Purpose

This document Summary of Oil Spills Prevention and Response Plan for Prigorodnoye Asset Offshore Operations is provided for public information, in accordance with the requirements of the Sakhalin Energy’s Health, Safety, Environment and Social Action Plan (HSESAP).

The purpose of the Oil Spills Prevention and Response Plan for Prigorodnoye Asset Offshore Operations is to arrange and prepare the effective Emergency Response that mitigates the potential consequences of an Incident to people (local community and Company personnel), environment, Company assets and reputation, and enables normal operations to be resumed efficiently.

Please refer to the document “Summary of the Corporate ER Standard in relation to oil spill preparedness and response” for an overview of this topic and links to summary plans of other Sakhalin Energy facilities.
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1. **Scope of the Plan and Facility Description**

Prigorodnoye Asset (Prigorodnoye Production Complex) is situated in Prigorodnoye village area, 11 km east of Korsakov. The asset territory makes up 112.6 hectares and is divided in two by the Goluboy Stream. The LNG Plant is located in the western part of the site, and the eastern part is occupied by the Oil Export Terminal (OET). The north-east corner of the site has the coordinates 46° 37’ 52” north latitude and 142° 55’ 35” east longitude, and the landfall point in Aniva Bay has the coordinates 46° 37’ 18” north latitude and 142° 55’ 25” east longitude.

Prigorodnoye Production Complex comprises the following facilities (Fig. 1):

1. Liquefied natural gas (LNG) production plant including process trains, power plant, emergency diesel generators;
2. Oil Export Terminal (OET) tank farm;
3. Onshore process pipelines;
4. Marine Operations Base (MOB);
5. LNG loading jetty;
6. Tanker Loading Unit (TLU) for oil tankers loading;
7. Support vessels providing support for production operations, including tanker and LNG carrier piloting and servicing; and

![Fig. 1 Schematic map of the Prigorodnoye Asset (Production Complex)](image-url)

Facilities described in 1-3 are located onshore and refer to onshore OSR operations. Facilities mentioned in 4-8 are located shoreline and offshore (Fig. 2) and refer to marine response operations.
Prigorodnoye Production Complex receives oil and gas delivered from the north of Sakhalin Island via two trunk pipelines. Oil enters the oil storage tanks situated on the territory of the Oil Export Terminal (OET) and as tanks are filled, is loaded into tankers for further delivery to consumers. Gas is processed in LNG plant gas liquefaction equipment: purification, fractionation, liquefaction to 1:600 volume at -160°C, then liquefied natural gas (LNG) is delivered for storage into purpose-built tanks. As tanks are filled, liquefied natural gas is loaded into LNG carriers to be delivered to customers.

LNG carrier loading with liquefied natural gas (LNG) takes place at the LNG Jetty at about 900 m distance from the shoreline. Tanker loading with oil is performed at the Tanker Loading Unit (TLU), 5 km from the shoreline, where it is delivered via a 30” offshore export oil pipeline.

Double hull oil tankers are used for marine transportation in order to minimise oil and oil products spill risks during loading and transportation operations.

The support vessels fleet in Prigorodnoye port comprises the following vessels:

- 4 ice class harbour tow boats;
- 2 ice class line boat;
- 1 ice class OSR vessel; and
- 1 icebreaking vessel (during the ice season).

These vessels or a combination of these vessels are used for mooring and unmooring purposes, as well as for escorting oil and LNG carriers into the port. The required number of tows and boats is determined individually for each tanker and LNG carrier.

![Fig. 2 Prigorodnoye Port](image-url)
The following operations with oil products are carried out in Prigorodnoye port.

- Tankers loading from the oil offshore oil pipeline;
- Loading liquefied natural gas into LNG carriers through the offloading hose installed at the LNG offloading jetty; and
- Loading diesel fuel storage tank for emergency diesel-generator at TLU.

All vessel fuelling operations are performed by third parties in areas outside the Sakhalin Energy responsibility zone. In case of hydrocarbon spills during fuelling, Sakhalin Energy will assist in response operations after a respective request or demand from RSChS bodies is received.

Reserves of diesel fuel required for operations are stored on tow boats, line boats and support vessels. These ships are also fuelled in areas outside the Sakhalin Energy responsibility zone.

Table 1 below lists characteristics of oils used at Company assets, potential spills of which are considered in OSR Plans.

### Table 1. Oils used at Sakhalin Energy assets

<table>
<thead>
<tr>
<th>Oil Type</th>
<th>Density (specific gravity)</th>
<th>API Gravity, degree</th>
<th>Pour Point °C</th>
<th>Flash Point °C</th>
<th>Kinematic viscosity cSt(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel L-0.5-62 Grade</td>
<td>0.843</td>
<td>37.6</td>
<td>-14</td>
<td>66</td>
<td>5.06</td>
</tr>
<tr>
<td>Vityaz Crude</td>
<td>0.79 - .098*</td>
<td>34.5**</td>
<td>-7 - + 38*</td>
<td>4.31</td>
<td></td>
</tr>
<tr>
<td>Shell Rimula Super</td>
<td>0.882</td>
<td>-35</td>
<td>198</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Shell Gadinia</td>
<td>0.891</td>
<td>-21</td>
<td>265</td>
<td>14,1</td>
<td></td>
</tr>
<tr>
<td>Heavy Fuel Oil(2)</td>
<td>&gt;0.9</td>
<td>12.3</td>
<td>-10 до 30</td>
<td>&gt; 60</td>
<td></td>
</tr>
</tbody>
</table>

(1) Centistokes – a measure of kinematic viscosity.
(2) Typical specification. Note HFO is also referred to as Fuel Oil No 6 or Bunker C Fuel Oil.
* - MSDS “crude oil Vityaz”
** - for average API gravity 0.85g/cm³

This data was used for modelling and calculating the potential damage from oil spill in the area of oil transfer operations and their transportation.

### 2. Oil Spill Prevention

Sakhalin Energy takes a systematic approach to identify hazards, assess risks, and implement controls to prevent incidents and emergencies. Measures that allow reducing the risk of oil spills or spill volumes to as low as reasonably practicable (ALARP) include the following arrangements, which allow reducing the possibility of spills or bringing their volumes to minimum:

- Establishment of zones closed for navigation and fishing;
- Use of double bottom tankers (double hull design);
- Pipeline design ensuring surge control;
- Implementing detailed operating instructions for offshore operations during tanker loading and Prigorodnoye port conditions for inbound vessels;
- Emergency shutdown systems;
- Emergency release system (for hoses and mooring ropes);
- fully rotating topsides which enables moored tankers to move around the TLU 360° taking given intensity of loads related to environmental exposure;
- Use of stop valves and breakaway couplings; and
- Assurance of tankers pilotage to the LNG Loading Jetty and TLU.
Provision is made for the use of several support vessels for assistance during tankers piloting and mooring and safety assurance at Prigorodnoye Production Complex offshore facilities in Aniva Bay, which would minimise the risk of accidental oil spills. Such vessels include:

- Ice class tow boats for tankers piloting and escorting;
- Ice class vessels able to act as icebreakers and ensure performance of operations in ice conditions;
- Line boats to ensure safe mooring of tankers at the LNG Loading Jetty and TLU during the ice-free season; and
- Specialised OSR vessel on duty for prompt response to oil spills.

