ENVIRONMENTAL MANAGEMENT AND ENVIRONMENTAL PROTECTION POLICY

EXXON NEFTEGAS LIMITED
SAKHALIN-1 PROJECT OPERATOR

ExxonMobil Subsidiary

2016
Contents

1. INTRODUCTION .................................................................................................................. 3
2. OPERATIONS INTEGRITY MANAGEMENT SYSTEM ......................................................... 4
3. ENVIRONMENTAL MANAGEMENT ..................................................................................... 6
4. KEY ASPECTS OF ENVIRONMENTAL PERFORMANCE AND RESEARCH BY EXXONMOBIL ........................................................................................................... 7
5. ENL ENVIRONMENTAL PROTECTION POLICY ............................................................... 9
6. COMPREHENSIVE POTENTIAL ENVIRONMENTAL IMPACT ASSESSMENT .......... 11
7. POTENTIAL ENVIRONMENTAL IMPACT PREVENTION AND MITIGATION .............. 12
   7.1 Air Quality Protection ....................................................................................................... 12
   7.2 Protection of Surface Water ............................................................................................ 13
   7.3 Protection against physical factors .................................................................................. 13
   7.4 Protection of the Geological Environment .................................................................... 14
   7.5 Reducing Natural Landscape Fragmentation, Soil Protection, and Land Remediation, .............................................................. ......................................................... 14
   7.6 Protection of vegetation and forests ................................................................................ 15
   7.7 Protection of terrestrial wildlife ..................................................................................... 16
   7.8 Protection of aquatic biota and commercial biological resources ................................... 18
   7.9 Protection of marine mammals ..................................................................................... 18
   7.10 Preservation of protected natural areas and environmentally sensitive areas .......... 21
   7.11 Protection of archeological and cultural monuments .................................................... 21
   7.12 Socio - Economic Impact .............................................................................................. 22
8. RISK MANAGEMENT AND EMERGENCIES PREVENTION ........................................... 23
9. ENL FINANCIAL RISK POLICY. ENVIRONMENTAL INSURANCE ................................ 26
10. ENERGY EFFICIENCY IMPROVEMENTS ...................................................................... 27
11. CONTRACTOR WORK MANAGEMENT REQUIREMENTS ............................................ 29
12. INDUSTRIAL ENVIRONMENTAL CONTROL AND ENVIRONMENTAL MONITORING SYSTEM ................................................................................................................. 30
13. PUBLIC AWARENESS OF PROJECT PROGRESS .......................................................... 33
14. “GREEN” OFFICE INITIATIVES ....................................................................................... 35
1. INTRODUCTION

ExxonMobil is a world leader in the oil and gas and petrochemicals industries. Continually improving its financial and operating performance, ExxonMobil upholds the highest standards of business conduct.

ExxonMobil conducts its business while strictly following all applicable laws and regulations, respecting the local and national cultures, and placing top priority on industrial safety and environmental protection during its operations.

The company seeks to attain the highest level of competitiveness across all of its business streams while researching and embracing the latest achievements and developing its proprietary technologies.

The aim of this report is to provide information about the policy and key aspects of environmental performance of Exxon Neftegas Limited, an ExxonMobil subsidiary, as it develops oil and gas fields as part of the Sakhalin-1 Project, about the efforts to prevent and mitigate potential environmental impacts from this project, and about 2016 environmental performance indicators.

Information has been provided to the public throughout the entire project implementation period. The Sakhalin-1 Project website at www.sakhalin-1.ru publishes and regularly updates information about the project itself, job opportunities, contract awards, public engagement, safety, health, and environment.

Exxon Neftegas Limited (ENL) is a subsidiary of ExxonMobil, and ENL performance is reflected in ExxonMobil Corporate Citizenship Reports published in English at www.exxonmobil.com and in Russian, at www.exxonmobil.ru. The 2016 ExxonMobil Corporate Citizenship Report has received an assurance statement from Lloyd’s Register Quality Assurance, Inc. (LRQA) to the effect that ExxonMobil reports for 2016 conform to the requirements of the International Petroleum Industry Environmental Conservation Association (IPIECA), International Association of Oil and Gas Producers (IOGP) and the American Petroleum Institute (API). The LRQA Assurance Statement is posted on www.exxonmobil.ru.

In 2016, Environmental Resources Management Inc. (ERM) performed an audit and confirmed conformance of ExxonMobil’s 2016 Corporate Citizenship Report to the G4 Guidelines for Sustainability Reporting issued by Global Reporting Initiative (GRI) and to UN’s Sustainable Development Goals (SDG). The Compliance Table in Russian is posted on www.exxonmobil.ru.
2. OPERATIONS INTEGRITY MANAGEMENT SYSTEM

ExxonMobil remains steadfast in its commitment to excellence in safety, security, health and environmental (SSH&E) performance, referred to collectively as “operations integrity”.

Operations integrity extends to all aspects of ExxonMobil business. The best way to manage the integrity of the Company’s business is through a capable, committed workforce coupled with policies, practices and management systems designed to enable safe, secure and environmentally responsible operations.

The Operations Integrity Management System (OIMS) is the cornerstone of ExxonMobil’s commitment to managing risk factors and achieving operational excellence.

OIMS establishes a common framework for addressing SSH&E risks. At the global corporate level, the OIMS framework is built around 11 elements, as illustrated below, each covering a key aspect of risk across the breadth of ExxonMobil’s operations. Each element is comprised of a number of expectations, 65 in all. These elements provide greater detail about OIMS implementation mechanisms.

OIMS element 1 — management leadership, commitment and accountability — outlines the expectations of managers as they lead their units through the implementation of OIMS principles. OIMS element 11 — operations integrity assessment and improvement — describes the requirements associated with how each operating unit evaluates the extent to which it is meeting the expectations of OIMS. These two elements are often referred to as the “bookends” of OIMS, with element 1 being the “driver” and element 11 providing the feedback mechanism to ensure continuous improvement. Elements 2 through 10 address the operational, day-to-day aspects of OIMS, such as risk management, facilities design, construction and personnel management and training.

All operating organizations are required to conform to the expectations described in OIMS. In order for the 11 elements and 65 expectations to be consistent and relevant across ExxonMobil’s diverse operational portfolio, our Upstream, Downstream and Chemical businesses have established detailed OIMS guidelines. These guidelines describe how each business unit addresses the 65 corporate expectations relevant to that business unit’s operations. Additionally, management is responsible for ensuring that management systems satisfying the requirements of the OIMS framework are in place at each operating unit.

OIMS includes a systematic, disciplined approach to measure progress and track accountability across business lines, facilities and projects. To drive continuous improvement, the Company evaluates opportunities to improve the OIMS framework by periodically reviewing and upgrading it.
Since the inception of OIMS in the early 1990s, ExxonMobil has significantly reduced lost-time incident rates, demonstrated a remarkable decline in marine spills and contributed to continuing emission reductions.

_OIMS quantitative performance indicators are published in Corporate Citizenship Report and are available in Russian language on the web-site www.exxonmobil.ru._

ExxonMobil Corporation has been certified by Lloyd's Register Quality Assurance, Inc. (LRQA), confirming that the Operations Integrity Management System is compliant with the international standards ISO 14001 and OHSAS 18001. The conformity of ExxonMobil's 2016 Corporate Citizenship Report to the requirements of the International Petroleum Industry Environmental Conservation Association (IPIECA) and the American Petroleum Institute (API) was confirmed by LRQA in the Assurance Statement.

ExxonMobil has been cited by Lloyd's Register Quality Assurance (LRQA) for "being among the leaders in the extent to which environmental management considerations have been integrated into our ongoing business practices."

The Operations Integrity Management System of ExxonMobil, the practices and rules developed for purposes of meeting its expectations are mandatory for all business units of Exxon Mobil Corporation and fully implemented in the company Exxon Neftegas Limited. The detailed information on the OIMS is posted on www.exxonmobil.ru web-site.
3. ENVIRONMENTAL MANAGEMENT

Environmental management is part of the overall OIMS. The environmental management system has a clear organizational structure and aims at achieving the provisions specified in the environmental policy by implementing environmental protection programs and activities.

ExxonMobil’s projects and operations are set in a diverse range of climatic regions of the world that present a variety of environmental, social and health risks and opportunities. The Company employs structured management processes across an asset’s life cycle to ensure effective identification and understanding of the actual and potential impacts of activities on the environment and socioeconomic development of the region.

The Environmental Aspects Assessment (EAA) process allows the Company to systematically identify, assess, manage and monitor environmental and social risks throughout the life cycle of the assets.

Assessment of the environmental performance aspects of business operations is the principal OIMS mechanism for risk assessment and management as well as a key element of the process of planning the aspects of the Company’s environmental performance as prescribed by OIMS. Illustrated below are the interconnections of the key corporate policy components, expectations, systems, and guidance documents with the processes of assessment of the environmental performance aspects of business operations and planning of nature conservation activities.

The Company periodically reassesses the background condition of the environment depending on the complexity of operations and any sensitive elements of the environment that may be present. Reassessment of the background condition is performed by a cross-disciplinary team comprised of professionals with appropriate knowledge and expertise in engineering research, operations, public relations, and environmental protection.
Assessment of the environmental performance aspects of the Company's operations involves studying alternative working hours, facility and pipeline route locations, or technologies. For existing facilities and ongoing operations, the results of identification and assessment of the environmental performance aspects serve as the primary guide to choosing the priorities in planning of operations and finding opportunities for improving environmental performance.

The Company's environmental performance planning process is implemented with a view to establishing nature conservation indicators, monitoring compliance and tracking changes. Plans for nature conservation, socioeconomic, and public health activities are developed and implemented throughout the development and production phases to minimize environmental and social risks.

ExxonMobil integrates stakeholder feedback and results of scientific research into the processes to ensure we operate in a safe, environmentally-friendly, and socially responsible manner.

4. KEY ASPECTS OF ENVIRONMENTAL PERFORMANCE AND RESEARCH BY EXXONMOBIL

ExxonMobil’s strategic environment principle *Protect Tomorrow. Today.* is the foundation of our activity and the benchmark target for achieving superior environmental performance. Under this principle, ExxonMobil strives to be a leader in maintaining viability and in development of ecosystem services that serve for people as sources of food, clean water, air, and cultural identity. In this context, the Company considers such factors as the rarity of individual species, their habitat conditions, their roles in existing ecosystems, their vulnerabilities and their cultural significance.

