



Sakhalin-2 Phase 2 Lenders'
Independent Environmental Consultant

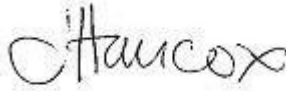
Monitoring Visit Report

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**Sakhalin-2 Phase 2
Project Finance Parties**

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LIST OF ABBREVIATIONS

BS-2	Booster Station-2
BVS	Block Valve Station
CAP	Community Awareness Programme
CLO	Community Liaison Organisation
CMT	Crisis Management Team
CNIIMF	Central Marine Research & Design Institute
CTA	Common Terms Agreement
ECT	Emergency Co-ordination Team
FOC	Fibre Optic Cable
GC	United Nations Global Compact
GRI	Global Reporting Initiative
GTT	Gas Transfer Terminal
HDD	Horizontal Directional Drilling
HSESAP	Health, Safety, Environmental and Social Action Plan
IEC	Independent Environmental Consultant
IEC&LM	Industrial Environmental Control and Local Monitoring
IFC	International Finance Corporation
IP	Indigenous Peoples
ITC	Independent Technical Consultant
KPI	Key Performance Indicators
FID	Final Investment Decision
LNG	Liquefied Natural Gas
MPC	Maximum Permissible Concentrations
MSDS	Material Safety Data Sheet
NEBA	Net Environment Benefit Analysis
OET	Oil Export Terminal
OPF	Onshore Processing Facility
OSR	Oil Spill Response
OSRP	Oil Spill Response Plan
OVOS	Оценка Воздействия на Окружающую Среду (an Environmental Impact Assessment in the Russian regulatory practice/statutory permitting)
PPE	Permitted Project Expansion
PCDP	Public Consultation & Disclosure Plan

PMD	Pipeline Maintenance Depot
QoL	Quality of Life
RAP	Resettlement Action Plan
RF	Russian Federation
RoW	Right of Way
SEIC	Sakhalin Energy Investment Company Ltd
SI	Social Investment
SIMDP	Sakhalin Indigenous Minorities Development Plan
SP	Social Performance
SPD	South Piltun Development
SPZ	Sanitary Protection Zone
SD	Sustainable Development
TEAS	Traditional Economic Activities Support
TLU	Tanker Loading Unit
UN	United Nations
WGW	Western Gray Whale
WGWAP	Western Gray Whale Advisory Panel

Executive Summary

ENVIRON UK is the Independent Environmental Consultant (IEC) acting on behalf of the Senior Lenders to the Sakhalin-2 Phase 2 project (the 'Project'). Under the Terms of Reference of our engagement, ENVIRON undertakes annual Project monitoring visits that cover a range of project activities, assets, programmes and plans.

A Project monitoring site visit was conducted between the 29th August and 6th September 2012 and focused on the following aspects:

- Social monitoring:
 - Revision of the applicable international requirements and an update of the correspondent HSESAP Management Specifications for social performance;
 - Company's internal monitoring of social performance and social impacts associated with the Project's current and planned activities;
 - Internal policy mechanisms regulating the Company's approach to social responsibility;
 - Community Liaison Organisation (CLO) and Company's external engagement activities;
 - Management of contractors' social performance;
 - On-going engagement with the Stroitel Dacha community near the Prigorodnoye Production Complex in Korsakov District;
 - Company's approaches to the protection of cultural heritage resources;
 - Updates on the on-going implementation of the dedicated social plans and programmes, including the Sakhalin Indigenous Minorities Development Plan (SIMDP 2) and the Social Investment Programme; and
 - The Public Grievance redress mechanism and its practical implementation.
- Environmental monitoring:
 - Pipeline Right of Way (RoW)
 - Pipeline Maintenance Depots (PMDs)
 - Booster Station-2 (BS-2)
 - Onshore Processing Facility (OPF)
- Project updates:
 - Waste management facilities and strategies
 - Adoption of 2012 IFC Performance Standards
 - Oil spill response (OSR)
 - Other (flaring, waste water, sewage treatment, water reinjection, staffing)
- Potential Developments:
 - OPF Compression Project
 - 2 D Seismic Survey
 - South Piltun Development
 - Sakhalin 3 condensate tie-in

During the site visit, progress made towards the resolution of open Findings raised from the previous IEC reviews and site visits were discussed. The updated status of all open and recently closed Findings is provided in a revised Findings Log (see Section 8). The Findings Log has also been updated to include all new Findings identified following this monitoring visit.

In addition, a number of recommendations are made following the site visit that do not relate to specific areas of non-compliance (and hence are not included in the Findings), but which are made for the benefit of either Sakhalin Energy and/or Lenders to either improve performance or, in some cases, avoid future areas of non-compliance.

The key findings of the site visit are summarised by topic area below.

Social Monitoring

On the whole, the annual monitoring of Sakhalin Energy's social performance has yielded positive findings. In particular, we note that:

- Sakhalin Energy has established and maintains the robust internal management and monitoring system that enables the detection, tracking and addressing the various aspects of social performance.
- The existing social performance management system is underpinned by the functional policies, is supported by the dedicated teams of staff, is based on the principle of transparency, and provides ready access for external monitoring and auditing.
- Sakhalin Energy has endorsed the latest revision of the IFC Performance Standards on Environmental and Social Sustainability (2012) to guide the Company's approach to its social performance, and has aligned the HSESAP Management Specifications accordingly.
- Sakhalin Energy's approach to social performance and social impact monitoring remains adequate and does not warrant considerable modifications at the current stage of the Project.
- The release of the Human Rights Policy and reflection thereof in the updated Code of Conduct are considered notable milestones in the Company's adherence to the standards of good practice.
- The overall approach to external engagement is sound, multi-dimensional and proactive and also hinges on the dedicated teams managing external affairs and community liaison.
- Information Centres are fully functional and represent one of the primary communication channels between Sakhalin Energy and the local communities.
- Sakhalin Energy's proactive involvement of stakeholders in the preparation and disclosure of the annual Sustainable Development Report is considered a noteworthy initiative that demonstrates good practice.
- Sakhalin Energy's mechanism devised for the redress of public grievances has evolved into a comprehensive, rigorous and transparent management procedure that enables the Company to effectively handle the external grievances by competent staff, with the accumulated practical experience being actively shared externally as a model case.

- The activities initiated by Sakhalin Energy in relation to the engagement with the indigenous communities are commendable examples of the responsible conduct of business.
- The monitoring and control of contractors' social performance are in place.
- The mechanism aimed at the protection of cultural heritage resources in the areas of Project activities has been set up and will draw on the appropriate internal and contractors' training, as well as on regular monitoring of the identified and protected objects and sites of cultural/historical significance in the areas of Project operations.

Two inter-related issues that were the subject of particular attention during the site visit and subsequent review are:

- Confirmation of the Sanitary Protection Zone (SPZ) around the Prigorodnoye Production Complex (i.e. the LNG plant), especially in relation to the residential dacha community ('Stroitel') that lies to the west of the Production Complex
- Recurrent claims from members of the Stroitel dacha community and a local NGO that the operation of the Prigorodnoye Production Complex has impacted on the dacha community.

Each of these aspects is described in turn below.

Confirmation of the SPZ

The SPZ at the Prigorodnoye Production Complex was originally set at the Project planning stage through predictive modelling and was subsequently decreed by the relevant Russian authority (the Chief State Sanitary Doctor of the Russian Federation). The size of the SPZ to the west of the air emission sources at the Production Complex was set by the authority as 1km (700m to the west from the site boundary). Importantly, the Stroitel dacha community is located approximately 1.2 km from the Production Complex and lies therefore outside of the SPZ. Under Russian regulations, the size of the SPZ has to be re-assessed following commencement of operation of the industrial facility based on actual air quality and noise monitoring data collected over one year of full operation. In November 2011, Sakhalin Energy submitted the relevant monitoring data to the competent Russian authorities for statutory review. The authorities concluded that the original SPZ size was appropriate and this has been confirmed in a decree issued by the Chief State Sanitary Doctor of the Russian Federation dated 10 April 2012. The announcement of this decision was made publicly available in the district newspaper.

During the site visit meeting, members of the Stroitel Dacha community expressed their dissatisfaction at the fact that materials to re-confirm the SPZ that had been prepared by the Company were not passed on to the community for their review. The community members present at the meeting also argued that the size of the SPZ is insufficient to protect them from impacts of the Prigorodnoye Production Complex and, on that basis, the remaining dacha owners should be resettled to an alternative location (see Alleged impacts on the dacha community below).

With regard to the re-confirmation of the SPZ we make the following comments and conclusions:

- The process followed by the Company to re-confirm the SPZ was in line with Russian regulatory requirements and the size of the SPZ has been definitively decreed by the relevant state authority.
- Sakhalin Energy has stated that the stakeholders, including representatives of the Dacha community, were informed about the SPZ review process during the regular public dialogues as part of the preparation of the 2011 Sustainable Development Report (annual SD Report). The information about the SPZ size review is also presented within the aforementioned SD Report which is publicly available.
- There currently exist no legal grounds for initiating resettlement of the dacha community as their properties lie outside the statutory SPZ.

Overall, ENVIRON finds the Company's engagement process to be satisfactory, although specifically in relation to Sakhalin Energy's interaction with the dacha community we recommend that:

- The SPZ substantiation materials should be made available to the dacha community, if necessary – in a format that allows understanding by non-technical audience.
- The Company should consider arranging an additional information session specifically with the dacha community to explain the emergency prevention and response system at the Prigorodnoye Production Complex.
- The Company should continue implementation of the Quality of Life monitoring at the border with the dacha community.
- Sakhalin Energy should maintain regular interaction and keep the existing channels of communication open that allow the community to participate in the mechanism of continued dialogue with the Company. Necessary notifications, updates and visits as part of the Company's social impact monitoring should continue to take place, as previously.

Alleged impacts on the dacha community

The local NGO and the Dacha residents continue to express their concerns about the proximity of the Prigorodnoye Production Complex to their dacha plots, and the impacts that they claim the facility has in terms of noise nuisance, deterioration of air quality, visual effects during flaring, contamination of soils and agriculture produce grown on the dacha plots, a decline in crop productivity, detrimental health effects, and potential risks from non-routine/emergency situations. ENVIRON outlined these concerns in our previous 2011 site monitoring report and the same concerns were reiterated by the dacha community representatives during the meeting with ENVIRON and Lenders in September 2012. In addition, in 2011, the Dacha residents commissioned an independent study by the Scientific Research Institute of Agriculture (Chemical Analysis Report by Sakhalin NIISKh) to investigate the presence of contaminants in the soil and agricultural produce at the dacha plots. The study was provided to ENVIRON shortly before the September 2012 site visit and reports heightened concentrations of nitrogen compounds (nitrates and nitrites), sulphur compounds and benzo(a)pyrene in soil samples and some elevated concentrations of nitrates in some plants (beetroot) and in the leaves of apple trees.