There is a specialised OSR vessel on duty at a safe distance downstream the TLU during tanker loading operations, ready for immediate deployment of on-board oil recovery systems of trawling type.

Pipeline monitoring is performed using software for pipeline leak detection, interfacing with the leak detection system that uses methods for determining flow instability, pressure changes, as well as statistical control methods (SCADA system).

There is a fire and gas detection, alarm and protection system installed at TLU structures. This system represents the main tool for detecting fire hazard and gas entry into premises of TLU structures. Its purpose is to send a respective signal to the equipment emergency shutdown system and to turn on the emergency audio and visual alarm at TLU and OET facilities.

These protection measures are part of safety systems and emergency shutdown systems at onshore OET and LNG Plant facilities.

3. Prediction of Oil Spill Volumes and Areas, Resource Utilisation Planning

In the course of preliminary planning of OSR resources in line with Quantitative Risk Assessment Project Specific Technical Specifications, Sakhalin Energy has performed a spill risk assessment including:

- Identification of potential spill sources; and
- Calculation of potential spill volumes.

Calculation of potential spill volumes has been performed in line with RF Government Executive Order No. 613 dated 21.08.2000. The volumes of probable maximum spills defined by Sakhalin Energy quantitative risk assessment and regulatory requirements of the RF legislation are indicated in Table 2.

Table 2. Scenarios of maximum potential oil spills near Prigorodnoye Asset

<table>
<thead>
<tr>
<th>Oil spill scenario</th>
<th>Max. Calculated spill volume</th>
<th>Oil type</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage to or dropping overboard of an oil storage barrel.</td>
<td>Up to 220 l</td>
<td>Lube oil</td>
<td>Minor leak or loss of all oil contained in barrel.</td>
</tr>
<tr>
<td>Leak of 50% of supply vessel’s load during fuelling of service vessels.</td>
<td>1,350 m³</td>
<td>Diesel fuel</td>
<td>Maximum probable spill for supply vessels.</td>
</tr>
<tr>
<td>Oil tanker wreck with the leak from 2 tanks*¹</td>
<td>25,000 m³</td>
<td>Mixture of crude oil and condensate</td>
<td>Maximum possible leak from 2 tanks*²</td>
</tr>
<tr>
<td>Pipeline fracture*¹</td>
<td>13,977 m³</td>
<td>Mixture of crude oil and condensate</td>
<td>25% of the maximum volume of 6-hour</td>
</tr>
<tr>
<td>Accident at oil terminal*¹</td>
<td>1,765 m³</td>
<td>Mixture of crude oil and condensate</td>
<td>1,500 tons as provided by Government Executive Order No. 613</td>
</tr>
</tbody>
</table>
The worst scenario for which the list of required and sufficient OSR resources must be specified was identified in accordance with guidelines contained in Executive Order No. 613 issued by the Government of the Russian Federation on 21 August 2000 (as amended by Executive Order No. 240 issued by the Government of the Russian Federation on 15 April 2002). The volume of oil spill in this scenario is 1,500 tons of oil (1,765 m³).

Calculated values of oil spill volumes were used to assess oil spill area and spill impact on the environment. As part of this work, the modelling of spill area boundaries was carried out and environmental sensitivity maps built. The results of environmental monitoring performed by the Company as part of preparation of design documentation for Sakhalin II Phase 2 were used to build the maps.

The modelling of oil slick movement showed that winter spills may impact the area south of Sakhalin Island and in some cases may affect the territorial waters of Japan and its coast (Hokkaido).

The tier of the plan has been identified as federal in view of the possible transboundary impact of oil spills.

In order to provide the possibility for performing oil spill response activities as early as possible Sakhalin Energy has concluded a Memorandum of Understanding with the Japanese Marine Disaster Prevention Centre (MDPC). The major purpose of this agreement is to inform Japanese authorities of spills and ensure commencement of oil spill response activities on the territory of Japan. Awareness will be ensured in line with the approved procedure of notification of authorised persons and stakeholders, (Fig. 5).

For the purpose of response in case the worst scenario occurs with third party vessels, Sakhalin Energy will mobilise all of its OSR resources and the resources of its tier 1 OSR contractors and will respond in conjunction with the specially authorised governmental authorities to oil spills from export tankers transporting crude from the Prigorodnoye terminal.

Sakhalin Energy’s offshore oil spill response equipment is at the OSR vessel, which is on duty in the TLU area, and at the MOB. There is special OSR equipment for the protection and decontamination of the coastline, as well as additional offshore oil spill response equipment. The equipment (booms, skimmers, sorbing materials, floating crafts, vehicles, etc.) is in permanent readiness maintained by Sakhalin Energy Tier 1 OSR contractors.

The copies of environmental sensitivity maps are stored at the Emergency Response Control Centre.

4. Response Strategy and Priorities for Protection

As required by the legislation of the Russian Federation the main objective of responding to oil spills is to contain oil spills at the spill area and, if possible, promptly skim the oil.

The goal of OSR is to minimise the adverse impact of oil on the environment, labour conditions and health of the people. In connection with that Sakhalin Energy maintains equipment, control system,
Summary of Oil Spills Prevention and Response Plan
for Prigorodnoye Asset Offshore Operations

procedures and readiness of personnel at the level that would allow efficiently respond to oil spills at any
time and in any area.

The following priorities are singled out during performance of OSR operations:

- **People**: safety assurance for workers, emergency response personnel and population;
- **Environment**: protection of environmentally sensitive areas and species of fauna (sea mammals,
birds, fish, molluscs and protected coastal biotic communities);
- **Assets**: protection of property and socioeconomic resources (fisheries, for example), as well as
Sakhalin Energy facilities; and
- **Reputation**: protection of Sakhalin Energy reputation by means of:
  - Rapid response with engagement of all necessary resources and trained personnel;
  - Regular check-up of the organisation of response operations and response procedures,
emergency communication and alarm systems;
  - Informing people (Sakhalin Energy personnel, their close relatives, representatives of state
administration authorities, community and mass media);
  - Wish to help and honest behaviour;
  - Restoration of environmental quality to the original condition;
  - Fair treatment of complaints and compensations; and
  - Lessons learnt.

Analysis of manpower and resources necessary to take efficient measures of response to oil spills during
various emergency development scenarios was made based on preferred response strategies.

The oil-related emergency response strategy on water areas provides the following:

1. Taking appropriate measures to ensure safety of Sakhalin Energy personnel, spill source control;
2. Containment and recovery of spilled hydrocarbons at the spill source to prevent the impact of oil
pollution on the coast, bays and estuarine areas of watercourses;
3. Protection of areas of special importance, including entrances to bays and lagoons, mouths of
spawning rivers;
4. Shoreline cleanup (if necessary); and
5. Restoration and rehabilitation of contaminated areas.