**Protecting biodiversity**

ExxonMobil plans its activities based on a scientific understanding of the biodiversity in the areas of operation. The company conducts research and supports initiatives to maintain biodiversity.

For many years, ExxonMobil has sponsored research to study the effects of noise on marine mammals. Exxon Neftegas Limited has conducted a seismic survey program covering three Sakhalin-1 offshore license areas. The detailed monitoring and mitigation strategy for the western gray whale is based on 18 years of research on these animals and their habitat including the best practices developed and enhanced during previous seismic operations and on the knowledge of the timing and behaviors of whales in the area of ENL’s operations.

ExxonMobil manages elevated biodiversity or species risks by thoroughly examining the environmental context of the areas of the planned operations, as well as by developing and implementing adequate protective measures.

The detailed information is posted on [www.exxonmobil.ru](http://www.exxonmobil.ru).

**Water Management**

ExxonMobil works to prevent potential impacts to water resources from the withdrawals and discharges and prudently manages the water needed for the operations. For each area of operation ExxonMobil develops and implements water management strategies that take into consideration quality and availability, as well as potential negative impacts related to varied
operational modes, increased energy use or the consequences of producing more concentrated waste streams.

The internal company standard for sustainable use of water resources calls for minimal impact on the environment, surface, ground, and the seawater. This standard regulates input data for planning work and designing facilities.

Where appropriate, ExxonMobil conducts a detailed analysis of water use-related risks and develops site-specific management strategies such as the deployment of water conservation technologies, the use of alternative freshwater sources, recycling of municipal and industrial wastewater and harvesting of rainwater.

ExxonMobil responsibly manages process wastewater and produced water. Produced water, a byproduct of upstream oil and gas operations, is injected into deep underground reservoirs. At offshore production facilities, produced water is re-injected into the reservoir or treated in accordance with applicable regulatory requirements and discharged into the marine environment.

The detailed information is posted on www.exxonmobil.ru.

**Oil Spill Prevention and Response**

ExxonMobil implements measures to prevent oil spills and constantly explores opportunities to improve spill containment techniques. As a result, the number of oil spills in 2016 declined against 2015, and over the past five years, the number of oil spills in excess of 1 barrel decreased by 35% Company-wide.

Consistent with its commitment to maintain the highest performance standards wherever it operates, the Company enforces stringent control over the technical conditions of pipelines and infrastructure facilities. To prevent corrosion and possible damage, the most advanced management, monitoring and alarm technologies are used.

ExxonMobil implements the internal oil spill response research and development program – the only one in the industry. One of the goals of this program is developing methods of operations in cold water and in remote areas such as the Arctic.

The Company participated in developing a number of joint industry projects to enhance offshore oil spill response capabilities. Such projects include a Joint Industry Oil Spill Response Project under the International Association of Oil and Gas Producers (IOGP) and a joint industry project under IOGP and the International Petroleum Industry Environmental Conservation Association (IPIECA), and others.

The detailed information is posted on the company web-site www.exxonmobil.ru.

**Air emissions**

ExxonMobil develops and implements measures to reduce pollutant emissions generated by industrial operations and production processes. As a result, the last 10 years have witnessed a total 45% reduction in emissions of volatile organic compounds (VOC), sulfur dioxide (SO₂), and nitrogen oxides (NOx) across all Company’s enterprises.

The detailed information is posted on the company web-site www.exxonmobil.ru.
Participation in research and development programs

ExxonMobil annually invests about 1 billion USD in research and development to generate breakthrough technologies capable of benefiting not only business but also society and the environment.

Today, researchers and engineers are developing new ways to generate energy in a more safe, effective, and environmentally responsible manner.

The detailed information is posted on the company web-site www.exxonmobil.ru.

5. ENL ENVIRONMENTAL PROTECTION POLICY

The environment policy of ExxonMobil calls for doing business in a way that maintains a balance between the environmental and economic interests of population and host countries where the company operates. The Company is at all times committed to improving its environmental performance across all assets on a global scale.

In line with these expectations, the key principles of ExxonMobil's worldwide environment policy include:

♦ Complying with all applicable environmental protection laws and regulations, and applying responsible standards where such laws and regulations do not exist;
♦ Cultivating a caring and respectful attitude toward the environment, making each employee more accountable for environmental protection and putting in place appropriate industrial practices and personnel training;
♦ Cooperating with the public authorities and industry groups to draft in a timely manner, effective science-based environmental protection laws and standards, taking into account risk, cost and benefit analysis, including energy-saving and product supplies;
♦ Managing business operations so as to prevent incidents and monitor harmful emissions and waste and keep them within safe limits;
♦ Designing, operating, and maintaining facilities in a proper manner;
♦ Promptly and effectively responding to incidents caused by the Company's operations in cooperation with industry regulators and public authorities;
♦ Conducting and sponsoring research aimed at improving the understanding of potential industrial impacts on the environment, improving the environmental protection practices, and helping the company to make its operations and products more compliant with nature conservation standards;
♦ Liaising with the public in matters of environmental protection and exchanging experiences with a view to improving overall industry performance;
♦ Undertaking appropriate reviews and evaluations of operations to measure progress and to ensure observance of the principles outlined herein;

The principles of ExxonMobil's environment policy are incorporated into the internal regulatory document, Standards of Business Conduct, published at www.exxonmobil.ru.

Exxon Neftegas Limited (ENL) develops resources as part of the Sakhalin-1 Project proceeding from the principles of environmental responsibility, which call for preventing or mitigating potential environmental impacts through the use of design solutions based on the
latest technologies and carefully planned impact prevention and mitigation efforts. ENL pursues continual improvement of its environmental performance and commits to ever-increasing quality standards in its nature conservation activities. Accordingly, ENL’s policy is aimed at:

♦ Complying with all applicable environmental protection laws and regulations of the Russian Federation and the application of principles of environmental responsibility in those cases where such laws and regulations do not exist;
♦ Honoring obligations under the Production Sharing Agreement and submitting complete information about operations and Sakhalin-1 Project implementation plans to the Russian inspection and oversight authorities;
♦ Working with the Russian public authorities and industry groups to foster timely development of effective environmental laws and regulations based on sound science and considering risks, costs, benefits, and effects on energy and product supply;
♦ Assessing industrial and environmental risks as well as the risk of socioeconomic and public health potential impacts across the facility design, construction, operation, and abandonment phases.
♦ Planning and implementing risk mitigation measures;
♦ Conducting a comprehensive assessment of environmental, socioeconomic, and public health potential impact during the facility design, construction, and abandonment phases;
♦ Conducting additional risk assessments for environmentally sensitive territories; developing and applying appropriate additional protection measures for operating areas potentially vulnerable to enhanced risks for biodiversity and/or biological species by thoroughly studying the area’s environmental set-up;
♦ Ensuring effective environmental performance, including:
  - Implementing a program to protect biodiversity and ecosystems;
  - Preserving migration routes of wildlife;
  - Improving the water management systems;
  - Reducing air pollutant emissions;
  - Reducing landscape fragmentation;
  - Performing reclamation and remediation of disturbed lands;
  - Monitoring and reducing fuel and lubricant leaks;
  - Monitoring and using effective waste management processes and neutralizing waste;
♦ Conducting systematic industrial environmental supervision and environmental monitoring;
♦ Devoting particular attention to incident prevention across all project phases;
♦ Inspecting, repairing and maintaining pipeline routes;
♦ Responding quickly and effectively to incidents resulting from project operations in cooperation with industry organizations and public authorities;
♦ Avoiding operations in areas of specially protected natural territories and world heritage sites;
♦ Developing the environmental office initiatives;
♦ Improving the energy efficiency of production processes;
♦ Continuing to promote a sustainable and caring attitude toward the environment of Sakhalin Island, making each company employee accountable for environmental protection in the workplace, putting in place appropriate work processes and conducting regular professional and environmental staff training;
♦ Conducting and sponsoring research to improve understanding of the impact of the Sakhalin-1 Project on the environment, to improve methods of environmental protection, and to enhance capability to make operations and products compatible with the environment;
♦ Promoting a policy of respect for the interests and rights of indigenous minorities of the North and maintaining a constructive interaction with representatives of
indigenous people local communities. Planning the Company activity considering the traditions of natural resources use;

♦ Maintaining a dialog with the local community in matters of environmental protection, sharing ENL experience with other organizations;

♦ Undertaking appropriate reviews and evaluations of its operations to measure progress and to ensure compliance with this policy.

♦ Applying the principles of the corporate environment policy to operations of contractors;

♦ Prohibiting the Company’s employees (including those of contractor companies) from hunting in the area of operations.


ENL has been conducting comprehensive assessments of its impacts on the environment, socioeconomic conditions, and public health as part of the Sakhalin-1 Project across all phases - from construction to abandonment:

- in preparing materials for Justification of Investments in the Sakhalin-1 Project – Phase 1 “Development and Production” in 2001;
- in preparing the Sakhalin-1 Phase One TEO Construction for Chayvo and Odoptu field development in 2002-2004;
- in preparing the design package for the 1st phase of Odoptu Field development in 2007-2008;
- in preparing the Arkutun-Dagi field development plan in 2008-2010.
- in preparing the design package for the 2nd phase of Odoptu Field development, including infrastructure development projects, during the period from 2013 up to now.

The process of a comprehensive assessment of impact on the environment, socioeconomic conditions and public health is based on a systemic approach and includes the following main elements:

♦ Research and analysis of the environmental and socio-economic background conditions before planning project operations;

♦ Analysis of the potential environmental impact of the proposed activity and evaluation of its significance at all stages of the project, from planning to implementation and abandonment;

♦ Consultations with stakeholders concerned with the environmental, social, economic, and other aspects of the proposed activity with a view to find mutually acceptable solutions;

♦ Submission of materials of a comprehensive EIA for approval by the relevant public authorities. The company received favorable state environmental expert review conclusions or/and Glavgosexpertiza of Russia expert conclusions in compliance with RF legislation requirements;

♦ The use of impact assessment results in the decision-making process relating to the proposed activity.