Following review of the Sakhalin NIISKh, environmental monitoring data provided by Sakhalin Energy and other relevant materials, ENVIRON makes the following conclusions:

- Nitrogen compounds. We find that:
 - Air quality monitoring data provided has not identified any exceedances of relevant MPCs.
 - Levels of nitrates in soils presented in the Sakhalin NIISKh Chemical Analysis Report are all within MPC levels.
 - The only MPC exceedance for nitrogen compounds identified in the Sakhalin NIISKh Chemical Analysis Report relates to nitrate levels in beetroot. However, we consider that the link between atmospheric emissions of NO_x from the Prigorodnoye Production Complex and localised levels of nitrates in vegetables in the dacha area has not been substantiated by the Analysis Report and that other plausible potential causes of elevated nitrate levels have been highlighted in the Sakhalin Energy response to the Head of the Dacha Cooperative dated 07/08/2012.
- Sulphur compounds. We note that:
 - Air quality monitoring data provided by Sakhalin Energy have not identified any exceedances of relevant MPCs
 - Levels of sulphur compounds in soils presented in the Sakhalin NIISKh Chemical Analysis Report are all within MPC levels
 - MPCs for sulphur levels in vegetables are not set.
- Benzo(a)pyrene. The Sakhalin NIISKh Chemical Analysis Report identifies exceedances of MPC levels in soil samples taken from dacha plots (although levels in vegetables appear to be below detection limits). However, we conclude that the link between these elevations and emissions from the Prigorodnoye Production Complex has not been robustly substantiated, and in particular we note that:
 - Air quality monitoring data have not identified any exceedances of benzo(a)pyrene MPC levels.
 - Levels of benzo(a)pyrene in soil sample monitoring undertaken by Sakhalin Energy at a number of sites around the Prigorodnoye Production Complex as presented in the 2009-2011 soil monitoring report do not identify any exceedances of the MPC.
 - There are a number of other plausible local sources of benzo(a)pyrene, such as those described in the Sakhalin Energy Response dated 07/08/2012, that cannot be excluded.
- Other soil monitoring results. Levels of hydrocarbon and heavy metals in soil samples reported in the 2009-2011 soil monitoring report do not indicate that emissions from the Prigorodnoye Production Complex have resulted in elevated levels. However, we note some apparent discrepancies between the 2009-2010 soil monitoring report and the 2009-2011 report provided by Sakhalin Energy, which require further explanation by the Company.
- Blemishes on vegetation leaves. During the September 2012 site visit, ENVIRON visited some of the Dacha plots to take photographs of the current condition of plants and leaves. Some of the plants, particularly fruit trees, bushes, berries and potatoes exhibited the signs of blemishes on the leaves. However, specific diagnosis by suitably qualified agricultural specialists would be required to confirm the causes of such

symptoms. At the time of the visit, similar signs were not evidently noticeable on the wild-type vegetation growing in the surroundings of the dacha plots.

- Noise monitoring. Noise monitoring is undertaken by Sakhalin Energy as part of both industrial and quality of life monitoring. The available noise monitoring data have been reviewed and no exceedances attributable to project-related noise sources have been identified. However, we note that improvements to the monitoring programme are required to ensure that both daytime and night-time noise measures are performed at the appropriate frequency. We understand that the noise monitoring protocols have been amended to better enable the source of any noise exceedance to be robustly investigated (including identification of localised natural background noise events) by use of written records of the noise environment during the monitoring periods. ENVIRON will review these protocols in more detail during the next site visit.
- Monitoring during flaring at the Prigorodnoye Production Complex. Air quality monitoring data at locations around the SPZ from 2009, which reportedly coincided with commissioning flaring at the Prigorodnoye Production Complex, have been provided by Sakhalin Energy for review and no exceedances of MPC levels were identified. Nonetheless, we recommend that noise monitoring (both at the SPZ perimeter and at the Dacha plots) should be undertaken during flaring activities whenever possible, in order to fully confirm the effects of flaring events on air quality and noise levels at the dacha community.

Summary

Overall, a number of minor recommendations have been made with respect to the social aspects, but no new material non-compliances were identified.

Right of Way

A number of locations along the pipeline Right of Way (RoW) were inspected from across all sections of the onshore pipeline. Inspections focused on the status of drainage and erosion control, biological reinstatement, river crossings and geotechnical works.

Overall, the monitoring visit revealed significant progress in reinstatement of the RoW. Particular improvement was noted on the re-vegetation of sandy areas and most of the steep slopes (with some exceptions). In addition, ongoing maintenance of the RoW appears to be working successfully. Despite the generally very favourable impression gained from the site visit, areas for improvement were nonetheless identified and the most significant of these are summarized below:

- Although re-vegetation of sandy and steep slopes has improved significantly, there are some particularly problematic slopes that due to their steepness and type of soil lithology require continuing efforts and possibly re-thinking of the re-vegetation methods in some cases.
- The presence of tree saplings along the RoW has increased substantially. There is a need for urgent control measures in order to meet Russian Federation (RF) legal requirements and to bring this issue under control.
- A number of 'dig-ups' have been undertaken along the RoW in order to inspect sections of the oil and gas pipelines. There is currently no written procedure for how the dig-up areas are to be reinstated. We recommend that the Company develops

such a procedure and that this should address methods to minimise disturbance, preserve top soil, and techniques to reinstate disturbed areas.

- Many sections of the RoW are becoming increasingly difficult to access for visual inspection. We recommend that Sakhalin Energy makes increased use of aerial photography to assess the recovery of more inaccessible areas.
- Visual observations of wetland areas made during the site visit were consistent with the results of Sakhalin Energy's wetland monitoring report. In particular, for those wetland areas visited, our visual observations supported Sakhalin Energy's determination of whether future specialist monitoring of recovery is required. We recognise that measures to remove any remaining imported materials (e.g. soils and stone imported during construction) and to infill depressions would require the use of heavy equipment, which in turn may result in damage to recovering areas as they access the wetland. Nonetheless, if continued poor rates of recovery are identified by future monitoring, then we recommend that such measures may need to be considered.

Pipeline Maintenance Depots (PMDs)

The primary focus of monitoring at PMDs was to assess the adequacy of secondary containment of oil and lubricant containers in storage areas. This has previously been an area of deficiency and non-compliance with the HSESAP, which the Company has been working towards addressing.

The secondary containment measures undertaken by the Company were found to be much improved since previous visits, although still variable at different PMDs. Various combinations of plastic gridded drip trays and larger metal trays were considered to achieve adequate secondary containment of drums and other containers at Nogliki, Yasnoye and Gastello (with the exception of two isolated deficiencies). However, the OPF PMD only had access to shallow plastic drip trays for drums which were not fit for purpose. Sakhalin Energy must ensure that the capacity of all secondary containment measures is sufficient for the maximum volume of oil stored upon them, at all PMDs, in accordance with the *Soil and Groundwater Industrial Controls* specification.

Isolated instances of missing Material Safety Data Sheets or inadequate drum labelling were noted at some PMDs, and actions to undertake an asset-wide review of these issues are added to the Findings Log to ensure continued compliance with HSESAP requirements.

Other aspects of housekeeping were good, with wastes stored in appropriately lidded and labelled containers.

Booster Station 2 (BS-2)

Lubricant and chemical storage at the BS-2 site was found to be of a good standard, with dedicated storage facilities that provided appropriate secondary containment through impermeable flooring sloped away from the door entrance and provision of an internal drainage system that is routed to the site oil interceptor.

Onshore Processing Facility (OPF)

ENVIRON undertook a short visit to the OPF during this monitoring visit, accompanied by the Lender group. The key findings from the visit are summarised below:

- Improvements in operating procedures and design of the overhead compressor have significantly reduced flaring at the OPF. These improvements have delivered two years' trouble free operation, which is reflected in the much reduced flaring statistics for 2011 and 2012.
 - The OPF still remains without an effective, permanent process water treatment system for the removal of hydrocarbons and total suspended solids (TSS). The current system uses simple filters for the removal of TSS, but requires the prior addition of freshwater to avoid exceeding the hydrocarbon discharge limits. Filter changes are OPEX-intensive, used cartridges cannot be recycled, and disposal is costly. This is not ideal, but enables the Company to comply with its licences in the intermediate term.

It was advised that two equipment trains on the LUN-A platform have now been commissioned for produced water reinjection, thus reducing the volume of water coming to the OPF. In parallel, the Company is looking to further understand the well capacity to determine whether discharge licences remain appropriate.

- The OPF Project camp, previously used by OPF construction contractor BETS, is the only Sakhalin Energy camp not yet sold, disassembled or abandoned to State. The accommodation will now be re-used by the OPF gas compression project workforce, and therefore disposal has been postponed until completion of construction activities (circa. 2017).

Significant work was undertaken in 2011-12 to clear out the accommodation buildings and segregate the different types of wastes. Reportedly a contract has now been let for the removal of these wastes from the OPF site. Ultimate disposal will be to either Nogliki or Korsakov landfill, dependent on a number of factors including distance, capacity and other factors such as the availability of porcelain grinders. The camp buildings are scheduled to be refurbished in 2013 ready for site preparation and early construction works later that year.

- A number of additional environmental improvement initiatives were outlined, including:
 - Pipeline wax suppression using a chemical inhibitor originally designed as a drag reducer, resulting in a considerable reduction in waxy waste, which requires specialist disposal.
 - Lube oil from the OPF may now be injected into the oil export line instead of commercial disposal. This is now in line with the 'Waste Management Standards Comparison' HSESAP specification.
 - Plastic bottles are now compressed and baled on site before being sent to Yuzhno-Sakhalinsk for recycling. An action has been instigated to investigate the feasibility of a potable water polishing system to generate drinking water on-site, reducing the number of waste plastic bottles generated.

Project Updates

Waste management

Prior to the monitoring visit, Sakhalin Energy had notified Lenders that it had become aware of potential issues in relation to non-hazardous waste management:

- Adequacy of the management of certain third-party landfills used by Sakhalin Energy
The Sakhalin Oblast is in the process of implementing changes to the ownership and operation of the island's landfills, from municipal to regional control. As part of this process, the Ministry of Natural Resources (NMR) identified one company, GUP Otkhody, to take over the operation of the Smirnykh and Nogliki landfills with effect from 2011. Since then, Sakhalin Energy has identified concerns over both the standard of operation of the landfills and the absence of required landfill title documentation required for its activities. No areas of major concerns in the operation of landfill were identified during the monitoring visit, but areas for improvement were noted, such as the application of daily cover.

The Korsakov landfill currently remains under the ownership of its original operator, OOO Noviy Gorod. From observations made during the monitoring visit, the operation of this landfill appears to be of a high standard, with a number of innovative approaches to waste management being displayed.

However, the Korsakov landfill is nearing full capacity (see below), and once the landfill is closed any new landfill development in the south of the island would be placed under the ownership and operation of GUP Otkhody.