Activities specified by the OSR Plan allow minimising to the extent possible the probability of adverse
effect on the environment due to the priority of operations on hydrocarbons containment and recovery at
the source of the spill.

The below tier response system is used in the Company to respond oil spills (Table 3):

- **Tier 1** – local, asset; this covers most probable situations, which result in relatively small
emergencies at an asset, the impact of which is insignificant—response activities are carried out
by trained personnel of Sakhalin Energy (Asset Emergency Response Team) and contractors;
- **Tier 2** – covers medium-scale emergencies, the effect of which may turn to be significant—
involving but not limited to regional (Oblast) third party manpower and resources; and
- **Tier 3** – theoretically the worst emergencies, large emergencies, the scale of which goes beyond
tier 2. Manpower and resources of federal or international OSR organisations are involved into
response activities.

If the response tier is defined by Sakhalin Energy to be higher than Tier 1 (i.e. Tier 2 or 3) or if Sakhalin
Energy defines Tier 1, but the MChS Main Department has not confirmed tier 1 status, the Company
Crisis Manager shall proceed as follows:

- Following consultations with the Emergency Coordinator (EC), invite representatives of MChS
Main Department for participation in the Crisis Response Team activities; and
- Discuss with the representative of MChS Main Department proposal for establishment of the
Unified Command.

The decision whether oil spill refers to Tier 2 or to a higher tier shall be made by duly authorised federal
and regional governmental authorities based on the criteria listed below. Also, governmental authorities
may change the response tier based on the assessment of factors required for successful completion of response operations rather than on specific volume of spilled oil.

Table 3. Brief Definition of Response Tiers for Offshore OSR

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description (Category/Scale of Spill and Response Tier)</th>
<th>Conditional Spill Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>RF&lt;sup&gt;(1)&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tier 1</td>
<td>Local emergency&lt;sup&gt;(1)&lt;/sup&gt;: Spill shall be localised and efficiently eliminated using manpower and resources of the organisation (company) owning the facility at which oil spill occurred (facility manpower and resources). According to Sakhalin Energy OSR Plans, Tier 1 oil spill shall be eliminated using manpower and resources of Sakhalin Energy and the existing OSR contractors.</td>
<td>from 1 to 500 t&lt;sup&gt;(3)&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tier 2</td>
<td>Regional emergency&lt;sup&gt;(1)&lt;/sup&gt;. The manpower and resources may include, in addition to the facility manpower and resources, the manpower and resources of Sakhalin subsystem of RSChS, SakhBASU (Basin Rescue Department), and other local specialised organisations holding OSR licences.</td>
<td>from 500 to 5,000 t</td>
</tr>
<tr>
<td>Tier 3</td>
<td>Federal emergency&lt;sup&gt;(1)&lt;/sup&gt;. Manpower and resources may include, in addition to Tiers 1 and 2 manpower and resources, the manpower and resources of federal RSChS, MChS of Russia, State Marine Rescue Service of the RF Ministry of Transport, international OSR companies and contractors.</td>
<td>above 5,000 t</td>
</tr>
</tbody>
</table>

(1) Executive Order No. 240 issued by the Government of the Russian Federation on 15.04.2002  
(2) Executive Order No. 203-pa of Sakhalin Oblast Administration dated 10.11.2005;  

4.1. Environmental priorities

Priority directions of environmental protection are as follows:

- Natural monuments;
- Prospective wetlands of international significance (the “shadow list” of the Ramsar Convention); and

Particular priorities in response measures are identified based on the following criteria.

- Measures should provide for the maximum general (net) environmental benefit;
- Selected strategies should aim for the maximum possible cleaning from spilled oil given that the minimum possible damage to the environment should be made;
- Measures taken should primarily aim at those territories and resources, which are characterised by the least self-restoration capabilities;
- Materials and personnel should be utilised in the most efficient way during emergency response work; and
- Quantity of waste generated during response activities should be kept to the minimum.

OSR operations will include monitoring as detailed below:

- Aerial surveys mostly to detect and monitor oil motion in the sea, to define oil stability, and to survey ice conditions;
- Coastline survey to define propagation and stability of oil spill or efficiency of cleanup techniques;
- Monitoring of oil weathering to define the extent of its decomposition for subsequent prediction of oil stability or behaviour of oil remains (for management of oily waste); and
- Monitoring of cetaceans behaviour (including Western Gray Whales) and impact produced on them by spilled oil and by the vessels involved in response operations.
Monitoring results generated during OSR operations have a direct influence on the priorities, strategies and methods used in response operations. In particular:

- Response operations are essentially held in areas with the maximum amount of spilled oil, which enables to recover as much oil as possible;
- Protection and cleaning strategies are applied to the most sensitive areas and resources;
- Cleaning strategies turn out to be most efficient, thus enabling to recover as much oil as possible and to minimise damage to the environment; and
- Measures are taken to protect the most sensitive areas or animal species (e.g. fur-seal grounds or nesting sites) both from the spill and from potential adverse impacts produced by OSR operations.

Type and scope of monitoring during OSR operations are defined by the Emergency Coordinator jointly with the Planning Leader, Operations Leader, HSE representative and governmental authorities.

### 4.2. Receptors—Environmental Priorities

Among priority protection objects in the area of potential impact of Prigorodnoy Asset Production Complex are:

- Bousset Lagoon (specially protected territory);
- Land and aquatic habitats of rare and protected species of mammals and birds listed in the International Red Book of the International Union for the Conservation of Nature and Natural Resources and in the Red Books of the Russian Federation and Sakhalin Oblast; and
- Other areas of special significance and environmentally sensitive natural resources specified in Table 4 below.

#### Table 4. Basic Resources Endangered by Potential Impact of Oil Spills

<table>
<thead>
<tr>
<th>No.</th>
<th>Brief Description and Geographic Location of Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Specially Protected Territories</td>
</tr>
<tr>
<td></td>
<td>1.1 Bousset Lagoon</td>
</tr>
<tr>
<td></td>
<td>1.2 Territory on the eastern coast of Sakhalin Island—natural water resource monument, might only be impacted by a major emergency.</td>
</tr>
<tr>
<td>2</td>
<td>Birds</td>
</tr>
<tr>
<td></td>
<td>2.1 Salmon Bay, Green Cape and associated habitats of sea birds and semi-aquatic birds.</td>
</tr>
<tr>
<td></td>
<td>2.2 Accumulations of semi-aquatic and wading birds, including species listed in the Red Book, in coastal wetlands, coast of lagoons and bays, and sand sea beaches.</td>
</tr>
<tr>
<td></td>
<td>2.3 Mass accumulations of various bird species during seasonal migration across Seagull Bay.</td>
</tr>
<tr>
<td></td>
<td>2.4 Breeding and feeding sites of protected birds of prey.</td>
</tr>
<tr>
<td>3</td>
<td>Marine Mammals</td>
</tr>
<tr>
<td></td>
<td>3.1 Seal grounds at offshore beaches along the coast of Aniva Bay.</td>
</tr>
<tr>
<td></td>
<td>3.2 Sea-lion herding and breeding grounds on the Dangerous Stone rock near the Krilion Cape.</td>
</tr>
<tr>
<td></td>
<td>3.3 Chaika Bay—the stone ridge accommodates the herding grounds of marine animals, being the largest in the south-east Sakhalin.</td>
</tr>
<tr>
<td></td>
<td>3.4 Representatives of certain species of cetaceans encountered in the bay.</td>
</tr>
<tr>
<td>4</td>
<td>Fish and Fisheries</td>
</tr>
<tr>
<td></td>
<td>4.1 Population of pink salmon in Aniva Bay, being an important fishing trade.</td>
</tr>
<tr>
<td></td>
<td>4.2 Mouths of spawning rivers falling into Aniva bay (Mereya, Lyutoga, Taranay and Ostrovka being the largest among such rivers).</td>
</tr>
<tr>
<td>5</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>5.1 Port Korsakov, Velikan Cape</td>
</tr>
</tbody>
</table>

