas
EMS	Environmental Management System
UI&O	Utilities, Infrastructure and Offsites
PSA	Product Storage Area

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State nature reserve "Kurgalskiy"