- Future capacity of existing landfill facilities available to Sakhalin Energy
Sakhalin Energy has been made aware of significant capacity restrictions at the Nogliki and Korsakov landfills – both upgraded with funding from Sakhalin Energy – as follows:
 - Recent significant use of Nogliki landfill by the Sakhalin-3 project has initiated concerns that its capacity is being used up at a higher rate than originally envisaged. Sakhalin Energy is currently endeavouring to ascertain the likely remaining lifetime of the landfill. This uncertainty represents a significant risk to Sakhalin Energy's current waste management plans for its northern facilities.
 - The Korsakov landfill cell is used for both municipal wastes and waste from Sakhalin Energy. However, the level of municipal wastes being disposed to the landfill has been higher than originally expected. It is currently anticipated that the landfill will reach full capacity by mid-2013. This represents a major challenge to Sakhalin Energy's medium to long term waste management plans for its southerly facilities, including the LNG/OET complex, and also its offshore facilities.

In addition, there have been delays in the re-approval by the local authorities of waste limits from the LNG and it is likely that this is due to concerns over the lack of remaining capacity at the Korsakov landfill.

- **Waste Management Strategies**

In response to the landfill capacity and management challenges described above, Sakhalin Energy is in the process of developing both short- and long-term future waste management strategies. The short-term strategies are focused on waste streams currently disposed of to the Korsakov landfill and include:

- Tendering for services to collect wastes
- Segregation and incineration of wastes
- Temporary storage of waste (up to 6 months)

While generally supportive of these potential short-term solutions, we note that these strategies need to be confirmed and implemented as a matter of urgency, and well in advance of the Korsakov landfill being closed. We also note that any use of incinerators would need to meet international emissions standards.

A range of long-term options are also under development. There is likely to be a long lead time to the implementation of these strategies. Therefore, it is important that detailed timeframes for investment decisions for the preferred options are developed as a matter of urgency.

Adoption of 2012 performance Standards

Sakhalin Energy has endorsed the adoption of the updated IFC Performance Standards on Environmental and Social Sustainability, which came into force in 2012 (the IFC PS 2012). A number of HSESAP documents have been revised accordingly, in consultation with ENVIRON and Lenders. Sakhalin Energy has now finalised all document revisions and published them on its external web-site.

Oil spill response

Updates were provided to ENVIRON with regards to the status of Oil Spill Response Plan (OSRP) documentation, oil spill response capability and oily contaminated waste storage facilities:

- Sakhalin Energy's OSRPs have been reviewed/agreed by ENVIRON and its oil spill specialist, PCCI. These plans comprise an overarching corporate level plan (C-OSRP) and six asset-specific plans. Under the terms of the CTA, summaries of the main OSRPs are to be made publicly available. Summary plans have been agreed by ENVIRON/PCCI for the C-OSRP and four of the six asset plans. Revision and completion of the two outstanding summary plans should be undertaken as a matter of urgency in order to ensure that the Company brings itself back into compliance with its CTA commitments.

The oil in ice manual is still outstanding, but it is envisaged that it will be provided for review by ENVIRON/PCCI by the end of 2012. Agreement of this manual is important to ensure that Sakhalin Energy meets its CTA/HSESAP commitments and to help ensure that it is well placed to respond to oil spill events that may occur in ice conditions (which represent a significant proportion the year).

- Sakhalin Energy proposes to undertake an audit of its oil spill response capabilities and facilities and a major (Tier-3) offshore oil spill exercise in 2013. It was agreed during the monitoring visit that ENVIRON/PCCI would be invited to participate in the audit and exercise.
- A temporary storage and bio-treatment facility for oily contaminated waste was developed with funding from Sakhalin Energy at the Smirnykh landfill. During the monitoring visit we were informed that land allocation for the facility has not yet been granted. ENVIRON has previously raised concerns as to whether the facility had the appropriate conditions for bioremediation of contaminated soils. The Company is now investigating alternative treatment methods/facilities for oily contaminated soils.

Other

A number of other Project update topics were discussed during the site visit, which will be monitored by ENVIRON. The most significant of these were:

- Treated Water Discharges to Soakaways (Onshore Facilities) - Responsibility for environmental permitting of water discharges to ground has now moved from RosTekhNadzor (RTN) to RosPrirodNazor (RPN). However, RPN does not yet have a regulatory procedure in place to issue permits for these discharges. Sakhalin Energy's original RTN permits for discharge of water to land have now expired and applications to obtain new permits from RPN cannot be legally approved due to the current absence of an applicable regulatory procedure for these discharges. In the interim, Sakhalin Energy is continuing to operate in line with the previous (expired) permits, including reporting of monitoring results versus limits and payment of normal fees. RPN is aware that Sakhalin Energy continues to operate in this way, but considers that the Company should pay fivefold over-the-limit fees as there is currently no permit in place. Sakhalin Energy considers that the issue is not of their making and disputes that fivefold fees should be paid. Dialogue with RPN to resolve this issue is on-going. The on-going discharges are unchanged from the previously permitted discharges and the issue is of a technical regulatory nature. Nonetheless, resolution is required.

In addition, discharges from the sewage treatment plant (STP) at BS-2 during the first 2 quarters of 2012 have shown exceedances of existing Maximum Permissible Discharges (MPD) for phosphate and nitrites. Sakhalin Energy has recognised these issues and is working to improve the performance of the STP.

- Offshore STP Discharges - The STPs installed on the PA-B and LUN-A platforms are designed to meet the performance criteria required under MARPOL 73/78. However, RF limits are more stringent than the MARPOL standard with the result that Sakhalin Energy has been subject to payments for exceeding RF limits measured at the point of discharge. It should be noted however that ambient levels in the receiving seawaters meet the RF requirements at the edge of the mixing zone. Sakhalin Energy is currently considering solutions to improve the effluent quality to achieve the RF limits at the point of discharge. This has included consideration of either upgrade or replacement of the sewage treatment plants. Given the high replacement costs (\$15 million per platform) and the fact that ambient concentrations in the seawater meet statutory limits, Sakhalin Energy is currently assessing other options, including negotiation with the authorities to re-evaluate the emission limits.

- Flaring - Under Russian Federal Government Decree #7, a 5% cap on the volume of associated gas that can be flared by oil and gas production facilities came in to effect from 1 January 2012. Compliance with this cap is likely to be challenging, particularly in relation to offshore oil platforms (PA-A and PA-B). To July 2012, the percentage of associated gas flared at PA-A and PA-B are 11% and 8% respectively.
- Staffing - Sakhalin Energy has raised the issue of increased difficulty in retaining and recruiting suitably qualified staff. The general shortage of qualified workers available in Sakhalin is largely due to the increasing demand for such skills on the island as Sakhalin's oil and gas industry continues to expand. As a result Sakhalin Energy's HSE scorecard metrics for "Competence Gap Closure" are currently significantly below target. ENVIRON has not identified any reduction in environmental and social performance to date, but in order to maintain appropriate staff levels increased usage of expatriate personnel may be required.

Potential Developments

OPF Compression Project

The OPF Compression Project entails the installation of additional compression facilities to ensure that gas inlet pressure to the OPF is maintained as the Lunskoye field pressure naturally declines. An environmental and social impact assessment (ESIA) for the OPF Compression Project is being developed, which will be provided to Lenders and ENVIRON for review. ENVIRON has been given the opportunity to comment on both the terms of reference for the ESIA development and also the proposed table of contents of the ESIA.

We have previously noted that the selection of the main compression equipment, and specifically the size of the compressors, needs to take into full account the environmental considerations. Sakhalin Energy has now confirmed that six 32MW compressors will be used, as opposed to twelve 16MW compressors. Significant environmental benefits are expected as a result of using fewer, larger units including a smaller physical footprint, relatively lower gaseous emissions and greater reliability.

The only identified ecological constraint is the presence of Red Book listed lichen on a small area of the selected site. The Company has indicated that this area will be left undisturbed and protected from adjacent construction. However, we note that lichen are also susceptible to impacts from degraded air quality, and therefore recommend that the ESIA includes specific consideration of the assessment and mitigation of air quality impacts on lichen.

2D Seismic Survey

An offshore 2D seismic survey and geotechnical investigation was undertaken in the Piltun field during 2012 as part of the preliminary investigation works for the potential South Piltun Development (SPD) (see below). A primary mitigation for the protection of Western Gray Whale (WGW) included in the ESIA for the 2D seismic survey was that the survey be completed as early in the year as possible (prior to the arrival of peak numbers of WGW in the area), with a back-stop completion date of 15th July 2012.

During the monitoring visit it was confirmed that the 2D seismic survey was completed by the 9th July 2012, thus meeting the primary mitigation requirements. Sakhalin Energy has stated that no environmental incidents were recorded during the survey.

South Piltun development (SPD)

The Company is currently considering four possible schedules for the SPD, with Financial Investment Decisions (FID) between 2015 and 2018 and First Oil dates between 2020 and 2023.

Lenders and Sakhalin Energy have agreed that the SPD should be classified as a Project Expansion under the CTA/HSESAP. Under Project Expansion requirements an ESIA must be developed and provided to Lenders for review. In this regard it is good to note that the Company has:

- Engaged specialist consultancy support to help manage the ESIA process from an early stage
- Confirmed that it will engage with both ENVIRON and the Lenders' Independent Technical Consultant (ITC) in the early stages of the ESIA development process, including option selection.

We recommend that Sakhalin Energy considers a number of issues early in the ESIA process:

- The potential ramifications of the 2012 IFC Performance Standards. In particular, PS6 sets requirements to design for 'net gains' in critical habitats, and also requirements for the maintenance of the benefits of ecosystem services.
- The assessment of cumulative impacts on the WGW in terms of both potential simultaneous industrial activities by other operators in the region, and year-on-year cumulative impacts of all industrial activity in the region.
- Consideration of how early works, such as potential appraisal drilling, will be managed within the overall SPD ESIA process.

Sakhalin-3 Condensate Pipeline Tie-In

An update was provided on the status of the Sakhalin-3 Condensate Pipeline Tie-In Project, in which condensate from the Sakhalin-3 will be tied-in to the Sakhalin Energy oil pipeline for export via the Oil Export Terminal. While we do not raise any specific environmental or social concerns with the tie-in project itself, we note that there may be reputational risks to the Company and Lenders in the event of adverse environmental impacts occurring during the construction and operation of the link pipeline. In this regard we make the following recommendations:

- The Lenders' legal advisor is requested to provide an opinion on how, if at all, the Sakhalin-3 Condensate Pipeline Tie-in Project is covered under the requirements of the CTA.

- Sakhalin Energy provides available documentation on the tie-in project to ENVIRON for review, including the Lenders' ITC review of the tie-in and the OVOS produced by Sakhalin 3 for the link pipeline (if available).
- Although Sakhalin Energy has limited control or influence over the Sakhalin-3 project, we nonetheless recommend that Sakhalin Energy considers methods for spreading of good environmental practices, transferring its own experiences of construction and operation on the island to Sakhalin-3, for example through the performance of joint workshops.