Detailed information on the areas and animals of these areas is contained in respective project documentation on the assessment of impact on natural and socio-economic environment.
OSR operations with respect to the fauna will be performed in line with the Oiled Animals Rescue Plan developed and consistently implemented by the Company.

The Plan contains the following information:

- Measures aimed at prevention and response to pollution of fauna by oil and oil products resulting from oil spill and associated emergencies and incidents;
- Equipment and resources required for response to pollution of fauna by oil;
- Response procedures; and
- Procedures of coordination and cooperation between corporate organisations and external organisations for response to pollution of fauna by oil.

Some of the current target measures are listed below.

**Measures to Protect Whales**

If whales may enter the spill area, the following considerations have to be taken into account:

- Marine mammal observers will be given access to the vessels involved in response operations;
- Captains shall immediately report any observed whales to the observers;
- Captains shall ensure that the speed of vessels does not exceed the speed allowed for travel near whale feeding areas;
- Observers assigned to perform aerial surveys shall perform special observations of whales and shall report any whale observed;
- Booms shall be deployed to prevent access of oil to the water areas where whales are observed. Special attention shall be paid to deployment of booms to prevent access of oil to the WGW population feeding areas; and

Sakhalin Energy has committed to monitor impact on whales during response operations and to arrange monitoring of a possible adverse impact on whales as a result of oil spills. Post-spill monitoring programme shall be implemented by independent scientists in line with Sakhalin Energy Post-OSR Monitoring Action Plan.

**Measures to Protect Birds**

To protect wildlife, in particular birds, which may be exposed to oil as the result of oil spill, Sakhalin Energy uses special equipment (hazing devices, devices to collect and treat oil-contaminated birds) which is stored at the Prigorodnoye Asset, Gastello Pipeline Maintenance Depot (PMD), and Lunskoye PMD.

In case of threat to birds, there will be organised groups to haze (scare) birds away and collect oil-contaminated and dead birds. Collection of oil contaminated dead birds will be done in the shortest possible time to avoid the secondary contamination of varmints when eating oil contaminated bodies. Ship horns will be used to frighten away birds at sea.

The specialists of Sakhalin Energy and respective contractors regularly complete training courses under a wildlife protection programme. In addition, the Company provides training for the employees of other interested organisations in the Sakhalin Oblast on rehabilitation of wild animals which suffered from oil spills.

In 2005, Sakhalin Energy organized training of employees of the Company and of other interested organizations in issues of rehabilitation of wild animals suffered from oil spills. Specialists of Sakhalin Energy and contractors takes courses in the program of wildlife response, i.e. such trainings conducted in 2008, 2010, and 2011. It is planning in 2012 to hold the trainings at Lunskoye, Gastello and in Yuzhno part of Island. Also it is planning in 2012 to conduct exercise in Prigorodnoye with stabilization and rehabilitation sites deployment.
Specially protected territories

Bossue Lagoon is situated in the north-eastern part of Aniva Bay and is categorised as regional nature monument in accordance with Russian legislation. Close to the bay there are other sensitive areas which have nature protection and socio-economic meaning and require special protection.

Coastline Protection

Coastline protection measures include deployment of booms from the shore and construction of berms. These activities are carried out by duly trained teams operating both from the shore and from small vessels. When required, various types of support can be provided to such teams at the work sites, including advice of environmental and waste management consultants.

Top-priority issues include protection of entries to the lagoons. As far as Aniva Bay is concerned, this applies to the Bousset Lagoon. Other priorities include:

- Habitats of rare and protected species of mammals and birds included in the Red Books lists of the International Union for the Conservation of Nature and Natural Resources, Russian Federation and Sakhalin Oblast;
- Alkaline marshy meadows and seashore wetland ecosystems, as well as coasts of bays and lagoons;
- Areas with significant concentrations of coastal and sea birds;
- Wintering grounds for migrating birds;
- Sea bird colonies;
- Basic feeding areas of sea birds; and
- Accumulations of marine mammals, such as rookeries of seals, sea lions and fur-seals.

Specific conditions for deployment of booms will depend on prevailing wind direction, other weather conditions, and seasonal priorities for protection of nature.

Recommended boom deployment methods are set out in Prigorodnoye OC OSR Plan. Specific conditions for deployment of booms will depend on prevailing wind direction, other weather conditions, and seasonal priorities for protection of nature.

Waste Minimisation

Any waste shall be collected and removed from work sites to the designated waste storage sites for subsequent disposal or reuse. With this, oily waste shall be segregated from other waste, and liquid waste shall be segregated from solid waste.

Oil shall be collected from water surface in coastal areas using skimmers and pumped to the quick-mount portable tanks (fast tanks) or to the regular fluid tanks to be mounted on the shore near the oil collection area.

Oily remains of plants and wood on the shore shall be collected into plastic geo-bags. Any dumped litter can be towed by all-terrain four-wheeler bikes.

Oiled adsorbing materials (booms, cloths, roll fabric, loose adsorbing materials) shall be collected in plastic geo-bags or placed onto insulating blanket. Reusable adsorbing materials will be squeezed to remove infiltrated oil and reused. Disposable adsorbing materials shall be sent to the temporary storage sites.

Upon completion of all response operations, all sites used for temporary waste storage shall be dismantled, cleaned, and restored. The Waste Management Coordinator is responsible for performance of this work in line with requirements of the duly authorised governmental authorities.

Table 5 below lists environmental vulnerability indices of biological objects and natural territories.
Table 5. Environmental Vulnerability Indices of Biological Objects and Natural Territories

<table>
<thead>
<tr>
<th>Bays</th>
<th>Sea Birds *</th>
<th>Wading/Semi-aquatic Birds *</th>
<th>Birds of Prey **</th>
<th>Marine Mammals</th>
<th>Fishery Resources</th>
<th>Wetlands</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aniva Bay</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>23</td>
</tr>
</tbody>
</table>

0) Absence of environmental vulnerability;
1) Minor environmental vulnerability;
2) Average environmental vulnerability;
3) Increased environmental vulnerability; and
4) Exceptional environmental vulnerability.