The development of measures to mitigate the potential impact is one of the main components of the EIA process.
7. POTENTIAL ENVIRONMENTAL IMPACT PREVENTION AND MITIGATION

In the development of measures to prevent the impact and environmental protection programs, ENL uses the experience of other international oil and gas projects in regions with sensitive natural resources and places where indigenous peoples live. The applicable mitigation measures that had proven effective in other regions of the world were selected and adapted to the specific conditions of the Sakhalin 1 Project implementation region in the context of legal regulation in the Russian Federation.

In the development of environmental protection measures by ENL, sources of impact are identified, their characteristics that affect environmental components are studied, and, if necessary, numerical modeling of the spread of pollution is performed. Modeling was done for the most intense operation and the worst weather conditions.

Based on the results, measures are developed to ensure compliance with environmental and health standards of the Russian Federation.

7.1. Air Quality Protection

Measures to Reduce the Negative Impact on Air Quality

- Use of modern vehicles, construction machinery, and equipment in proper operating condition;
- High-quality maintenance of vehicles, construction machinery, and equipment;
- optimizing traffic and the operation of process equipment;
- Use of high-quality fuel (conforming to GOSTs);
- Use of methods of integration of structures and improvement of the technological availability of structures and materials;
- equipping flare stacks with devices for soot-free combustion;
- sealing of process equipment;
- Use of high-seal-class shutoff and control valves and connections;
- Cleaning dust-containing emissions from the bulk handling pneumatic system
- Use of incinerators with exhaust gas afterburners;
- Onshore and offshore pipeline burial.

Program to reduce greenhouse gas emissions

Under the Program for Environmental Protection and Environmental Monitoring, in order to reduce greenhouse gas emissions ENL conducts the following types of operations for utilization of associated petroleum gas:

- Reinjection of produced gas;
- Providing gas for outside customers (Khabarovsk Krai);
- Use of produced gas for needs of production facilities of the company (boilers, gas generators).

From the beginning of ENL production activity in October 2005 through December 2014, the level of associated petroleum gas flaring had averaged 3.34% of the total volume of gas produced. This indicator was 2.9% overall for the Sakhalin-1 Project in 2016.

The decrease in the produced gas flaring ratio is due to the implementation of technical measures to improve the Odoptu-Chayvo OPF oil pipeline performance. Installing a station for gas compression and reinjection at Odoptu in 2014 stabilized and lowered the gas flaring ratio.
Additional gas injection compression units will be installed as Odoptu Field development continues and oil and gas production volumes grow.

7.2. Protection of Surface Water

The key technical and organizational measures to prevent impact on water bodies are:

♦ Use of marine vessel wastewater treatment facilities that comply with the International Convention for the Prevention of Pollution from Ships (MARPOL).
♦ Use on the platform of wastewater treatment facilities that comply with pollutant discharge limits prescribed by laws of the Russian Federation;
♦ Laying of pipeline under the seabed of Chayvo Bay using horizontal directional drilling;
♦ Optimizing the offshore pipeline route with the goal of reducing its length and reducing the impact on the marine environment;
♦ Minimum use of additives in water used for hydraulic testing of the onshore pipeline section and regulatory compliance for all discharges when water additives are used in pressure tests of onshore and offshore sections of the pipeline;
♦ Injection of the main volume of drilling waste (and platform wastewater, where appropriate) into a disposal well;
♦ Construction of culverts to preserve natural runoff;
♦ Measures to reduce the flow of suspended matter into water bodies during earth moving;
♦ Maximum use of the existing infrastructure;
♦ Choice of technology options for stream crossing construction based on hydrological and hydrochemical characteristics of the sites and water resources.

An analysis of design solutions and environmental protection measures leads to the conclusion that during normal operation the impact on water resources (surface water bodies and the marine environment) for construction operations as well as the operation of planned facilities complies with established Russian environmental protection requirements and international water protection standards.

7.3. Protection against physical factors

Physical impact factors include noise and vibration in the air and water environment, electromagnetic and ionizing radiation from equipment and technical devices and equipment lighting and thermal impacts.

The main measures to mitigate potential impact are:

**Light Impact**

- Aiming all general, safety, emergency, security and other light fixtures correctly;
- Switch off idle lighting equipment and if possible, work during daylight hours.

**Noise and vibration**

- Use of acoustic construction methods to provide vibration and acoustic insulation;
- Installation of mufflers on the exhaust and suction pipes of gas turbine engines and gas-pumping units, and screening of noisy units or groups of units.

**Electro-magnetic radiation**

- Placement of sources of electromagnetic radiation, with the direction and power of radiation selected according to the requirements of the laws of the RF;
- The use of modern technology with low levels of radiation to ensure compliance with health and industrial safety regulations;
- Strict enforcement of equipment operating rules.
Ionizing radiation

- Compliance with instructions for operation and storage of ionizing radiation sources;
- Training of personnel in the safe use of equipment;
- Compliance with industrial safety rules and all applicable requirements of the laws of the RF pertaining to sources of ionizing radiation.

7.4. Protection of the Geological Environment

Measures to protect the geological environment are ENL technical solutions and measures intended to ensure the safety of facilities in the event of earthquakes or other hazardous geological events, such as permafrost conditions change, soil decompaction and to prevent the development of new geological processes that are hazardous both for the facilities themselves and for the environment: shore erosion, scouring, rising groundwater and bog formation, wind erosion of soils, etc.

The following measures prevent the development of new geohazards:

- Platform jacket protection structure to prevent erosion of sediments around the platform;
- Protection of the sea coast by the creation of coastal protective structures;
- Decreasing the area where the topography is altered and the soil cover is disturbed during construction;
- Preserving/restoring natural groundwater flow and surface runoff to prevent rising groundwater and bog formation;
- Reclamation of areas disturbed during construction.

During drilling and operation of wells, measures are taken to ensure protection of subsurface resources and efficient use of mineral resources, as required by RF regulations. This is done by means of advanced drilling technologies that permit the maximum possible utilization of the field's natural hydrocarbon reserves.

Drilling waste is disposed of into deep isolated subsurface formations via dedicated wells 2.5 to 3 km deep.

After production ceases in each well, a set of plugging and abandonment operations are carried out to ensure that they are reliably isolated and subsurface resources are conserved.

7.5. Reducing Natural Landscape Fragmentation, Soil Protection, and Land Remediation

Sakhalin-1 reduces Natural Landscape Fragmentation through the use of extended reach batch drilling (drilling of wells from a small pad, with 5 meters wellhead spacing), construction of line facilities within the existing utilities corridors, deployment facilities within the existing construction sites.

Measures for the protection of soils during construction and operation are common to all Sakhalin 1 facilities and involve, first and foremost, the following preventive measures:

- Stabilization of soils on construction sites
- Anti-erosion measures (i.e., the preservation of existing vegetation, anchoring slopes, and controlling surface runoff, where possible)
- Thorough waterproofing of all settling tanks (storage and separator tanks, etc.);
- Injection of drilling waste into deep aquifers
- Installation of drainage systems, monitoring of groundwater, and measures to prevent underflooding and marsh formation
- Environmental monitoring of all operations in the construction and operation phases
- Mechanical and biological remediation of lands disturbed during construction
In accordance with the ENL policy, prohibition of the collection of vegetation and other intrusive activity in the project area.

In addition to general preventive measures, the measures to protect the soil during construction and operation include:

- Use of methods of integration of structures and improvement of the technological availability of structures and materials
- Trenching using advanced international experience under such conditions
- Using concrete for weighting to prevent pipes from floating up in soggy areas
- Use of water treatment systems, oil and gas separators, and other water treatment facilities
- Use of incinerators equipped with special filter devices
- Inspection of machinery prior to work commencement and upon work completion to assess wear and tear of hydraulic equipment and machinery
- Mandatory provision of containment sumps installed on the machinery parked in its parking slots
- Prohibited placement of construction equipment outside its dedicated spots.

Remediation of land disturbed during construction is conducted in two phases:

It is performed after the final stage of construction activities is completed (removal of construction wastes; demolition and removal of all temporary structures, installations and construction materials from the site; backfilling of pipeline trenches with a windrow required to ensure a plane surface after soil compactions; uniform distribution of organic soils over the surface) and consists of grading to create natural slopes of the surface.

The biological phase consists of re-vegetation and restoration of the topsoil fertility. The usual planting of vegetation is performed at most sites, and accelerated planting of vegetation and hydroseding are performed in areas where it is necessary to slow down erosion processes, such as on slopes.

7.6. Protection of vegetation and forests

The main sources of impact on vegetation in the construction phase are: vehicles and construction equipment, waste generated during construction, temporary and permanent structures, and local leaks during the construction.

The Project provides for the following measures to prevent or reduce the potential impact on vegetation:

- Maximum use of the existing infrastructure;
- Erosion prevention measures;
- Removal of fallen trees and other flammable materials and compliance with fire regulations prescribed by the laws of the RF;
- Prohibition of moving trees and slash out to the forest edge;
- Compliance with forest management regulations and requirements in accordance with the laws of the RF;
- Laying the onshore part of the pipeline system in existing utility corridors for other pipeline systems;
- Restoration of original contours of the site and drainage routes disturbed during construction;
- Prohibition of the collection of plants and other intrusive activity in the project area for ENL and contractor employees;
- Monitoring of the vegetative cover and monitoring of reclaimed land.
ENL environmental protection measures result in limiting the impact of the land allotment area without disturbing the vegetation of surrounding areas, followed by revegetation of the disturbed land.

7.7. Protection of terrestrial wildlife

A system of measures is used to reduce the potential impact on wildlife; the system includes:

- construction planning takes into account the periods of maximum vulnerability of individual species and groups of animals;
- the distribution of critical habitats, including places where migrants congregate in certain seasons, breeding grounds and the primary feeding areas of rare species, is taken into account in planning the sites of construction areas and temporary camps;
- construction equipment is not to be allowed to operate outside the boundaries of assigned areas;
- vehicle traffic is controlled to maintain the distances necessary to avoid disturbing nesting and rare colonial bird species and congregations of molting and migrating birds;
- unauthorized public access to and use of previously hard-to-access natural areas is prohibited;
- hunting, gathering of eggs of nesting birds, destroying the nests of rare bird species, and visiting environmentally vulnerable areas during critical periods is prohibited for people employed in the Project;
- workers familiarize themselves with the instructions on how to behave in the event of an encounter with wild animals when servicing and monitoring overland sections of the pipeline.