1 Introduction

ENVIRON UK Ltd is the Independent Environmental Consultant (IEC) acting on behalf of the Senior Lenders to the Sakhalin-2 Phase 2 project (the 'Project'). Under the Terms of Reference of our engagement, ENVIRON undertakes annual Project monitoring visits that cover a range of project activities, assets, programmes and plans.

This report presents the findings of monitoring that was conducted between 29th August and 6th September 2012, which focused on the following aspects:

- Social monitoring (see Section 2):
 - Community Liaison Organisation (CLO) and Company's information centres
 - Contractor compliance (Booster Station-2)
 - Prigorodnoye complex accommodation
 - Meeting with dacha community near the Prigorodnoye Production Complex
 - Updates on implementation of social plan/initiatives including Sakhalin Indigenous Minorities Development Plan (SIMDP 2), Social investment and Cultural Resources Protection Plan
 - Grievance procedure and records
- Environmental monitoring:
 - Pipeline Right of Way (RoW) (see Section 3)
 - Pipeline Maintenance Depots (see Section 4)
 - Booster Station-2 (see Section 4)
 - Waste management facilities (see Section 4)
 - Onshore Processing Facility (OPF) (see Section 4)
- Project update discussion topics (see Section 5):
 - E&S topics:
 - Waste management
 - Adoption of 2012 IFC Performance Standards
 - Oil spill response
 - Other (flaring, waste water, sewage treatment, water reinjection, staffing)
 - Potential Developments:
 - OPF Compression Project
 - South Piltun Development
 - Train 3
 - Sakhalin 3 condensate tie-in

This report presents the findings of the site visit, which are presented in the sections indicated above. In addition, the report also provides:

- Recommendations (Section 6). A number of recommendations are made following the site visit that do not relate to specific areas of non-compliance (and hence are not included in the Findings Log –see below), but which are made for the benefit of either Sakhalin Energy and/or Lenders to either improve performance or, in some cases, avoid future areas of non-compliance.

- A summary of information requests (Section 7) that were not available at the time of the site visit.
- An updated Findings Log (Section 8). The Findings Log is a live log of all findings identified from IEC site visits and reviews of Project documentation. During the site visit progress made against open findings was reviewed and the updated status of the findings provided in a revised Findings Log. The Findings Log has also been updated to include all new findings identified following the recent site monitoring and audit visit.

2 Social Performance Monitoring

2.1 Objectives of the IEC's Annual Social Monitoring

Monitoring of Sakhalin Energy's social performance is implemented by ENVIRON as the IEC on an annual basis to verify fulfilment of the HSESAP commitments.

The following aspects were covered during the IEC's annual monitoring visit in September 2012:

- On-going stakeholder engagement and community liaison;
- Grievance redress mechanism;
- Progress with the implementation of Sakhalin Indigenous Minorities Development Plan (2nd Five-Year Plan for 2011-2015) (SIMDP 2);
- Contractors' social performance;
- Protection of cultural heritage resources during Project Operations; and
- Social Investment programme.

Detailed updates on each of the aforementioned aspects are provided in the following subsections.

2.2 General Update

2.2.1 Revision of International Requirements and Management Specifications

The HSESAP commits the Project to the compliance with the World Bank/IFC HSE and social policies and guidelines. The revision of the international requirements applicable to social performance was scheduled to take place within 12 months of the Project's Financial Close with the aim of reflecting the development and introduction of new requirements, and specifically – the update of the IFC Performance Standards on Environmental and Social Sustainability that came into force in 2012 (the IFC PS 2012).

As a result, the following International Requirements related to social performance have been revised as part of the HSESAP during 2012:

- Requirements related to Resettlement – in line with the IFC PS 5 “Land Acquisition and Involuntary Resettlement”;
- Requirements related to Indigenous Peoples – in line with the IFC PS 7 “Indigenous Peoples”; and
- Requirements related to Cultural Heritage – in line with the IFC PS 8 “Cultural Heritage”.

This update has reflected the Project's commitment to undertaking its activities in accordance with good international practice.

Of special note is the Company's commitment to follow the principle of Free, Prior and Informed Consent (FPIC), which is endorsed by the IFC PS 7, in relation to the Project interaction with the indigenous communities as part of the SIMDP, and due consideration of land claims based on traditional ownership/customary use by the indigenous people.

The revised version of the International Requirements for Social Performance is pending placement on Sakhalin Energy's external web-site.

The revision of the International Requirements has also resulted in an update of the HSESAP Management Specifications covering the following aspects:

- Resettlement,
- Indigenous Peoples Issues,
- Cultural Heritage Resources,
- Public Consultation and Information Disclosure, and
- Addressing Grievances.

These Specifications now reflect the Project's recent activities and initiatives, including the comprehensive Community Grievance Procedure, the dedicated SIMDP Grievance Procedure, operation of the Information Centres, introduction of the Human Rights Policy, and the requirement to apply the principle of the IFC PS 5 if a further need arises to acquire private land for Project purposes. The revised Management Specifications will also be made available for public access in the HSESAP Library section of the Company's web-site.

2.2.2 The Company's Approach to Social Performance Monitoring

The Social Performance Monitoring Specification has also been subject to update in 2012, particularly in order to reflect the specifics of the Project's Operations Phase. The monitoring process continues to be undertaken based on the three main elements that have been carried over from the construction phase:

- On-going community liaison (*see also section 2.3 below*);
- Social compliance monitoring – both internally and in relation to the Project's contractors to ensure overall compliance with the HSESAP social commitments and requirements (*see also section 2.6 describing management of contractors' performance*); and
- Social impact monitoring – to track any potential impacts on the local communities from the Project's on-going operations activities as well as in case of any new construction or expansion works. This type of monitoring involves visits to the communities in the Project areas and contractor sites¹, as well as tracking the activity of the Company's Information Centres and grievances arising in relation to the Project, maintaining contact with the local municipal administrations and land users, and the annual surveys of public opinion² in the areas associated with the Project.

The Social Assessment Group continues to monitor (jointly with the Company's other relevant Departments such as Issues Team, IP Unit, HSE, and SI Group) the key areas of its responsibility that are reflected in the following main indicators:

- Community liaison and engagement activities, specifically including the liaison with the indigenous communities;
- Community impacts from Project operations;
- Effectiveness of the grievance resolution process;

¹ Contractors operating and servicing the PMDs, BS-2, OPF and LNG.

² The results of the 2012 annual survey were not yet available at the time of the IEC site visit. Findings of the 2011 public opinion survey are discussed in the "Sakhalin-2 Phase 2 Lenders' Independent Environmental Consultant Monitoring and Audit Report: October 2011":

http://www.sakhalinenergy.com/en/documents/1_IEC_Site_Visit_Report_Oct_2011.pdf

- Implementation of the SIMDP in accordance with its stated objectives and planned measures;
- Monitoring of the cultural heritage resources identified in the close proximity to the pipeline Right of Way (RoW) and Project's onshore assets; and
- Projects and initiatives supported as part of the Company's Social Investment/Sustainable Development Programme (SI/SD Programme).

ENVIRON considers that the approach to social performance monitoring adopted by Sakhalin Energy remains adequate and does not warrant considerable modifications at the current stage of the Project. It is recommended that staff of the Social Performance Team (and the Social Assessment Group, in particular) as well as the Community Liaison Organisation continue to have access to Project assets, including those operated by the contractors, on an as required basis to ensure the effective coverage of social compliance monitoring. For any new long-term construction activities the monitoring of social impact will need to remain among the key tools for tracking the resultant community effects, with the frequency and depth of monitoring activities to be commensurate with the scale of a potential impact.

With respect to the annual surveys of public opinion, ENVIRON previously recommended that after the first three years of Project Operations (i.e. 2011-2013) during which the surveys are conducted on the full scale in all the designated 23 settlements, the geographical scope of the survey may be scaled down to cover only those settlements that are in the vicinity of the Project's operational assets. Such existing assets include the PMDs, Booster Station, GTTs, OPF (including the new OPF Compression Project), as well as the Prigorodnoye Production Complex (including the LNG plant and OET) in Prigorodnoye. Other settlements that were part of the original scope due to their proximity to activities associated with pipeline construction may eventually be omitted from the survey. However, it is recommended that any other new locations that can potentially be impacted by Project expansion/construction activities in the future should be covered by the public opinion surveys in due course.

The monitoring of the Resettlement Action Plan (RAP) implementation was completed in 2011 – including the external monitoring and the final evaluation of the RAP completion by the RAP independent monitor. The final evaluation report by the RAP monitor concluded that all commitments related to resettlement, compensation and livelihood restoration have been met and that the requisite internal systems and mechanisms have been established allowing the Project to monitor and address any other issues that may arise during the Operations. On this basis, the report finally concluded that the external monitoring of the RAP implementation was no longer required.

The HSESAP's Resettlement Management Specification will remain the primary document governing the Project's approaches to resettlement and addressing economic displacement that may result from any potential land acquisition (e.g. associated with new construction works as part of Project expansion, etc.).

The arrangements for external monitoring related to the SIMPD implementation and Sakhalin Energy's Social Investment/Sustainable Development Programme are described in the relevant sections below (see *sections 2.5 and section 2.8*).

2.2.3 Policy Update and Good Practice Initiatives

There have been two important additions to Sakhalin Energy's policy instruments in 2012:

- The Human Rights Policy; and
- The revision of the Code of Conduct.

Human Rights Policy

Sakhalin Energy's Human Rights Policy has been a product of comprehensive internal discussions and a dedicated working group. Through adopting this Policy, the Company has reiterated its commitment to upholding international standards focussed on the respect, support and promotion of human rights throughout all business activities and all Project divisions.

Sakhalin Energy has thereby endorsed the following benchmark standards as part of its Human Rights Policy:

- Legislation of the Russian Federation;
- The UN Universal Declaration of Human Rights;
- Core conventions of the ILO;
- The UN Guiding Principles on Business and Human Rights;
- The UN Global Compact;
- ISO 26000 Guidance on Social Responsibility;
- The Voluntary Principles on Security and Human Rights; and
- The International Covenant on Economic, Social and Cultural Rights.

The Company intends to apply its Human Rights imperatives in relation to the following principal spheres:

- Employee interaction at the workplace;
- Engagement with the communities in the Project Areas and with other external stakeholders;
- Operations with business partners, including its existing suppliers and contractors, as well as any new contracts or potential partners; and
- Security services, including third-party security providers.

The Human Rights Policy places a special emphasis on prioritising the issues related to vulnerable groups³ and the protection of indigenous peoples' rights.

The Policy states that the contractors and subcontractors involved in the Sakhalin-2 Project activities shall be aware of and support its principles. The Company also intends to introduce compliance with its Human Rights Policy as a contractual condition for its contractors.