* Environmentally vulnerable, especially during the spring-summer migration period.
** Mainly, Steller’s sea eagle.

4.3. Receptors—Economic, Cultural and Historical Resources.

As of 1 January 2005, the population of Korsakov Administrative District of Sakhalin Oblast was about 45,000 inhabitants: 37,000 people live in Korsakov town and the rest—in small settlements along the Bay coast. The port city of Korsakov located 42 km south of Yuzhno-Sakhalinsk is a major port and transportation hub of the island.

Korsakov port is one of the four ice-free ports of Sakhalin Island, which are less susceptible to sea ice impact during winter. Cargo ships arriving to Korsakov Port and departing to the mainland and other regions from this port ensure the main cargo turnover on Sakhalin Island. Vessels carrying fish and fish products, coal, timber depart from the port, and imported goods are transported to other districts of the island. Among other industries, one may single out production of corrugated cardboard packaging and food industry enterprises.

The most important branches of economy in Aniva Bay area is coastal and marine fishery. The main object of the fishing trade is humpback salmon (Oncorhynchus gorbuscha). The average catch of humpback salmon during the nineties amounted to 12,250 tonnes/year. In addition to marine fishery of Korsakov District, there are three fish rearing plants for salmon breeding. Millions of salmon fry and young fish are released into rivers flowing into Aniva Bay.

5. Response Preparedness

5.1. Company’s Emergency Response Command and Control System, Including for Oil and Oil Product Spills

To comply with the Russian legislation and applying to the Best International Practice, the Company established and maintains the following Emergency Response Management Bodies:

The Sakhalin Energy’s response management system is based on an Incident Command System (ICS) organization and is compatible with the structure of emergency rescue services and teams of the National Russian Federation Unified Emergency Prevention, Preparedness and Response System (RSChS). The scheme of the structure is shown in Fig. 3.

- **Coordination Body.** Company’s Committee on Prevention and Response to Emergencies and Fire Safety (Company’s KChS & OPB);

- **Standing Management bodies.** Emergency Response Management Team (ERMT) with support of departments and divisions of Sakhalin Energy, which may be mobilised in an emergency and also those dedicated to emergency management, HSE, Security departments, Logistic section, External Affairs and the Finance department and other if required.
• **Day-to-day Management Bodies:**

1. **Duty Dispatcher Service (DDS 2500)** of the Company (Emergency Call Centre) in Yuzhno-Sakhalinsk.

2. **Emergency Coordination Team (ECT).** The ECT provides support to asset emergency Site Control Team to small spill on the territory of facilities. In case of larger spills, especially spills spreading outside the boundaries of the site, SRC assumes control over all accident response works.

3. **Crisis Management Team (CMT).** The Crisis Management Team (CMT) controls those aspects of any incident that threaten the business (commercial) activity or reputation of the Company. In case of an emergency, CMT interacts with outside organisations, shareholders and lenders, the public and non-governmental organisations, relatives of injured Sakhalin Energy and contractors’ employees, or injured representatives of customers.

4. For the Prigorodnoye Asset this is the **Operations Control Room** (located at LNG plant) and Port Control Room (at the port).

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**Fig. 3 Organization of Emergency Response Command and Control Bodies in Sakhalin Energy**

- **Site Control Team (SCT)** ensures management and performance of work on site involving containment and cleaning of oil and oil product spills at both onshore and offshore facilities of Prigorodnoye Asset.

- **Emergency Response Manpower.** Company’s has own certified Non-professional ERT (NERT) and contracted Professional ERT (PERT); they are Onshore and Offshore Tier 1 OSR Contractors. Asset ERTs include personnel of NERT and rescuers of PERT.

The organization of the SCT of Prigorodnoye Production Complex is shown in Figure 4, and the functions of its basic members are listed in the text below.
Fig. 4 – Organizational Structure of the Prigorodnoye Production Complex Site Control Team

- **The Site Controller (SC)** exercises general supervision over OSR operations and the Asset Site Control Team. Functions of Site Controller include:
  - Gathering actual information on the emergency situation;
  - Incident severity assessment;
  - Monitoring over the oil slick movement and its behaviour;
  - Taking decisions to stop/continue production operations;
  - Taking a decision to evacuate from the area of impact;
  - Request for additional medical, fire assistance, additional OSR vessel and other assistance in case of emergencies; and
  - Control and coordination of vessels operations in the water zone of Aniva Bay in the area of Prigorodnoye Asset.

- **Marine Coordinator (MC)** (Prigorodnoye Marine Terminal Manager, or his delegate) is responsible for taking urgent response measures in case of any spill or other emergency at the port and for directing marine response activities on scene.
  - Takes part in the development of the Production section of the Operations Action Plan (OAP);
  - Provides advice to the Head of Production sector on offshore emergency operations and the current status; and
  - Manage offshore operations in accordance with the OAP and instructions of the EC.

- **Marine Emergency Response Team** comprises Ships Masters and ships crews as well as support personnel at Prigorodnoye Marine Operations Base (MOB) and personnel in Prigorodnoye Port Control Room.

In case of responding to an oil spill, which has affected considerable remote coastal areas, additional posts for operational management in the field (field operations posts - FOP) and for the deployment of equipment and/or personnel—staging bases, as well as for providing services (for example, sanitation treatment centres, catering points, etc.) shall be organized in remote destinations. Logistics Sector is responsible for staging bases and service facilities. Field operations posts can be established to coordinate:

- Coastline protection and clean-up work;
- Wildlife protection work;
- Utilisation of aircrafts; and
- Waste management in the field.

The work at each post and the work of its personnel shall be coordinated by a specially appointed supervisor.

The management of oil-related emergency containment and response activities begins from the moment of oil spill and ends when the emergency is eliminated.
The management of oil-related emergency containment and response activities includes:

- Gathering officers and arranging them in groups as planned;
- Data collection and analysis of the situation;
- Preparation of calculations and proposals for the chairman of the Emergency and Fire Safety Commission to decide on further actions (hereinafter referred to as “EFSC”);
- Action planning;
- Clarification of plans and timely assignment of tasks to subordinates who are responsible for their implementation;
- Organise and maintain interaction with governmental authorities;
- Overall support to involved manpower (resolving issues of logistics); and
- Follow up on task fulfilment.

Decision on whether to upgrade the response tier, coordination and control of OSR to a higher tier can only be taken by the Emergency Commission of a higher level (municipal, regional, and federal). Such a decision can be taken on the basis of applicable request of Sakhalin Energy Crisis Manager.

### 6. Oil Spill Notification Process

When an oil product spill on the asset territory and offshore is detected, the information on the emergency situation is immediately transmitted to the LNG Plant/OET Shift Supervisor in the Plant Operations Control Centre who is present at the facility on a 24-hour basis. The Shift Supervisor informs the Duty EC of the facility on the incident, who in his turn contacts the Company’s Emergency Coordinator.

Having received the signal about the incident, the following shall be arranged at the asset:

- Check whether an oil spill has occurred, identify its extent;
- Measures to stop the oil spill;
- Informing the Emergency Coordinator in Yuzhno-Sakhalinsk.