Exxon Neftegas Limited’s performance of a program of monitoring and measures to protect Steller’s sea eagle is an example of effective positive action for the population of this protected species.

Program for monitoring Steller's sea eagles and other rare birds, entered in the Red Book of the Russian Federation or the Red Book of Sakhalin Oblast.

Since 1995, ENL has conducted a comprehensive program for monitoring the Steller's sea eagle population of as one of the most distinctive endemic species of the Russian Far East
and the indicator species for the status of shore ecosystems within the scope of the Sakhalin 1 Project on northern Sakhalin. The focus of monitoring includes the study of key population characteristics of the species and determining its stability under changing environmental conditions. These characteristics include demographic parameters such as population growth rate, population size, and sex and age structure of the population, as well as changes in the occupancy of nesting sites. In addition, the impact of predation by bears and the impact on the population of certain types of human economic and recreational activities were investigated.

During the program period, considerable factual material that comprehensively characterizes the state of the Steller's sea eagle population has been collected. Bioengineering work is done regularly to maintain the eagle population. The work includes: Construction of artificial nests, construction of artificial perches, and fitting nesting trees with protective covers to prevent the destruction of nests by brown bears. Observations show that the birds readily use artificial perches for hunting and rest. Artificial nests serve primarily as places for overnight stops, handling of prey, and in some cases chick incubation and breeding.

Steller’s sea eagle is included in the Strategy of Biodiversity Preservation in Sakhalin Oblast as a biological species used as an indicator of environment quality. ENL representatives participate in meetings of the biodiversity task force and workshops arranged by the Sakhalin Oblast Ministry of Natural Resources and Environmental Protection to discuss the methodology, biodiversity study and monitoring results.

The many years of monitoring Steller's sea eagle were crowned by publication of the book written by V. Masterov and M. Romanov THE PACIFIC SEA EAGLE Haliaeetus pelagicus: ecology, evaluation, protection. Moscow. KMK Partnership of Research Publications. 2014. 384 pp. The book introduced unique Steller’s sea eagle study data into scientific use. Writing and publishing of the book was sponsored through the ENL charitable activity program.

In addition to monitoring of the Steller's sea eagle, ENL monitors other bird species listed in the Red Book of the Russian Federation and the Red Book of Sakhalin Oblast, as well as migratory, nomadic and colonial nesting species in the course of operation of Sakhalin-1 facilities. Studies on the state of populations of rare and endangered species and assessment of the types and level of impact of facilities on breeding and migrating birds are conducted in control areas in the immediate vicinity of major production facilities.

Monitoring results show that these species’ nesting and feeding grounds were not disturbed significantly during construction, which is why the spatial configuration of their colonies was preserved in the operation phase and they continue to nest and feed in the same places where they did before construction began. The condition of the nesting and feeding groups in the studied areas is good.

The findings from the monitoring of, and research into various bird species were presented at meetings of the biodiversity work group under the Sakhalin Oblast Government, International Conference on Migratory Birds of Water and Marsh Rangeland, Yuzhno-Sakhalinsk, 2013. Lectures on the following subjects were delivered to college and school students and representatives of indigenous minorities of Sakhalin:

- Avifauna of Piltun Bay
- Steller’s sea eagle monitoring
- Wildlife protection in case of oil spills.
- ENL’s Environmental programs.

The research findings are also presented in the article by V. Zykov, Z. Revyakin, N. Pechenev Fall Migration of Bewick's Swan in Piltun Bay, Yuzhno-Sakhalinsk, 2013.

In 2010, company specialists prepared the Field Guide for Identification of Rare Birds Listed in the Red Book of the Russian Federation and Sakhalin Island and Encountered in Sakhalin
Island and also in Vicinity of the Sea of Okhotsk and Tatar Strait. The guidebook was provided to concerned specialists and libraries in Sakhalin Oblast.

In 2016, Birds of Piltun Bay thematic calendar for 2017 was published within the framework of the Year of Ecology. The publication was distributed to libraries, schools and NGOs of Sakhalin Oblast.

7.8. Protection of aquatic biota and commercial biological resources

During the construction and operation of onshore oil production facilities, the impact on water bodies and commercial bioresources is a result of the construction of water body crossings, earthmoving, and pressure testing of pipelines.

Offshore operations include preparation of the seabed for the installation of the platform, excavation and filling of trenches for laying pipelines, noise exposure during the movement of construction, transportation, and supply vessels, and discharge of water based drilling mud and cuttings on the seabed during the installation of surface casings and drilling of shallow well sections.

The Project is carried out on the basis of the principle of minimizing the potential impact on aquatic biota, commercial biological resources, and their habitat. ENL implements the following main environmental protection measures:

- Enforcing the strict observance of land allocation boundaries, particularly in water crossing areas and near bodies of water;
- Performing vehicle maintenance at least 100 meters from watercourses;
- Using a water filtration system after pressure testing of pipelines;
- Using modern equipment that reduces water turbidity during excavation and filling of the pipeline trench;
- Water intakes equipped with fish protection systems;
- Implementing ship sewage discharge according to MARPOL standards and RF statutes.
- The condition of construction projects is checked regularly.
- Monitoring of the aquatic biota to assess the condition of plankton, bottom-dwelling communities during operation of offshore Sakhalin-1 Project facilities

ENL also assesses the damage to fishery resources during project activities and performs compensatory measures for the artificial reproduction of Pacific salmon and chum salmon in Sakhalin Oblast and Khabarovsk Krai.

7.9. Protection of marine mammals

The main potential impacts on marine mammals in the construction and operation phases are associated with the physical presence of facilities and vessels, noise generated by industrial equipment, vessels and aircraft, and discharges of sewage and wastewater treated to comply with the standards. ENL has developed a system of measures to protect marine mammals and their habitat with the goal of minimizing potential impacts on migration routes, feeding areas, and breeding areas and preventing the deaths of animals.

The system of measures for the protection of marine mammals has been tested successfully and improved steadily in the course of the Sakhalin 1 Project. It includes the following elements:

- Monitoring of activities in the work area during all periods of noisy and potentially disturbing operations;
- In the event of unacceptable levels of noise impact on animals, the source of the noise is determined, and the noise level is reduced with mechanical insulation, where this is possible;
♦ Temporary shutdown of unused equipment;
♦ Marine vessels use wastewater treatment units that meet the requirements of the Russian Federation Maritime Registry and have been certified by the proper authorities;
♦ All fuel, chemical and waste handling activities are carried out in a manner designed to minimize or eliminate chronic inputs and accidents. The offshore platform and support vessels have the necessary equipment and materials to prevent small spills.

Discharges of household sewage from ships and the platform are treated to comply with standards and as such have a negligible impact on marine mammals.

**Marine Mammal Monitoring Program**

The research conducted on northeastern Sakhalin in conjunction with the Program for Monitoring the Okhotsk-Korean Population of Gray Whales for Exxon Neftegas Limited (ENL), the Sakhalin 1 operator, and Sakhalin Energy Investment Company (SEIC) began in 1997 and its results have significantly added to the existing scientific body of knowledge on marine mammals in the study area.

ENL organizes annual integrated field studies of gray whales on the northeast shelf of Sakhalin Island jointly with SEIC. The work involves scientists from the FEB RAS National Scientific Center of Marine Biology and the FEB RAS Institute of Pacific Oceanology, as well as experts from Sakhalin State University. The Monitoring Program is one of the longest multi-disciplinary research programs that focuses on specific marine mammal species in a specific area.

Program objectives include expansion of the body of scientific knowledge of gray whales and their environment, as well as the factors that influence the population and its habitat, and assessment of the population (e.g., the population size, increase, etc.) and habitats.

Information received under the Program is used by ENL for the following purposes: minimizing the potential effects of industrial operations on the whales and their habitats and defining and implementation of measures to reduce risks to gray whales and their habitat during industrial operations.

Work is conducted in several directions and includes the following key areas of research: Photographic identification of gray whales, study of their distribution, identification of individual whales and assessment of their condition, acoustic monitoring and definition of the acoustic environment. In some cases there are additional studies such as satellite tagging.

The satellite tagging program in 2010-2011 achieved outstanding results which led scientists to review available data on the migration routes of the gray whale in the Pacific Ocean basin.

In order to reduce or eliminate impact on gray whales, the company has developed and annually updates a Marine Mammal Protection Plan that has proven its effectiveness. Commitment to following the Plan is not limited to ENL but also applies to all the contractors of the Sakhalin 1 Project.

Thanks to the Plan, there has not been a single documented case of injury to marine mammals in all the years of ENL operations.

The 1995-2015 findings of research into marine mammals went into a collection of articles of the XVth Academician L.M. Brekhovskikh workshop school *Ocean Acoustics* on May 24-27, 2016, P. Shirshov Institute of Ocean Studies, Russian Academy of Sciences, Moscow, Russia published in Russian - see www.ocean.ru:

- R. A. Korotchenko, V. G. Ushchipovsky ACOUSTIC SIGNALS OF THE GRAY WHALE RECORDED ON SAKHALIN’S NORTH-EASTERN SHELF

V.I. ILYICH EV Institute of Pacific Ocean Studies under the Far eastern division of the Russian Academy of Science;
- V. A. Gritsenko AUTOMATED SEARCH FOR GRAY WHALES VOCALIZATIONS, V.I. ILYICHEV Institute of Pacific Ocean Studies under the Far eastern division of the Russian Academy of Science
- I.V. Medvedev DATA AND COMMAND TRANSPORT ASSOCIATED WITH SATELLITE COMMUNICATION IN SUPPORT OF HYDROACOUSTIC MONITORING V.I. ILYICHEV Institute of Pacific Ocean Studies under the Far eastern division of the Russian Academy of Science, and others can be found in English here: www.researchgate.net/publication/291505073_Life_History_and_Production_of_the_Western_Gray_Whale%;
- Natalia L. Demchenko, John W. Chapman, Valentina B. Durkina, Valery I. Fadeev Life history and production of the western gray whale’s prey, Ampelisca eschrichtii Krøyer, 1842 (Amphipoda, Ampeliscidae)
- Laboratory of the Ecology of Shelf Communities, A.V. Zhirmunsky Institute of Marine Biology of the Far Eastern Branch of the Russian Academy of Sciences,
- Dept. Fisheries and Wildlife, Hatfield Marine Science Center, Oregon State University,
- Laboratory of Cytophysiology, A.V. Zhirmunsky Institute of Marine Biology of the Far Eastern Branch of the Russian Academy of Sciences;

Regional Studies in Marine Science journal homepage www.sciencedirect.com/science/article/pii/S2352485516300342:
- Yevgeny Kriksunov, Ali Alyautdinov, Alexander Bobyrev, Sergey Chistov, Moscow State University, Biological Faculty, Institute of Ecology and Evolution, Russian Academy of Sciences
- Study of associativity between the spatial distributions of gray whales and their prey species offshore northeast coast of Sakhalin Island.