In practice, the principles of the Policy have already been reflected in a number of mechanisms and procedures that Sakhalin Energy implements as part of its regular management of the social and procurement aspects, including:

- The Grievance Procedure, particularly the Human Resources Grievance Procedure for Company's employees and the Community Grievance Procedure for addressing complaints from the public and other external stakeholders (including contractor personnel);

³ The definition of the vulnerable groups, which was previously featured in the Community Grievance Procedure, is now incorporated within the Human Rights Policy (2012).

- The Security Policy;
- The Contract and Procurement Procedure;
- The Anti-bribery and Corruption Procedure; and
- Implementation and annual revision of the PCDP.

It is also recognised that the in-house training and awareness raising will be key to ensuring that the principles proclaimed in the Human Rights Policy are upheld and reflected in day-to-day activities and Project operations. It is therefore planned that the human rights commitments as stipulated in the Policy become incorporated within mandatory training for the Company's employees. The Policy also provides for the security personnel to be specifically trained in adherence to the standards on human rights, including personnel directly employed by the Project, as well as contracted or sub-contracted security staff.

The Human Rights Policy can be accessed via Sakhalin Energy's corporate web-site.

Code of Conduct

The Company's human rights commitments have been woven into the Code of Conduct which has also been updated in 2012. The Code of Conduct represents a statement of the fundamental values and principles that are endorsed by Sakhalin Energy and apply to any person or entity acting on behalf of the Company. It is a handbook of requirements and practical guidance that aims to form an understanding of the required standards of ethical behaviour among the Company's employees and contractors.

Overall, the Code of Conduct stipulates the main requirements and responsibilities in relation to the following key aspects:

- Protection of and respect for human rights;
- Ensuring equal opportunities in employment and employment-related decisions;
- Zero tolerance to any forms of harassment, intimidation or hostile behaviour, including types of conduct that are unacceptable within the local cultural context;
- Underpinning the Company's operation in the community by the implementation of a thorough assessment of potential impacts and appropriate management measures aimed to minimise the identified possible effects, as well as by the direct engagement with the communities;
- Complying with no fishing, gathering and hunting requirement during construction (*see also section 3.6 'Contractors' Social Performance'*);
- Prohibition of disturbance to and harassment of domestic animals and wildlife, including domestic reindeer bred in the local communities;
- Conforming with the established requirements for waste management, including solid waste, general refuse, and/or hazardous wastes; and
- Following the procedures for the protection of objects of cultural heritage.

The Code of Conduct also emphasises the Company's commitment to the leading performance in the areas of health, safety, security, environment and social performance.

We note that the success of practical implementation of the newly updated Code of Conduct hinges on the provision of in-house training to employees and contractor personnel, and it is important that this training continues. The existing mandatory training in social performance as per the Social Performance Manual, which is provided both internally and to the contractors, should remain the primary platform for rolling out of the Human Rights Policy and the Code of Conduct.

Overall, the release of the Human Rights Policy and the update of the Code of Conduct in line with this Policy are considered notable milestones in the Company's adherence to the standards of good practice. However, we recommend that the newly adopted Human Rights Policy and the updated Code of Conduct should be integrated within the existing training procedure, both internally and in relation to the Project's contractors. (See also Section 2.6.)

Corporate Sustainability Initiatives: The UN Global Compact Activities, ISO 26000 and Rio+20

Sakhalin Energy continues to take active part in the initiatives of the UN Global Compact (UNGC) and integration of the UNGC's ten fundamental principles on human rights, labour, environment and anti-corruption in its operations. The Company also continues to lead the Steering Committee of the UNGC's Network Russia and remains a member of the Global Compact Human Rights Working Group. The UNGC's Russian Network has published a brochure on the best practice initiatives in this sphere by the participating Russian businesses, including Sakhalin Energy. This year has also marked the appointment of Sakhalin Energy's CEO as a member (the first from Russia/Eastern Europe) of the Global Compact Board by the UN Secretary-General. The Company is currently the only Russian member among participants of the LEAD – the UNGC's platform that aims to set new benchmarks for the leadership in corporate responsibility and sustainability.

Sakhalin Energy's experience in stakeholder engagement, grievance management, and the safety awareness programme has been featured in the collection of best practices related to human rights presented in the Global Compact International Yearbook 2012.

The Company's activities within the UNGC's framework on the matters related to the Indigenous Peoples are described further in section 3.5 '*SIMDP Management*' below.

ENVIRON reported in 2011 that Sakhalin Energy committed to meeting the principles of the ISO 26000:2010 'Guidance on Social Responsibility' which promotes socially responsible behaviour throughout the organisation and engaging with the stakeholders. This year, the Company has provided an update that it has completed a process of internal self-evaluation of its existing systems and practices (using their own assessment methodology as this is the first precedent of such self-evaluation in Russia) to ascertain the extent to which they align with the ISO 26000 principles. The Company reports that no material gaps have been identified, and a number of recommendations have been developed internally to enhance the existing mechanisms in relation to their conformity with the ISO 26000 Guidance.

Over the period of November 2011 – September 2012, Sakhalin Energy has been implementing the recommendations proposed as part of the ISO 26000 self-evaluation, with the results of this work due to be presented to the Company's Committee of Executive Directors (CED). As the ISO 26000 Standard is aimed to provide guidance and is presently not certifiable, Sakhalin Energy intends to undertake self-declaration on the results of its performance. The actual format of such self-declaration is now being defined and is expected to be in some form of public communication. The ISO 26000 Guidance has also been included in the list of the international standards that are now endorsed by the Company as part of its Human Rights Policy (described in *section 2.2.3* above).

In June 2012, a delegation from Sakhalin Energy led by the CEO participated in the 'Rio+20 Corporate Sustainability Forum' in Rio de Janeiro, Brazil. The Company's participation included contribution to the special sessions on 'Corporate Respect and Support for Human Rights', 'Engagement with Indigenous Peoples and their Communities' and the Forum closing session Compact4Rio, as well meetings with the UN Global Compact Board.

2.3 Community Engagement and Stakeholder Liaison

Sakhalin Energy continues to carry out regular engagement with its stakeholders on the basis of the Public Consultation and Disclosure Plan (PCDP) that is revised annually, is subject to the Lenders' and the IEC's review, and is disseminated in the public domain through the Company's Information Centres and the external web-site. At present, the engagement is undertaken through the following means:

- Activities of the Community Liaison Organisation (CLO), including interaction with the indigenous communities through the dedicated officer (IP CLO);
- Annual public meetings with the communities in the areas of the Sakhalin-2 Project operation;
- 23 Information Centres established by the Company across Sakhalin Island;
- As part of the preparation of Sakhalin Energy's annual report on sustainable development (non-financial report that describes the Company's sustainable development in accordance with the principles and indicators of the Global Reporting Initiative – GRI);
- During the social impact monitoring (*described in section 2.2.2 'The Company's Approach to Social Performance Monitoring'*);
- As part of the on-going Community Awareness Programme (CAP);
- Activities of the External Affairs Group focused on the engagement with stakeholders in Japan; and
- Regular update of the information provided on the corporate web-site <http://www.sakhalinenergy.com>

2.3.1 Community Liaison Organisation (CLO)

The Community Liaison Organisation (CLO) remains the backbone of the Company's interaction with the public. Together with the Social Performance and other External Affairs Teams, the CLO implements a wide range of activities that enable Sakhalin Energy to maintain continuous contact with the communities in the Project areas and other stakeholders such as non-governmental organisations and municipal institutions.

Public Meetings Led by CLO

The CLO continues to implement its regular engagement activities which involve yearly public meetings with communities in the Project areas. In 2012, these community meetings were held during April-May at the following ten locations, with the number of attendees indicated for each meeting:

- Nogliki – 7 persons;
- Val, Nogliki district – 6 persons;
- Tymovskoe – 13 persons;
- Voskhod, Tymovsk district – 4 persons;
- Smirnykh – 8 persons;
- Poronaisk – 18 persons;
- Makarov – 10 persons;
- Troitskoye, Aniva district – 5 persons;
- Dolinsk – 6 persons; and

- Korsakov – 5 persons.

The meetings were attended by 82 participants in total, as compared with 105 attendees in the previous year. The CLO team have noted that there is a general trend of decreasing public interest towards the Project. This is most likely explained by the fact that at present there are no active construction works associated with the Project, and also thanks to the regular supply of Project materials and updates via Sakhalin Energy's Information Centres. The annual community meetings are intended to provide regular updates on the Project, receive public feedback, highlight the existing mechanisms for grievance management, the social investment/grant programmes, and to maintain awareness on pipeline protection and safety within the pipeline RoW.

The CLO reports that it continues to use a variety of means to advertise planned public meetings to ensure that stakeholders are informed of a forthcoming event in advance. It is therefore unlikely that the decreasing number of attendees can be in any way attributed to the advertising techniques. The techniques include announcements in the printed media three weeks in advance of a public meeting, dissemination of posters in the communities, targeted letters and phone calls to the local administrations and other key stakeholders (e.g. land users in the areas of Project operations), as well as placing the details of the meeting on Sakhalin Energy's external web-site⁴. In relation to the latter, ENVIRON notes that the timetable of community meetings on the web-site⁵ currently shows the outdated schedule for 2011 activities (in English), however the Russian version of the web-site does contain the correct timetable for 2012⁶. A general report on the annual public meetings held, together with the list of questions raised during the meetings and responses provided by the Company, can also be accessed via the web-site (currently the 2011 report is featured).

Overall, ENVIRON finds the range of advertising techniques satisfactory and concludes that coupled with the advance planning they are sufficient to maintain the communities' awareness of the public meetings conducted by the Company.

It is important that the Company continues to optimise the timing of the meetings to maximise the possibilities for residents' attendance, i.e. by selecting days and hours that would allow the greatest possible number of community members to participate.

Information Centres

The CLO remains available for interaction with the communities through their regular contact with the Information Centres and local administrations, involvement in the investigation and resolution of public grievances (together with the Social Performance Team), as well as visiting the communities as required, e.g. in response to specific requests or as part of addressing grievances. With the completion of active construction works there is no need to maintain separate CLO offices as was practised during the construction phase, particularly taking into account that this function is now primarily fulfilled by the Company's Information Centres.

⁴ Consultation activity in 2012: http://www.sakhalinenergy.com/en/documents/Consultations_activities_eng.pdf

⁵ 2011 Schedule of Community Meetings:
http://www.sakhalinenergy.com/en/documents/ENG_PMschedule_2011.doc

⁶ График встреч с населением в 2012 году
http://www.sakhalinenergy.com/ru/documents/PMschedule_for_site.pdf

Contact details of the CLO are available on the external web-site and are also visibly displayed at the Information Centres, on posters titled “How and Where You Can Obtain Information about the Sakhalin-2 Project” (see Photo 1 below).

The network of 23 Information Centres (InfoCentres) continues to operate and be effective. The Centres were established by Sakhalin Energy to distribute materials and updates on the Project to the communities in the vicinity of the Project’s operating assets, gather feedback from the communities and to provide advice on information searches via the Information Centre consultants. ENVIRON has previously commented on the introduction of the Information Centres and the objective of the 2012 monitoring was therefore to confirm the viability of this solution in addition to the Company’s own CLO Team.