Transmission of information to external parties including the Sakhalin Oblast and RF authorised governmental authorities is performed by the Company Emergency Coordinator from the Emergency Operations Centre in Yuzhno-Sakhalinsk in accordance with the Chart (Fig. 5.)

In case of a large crude oil or condensate slick near offshore assets, all vessels situated nearby will be notified and a decision may be made to sound a general alarm.

Text of warning signs at the asset (in the English and Russian languages) and for the population (in the Russian language) must contain clear and brief information on the following:

- The nature of the accident (example, explosion, collision, leakage);
- The place where the accident occurred (at what distance from the people you are notifying);
- Potential hazards (for example, fire or explosion hazard);
- In what direction the oil slick or gas cloud is moving (example, in the direction of people or in the opposite direction); and
- Recommended actions (example: leave the area of the accident, stop all the hot work, stop all engines, keep away from the shoreline at a distance of 100 meters, no open flame, etc.).

Efficiency of spill response will be constantly estimated by supervisors so that additional resources could be engaged in a timely manner, if required.
6.1. Sequence of Oil Emergency Response Operations

First Priority Measures

First priority measures for the containment of offshore oil spills shall be implemented by the OSR vessel permanently located in the area of TLU. The OSR vessel has necessary equipment (including booms, major and additional oil-gathering systems) and has specially trained personnel. During loading operations it is located downwind from the loading jetty (LNG or TLU), and sets at ready all the on-deck systems for containment and gathering of oil for the purpose of rapid response in case of receiving an order for pre-emptive deployment of containment systems.

Marine Coordinator orders the OSR vessel's captain to begin deployment for the purpose of containment and gathering of oil, except when it has been decided that:

- The OSR vessel is needed for the purposes of sea rescue, fire-fighting or other purposes;
- The safety of the OSR vessel and crew is in significant danger due to adverse weather conditions or heaving of the sea, or if the installation of equipment will pose an unacceptable risk to the OSR vessel's crew. This decision can also be made by the captain of the OSR vessel;
- The volume and type of the oil product, as well as the forecasted direction of the slick movement indicate that the spill does not pose a significant risk to the environment. This opinion must be confirmed by the Site Controller at Prigorodnoye Asset, who has to consult with the Duty Emergency Coordinator;
- The use of equipment will not be efficient due to the strong heaving of the sea, ice or other conditions; and
- Mist or light conditions can reduce visibility to the level, which is unsafe for conducting emergency operations.

Fig. 5. Marine Oil Spill Reporting Sequence
Organisation of Offshore Operations

Having received an order the captain of the OSR vessel must:

- Locate the OSR vessel downstream of the moving oil slick;
- Install booms and the oil-gathering system most appropriate for the situation;
- Begin oil spill containment and gathering of oil;
- Inform the Loading Master about:
  - The beginning of operations,
  - The speed of oil spill containment and gathering,
  - Estimated duration of oil spill containment and gathering or of the time of storage containers filling; and
  - The need for additional OSR vessels or other vessels.

Onshore operations

For onshore and shoreline response operations equipment and personnel of MOB and LNG plant of the Prigorodnoye Production Complex shall be mobilized. If required, additional equipment from nearest Sakhalin Energy’s PMDs, Kholmsk and Yuzhno-Sakhalinsk could be mobilized, as well.

In case of Tier 1 spill, which can lead to contamination of the coastline, an instruction is given to Sakhalin Energy’s OSR contractor to initiate OSR processes for the coastline. In the case of prolonged or large-scale oil spills an Onshore On Scene Commander will be appointed to manage the progress of implementation of onshore OSR operations.

The onshore operations functions cover all onshore fieldwork, including protection of the coastline, assessment of coastal area contamination with oil and clean up of the coastline. These functions also include waste management at the worksite and temporary waste storage sites.

The structure of the Shoreline Response Team is flexible and should take into account the particulars of an emergency situation.

Functional responsibilities of the Shoreline Response Team are as follows:

- Coordination of work,
- Administrative support,
- Protection of the coastline,
- Assessment of coastline condition, and
- Cleaning up the coastline.

In the case of small spills these functions can be performed by a separate team or several teams managed by one Onshore On Scene Commander.

In the case of large spills or spills covering a large area, it is possible to appoint several managers to coordinate the work in different sectors, while some functions, such as assessment of coastline condition, can be implemented centrally through the Field Operations Posts (FOP).

6.2. Response Resources—Personnel

Offshore Spill Response

Offshore OSR personnel is provided by Sakhalin Energy’s tier 1 OSR contractor ensuring safe loading of oil products to tankers (OSR vessel, tow boats, line boats).

Onshore Spill Response

Asset ERT (Emergency Response Team) for tier 1 oil spill response at Prigorodnoye Production Complex consists of specially trained Sakhalin Energy employees engaged at LNG plant and OET
facilities. This team will be mobilised at the muster point on the LNG Plant/OET site within twenty minutes after notification.

Besides, if required, Tier 1 spill response manpower located in Yuzhno-Sakhalinsk can be engaged into response operations. There are Yuzhno Mobile Team of onshore OSR contractor, this team is at the 24/7 stand-by mode. In case of an emergency oil spill at Prigorodnoye Onshore facilities, the staff of a professional ERT located in Yuzhno-Sakhalinsk can be requested to conduct response operations under a service contract. Time for mobilization and arrival of the ERT with the OSR equipment to Prigorodnoye Asset is 2 hours.

6.3. Response Resources—Vessels and Equipment

Sakhalin Energy equipment for offshore spill response is situated on the OSR vessel standing on duty near the TLU, and at the LNG/OET.

Prigorodnoye OSR vessel is equipped with OSR equipment and has specially trained personnel. The vessels on duty at a safe distance downstream the TLU during tanker loading operations, ready for immediate deployment of on-board oil recovery systems of trawling type. According to the plan and the existing experience, time required for full deployment is 1 hour.

Also, SakhBASU vessels based in Korsakov port can be engaged in response operations at the spill location. Mobilisation time of these vessels is about 1 hour, plus 40 minutes underway to the TLU area.

Additional vessels which may be used in offshore spill response are available at the Piltun-Astokhskoye and Lunskoye fields.

Also, four harbour ice class tow boats and two line boats can be engaged in spill response operations (the latter can be used only during the ice-free season).

Specialised OSR equipment for protection and cleanup of the shoreline, as well as additional equipment for offshore oil spill response is stored at a designated site at LNG/OET, as well as additional equipment for offshore spills response. The equipment (booms, skimmers, sorbing materials, floating crafts, vehicles, etc.) is in permanent readiness maintained by Sakhalin Energy Tier 1 OSR contractors.

Deployment of additional equipment from onshore LNG/OET facilities using tow boats will require from 0.75 to 1 hour from the moment of notification.

There are rapid deployment kits (RDK) to provide additional OSR resources in addition to the above listed.