ENL attended international Conferences to discuss marine mammals:
Evgeniy Kriksunov (presenter), Alexander Bobyrev (presenter), Ali Alyautdinov (attendee), Sergey Chistov (attendee)
- Study of associativity between the spatial distributions of gray whales and their prey species offshore north-east coast of Sakhalin Island;
P.A. Permyakov, A.M. Trukhin, V.I. Ilyichev Pacific Oceanological Institute, FEB RAS,
- Extent of anthropogenic impact on Phocid seals in mouth of Piltun Bay (Sakhalin) depending on the type of disturbance

A.M. Trukhin, P.A. Permyakov V.I.Il’ichev Pacific Oceanological Institute, FEB RAS
- 2014 seasonal dynamics of pinnipeds on the haul-out in a mouth of Piltun Bay (Sakhalin).

In 2016-2017 ENL participated in the Inter-agency work group under the RF Ministry of Environmental Protection meetings and sessions:
♦ Session of the Western Gray Whale Conservation Interdepartmental Work Group, 14 December 2016:
  1. Overview of activities under the 2016 Gray Whale Monitoring Program off the NE coast of Sakhalin (A.D. Samatov, Sakhalin Energy);
  2. Overview of activities planned for 2017 Gray Whale Monitoring Program off the NE coast of Sakhalin (V.V. Efremov, ENL);
  3. Overview of ENL operations for modules delivery to Piltun Bay in summer 2016 and of measures for protection of marine mammals. (E.N. Kalinin, V.E. Nechayuk, ENL);
♦ Session of the Western Gray Whale Conservation Interdepartmental Work Group, 27 April 2017:
1. Results of the 2016 Gray Whale Monitoring Program off the NE coast of Sakhalin:
   1.1 Photo-identification of Gray Whales (Eschrichtius robustus) off the NE coast of Sakhalin in 2016 (O. Yu. Tyurneva);
   1.2 Gray Whale distribution and numbers offshore North-East Sakhalin in August - September 2016 (V.A. Vladimirov);
   1.3 Condition of benthos in the areas of Gray Whale (Eschrichtius robustus) feeding grounds off the NE coast of Sakhalin in 2016 (V.V. Efremov);

2. Overview of activities planned for 2017 Gray Whale Monitoring Program off the NE coast of Sakhalin (A.D. Samatov).

3. Overview of ENL operations for modules delivery to Piltun Bay in 2017 and of measures for protection of marine mammals during these operations (E.N. Kalinin, V.E. Nechayuk).

7.10. Preservation of protected natural areas and environmentally sensitive areas

ENL fully recognizes the importance of unique, ecologically, scientifically, culturally, and aesthetically valuable natural complexes and natural monuments in Sakhalin Oblast and Khabarovsk Krai. In order to prevent potential impacts to protected areas, Sakhalin 1 facilities are located outside these areas.

Specially protected nature territories of the Sakhalin Oblast include 2 national natural reserves, 1 natural park, 15 national nature sanctuaries, 45 natural monuments.

The specially protected natural areas near the work area include:

- The Nogliki regional State Nature Sanctuary (the northwest boundary of the sanctuary is about 0.2 km from the onshore pipeline from the Chayvo OPF to Nevelskoy Strait)
- Vagis Mountain Range regional natural monument (the southern boundary of the monument is 1.4 km from the onshore pipeline from the Chayvo OPF to Nevelskoy Strait)
- Wrangel Islands regional natural monument (4.1 km from Odoptu WS1 and 3.25 km from Odoptu WS2)
- Lyarva Island regional natural monument (32 km from the Orlan platform and 36 km from the Chayvo WS)

Protected areas of Khabarovsk Krai include six national natural reserves, eight national nature sanctuaries, 226 natural monuments, and 20 natural resource refuges. Protected areas within the Khabarovsk Krai which are located proximate to the project facilities include:

- Ustrichny Island local natural monument (the distance from the DeKastri oil export terminal is 7.5 km)
- Somon Lagoon local natural monument (the distance from the DeKastri oil export terminal is 7.5 km)

The natural habitats and the condition of flora and fauna of these areas are not impacted by Sakhalin 1 facilities.

7.11. Protection of archeological and cultural monuments

Within the area of Sakhalin 1 facilities are archeological, ethnographic, and historical sites which include ancient settlements, camps, and burial grounds of various periods and cultures.
The study and excavation of the archeological landmarks located directly within the boundaries of the construction sites are carried out by ENL before the beginning of construction operations.

To ensure the preservation of archeological monuments, both those that are already known and ones that may be discovered, it is planned to carry out archeological monitoring in all phases of construction, which helps to increase the amount of information about the history and culture of indigenous minorities of Sakhalin.

In addition, ENL provides the following measures for the protection of archaeological and cultural sites:

♦ Surveying of the proposed construction sites for any possible archaeological sites
♦ Optimizing the location of construction sites in order to bypass valuable archaeological sites;
♦ Organization of training for construction personnel on how to handle archaeological artifacts;
♦ Daily interaction between the construction managers and persons responsible for archeological monitoring;
♦ Allocation of resources and determination of the procedures for emergency excavation of sites, if archaeological material is discovered during the construction process.

Most of the artifacts found during those studies are gathered in the archeological museum of Sakhalin State University. The recovered archeological artefacts are also displayed in Sakhalin Oblast museums of regional studies.

7.12. Socio-Economic Impact

Implementation of the Sakhalin 1 Project is a stimulus to economic activity and has a beneficial effect on the economy and population of Sakhalin Oblast and Khabarovsk Krai, as well as on the economy of the Russian Federation as a whole.

This positive impact will be long-term (dozens of years), exceeding the duration of the Project itself because of the positive residual effects of revival of industry and the economy.

Implementation of the project began on schedule and rapidly reached the planned level of oil production of 250,000 barrels per day (33,000 tonnes per day).

More than 15 Gm³ of natural gas has been delivered to the Russian Far East customers.

The positive impact of the project is due primarily to payments and revenue for federal, regional, and local government under the PSA.

The PSA also states the intention to use Russian equipment and services in all cases where the cost, quality, availability, and delivery times do not impair the economic performance of the project. This relates to all stages of the project: Design, fabrication, construction, installation, and operation (including drilling operations) Opportunities for Russian participation are provided in several areas, including equipment, construction materials, labor for civil construction and for construction sites, pipeline construction, start-up operations as well as improvements to local infrastructure.

At the beginning of the project, the parties to the PSA (federal agencies and representatives of Sakhalin Oblast and ENL as the project operator) organized the Joint Committee on Russian Content for the Sakhalin 1 Project. The main objective of the Joint Committee is to assist in maximizing the involvement of Russian subcontractors and Russian suppliers of goods and services in the Project. The Joint Committee operates as a special working group to establish initiatives for Russian Content and conducts quarterly reviews of plans for ENL contract activity.

The Joint Committee works to keep potential Russian contractors and suppliers informed and develop a database of Russian contractors and suppliers. In particular, it conducts workshops
for contractors and suppliers based on Sakhalin, where it informs them of current needs for the Sakhalin 1 Project, the terms of tender procedures, contract terms, etc.

Socioeconomic benefits associated with the project also include the creation of a significant labor market; reduction of the population loss from the areas of construction and operation of facilities; and increases in worker income and purchasing activity due to the purchase of equipment, materials, and services to meet the needs for construction and operation. The project provides a number of measures aimed at strengthening the combined positive effects of its implementation:

- Construction and rotation worker camps are built in accordance with international standards, giving due regard to applicable Russian regulatory requirements, which include installation of water supply and water treatment systems, wastewater treatment plants for sewage and drainage, removal of solid waste, etc.
- Application of the policy of preferred hiring of qualified local people to work at specific construction and operating sites. This applies especially to inhabitants of settlements located near the project and along the strip of land allocated for pipelines and access roads.
- Providing training to local workers employed for the construction and operation of Project facilities.

Implementation of the Sakhalin 1 Project is conducive not only to raising the standard of living but also to the development of transportation infrastructure and improvement of the level and quality of educational, medical, and cultural services.

The Consortium has invested more than 120 million USD in the modernization of Sakhalin infrastructure, which is an unquestionable benefit for the local population. The objects of such modernization are hospitals and clinics, roads, bridges, ports, airports, and heat and water supply facilities. Examples include the Nogliki airport and federal and municipal roads and bridges.

As part of a number of projects, including educational, health care, youth, art, and social ones, social institutions have received charitable contributions totaling more than 3.5 million USD (85 million rubles). Examples are the Oblast Children's Hospital, the Women's Clinic of Yuzhno-Sakhalinsk, the Oblast Cancer Center, the Yuzhno-Sakhalinsk Chamber Orchestra, summer camps for children of indigenous peoples in the Okha and Nogliki districts, and development of the Oil and Gas Engineering Institute and its facilities.

ENL and members of the Consortium promptly respond to the public’s needs and render assistance in the event of emergency situations such as the earthquake in Nevelsk in 2007.

8. RISK MANAGEMENT AND EMERGENCIES PREVENTION

ExxonMobil’s culture of risk management

Application of OIMS is required across all of ExxonMobil’s functions and operations, with particular emphasis on design, construction and operations.