The monitoring visit in 2012 has shown that the Centres are fully functional and represent one of the primary communication channels between Sakhalin Energy and the local communities.



Photo 1 Poster with CLO contact details at the Company’s Information Centre

The activity of the InfoCentres is regularly advertised via the local printed media – district newspapers, posters and information boards in the communities – as well as the external web-site.

Each Information Centre maintains a register of public enquiries received, including the topic of the enquiry and actions undertaken in relation to the enquiry. An example of such a register and its contents are shown on Photo 2 below. Sakhalin Energy’s CLO members have access to the register and also receive statistical reports from the InfoCentres that provide data on the types of enquiries received from the visitors on a monthly basis. Sakhalin Energy has recorded 10,514 visitors since the first Centres’ opening in 2008.

As reported by the InfoCentres’ consultants, the greatest interest from the visitors is focused on the aspects related to employment vacancies available from the Project, social investment/grant programmes implemented by Sakhalin Energy, copies of the Project’s other printed materials (these include the previous impact assessment studies, which are said to be drawing particular attention from students due to its valuable technical-scientific contents), safety-related materials and publications intended for children audience, as well as regular issues of Sakhalin Energy’s corporate newspaper “Vesti”.

The role of consultants/advisors in the InfoCentres is performed by the librarians who are in direct contact with the Company’s CLO on a regular basis. In order to ensure the consultants’ detailed knowledge of the Company’s approaches and procedures, the librarians undergo formal annual training (normally delivered over a period of 2 days) that is provided by Sakhalin Energy and covers aspects that have direct relevance to the community engagement on behalf of the Project.

All the expenses associated with the training of InfoCentre consultants are covered by Sakhalin Energy.

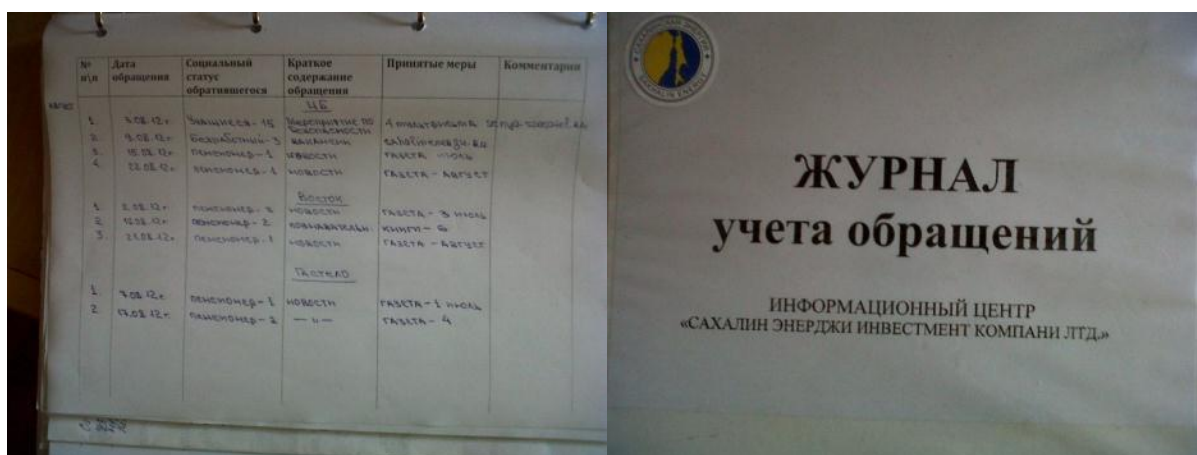


Photo 2 Register of Public Enquiries at the Sakhalin Energy Information Centre⁷

In general, librarians-consultants of the Information Centres interviewed during the monitoring visit provided very positive feedback in relation to the diversity, range and completeness of materials supplied by the Company, accessibility of the Company’s CLO for advice and routine engagement, the specialised training provided by the Company, as well as the Book Donations Project – the charity initiative that has been implemented by Sakhalin Energy since 2010⁸.

2.3.2 Public Dialogues

As part of its non-financial reporting that involves preparation of a yearly Sustainable Development Report (SD Report), Sakhalin Energy has committed to undertaking public dialogues and detailed discussions with the stakeholders. These are intended to share

⁷ Contents of the register include date of the enquiry, social status of the enquirer (e.g. student, pensioner, unemployed), nature of the enquiry (brief description), actions taken, and any notes/comments.

⁸ Once a year the Company supplies a new stock of contemporary thematic books on a selected subject to all twenty-three Information Centres, together with the libraries in Yuzhno-Sakhalinsk and Aniva.

Project information and to provide updates on the Company's activities and solutions. The participants of such dialogues have, in turn, an opportunity to provide comments and raise any concerns associated with the Project.

These annual public dialogues are typically conducted in two rounds:

- First round of discussions, where representatives of the Company provide relevant information for consideration of the stakeholders and obtain comments/proposals regarding the contents of the SD Report; and
- Second round of engagement, which consists in the provision of responses and clarifications by the Company to address the issues highlighted during the first round of the dialogue.

The results of these discussions are subsequently presented within the SD Report in the form of an appendix which lists the stakeholders' questions and comments/proposals together with the Company's detailed responses and resultant commitments.

Sakhalin Energy's proactive involvement of stakeholders in the preparation and disclosure of the annual Sustainable Development Report is considered a noteworthy initiative that demonstrates good practice.

2.3.3 Public Consultations

Public consultation is a statutory form of engagement mandated by Russian law, conducted in relation to new development activities or any significant works that may result in impact on the population. Informed consultation and participation are also requirements of the IFC Performance Standard 1⁹. The Company's engagement activities are conducted on the basis of the dedicated PCDP¹⁰ and are subsequently described (upon completion) within the Public Consultation and Disclosure Report (PCDR)¹¹, both of which are produced and made publicly available with an annual frequency.

In 2012, there have been two important public consultation events:

- South Piltun 2D Offshore Seismic Survey – consultation with representatives of the local indigenous community (Nogliki, Val) in June 2012 prior to implementation of the seismic works; and
- OPF Compression Project – preliminary consultations with local residents, held in September 2012 as part of the EHSIA preparation. The EHSIA process is a part of the front end gas compression project, and is being co-ordinated by the Company's Head Office/Corporate HSE in Yuzhno-Sakhalinsk, together with a dedicated environmental contractor.

The consultation on the offshore seismic works was preceded by the special meeting with the Regional Council of Indigenous Peoples Representatives held in Yuzhno-Sakhalinsk in December 2011. The following consultation event conducted in Nogliki in June 2012 was aimed to communicate information about the planned works – including timeframe and duration of the works as well as potential impacts and mitigation solutions – to the local

⁹ IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts/Stakeholder Engagement (January 2012).

¹⁰ http://www.sakhalinenergy.com/en/documents/PCDP_2012_ENG_FINAL.pdf

¹¹ http://www.sakhalinenergy.com/en/documents/PCDR_2011_ENG_FINAL.pdf

indigenous communities. Sakhalin Energy provided transportation for residents of Val settlement to enable their participation in this meeting. The preliminary information in advance of the meeting was distributed via the Company's dedicated IP CLO. In total, over 20 people took part in this consultation event in Nogliki.

Feedback on the Nogliki consultation meeting received from one of the participants during the monitoring visit was overall positive. However, the participant noted the high level of technical complexity in the presentations, which may have not always been easily comprehensible to the audience of non-specialists. At the same time, the participant acknowledged the fact that the clarifications and explanations provided by the Project specialists during the meeting were helpful and enabled greater understanding of the Project specifics by the audience.

During the subsequent discussions as part of the monitoring visit, Sakhalin Energy's Social Performance Team acknowledged the need to adapt the contents of presentations delivered during the public meetings and to optimise the level of technical detail to make it equally suitable both for participants with specialised knowledge and those with no technical background. It is therefore important that this mindful approach to tailoring the contents of public presentations to the type of the audience continue to be applied.

In addition, ENVIRON recommends that an exit questionnaire should continue to be administered, as previously and as part of the standard practice, at the end of regular public meetings to collect participants' feedback on the quality and clarity of the information presented and to gauge the level of audience understanding of the subjects discussed. The Company states that, as a rule, the exit questionnaire is presently used at regular public meetings.

Another important activity scheduled to be held in September 2012 (i.e. after ENVIRON's IEC monitoring visit) was a round of the preliminary consultations on the OPF Compression Project, to be held specifically as part of the EHSIA preparation for this particular Project.

The following dates were scheduled for the OPF Compression Project consultations in 2012:

- 11 September – Yuzhno-Sakhalinsk (with the participation of the Regional Council of Indigenous Peoples Representatives);
- 12 September – Nogliki; and
- 13 September – Nysh settlement.

The nearest community to the OPF Compression is Nysh settlement (approx. 600 residents) which is located about 80 km from the site. The Company reports that it maintains contacts with the settlement administration and keeps contact with this community via the Information Centre in Nogliki. Communities from both Nysh and Nogliki were planned to be involved in the aforementioned public consultation process on the OPF Compression Project. After the EHSIA for the latter has been made available, ENVIRON will review the EHSIA document to ascertain to what extent the potential social impacts on the nearby community are examined. Of particular interest will be the identification of impacts that may potentially be associated with the peak manpower requirement of approx. 1,400 workers for the construction phase of the OPF Compression Project, the worker accommodation, the availability of potential job opportunities for the local community, and road transportations via the populated areas.

2.3.4 Other External Engagement Activities

In 2012 (as of September), the Company also conducted the following meetings of public format, primarily led by Sakhalin Energy's Social Performance and External Affairs teams:

- February – Second dialogue session with stakeholders as part of the 2011 Sustainable Report preparation;
- April – presentation at the WWF round table on associated gas;
- May – presentation at the WWF round table on wetlands and protected species;
- May – presentation on the 10th International Safety Forum to highlight the Company's approach to safety;
- May – presentation of the 2011 Sustainable Development Report;
- June – meeting with the indigenous communities in Nogliki (including residents of Val settlement) on the 2D offshore seismic works;
- September – preliminary consultations with local residents as part of the EHSIA preparation for OPF Compression Project; and
- Media visits for TV companies Tokyo-7, Asakhi Shimbun, and Russia-2 (VGTRK¹²).

2.3.5 Engagement with the 'Stroitel' Dacha Community in Prigorodnoye

Sakhalin Energy has been engaging with the 'Stroitel' Dacha community since 2004, primarily in relation to the establishment of the Sanitary Protection Zone (SPZ) around the Company's Production Complex in Prigorodnoye, near Korsakov, which comprise the LNG Plant and the Oil Export Terminal (OET) with a tanker loading unit (TLU). The Company's engagement has been in the form of impact monitoring, regular meetings and written correspondence. A tour to the LNG facility was also organised for the Dacha residents in the past.