RDK comprises light equipment which can be transported by a helicopter on a suspended lifting tackle, by Ural vehicles (with trailer), cargo trailers, or other container shipping methods. This equipment is intended for implementation in hard-to-reach areas, transportation to which will be specially arranged from the area of storage, if required. In addition, it can be used during construction, scheduled and other temporary work.

6.4. Preparedness Assurance

The following actions are performed as part of maintaining serviceability of equipment at assets:

- Studying of production blocks (elements of equipment), where the largest spills may occur or where the spills are most probable;
- Timely and regular technical inspection of equipment used during spills containment and response, if necessary, its maintenance and capital repairs;
- Assessment of available manpower and staffing, as necessary; and
- Conducting trainings and comprehensive exercises on oil spill containment and response.

The exercises and trainings are based on the results of emergency modelling and can be held with participation of one, several or all the teams ERT, SCT, ECT and CMT sectors.
Special tactical training exercises lasting up to 8 hours with involvement of ECT, CMT and asset teams (SCT, ERT) are conducted once in three years, and once a year with involvement of permanent readiness teams (specialised OSR contactors of Sakhalin Energy).

Exercises related to response to emergencies are conducted annually. Winter season exercises with field deployment of the equipment are conducted at least once every two years.

Personnel directly involved in the response activities, has a specialized OSR training and is certified as per RF Government Decree No. 1479 dated 22 November 1997 On Certification of Emergency and rescue Services, Emergency and Rescue Teams and Rescuers.

6.5. National and International Resources

Equipment belonging to governmental authorities and organisations can be used in case of an oil spill at Prigorodnoye offshore facilities via district or oblast KChS and OPB.

If necessary, in case of an oil spill of local or territorial tier, the respective KChS can engage emergency rescue services and fire brigades based on Oblast territory, as well as staff from public health departments and internal affairs departments of municipalities.

The procedure of access to such equipment, as well as the list of equipment placed in Sakhalin are controlled by SakhBASU and the Head Department of MChS of Russia for Sakhalin region.

Personnel and equipment of Russian MChS and civil defence forces based in the Far East, DVBASU, and other regional resources can be engaged in response operations in case of spills of the regional tier.

In case of federal tier spills, resources of Russian MChS, State Marine Emergency Rescue Service of the RF Ministry of Transport (Gosmorspassluzhba), Centre for Emergency, Rescue and Ecological Operations (CREO or Ekospas) situated in Moscow with branches in the Far East, including Sakhalin can be involved, as well as international resources.

On the basis of bilateral agreement on mutual assistance with ENL, Sakhalin Energy has access to equipment and services of this company in the field of oil spill response. This equipment is located in Nogliki and at ENL OPF (Chayvo field).

Memorandum of Understanding between Sakhalin Energy, Elvary Naftegaz, NK Rosneft-SMNG, and Petrosakh was signed in January 2005. This document is aimed at strengthening the capabilities of all parties in the OSR field by agreement to provide to each other mutual assistance including personnel and equipment in the event of a spill.

Tier 3 response will most likely require coordination of both Russian and international manpower and resources.

The following international resources of Oil Spill Response Limited (OSRL) may be engaged through STASCO and Shell Response Ltd. companies, which are located:

- At the base in Southampton, UK, and
- In Singapore.

In case when the oil slick formed as a result of the spill reaches the territorial waters of Japan, and in case of such a threat, Sakhalin Energy in accordance with the Memorandum of Understanding between Sakhalin Energy and the Japan Marine Disaster Prevention Centre (MDPC) can engage the resources belonging to this Centre.

External resources will be engaged through governmental authorities (MChS Main Department) based on federal-level plans.
7. Occupational Health and Safety during Oil Spill Response

Emergency operations related to oil spill response should always be conducted in accordance with Sakhalin Energy procedures on occupational safety, health and emergency response. However, in an emergency situation, a lot of additional hazards may arise, such as toxic fumes generated by spilled oil products, oil-contaminated slippery surfaces, fatigue-related factors, etc. In this connection, the personnel of emergency rescue teams must follow additional safety rules specific to the conditions of this particular emergency situation.

Participants in emergency work may face various natural hazards, including:

- Presence of ice cover;
- Adverse weather conditions (stormy wind, heavy rain or snow, low temperatures);
- Landscape features; and
- Hazards posed by interaction with the animal world.

Employees are not allowed to work on emergency oil spill response without the necessary safety training and induction training on safety issues for the particular site where they will work. For some OSR objects, workers must have valid safety certificates and undergo special training on these issues.

For safety purposes, all personnel must use personal protective equipment, both during performance of specific operations, and in the process of movement between work areas or from parking places to work locations. Certain elements of personal protective equipment are mandatory. Concrete requirements to protective equipment and outfit are listed below:

- Safety glasses should be used on all work sites;
- Hard hats are obligatory in cases when items could fall from above at workplaces, or when there is danger of hitting items located above;
- Protective overalls and equipment shall be used in order to prevent contact with oil, which may include oil-resistant boots, gloves, impervious suits, safety glasses or face masks, depending on the type of performed work; and
- Wearing oil-resistant boots, impervious suits and gloves is obligatory.

At the emergency operation locations, as well as at the points of waste disposal, sanitary treatment stations shall be arranged. The operational safety service shall control the efficiency of sanitary treatment of staff (e.g., washing hands, removal of PPE (Personal Protection Equipment) contaminated with oil).

A restricted area is recommended to be established around the source of continuous crude oil or condensate spill. The size of the restricted area depends on the results of safety assessment and consultations with MChS and Internal Affairs authorities. Arrangement of restricted areas and use of a special regime in the areas of OSR activities is only possible in coordination with local MChS and Internal Affairs authorities.

8. Sakhalin Energy Compliance with the RF Standards and World Best Practices

This OSR Plan is developed in accordance with the Russian legislation requirements with respect to emergency prevention and response, including oil spills. The OSR Plan content takes into account a wide range of regulatory requirements and recommendations regarding the content and structure of Oil Spill Response Plans.

The main regulatory acts in this field are as follows:

- Executive Order No. 613 of the RF Government “On immediate measures for prevention and response to emergency oil and oil products spills” dated 20.08.2000;
• Executive Order No. 240 of the RF Government “On the procedure for organising measures for prevention of and response to emergency oil and oil products spills on the territory of the Russian Federation” dated 15.04.2002;
• Order No. 156 of the MNR of Russia “On approval of guidelines for defining the lower tier of oil and oil products spills to classify them as an emergency” dated 3.03.2003;
• Order No. 621 of the MChS of Russia “On approval of Rules for development and approval of plans for oil and oil spills prevention and response on the territory of the Russian Federation” dated 28.12.2004;
• Executive Order No. 203-pa of Sakhalin Oblast Administration “On approval of Requirements to development of plans for oil and oil spills prevention and response on the territory of the Russian Federation” dated 10.11.2005;
• Instruction No. 73 of KChS and OPB of Sakhalin Oblast “On the procedure of validation and approval of Plans for oil and oil spills prevention and response on the territory of Sakhalin Oblast” dated 15.11.2005; and
• Executive Orders Nos. 613 and 240 of the Government of the Russian Federation, Order No.621 of the MChS of Russia, and Executive Order No. 203-pa of Sakhalin Oblast Administration (as amended by Executive Order No. 31-pa of Sakhalin Oblast Administration dated 16 February 2007) establish a number of requirements for such Plans.