“OIMS is the way we do business. This system allows us to manage SSH&E risks in a consistent and reliable manner to achieve operational excellence. OIMS is embedded in our culture and has resulted in behaviors that reflect our core values.” (Paul Schuberth, Upstream Safety, Security, Health and Environment Manager)

For example, in 2005, drilling operations developed the hurt-free approach to personnel safety. The hurt-free approach was developed as an alternative to traditional treatment-based programs to align with the vision of Nobody Gets Hurt. The hurt-free approach program
provides a framework that enables a culture of caring while also allowing for insightful trend analysis through consistent assessment of actual severity of incidents and their potential consequences. In response to its success in our drilling operations, we rolled out the approach to the Upstream business in 2012 and are now implementing it company-wide. ExxonMobil holds internal and external workshops and collaborative meetings to promote the hurt-free approach across the corporation and across industry. The Company has been able to demonstrate that drilling operations can be performed all over the world in a safe and environmentally sound manner, whether in an Arctic environment or other high-risk environments with appropriate application of risk management principles and programs.

**ENL risk management and incidents prevention**

The ENL strategy is based on the concept that all field development activities should be implemented in such a way as to minimize the risks to the environment and human health and safety. With respect to this strategy, all types of activities should be analyzed for the purpose of reducing the risks of potential hazards.

A risk assessment has been conducted on the Sakhalin Project to assess potential safety, health, environmental, and property impacts.

The risk analysis procedure is conducted in the following sequential steps:

- Determination of potential causes that could result in a hazard
- Development of credible scenarios that lead to undesirable events
- Listing preventative safeguards that may prevent the event from occurring
- Listing the mitigating measures that may limit the extent of damage associated with the scenario
- Describing the consequences of the event in terms of the potential for harm to people and the environment
- Analysis of scenario realization frequencies from historical data
- Development of solutions to reduce risk through the use of a risk matrix;
- Documenting any additional remedial measures or actions that may be considered to further reduce the risk associated with the scenario.

The necessary systems of safety measures and equipment meeting the requirements of applicable safety standards are provided for all identified hazards.

Development of the necessary incident prevention measures and calculation of the manpower and equipment needed for timely response are provided by drafting such documents as the Industrial Safety Declaration, the Emergency Response Plan, and the Oil Spill Response Plan.

**Precautions to Prevent Emergencies**

The risk of incidents is reduced and damage is minimized by general and specific safety measures (Table 1 and Table 2):

<table>
<thead>
<tr>
<th>Description of actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development and control of fulfilling detailed process regulations</td>
</tr>
<tr>
<td>Training and examination of personnel knowledge</td>
</tr>
<tr>
<td>Regular technical maintenance of equipment</td>
</tr>
<tr>
<td>Anticorrosive protection of equipment</td>
</tr>
<tr>
<td>Regular inspections and checkups of safety assurance systems</td>
</tr>
</tbody>
</table>

Table 1. General measures to minimize emergencies:
Description of actions

The quality of construction and assembly work shall be inspected.

Operations shall be subject to continuous industrial and environmental monitoring.

Table 2. Special measures for minimization of emergencies:

<table>
<thead>
<tr>
<th>Description of actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation and isolation of technological processes and equipment (safety, cutoff valves, etc.);</td>
</tr>
<tr>
<td>Early hazard identification systems (gas analyzers, etc.);</td>
</tr>
<tr>
<td>Automatic leakage control system;</td>
</tr>
<tr>
<td>Equipment Emergency Shut-down Systems</td>
</tr>
<tr>
<td>Construction of secondary safety barriers (levees, trays, drains, waterproofing geomembranes)</td>
</tr>
<tr>
<td>Passive and active fire protection systems</td>
</tr>
</tbody>
</table>

Technology and work management take into account the high seismicity of the production facility locations and exposure to other geological hazards (underflooding, gullyng, marsh formation, etc.), specifically by the development of measures to prevent the manifestation and effects of these processes.

Fire protection activities at the facility are a part of general strategy aimed at incident-free operation of technological equipment.

The basic principles of fire safety used in developing fire-protection measures are:

- Compliance with RF regulatory requirements governing fire safety in the design, construction and operation of a facility;
- Use of modern fire prevention and fire protection systems and administrative and technical fire protection procedures
- In accordance with RF regulations, the fire safety of Sakhalin 1 facilities is ensured by:
  - Fire prevention system;
  - firefighting systems;
  - A system of organizational and technical measures.

The fire-prevention system calls for:

- The use of new technologies and process equipment ensuring the highest degree of fire safety;
- Use of slow-burning and incombustible materials;
- Reduction of the fire load
- Measures to prevent the formation of a combustible environment and the origination of ignition sources therein;
- Maximum process mechanization and automation;
- The use of devices to protect equipment from damage.

The fire prevention system is deployed in the form of specific technical solutions: In the master plan, the production part of the plan, power supply, ventilation, etc.

Administrative and technical measures include:

- Organization of fire safety of facilities and cooperation of fire safety services with territorial subdivisions of the State Fire Fighting Service;
Environmental Management and Environmental Protection Policy.

- Determination of fire hazard levels of substances, materials and technological processes;
- Providing fire safety training for employees;
- Development of facility-specific regulations, instructions and other documents for handling inflammable substances and materials;
- Development of measures for personnel actions in the event of a fire, and the organization of evacuation of personnel;
- Implementing technical solutions to provide for successful fire extinguishing;
- Specifying the procedure for storing substances and materials which cannot be extinguished with the same agents;
- Using devices for automatic and automated protection of the facility’s production equipment from unauthorized and mistaken actions of personnel that may cause fires or explosions;
- Schedules for testing and maintaining active fire-protection subsystems, etc.

ENL readiness for emergency prevention and response

ENL readiness for emergency prevention and response is ensured by the following:
- Creating a three-tier operations command system for oil spill response which includes the use of company’s own manpower and resources, as well as response professionals from contractors acting as a coordinated group for emergency response at the facility;
- Availability of manpower and resources for prevention and containment of emergencies at Sakhalin 1 production facilities;
- Creation of a personnel education and training program dealing with emergencies, including study of the features of production facilities and areas of applicability of the Plans and special equipment and procedures for its use, as well as development of tactics for dealing with emergencies at a single complex;
- Response capability will be provided by ENL with assistance, as required, from other Sakhalin, Russian Far East, and international resources.
- Protection of ENL facilities against potential natural and man-made impacts.
- Compliance with industrial, environmental, and fire safety requirements during field exploration, development construction, production and during storage of oil and oil products.
- Buildup of reserve of material and financial resources for Emergency Situation response.
- Compulsory liability insurance, consistent with requirements of the Sakhalin 1 Production Sharing Agreement, against damage from operations of hazardous industrial facilities.

Monitoring of the implementation of measures for emergency prevention, containment, and response is conducted by the relevant executive agencies of the Russian Federation with supervisory authority in the course of scheduled and unscheduled inspections in accordance with Russian regulations, as well as in the process of conducting drills and training on emergency containment and response.


The obligations of Sakhalin 1 Consortium in regard to compensation for damages are defined in Article 25 of the Production Sharing Agreement, which states that “the Consortium is responsible for actual damage or injury directly caused by the development of fields for which the Consortium is responsible under the applicable laws of the Russian Federation.”

The Consortium provides and maintains kinds and amounts of insurance commensurate with reasonable risk management. Types of insurance may include, but are not limited to, insurance against loss of assets, loss of use of assets, loss of investment value, control of well
and re-drilling expenses, pollution and seepage costs and liability, general third-party liability, and such other insurance as is consistent with good Oil and Gas Industry practice.

ENL annually enters into civil liability insurance contracts with SOGAZ JSC providing coverage against the risk of harm including to the life or health of people, the environment, the life or health of animals and plants, and cultural heritage sites of various ethnicities of the Russian Federation resulting from defects in construction work and engineering surveys or design documentation affecting the safety of capital construction facilities. Insurance contracts with a combined coverage limit of RUB 400 mln. are currently in effect.

ENL annually enters into insurance contracts with SOGAZ JSC providing coverage against the company’s liability for the harm to the life, health, and property of third parties and the environment resulting from incidents at hazardous industrial facilities operated by the company. Insurance contracts with a combined coverage limit of RUB 555 mln. are currently in effect.

With a view to forming necessary provisions for natural and manmade emergencies containment and response efforts at Sakhalin-1 Project facilities, a special financial reserve for immediate response operations was created in November 2015.

In April 2016, an environmental civil liability insurance contract was signed providing coverage against the risk of harm to the environment, including aquatic resources, as well as the life, health, and property of third parties resulting from oil and petroleum product spills during the company’s Sakhalin-1 Project operations, with a coverage limit of RUB 100 mln.

In April 2017, an environmental civil liability insurance contract providing coverage against the risk of harm to the environment, including aquatic resources, as well as the life, health, and property of third parties resulting from oil and petroleum product spills during the company’s Sakhalin-1 Project operations was extended, with a coverage limit of RUB 100 mln.

10. Energy Efficiency Improvements

Measures to ensure the energy efficiency of all buildings, structures and facilities of the Sakhalin-1 Project are developed at the planning stage and presented for state expert review as part of the relevant design packages.

In terms of the degree of power supply reliability, electrical loads of the Sakhalin-1 Project are subdivided into reliability categories and grouped by redundancy requirements, which rules out the installation of electric equipment with excessive power demand and prevents energy losses.

ENL is implementing the following electricity-saving measures at Sakhalin-1 Project sites:

- Indoor workplace lighting is provided by LED lamps and high-pressure sodium lamps with a higher luminous efficacy factor and a longer service life.
- Supply and distribution circuits are laid along optimal routes to minimize voltage losses.
- Phases are evenly loaded within each switchgear unit.
- Process flows have been optimized by using a scientifically calculated efficient pipeline diameter and installing software that controls the operating mode of electrical heat tracing of pipelines.
- High-efficiency electric motors are used.
• Power sources are installed centrally to electrical loads.
• Outdoor lighting is controlled by photocells that turn off the power supply in the daytime.
• Electric heat tracing of pipelines and equipment is controlled automatically depending on the ambient temperature.

Energy (primarily electricity) saving is ensured through the use of modern equipment, microprocessor-based process control systems, operating mode control software, and through state-of-the-art maintenance and repairs of primary and secondary equipment.

Sakhalin-1 Project sites have a self-contained power supply system. Facilities are supplied with electricity from gas-turbine and diesel generators. Fuel for gas turbines is produced directly at Sakhalin-1 Project sites.