The history of this interaction can be traced in the IEC's previous reports¹³ and, in particular, in the reports of the Independent RAP expert¹⁴ who monitored the issue over the period of 2007-2011, particularly in relation to compensation and the process surrounding the dacha owners' claims for resettlement.

Sanitary Protection Zone (SPZ) and Associated Monitoring

The Dacha community is located approximately 1.2 km westwards from the Prigorodnoye Production Complex and currently consists of 37 dacha owners. The Dacha residents contend that the established size of the SPZ around the Prigorodnoye Complex is not sufficient to protect them from impacts of the operating facilities at the Prigorodnoye Production Complex.

¹² Russian State Television and Radio Broadcasting Company

¹³ Most recently – The IEC's Monitoring and Audit Report (October 2011), section 3.3.6 'Interaction with Stroitel Dacha Community'; The IEC's Social Monitoring Report (March 2010), section 3.1.2 'Stakeholder Engagement during Operations' and 3.2 'Public Attitude towards the Company'; and The IEC's Site Visit Report (May 2009), section 2.2.4 'Stakeholder Engagement in Korsakov'. All reports by the IEC are available on Sakhalin Energy's external web-site:

http://www.sakhalinenergy.com/en/library.asp?p=lib_3rdparty_shelf&l=lib_3rdparty_lendersreport

¹⁴ External monitoring of the Resettlement Action Plan:

http://www.sakhalinenergy.com/en/library.asp?p=lib_social_shelf&l=lib_social_relocationreports

The SPZ around the LNG Plant and the OET has been decreed by the state entity, namely the Chief State Sanitary Doctor of the Russian Federation. The SPZ was re-confirmed in 2012 and comprises the following distances (with the greatest distance being in the direction of the residential dacha area, as specified above):

- West – 700 m from the site boundary (1,000 m from the sources of atmospheric emissions);
- North-west – 520 m from the site boundary (800 m from the sources of atmospheric emissions);
- North – 650 m from the site boundary (800 m from the sources of atmospheric emissions);
- North-east – at the site boundary of the LNG Plant (500 m from the sources of atmospheric emissions);
- East – 200 to 300 m (500 m from the sources of atmospheric emissions);
- South-east, south and south-west – along the coast of the Aniva Bay.

Confirmation of the SPZ size was undertaken by the Russian State authority, the Federal Service for Supervision in the Area of Consumer Rights and Human Welfare (Rospotrebnadzor, or RPN), based on the predictive modelling of the impacts on air quality and physical factors (noise, radiation), and the assessment of health risks. These assessments are undertaken using standard methods and the assessment materials were formally submitted to the Chief State Sanitary Doctor and the RPN for expert review and approval.

It is also a regulatory requirement that monitoring is undertaken following commencement of operation to confirm that air quality, noise and electromagnetic radiation levels meet statutory limits (in the case of air standards these are defined in term of maximum permissible concentrations (MPC) for a prescribed list of pollutants) at the edge of the SPZ. Such monitoring has been performed by the Company for the period of a full year after the SPZ with the maximum width of 1 km from the emission sources was originally set in 2009. The monitoring programme was conducted in accordance with the monitoring plan ('Plan for Carrying Out Field Observations of Atmospheric Air, Noise and Electromagnetic Levels to Define the SPZ for the LNG Plant and OET in Prigorodnoye Settlement') that was specifically developed by the Company for this purpose in 2010 and included monitoring at the following five locations:

- 1 monitoring point at the border with the 'Stroitel' Dacha residential area (1.2 km from the Prigorodnoye Production Complex); and
- 4 monitoring points at the south-west, north-west, northern and north-eastern boundaries of the SPZ.

The air quality monitoring programme covered the following pollutants:

- Nitrogen dioxide;
- Carbon (soot);
- Sulphur dioxide (SO₂);
- Carbon monoxide (CO);
- Benzene (benzol);
- Benzo(a)pyrene;
- Methane (CH₄); and

- Formaldehyde.

The monitoring plan also took into account the prevailing wind direction in the area (see Annex C).

According to the monitoring plan, the air quality measurements in relation to the above pollutants were conducted on total as 50 days of measurements a year, during spring-summer and autumn-winter periods. Noise levels, including sound pressure¹⁵ and infrasound, were taken on a quarterly basis, during the day and night-time. The electromagnetic field was measured once a year. The Monitoring Plan required that all measurements be carried out by qualified specialists of an accredited laboratory.

Sakhalin Energy reports that the monitoring during this period detected no exceedances of the permissible levels of atmospheric pollutants prescribed by the Monitoring Plan, and that the levels of noise and electromagnetic radiation were also found to be within the limits.

In November 2011, the Company submitted the monitoring results to RPN for review as part of the statutory decision-making process in relation to the SPZ size. The final decision on the SPZ size was taken by the authorities in 2012 and was decreed by the Chief State Sanitary Doctor of the Russian Federation on 10 April 2012 (see Annex A for a copy of the Decree¹⁶ in the original Russian language).

After the Company had been notified of this Decree, they published an announcement of this statutory decision in the district newspaper ("The Voskhod", Issue 58 dated 29.05.2012).

Quality of Life Monitoring

In addition to the mandatory industrial monitoring that is subject to reporting to the relevant authorities, the Company continues implementing the Quality of Life (QoL) monitoring on the border with the dachas on a monthly basis during the dacha season, i.e. May to October annually. This approach had been previously agreed with the Dacha residents, which dates back to 2006¹⁷. The QoL monitoring involves monthly measurements of air quality¹⁸ and noise levels taken at the border with the dachas by a qualified operator of the accredited laboratory. Representatives of the Dacha residents are invited to attend each measurement process and detailed written reports on the monitoring results are subsequently provided to the Head of the 'Stroitel' Dacha Cooperative.

The Company has confirmed that the air quality data collected at the dacha border as part of the QoL monitoring since the LNG Plant commissioning in 2009 have shown no exceedances of MPC levels. The levels of noise at the dacha area were twice detected above the permitted levels during the daytime in 2011. Sakhalin Energy subsequently commissioned a licensed contractor (the Sakhalin Hydrometeorological Service) to analyse possible causes of this exceedance and the bird singing was reportedly identified as a

¹⁵ L_{Aeq} , L_{Amax} and sound pressure in octave frequency bandwidths.

¹⁶ The Decree on the Size of Sanitary Protection Zone for the LNG Plant and Oil Export Terminal in Korsakov District of Sakhalin Oblast, By the Chief State Sanitary Doctor of the Russian Federation, dated 10/04/2012 (Moscow, Issue No. 25).

¹⁷ See also sections "Quality of life monitoring" in the reports of the Independent RAP Monitor for 2007-2011: http://www.sakhalinenergy.com/en/library.asp?p=lib_social_shelf&l=lib_social_relocationreports

¹⁸ The monitored parameter is atmospheric concentration of the following pollutants: NO₂, SO₂, soot, CO, benzo(a)pyrene, formaldehyde, and hydrocarbons.

source of the higher ambient noise levels registered at the dacha locations. The dacha residents contest this conclusion.

An example of the monthly reports on air quality and noise level that are submitted to the 'Stroitel' Dachas Cooperative are presented in Annex B, and sample air quality and noise monitoring data from the QoL monitoring undertaken in 2012 are provided in Annex C.

During the meeting with ENVIRON in September 2012, the dacha residents also expressed their dissatisfaction at the fact that the materials that had been prepared by the Company to support the confirmation of the 1km SPZ (i.e. the air dispersion calculations and modelling of the emergency situations) and which were submitted to the authorities for statutory approval, were not passed on to them for a detailed examination. With regard to this statement, Sakhalin Energy has stated that they informed the stakeholders, including representatives of the Dachas community, about the SPZ review process during the regular public dialogues-discussions as part of the preparation of the 2011 Sustainable Development Report (SD Report). The information about the SPZ size review is also presented within the final SD Report¹⁹ which is publicly available and a copy of which, according to the Company, was sent directly to the Head of the "Stroitel" Dachas Cooperative. The Company has also noted that there is no statutory requirement to supply the actual materials related to the SPZ substantiation directly to the external public, as such materials are originally intended for expert review by the authorities that aids the statutory decision-making process. The relevant state bodies are responsible for making a final decision on the SPZ size based on the materials provided by the Company. This approach, however, does not affect the Dachas residents' right to formally request the SPZ substantiation materials from the relevant governmental bodies. The Company further reports that they did not receive a formal written request from the Dachas residents asking for the provision of the SPZ substantiation materials.

The Dachas residents confirmed the fact that they were informed about the SPZ statutory decision after the SPZ Decree had been formally issued and announced by the Company in the local media.

ENVIRON notes that soil quality is being monitored by Sakhalin Energy as part of its industrial environmental control & local monitoring (IEC&LM) programme, which includes a location close to the dacha area (1,000 m from the Prigorodnoye Production complex). The Company has confirmed that the monitoring data received as part from the IEC&LM are regularly reported to the relevant authorities. It has further confirmed that the original agreement on the QoL monitoring approach was that if the on-going air quality monitoring showed any exceedances of the permitted levels, then soil would be included in the QoL monitoring at the Dachas (based on the source-receptor-pathway principle where contamination of the soil is considered as a consequence of air pollution), in addition to the IEC&LM. As the air quality monitoring results are reported not to have shown the exceedances, the soil quality monitoring has therefore not been specifically incorporated within the QoL monitoring at the Dachas, although it remains a part of the Company's IEC&LM programme.

¹⁹ See: http://www.sakhalinenergy.com/en/documents/GRI_2011_Final_Eng.pdf

Recent Communications with the Dacha Community

Notwithstanding the Company's engagement activities described above, the Dacha residents continue to express their concerns about the proximity of the Prigorodnoye Production Complex to their dacha plots. ENVIRON outlined these concerns in the previous report²⁰ and the same were reiterated by the dacha community representatives during the meeting with ENVIRON and the Lenders in September 2012. In summary, the main aspects of dissatisfaction are claimed to be as follows:

- Noise nuisance from the operating LNG Plant, particularly during the gas flaring process as part of the planned maintenance works conducted at the Plant;
- Visual effects caused by the blaze from the flare, especially if flaring takes place during the night time;
- Reduced productivity of the dacha plots and a lower yield from the plants grown;
- Blemishes and 'burn-type' effects appearing on the leaves of the fruit trees and crops grown at the plots;
- Presence of benzo(a)pyrene in the soil above the permissible limits;
- Oil-type sludge that appears in the form of a film on water in the open-air water storage containers used by the dacha residents and on external surfaces of the windows;
- Deteriorated health of the dacha residents;
- Insufficiency of the established SPZ size (1.0 km from the emission sources) for the purposes of protection from environmental impacts and risks that may stem from the potential emergency situations; and
- The need for the Dacha community to be resettled from the area to avoid the exposure to the alleged impacts associated with the operation of the Production Complex.