In accordance with Executive Order No. 794 of the RF Government dated 30.12.03, for coordination and organisation of measures taken in case of emergencies, including accidental oil spills, industrial enterprises having potentially hazardous facilities must establish appropriate emergency control bodies, as well as have their own resources for oil spill response.

In order to manage activities in an emergency, including in oil spill, Sakhalin Energy has created a Unified Integrated Emergency Management System. Description of this system as applied to oil spills is presented in Section 1.5 of OSR Plan for Prigorodnoye Asset.

During development of the OSR Plan, Sakhalin Energy has taken into account the relevant recommendations from Lenders and Shareholders, Shell corporate standards, as well as requirements of international agreements and conventions ratified by the Russian Federation.

The main documents are International Conventions ratified by the Russian Federation:


2. 1992 *International Convention on Civil Liability for Oil Pollution Damage i.e. the Civil Liability Convention (1992 CLC)*


5. 1973/78 *International Convention for the Prevention of Pollution by Ships (MARPOL 73/78)*

6. *International Convention for the Safety of Life at Sea (SOLAS), 1974*


The OSR Plan for Prigorodnoye Asset (Prigorodnoye Production Complex) has received all necessary authorisations and approvals at the local and federal levels:

- Approved by the Ministry of Industry and Energy of the Russian Federation on 24 May 2007;
- Approved by the Ministry of the Russian Federation for Civil Defence, Emergencies and Natural Disaster Response on 08 June 2007; and
### Acronyms List

<table>
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<tr>
<th>Acronym</th>
<th>Definition</th>
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<tr>
<td>ATMOS PIPE</td>
<td>Pipeline leak detection software</td>
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<td>BASU</td>
<td>Basin Emergency Management Department</td>
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<td>BS2</td>
<td>Booster Station 2</td>
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<td>CLC</td>
<td>Civil Liability Convention</td>
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<td>CM</td>
<td>Crisis Manager</td>
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<td>Crisis Management Centre</td>
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<td>CMT</td>
<td>Crisis Management Team</td>
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<tr>
<td>cSt</td>
<td>Centistokes (viscosity)</td>
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<td>EA</td>
<td>External Affairs</td>
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<td>Emergency Coordinator</td>
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<td>ECC</td>
<td>Emergency Coordination Centre</td>
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<td>ECT</td>
<td>Emergency Coordination Team</td>
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<td>EMERCOM</td>
<td>Ministry of Civil Defense, Emergency Situations and Liquidation of Consequences of Natural Disasters of Russia (MChS)</td>
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<td>ENL</td>
<td>Exxon Neftegas Ltd</td>
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<td>ESD</td>
<td>Emergency Shut Down</td>
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<td>ESDV</td>
<td>Emergency Shut Down (System) Valve</td>
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<td>GIS</td>
<td>Geographic Information System</td>
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<td>HR</td>
<td>Human Resources</td>
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<td>Health, Safety and Environment</td>
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<td>IAP</td>
<td>Incident Action Plan</td>
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<td>IBSV</td>
<td>Ice Breaker Supply Vessel</td>
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<td>ICS</td>
<td>Incident Command System</td>
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<td>IMO</td>
<td>International Maritime Organization</td>
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<td>IPIECA</td>
<td>International Petroleum Industry Environmental Conservation Association</td>
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<tr>
<td>ITOPF</td>
<td>International Tanker Owners Pollution Federation</td>
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<td>IUCN</td>
<td>International Union for the Conservation of Nature</td>
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<td>KChS</td>
<td>Committee on Prevention and Response to Emergencies and Fire Safety</td>
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<tr>
<td>LEL</td>
<td>Lower Explosive Limit</td>
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<tr>
<td>LNG</td>
<td>Liquefied Natural Gas</td>
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<tr>
<td>LUN-A</td>
<td>Lunskoye-A Platform</td>
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<tr>
<td>LUN-B</td>
<td>Lunskoye-B Platform (proposed future development)</td>
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<tr>
<td>m3</td>
<td>Cubic meters</td>
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<td>MARPOL</td>
<td>Marine Pollution Convention 73/78</td>
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<td>MChS</td>
<td>Ministry of Civil Defense, Emergency Situations and Liquidation of Consequences of Natural Disasters of Russia (EMERCOM)</td>
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<td>(Japanese) Maritime Disaster Prevention Centre</td>
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<td>Multipurpose Support Vessel</td>
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<td>NEBA</td>
<td>Net Environmental Benefit Analysis</td>
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<td>Non-professional Emergency Response Team</td>
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<td>NGO</td>
<td>Non Government Organizations</td>
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<tr>
<td>OET</td>
<td>Oil Export Terminal</td>
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<td>Oil (Onshore) Production Facility</td>
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<td>Oil Spill Response</td>
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<tr>
<td>OSRV</td>
<td>Oil Spill Response Vessel</td>
</tr>
<tr>
<td>OWR</td>
<td>Oiled Wildlife Response</td>
</tr>
<tr>
<td>PA</td>
<td>Piltun Astokh</td>
</tr>
<tr>
<td>PA-A</td>
<td>Piltun-Astokh Platform A (Molikpaq)</td>
</tr>
<tr>
<td>PA-B</td>
<td>Piltun-Astokh Platform B</td>
</tr>
<tr>
<td>PERT</td>
<td>Professional Emergency Response Team</td>
</tr>
<tr>
<td>PFD</td>
<td>Personal Floatation Device</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protection Equipment</td>
</tr>
<tr>
<td>PTS</td>
<td>Pipeline Transport System (onshore)</td>
</tr>
<tr>
<td>QRA</td>
<td>Quantitative Risk Assessment</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>RDP</td>
<td>Rapid Deployment Pack</td>
</tr>
<tr>
<td>RF</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>RF RDB</td>
<td>Russian Federation Red Book of Endangered Species</td>
</tr>
<tr>
<td>Rostechnadzor</td>
<td>Federal Agency on Environmental, Technological and Nuclear Supervision</td>
</tr>
<tr>
<td>RSChS</td>
<td>Russian Unified Emergency Prevention, Preparedness and Response System</td>
</tr>
<tr>
<td>SC</td>
<td>Site Controller</td>
</tr>
<tr>
<td>SCT</td>
<td>Site Control Team</td>
</tr>
<tr>
<td>SMNG</td>
<td>SakhMorNefteGaz</td>
</tr>
<tr>
<td>SOLAS</td>
<td>International Convention for the Safety of Life at Sea, 1974</td>
</tr>
<tr>
<td>SOPEP</td>
<td>Shipboard Oil Pollution and Emergency Plan</td>
</tr>
<tr>
<td>STASCO</td>
<td>Shell Transport And Shipping Company</td>
</tr>
<tr>
<td>USCG</td>
<td>United States Coast Guard</td>
</tr>
</tbody>
</table>