Design documentation for Sakhalin-1 facilities includes the chapter “Measures to ensure compliance with energy efficiency requirements and requirements for the equipment of buildings, structures and facilities with energy meters”. The chapter, as mandated by RF laws must be submitted for State Expert Review as part of design documentation.

Pursuant to the requirements of Federal Law #261-FZ “On Energy Saving and Improvements of Energy Efficiency and Amendments to Certain Legislative Acts of the Russian Federation”, ENL in 2012 conducted an energy inspection of the Company’s production facilities, the head office in Yuzhno-Sakhalinsk, the base camp in Nogliki and Olympia residential facility. Based on the results of the energy inspection, a report was compiled and the energy certificate developed. The certificate includes the following information:

• availability of equipment for metering the energy resources used;
• amount of the energy resources used;
• indicators of energy efficiency;
• potential for energy saving, including an estimate of potential saving of energy resources in kind;
• a list of typical measures for energy saving and improvement of energy efficiency.

ENL’s energy use efficiency enhancement program is part of ExxonMobil’s Global Real Estate, Environmental Services and Facilities Management (GREF) activities. One of the key aspects of GREF’s operation is management of effective water use and power, including reductions in consumption of these resources, mitigation of the potential environmental impact, and curtailment of operational costs.

ENL’s GREF draws up an annual Environmental Business Plan, which allocates priorities and expectations for each business unit. Performance assessment is also done on an annual basis.

The methods used to improve energy use efficiency, among others, include:

- Level 1 power consumption audit, which includes regular review of the general configuration of the facilities, types and quality of energy systems used for the purpose of their refinement and optimization;
- Level 2 power audit used to assess and identify opportunities for energy saving by the available personnel using minimal resources;
- The KNOW YOUR ENERGY SOURCES program, which is expected to hone the understanding and control of all energy sources and of their utilization factor.
In addition, ENL’s GREF runs the "program, which is intended to remind employees, visitors, and partners to turn off the equipment and electric appliances when they are no longer in use. Another program is known as ENVIRONMENTALLY RESPONSIBLE USE OF OFFICE EQUIPMENT, which calls for environmentally responsible operation and maintenance of equipment and appliances.

In 2016, the total energy consumption in the office premises of ENL decreased by 52% vs 2010.

Quantitative indicators of energy efficiency are calculated for ExxonMobil as a whole and are included in the 2016 Corporate Citizenship Report. The Focus Directions and the Table of Indicators from this document are posted on the web-site www.exxonmobil.ru

11. CONTRACTOR WORK MANAGEMENT REQUIREMENTS

Contractor's Responsibilities.

In accordance with the contracting procedure approved by ENL, which is included in tender document packages, contractors are required to develop an Environmental Protection Plan. The Plan should include solutions / programs for waste management and engagement of the relevant services, environmental, socioeconomic, and sanitation monitoring, prevention of water pollution, oil spill response, measures to comply with legal and regulatory requirements, assessment of impacts on environmental, socioeconomic, and sanitary conditions, and measures for their mitigation and elimination and should provide for training and appropriate reporting. These programs are reviewed and approved by ENL before starting work.

Each contractor is required to identify and obtain all necessary permits, notifications, authorizations, approvals, licenses, and agreements with applicable stakeholders that are required to progress work and as agreed in the contractor's Regulatory Compliance Plan. The Plan is also submitted for careful review before the start of work and is approved by ENL.

In accordance with the terms of the contract, the Contractor must create a division responsible for compliance with environmental regulations, including the requirements of the Environmental Protection Plan covering the Contractor's scope of work.

Contractors should require that their subcontractors meet similar requirements, and in internal inspections each contractor must include data on the compliance of its subcontractors with environmental protection requirements in its reports.

Contractors are responsible for the proper training of their workers and the workers of subcontractors, as well as their awareness of current environmental and other legal/regulatory requirements and obligations and the environmental requirements for the Project.

Contractors shall periodically evaluate and adjust their Regulatory Compliance Plans and programs for management and monitoring of environmental and socioeconomic activities to ensure efficiency and to promote steady improvement.

Contractors are responsible for all legal/regulatory, environmental, socioeconomic, and sanitary aspects of their work, including work performed by their subcontractors.

Contractors shall ensure that their subcontractors have implemented Regulatory Compliance Plans and Environmental Protection Plans (including plans for waste management, spill prevention and response, social and economic activities, training, and monitoring), as well as the relevant procedures which are compliant with Contractor-approved Regulatory Compliance Plans and Procedures and the Environmental Protection Plan.
Interaction between the ENL Project Environmental Protection Team and Contractor

To ensure the appropriate level of organization of environmental protection activities and compliance indicators in the Environmental Protection Plan for the Project, ENL has put in place an effective process for exchanging information between the Project Team and contractors.

The ENL Environmental Protection Team performs the following functions:

♦ Oversee/monitor Contractor’s management of the environmental aspects of its work activities on a regular, on-going basis
♦ Coordination of the interaction between the Contractor Team responsible for the execution of the Environmental Protection Plan and third parties with a relationship to the Project (the representatives of state agencies, private organizations, etc.).

Interaction of ENL personnel with specific state authorities does not relieve the Contractor of full responsibility for the implementation of its own regulatory compliance procedures and compliance with the relevant approval conditions.

The interaction between the ENL Environmental Protection Team and the Contractor Team responsible for the implementation of the Environmental Protection Plan includes the following:

♦ Causing contractors to implement the Environmental Protection Plan in a proper manner;
♦ Consultations regarding proposed change events as part of the Change Management Process;
♦ Submittal of proposed changes to the Environmental Protection Plan by the Contractor to the ENL Project Team for approval;
♦ Mandatory immediate communication with the ENL Project Team concerning failure to comply with environmental requirements;
♦ Mandatory immediate communication with the ENL Project Team concerning spills of hazardous substances;
♦ Mandatory transfer of information by the Contractor to the ENL Project Team on environmental monitoring, audits, and inspections conducted at the work sites;
♦ Weekly and monthly reporting by Contractor regarding environmental performance and statistical data

The ENL Environmental Protection Team conducts periodic checks of Contractor work sites (including ships).

In the event of an environmental emergency, the Contractor shall forward a notice to the ENL Project Team immediately and take appropriate measures to respond to the emergency and mitigate its consequences.

12. INDUSTRIAL ENVIRONMENTAL CONTROL AND ENVIRONMENTAL MONITORING SYSTEM

ENL performs industrial environmental control at the Sakhalin 1 Project facilities and environmental monitoring in the areas of their potential environmental impact in accordance with the Sakhalin 1 Project Environmental Monitoring and Industrial Environmental Sanitary Control (EM & IESC) Program, which has received a favorable state environmental expert review opinion. The EM & IESCP is an informational and measuring system that is implemented using technical, software, information and organizational means providing complete, on-line, reliable and comparable information about the environment.
Environmental monitoring practices during oil spill incidents are detailed in the Corporate Plan for prevention and response to oil and oil products spills for Exxon Neftegas Limited production facilities under the Sakhalin 1 Project.

**ENL strategy for environmental monitoring and in-process control**

In compliance with current environmental protection laws, standards and regulations of the Russian Federation, and with due consideration of the applicable international conventions on environmental protection signed by the Russian Federation and guided by agency regulatory documents, ENL has performed and continues to perform environmental studies and industrial environmental control during construction and operation of Sakhalin 1 production facilities.

Environmental studies, a potential environmental impact assessment, and industrial environmental control are integral components of environmental management:

The essence of the in-process environmental control and environmental monitoring concept is as follows:

- Environmental surveys, including determination of baseline environmental indices, are performed during the pre-construction phase;
- A detailed potential environmental impact assessment is performed using the results of environmental studies by ENL at the project site and the results of environmental monitoring and industrial control at active Sakhalin 1 facilities; the intensity, duration and spatial dimensions of zones of potential impact on elements of the environment are determined for different phases of project implementation;
- Based on the results of the impact assessment, an Environmental Monitoring and In-Process Control Program for the construction and operation phases is developed;
- Programs for study of individual elements of the environment and study and protection of vulnerable species are developed and implemented;
- Compliance of production operations with the environmental laws and implementation of environmental protection measures is monitored, and records are kept of the use of natural resources;
- The environmental monitoring and industrial control program include monitoring of the actual environmental impact of commercial activities;
- The monitoring results are used for operational management in planning production activities.

**Goals and Objectives of Environmental Monitoring and Industrial Environmental Control**

The goals of environmental monitoring and industrial control are to:

- Ensure compliance with environmental standards and implement measures for environmental protection and sustainable use of natural resources;
- Compliance with environmental requirements prescribed by the laws of the Russian Federation;
- Implementation of the Company’s environmental protection policy;
- Ensuring that the environmental information is comprehensive, provided on time and reliable.

The principal objectives of environmental monitoring and industrial control are to:

- Monitor implementation of environmental protection measures, instructions, and recommendations of specially authorized government agencies in the field of environmental protection;
Enforce the prescribed standards and rules for handling hazardous wastes and materials;
♦ Monitor sustainable utilization of natural resources and keep records of their use;
♦ Monitor the state of elements of the environment in the facility impact zone;
♦ Observe hazardous natural processes that affect project facilities and predict the development of monitored indices of these processes;
♦ Maintain the facility's environmental documentation;
♦ Submit the information specified by the Company's environmental management system in a timely manner;
♦ Submit in a timely manner the information included in government statistical reports and other reports submitted to government regulators and oversight agencies of the Russian Federation.

Stages of environmental monitoring

Environmental monitoring of the Sakhalin 1 Project facilities is done in three stages:

♦ Baseline monitoring (pre-construction);
♦ Local environmental monitoring and industrial environmental control at the construction stage (construction monitoring);
♦ Local environmental monitoring and industrial environmental control at the stage of operation (operational monitoring).

Pre-construction monitoring involves an appraisal of the status of environmental components in the projected zones of project facilities prior to the start of construction work. The data thus obtained are subsequently used as inputs for the evaluation of the potential environmental impact of Sakhalin 1 Project facilities in the course of their construction and operation.

The construction monitoring stage involves industrial control of environmental impact and environmental status monitoring during construction of the facilities.

Operational monitoring begins as the facilities go on stream. The stage of operational monitoring involves industrial environmental monitoring of the impact on the environment and environmental status monitoring during operation of the facilities.

Management of in-process environmental control and environmental monitoring.

The environmental monitoring and industrial environmental and sanitary control system is divided into the following functional subsystems:

♦ Data measurement;
♦ Data transmission;
♦ Data management.

The environmental observations combine two systems: monitoring the sources of potential environmental impact and monitoring the condition of the environment. The system for monitoring the sources of potential environmental impact records emissions, discharges, levels of physical impact and the volumes and movement of production and consumption waste. Monitoring of the condition of the environment includes measurement of parameters of the air, surface water bodies and groundwater, the geological environment, soil cover, vegetation, aquatic biota and terrestrial wildlife.

ENL performs the following field studies:
Environmental Management and Environmental Protection Policy.

Atmospheric emission monitoring
Sampling of atmospheric emissions
Measurement of Gas-air Mixture Parameters
Measuring Pollutant Concentrations

Atmospheric air and work area air:
Sampling to Determine Pollutant Content
Measuring Pollutant Concentrations

Monitoring of wastewater discharge and the quality of surface and subsurface water:
Water sampling to Determine Pollutant Concentrations

Physical impact factor monitoring:
Noise Measurement
Electromagnetic Field Measurement
Vibration Measurements

Monitoring of geological processes:
Observations of Exogenous Geological Processes

Soil conditions control:
Soil Sampling

Monitoring of vegetation status
Field Material Collection
Organization of permanent test site network
Work at base sites

Control of wildlife conditions
Monitoring of wildlife species specified in the monitoring program

Properly accredited and certified Russian laboratories are enlisted for laboratory work. All laboratory studies are conducted in accordance with existing Russian methods included in the State List of Quantitative Chemical Analysis Methods and the Federal List of Methods for Carrying out Measurements Allowed for Use in Performing Environmental Pollution Monitoring, and RF Ministry of Health methods.

This environmental monitoring program makes it possible to monitor the quality of the natural environment during implementation of the Project. Using the monitoring findings, ENL and its contractors take adequate and timely measures to mitigate the potential environmental impacts. The information acquired in the environmental monitoring process is duly conveyed to Russian governmental authorities.

13. PUBLIC AWARENESS OF PROJECT PROGRESS

The public is kept informed throughout the Sakhalin 1 Project period

<table>
<thead>
<tr>
<th>Data transmission equipment;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
</tr>
<tr>
<td>Mass media (newspapers, television, radio)</td>
</tr>
</tbody>
</table>
ENL conducts public consultations on EIA materials and promotes public participation in the process of assessing the potential environmental impact of the project, providing the opportunity to express opinions on the key issues related to this process.

A notice advising of public consultations is published in Federal and Oblast papers, such as Sakhalinsky Neftyanik (the city of Okha), Znamya Truda (the settlement of Nogliki), Gubernskie Vedomosti (Yuzhno-Sakhalinsk), Rossiyskaya Gazeta. The EIA technical assignment and preliminary materials are made available to the public for review at local libraries.

Concerned citizens and public organizations may comment on EIA materials during public consultations, as well as by hot line telephone and other duplex communication channels.

The public comments and suggestions are taken under advisement and integrated into the EIA materials submitted as part of the submittal package for State expert review.

**Public Consultation Communication Methods**

<table>
<thead>
<tr>
<th>Form</th>
<th>Where held</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview / focus groups</td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Nogliki, Okha, Bogorodskoe</td>
<td>Environmental protection policies;</td>
</tr>
<tr>
<td></td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Nogliki, Okha</td>
<td>Study of environmental protection issues and updating of EIA</td>
</tr>
<tr>
<td>Public Opinion Survey</td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Korsakov, Aleksandrovsk-Sakhkalinski, Nogliki, Okha and Dolinsk</td>
<td>Determination of baseline data</td>
</tr>
<tr>
<td></td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Okha, Val, Nogliki, DeKastri</td>
<td>Determination and comparison of baseline data</td>
</tr>
</tbody>
</table>
Environmental Management and Environmental Protection Policy.

<table>
<thead>
<tr>
<th>Form</th>
<th>Where held</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public opinion exit poll</td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Val, Nogliki, Okha, DeKastri,</td>
<td>Collection of additional information</td>
</tr>
<tr>
<td></td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Val, Nogliki, Okha, DeKastri,</td>
<td>Collection of additional information</td>
</tr>
<tr>
<td>Stakeholder workshops</td>
<td>Yuzhno-Sakhalinsk, Kholmsk</td>
<td>Exchange of information and determination of public opinion</td>
</tr>
<tr>
<td></td>
<td>YUZHNO-SAKHALINSK</td>
<td>Exchange of information and determination of public opinion</td>
</tr>
<tr>
<td>Open Door Sessions</td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Val, Nogliki, Okha, DeKastri,</td>
<td>Exchange of information and determination of public opinion</td>
</tr>
<tr>
<td></td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Val, Nogliki, Okha, DeKastri,</td>
<td>Exchange of information and determination of public opinion</td>
</tr>
<tr>
<td>Books with the documentation and comments in public (city, town) libraries</td>
<td>Yuzhno-Sakhalinsk, Kholmsk, Korsakov, Val, Nogliki, Okha, DeKastri, Nikolaevsk-na-Amure</td>
<td>Exchange of information and determination of public opinion</td>
</tr>
</tbody>
</table>

ENL promotes regular meetings with a wide range of parties affected by the project. Meetings with regional and local authorities are an important component of the system for project management and addressing of regulatory issues. Representatives of regional and local government bodies are involved in determining the issues to be discussed with the public at open door days, seminars, and other events.

ENL recognizes the importance of public participation in the discussion of issues related to the project. ENL employees participate in numerous community events and intend to continue this interaction with the public on Sakhalin Island and in Khabarovsk Krai and to arrange presentations and events for schools, environmental groups, local government, business groups, and community organizations.

14. “GREEN” OFFICE INITIATIVES

ENL GREF draws up an annual Environmental Business Plan, which lays out fundamental strategic principles and long term plans for environmental protection. GREF was created to lead company employees, clients, contractors and other organizations and individuals involved in environmental protection. The environmental business plan lists priorities and routine tasks for each of the company’s business units each year. Their performance in achieving the objectives is also rated on an annual basis.

The key focus areas for ENL’s GREF include:

1 – Strict compliance with RF environmental laws, assessment and management of potential risks;
2 – Cascading to employees in the field about the environmental protection requirements and the company’s programs for waste reduction and prudent consumption of water and power. Employees’ responsible awareness, enhanced involvement and participation by contractor personnel and the employees of recruiting and service companies, understanding of the need to mitigate the potential environmental impact.
3 – Waste management including development and implementation of measures to minimize waste generation, to re-use and recycle waste;
4 – Prudent water and power use management, including reduced consumption;
5 – Setting up, development and expansion of natural complexes at Sakhalin-1 facilities, participation in strategic partnership programs to conserve nature and promote biodiversity;

6 – Setting up, development, and expansion of Sakhalin-1 “green” facilities, including creation of an environmental responsibility culture and ensuring of personnel’s sound health and safety.

Environmental protection program implementation relies on documented corporate programs and on environmental protection initiatives coming from company employees, contractors, clients and other stakeholders among organizations and individuals.

**Corporate environmental protection initiatives**

- “Enhance personnel involvement” through heightening field personnel and contractor awareness of the need to take stock of their behavior and to replace habitual behavior with environmentally safe actions;

- “Remember the switch” drive is intended to induce employees, contractors, visitors and partners to turn off the equipment and appliances which are no longer in use to save electricity and to heighten the feeling of being involved and of responsibility for the facility environmental stability;

- “Environmentally responsible use of office equipment” is a drive which ensures safe and environmentally responsible operation of equipment and appliances which consume materials, water, and power;

- “Power consumption audits” call for regular reviews of the general configuration of facilities, type and quality of power systems used – for the purpose of their optimization and improvement, they are also used to assess and identify opportunities to save power by the local personnel, drawing on minimal resources;

- “Effective use of cups” is a drive to encourage employees, visitors, and partners to refrain from using disposable tableware to minimize waste;

- “Tame the paper tiger” is a drive to reduce purchases and use of paper;

- “Eliminate construction trash” is an initiative to reduce trash and debris, to fine-tune trash segregation, to recruit local waste management companies;

- “Report leaks and stay aware of your responsibility” promotes company personnel and contractor in detecting and timely reporting of water leaks;

- “Creation of effective comfort zone” is a drive to create an attractive and comfortable ambience and to optimize the local ecosystem outside of the office building, etc.

![Landscaping](image1)

![Inspection of the planted trees condition](image2)

![Green lawns in the Yuzhno-Sakhalinsk office premises](image3)
Environmental Management and Environmental Protection Policy.

-“Support of Biodiversity within the Office Premises” have been developed based on the high environmental standards of ExxonMobil and is implemented for the purpose of progressing biodiversity, identification and implementation of measures for protection and mitigation of impacts on flora and fauna habitats and species.

<table>
<thead>
<tr>
<th>Effectiveness Indicators of the Ecological Office Program</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction of energy consumption*</td>
<td>40%</td>
<td>52%</td>
</tr>
<tr>
<td>Reduction of water consumption*</td>
<td>14%</td>
<td>12%</td>
</tr>
<tr>
<td>Reduction of waste generation volumes*</td>
<td>30%</td>
<td>49%</td>
</tr>
<tr>
<td>Percentage of wastes directed for recycling</td>
<td>15%</td>
<td>23%</td>
</tr>
<tr>
<td>Reduction of disposable paper cups use*</td>
<td>51%</td>
<td>37%</td>
</tr>
<tr>
<td>Reduction of office paper used**</td>
<td>ongoing</td>
<td>17%</td>
</tr>
<tr>
<td>Biodiversity Index in the office premises</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>Creation and maintenance of a page on the Intranet to post office environmental indicators</td>
<td>completed</td>
<td>completed</td>
</tr>
<tr>
<td>Replacement of disposable paper cups with nondisposable mugs</td>
<td>-</td>
<td>completed</td>
</tr>
</tbody>
</table>

* the data vs 2010
** the data vs 2015