In 2011, the Dacha residents commissioned an independent study by the Scientific Research Institute of Agriculture (Chemical Analysis Report by Sakhalin NIISKh) to investigate the presence of contaminants in the soil and agricultural produce at the dacha plots²¹. The study reported heightened concentrations of nitrogen compounds (nitrates and nitrites), sulphur compounds and benzo(a)pyrene in soil samples and some elevated concentrations of nitrates in some plants (beetroot) and in the leaves of apple trees.

In October 2011, Sakhalin Energy received a formal request from the Head of the 'Stroitel' Dacha Cooperative asking for information on the Company's soil monitoring for the period of 2009-2010. A written response letter was provided by the Company on 09/11/2011, a summary of which is provided below:

²⁰ Section 3.3.6 "Interaction with Stroitel Dacha Community", The IEC's Monitoring and Audit Report (October 2011).

²¹ Chemical Analysis of the Possible Impacts of Atmospheric Emissions from the LNG and OET on "Stroitel" Non-Commercial Garden Association Soil and Produce. The references to this *Chemical Analysis* study are provided in the Complaint and Request for Mediation to the Dutch and UK National Contact Points for the OECD Guidelines For Multinational Enterprises, RE: Development and Operations of the Sakhalin II Project, Phase 2, Prigorodnoye Production Complex, dated 31 July 2012. Source: <http://www.accountabilitycounsel.org/wp-content/uploads/2012/03/7.31.12-Complaint-Sakhalin-II-Dutch-UK-NCPs-Final.pdf>

1. Sakhalin Energy explained that it undertakes regular soil monitoring around the LNG Plant as part of the Company's industrial environmental monitoring programme and these data are regularly reported to the competent authorities. The Company noted that it is not in a position to supply this entire set of internal data for review by the third parties as this would require the agreement of all the shareholders of the Sakhalin-2 Project's Production Sharing Agreement, and specifically the resolution of the RF Ministry of Energy and the Government of Sakhalin Oblast.
2. As a result, the Company advised that the request for the soil monitoring data should be submitted to the authorities who receive this information from the Company, namely the Ministry of Natural Resources of Sakhalin Oblast (based on the provision of the RF Federal Law on 'Information, Information Technologies and Information Protection' as well as the RF Constitution).
3. The Company further clarified that as part of its industrial monitoring it did not undertake the monitoring of soils specifically at the dacha plots. As agreed with the community, the regular monitoring of air quality and noise levels is conducted at the dachas, with the results subsequently being reported to the residents. Taking into account that the airborne path is the main route of pollutant transfer and that the air monitoring has not detected the exceedances of pollutant concentrations above the limits, the soil monitoring at the dachas is therefore not carried out.
4. The Company stated that the findings of its own industrial environmental monitoring at the distance of 1,000 m from the Production Complex site boundary show the following results:
 - a. Concentration of benzo(a)pyrene in the soil is 0.0002-0.0034 µg/kg (depending on the soil layer), which is tens of times lower than the MPC (0.02 µg/kg);
 - b. The average concentration of hydrocarbons is 122.97 mg/kg which is of acceptable level;
 - c. The humus thickness is 4-8% which is typical for the upper layers of the soils monitored.
5. Based on these findings, the Company has concluded that the concentration of monitored pollutants in the soil around the Prigorodnoye Production Complex was within the background range in 2010.

Similar issues were subsequently raised by the Dacha community representatives during the meeting with a staff member of Sakhalin Energy's Social Assessment Group as part of the regular social monitoring visit held in July 2012. During the meeting, the community also highlighted their concerns about the emergency response procedure at the Prigorodnoye Production Complex and reiterated the need to be informed about the planned maintenance works at the LNG Plant that could result in increased flaring.

Following this meeting, Sakhalin Energy prepared an additional written response that was sent to the Head of the 'Stroitel' Dacha Cooperative on 07/08/2012. The response provided the Company's commentary on the results of the chemical analysis study carried out by the Sakhalin NIISKh, as well as the clarifications on the existing arrangement for emergency response at the Complex and regular notifications of the planned works at the Plant that lead to a temporary increase in the flare height (up to 60 m) and the formation of smoke effects.

The Sakhalin Energy response included a detail review of the findings of the Sakhalin NIISKh Chemical Analysis Report by the Company's environmental expert, which is summarised below for each of the three main pollutant compounds of concern. The 4-page commentary examines the results presented in the report and explains the key points in relation to the conclusions made in the report. In particular the report makes the following arguments in relation to each of the three pollutants types of concern:

1. Nitrogen Compounds. The Company response notes that the levels of nitrates and nitrites in the soils in the Dacha area are within the MPC range, and that the only identified exceedance of MPC levels reported is in relation to nitrates in beetroot detected on one of the Dacha plots in 2011. The Company response argues that the presence of nitrates/nitrites in vegetables cannot be directly linked to the LNG Plant emissions as the transfer pathway from atmosphere to soil to vegetables is unlikely and unsubstantiated by the report. The commentary suggests that the most probable source of this is the direct application of nitrogen-based fertilisers to the crops.
2. Sulphur Compounds. The Company response also notes that sulphur compound levels in soil presented in the Analysis Report are all within the MPC levels and that no MPCs are set for sulphur concentration in the plants (although the levels found were still not considerable). The Company response further argues that the increased concentration of sulphur – still below the maximum permissible limit – could be attributed to the decomposition of vegetation residue in the soil nearer the autumn season.
3. Benzo(a)pyrene. It is further explained that the presence of benzo(a)pyrene in the environment in theory can be a result of various factors, particularly as a product of combustion of any organic fuel (wood, straw, peat, coal, etc.), as well as burning of food and waste. Among all these potential sources, the flaring of gas typically leads to the minimum release of benzo(a)pyrene. The concentration of benzo(a)pyrene in the atmospheric air is monitored by Sakhalin Energy and during 2009-2011 did not exceed the limits in the Dacha area. Moreover, it mainly remained at the levels of 0.1-0.3 of the MPC.

The results of Sakhalin Energy's own soil monitoring have found that the concentration of this substance at soil monitoring points located 1 km from the Prigorodnoye Production Complex (just before the Dachas) and 2 km from the Prigorodnoye Production Complex (behind the Dachas) were also found to be below the MPC. Therefore, it is contended that the likely cause of the short-term increase of benzo(a)pyrene in the soil on the dacha site identified by the Chemical Analysis Report could be localised sources at the plots associated with the burning of vegetation residue and domestic waste, which is typically carried out twice a year – in autumn, after the harvesting, and in spring – after the snow melt. It is argued that the latter may have caused the heightened concentration detected in samples taken in June, whereas the decreasing concentration in September samples could be accounted for by the transformation and decomposition of benzo(a)pyrene by the UV radiation during summer. It is also noted that the concentration of benzo(a)pyrene in the plants reported in the Chemical Analysis Report was in trace amounts and below the detection threshold. The overall conclusion of the commentary is that the findings presented in the Analysis report, particularly the direct attribution of the contamination to the Prigorodnoye Production Complex, are not substantiated.

The Company response also contends that the partial withering of leaves on the fruit trees is also unlikely to be a direct result of atmospheric impact through the aerosol path as the air

concentrations of all monitored gases in the Dacha location have never been detected in exceedance of the permissible limits since 2005, also taking into account that in 2011 the measurements were taken four times a month. Additionally, similar effects have not been observed in any of the wild-growing vegetation (trees, bushes and grasses) in the area.

Sakhalin Energy reports that at present they are not in receipt of any further response, oral or written, from the Dacha residents in relation to the written commentary that the Company provided in August 2012.

The Chemical Analysis Report by the Sakhalin NIISKh that was disseminated by the Dacha community has also been examined by the Sakhalin State Agrochemical Service Centre of the Russian Ministry of Agriculture.

ENVIRON has reviewed the Sakhalin NIISKh Chemical Analysis Report, Sakhalin Energy's written responses to the dacha communities and also Sakhalin Energy's 2009-2011 soil monitoring report²². Overall we conclude:

1. Nitrogen compounds. We find that:
 - a. Air quality monitoring data provided has not identified any exceedances of relevant MPCs. (We do however note that the monitoring is based on 20-minute average data. This is based on the specification of required monitoring agreed with RPN. However, we note that on the basis of the reported NO₂ levels it is not possible to fully confirm that project standards for other time-averaging periods (e.g. the annual averages specified under lender WHO guidelines) are met and we recommend that further analysis is required to confirm this. Sakhalin Energy has subsequently provided annual average concentrations of NO₂, statistically calculated from 20-minute average data, which are within WHO and RF guidelines levels. ENVIRON is in the process of reviewing these data.)
 - b. Levels of nitrates in soils presented in the Sakhalin NIISKh Chemical Analysis Report are all within MPC levels.
 - c. The only MPC exceedance for nitrogen compounds identified in the Sakhalin NIISKh Chemical Analysis Report relates to nitrate levels in beetroot. However, we consider that the link between atmospheric emissions of NO_x from the Prigorodnoye Production Complex and localised levels of nitrates in vegetables in the dacha area has not been substantiated by the Analysis Report (indeed the marked differences in nitrate levels found in different plots within the dacha area does not support this link) and that other plausible potential causes of elevated nitrate levels have been highlighted in the Sakhalin Energy response to the Head of the Dacha Cooperative dated 07/08/2012.
2. Sulphur compounds. We note that:
 - a. Air quality monitoring data provided by Sakhalin Energy have not identified any exceedances of relevant MPCs

²²Sakhalin Energy: Explanatory Note on the Results of Local Monitoring of Soil Cover in 2009-2011 in the Sakhalin-2 Project LNG/OET Potential Impact Zone. Operation Phase

- b. Levels of sulphur compounds in soils presented in the Sakhalin NIISKh Chemical Analysis Report are all within MPC levels
 - c. MPCs for sulphur levels in vegetables are not set.
 3. Benzo(a)pyrene. The Sakhalin NIISKh Chemical Analysis Report identifies exceedances of MPC levels in soil samples taken from dacha plots (although levels in vegetables appear to be below detection limits). However, we conclude that the link between these elevations and emissions from the Prigorodnoye Production Complex has not been robustly substantiated, and in particular we note that:
 - a. Air quality monitoring data have not identified any exceedances of benzo(a)pyrene MPC levels.
 - b. Levels of benzo(a)pyrene in soil sample monitoring undertaken by Sakhalin Energy at a number of sites around the Prigorodnoye Production Complex as presented in the 2009-2011 soil monitoring report do not identify any exceedances of the MPC.
 - c. There are a number of other plausible local sources of benzo(a)pyrene, such as those described in the Sakhalin Energy Response dated 07/08/2012, that cannot be excluded.
 4. Other soil monitoring results. Levels of hydrocarbon and heavy metals in soil samples reported in the 2009-2011 soil monitoring report do not indicate that emissions from the Prigorodnoye Production Complex have resulted in elevated levels. However, we note some apparent discrepancies between the 2009-2010 soil monitoring report (extract provided in the NGO complaint letter) and the 2009-2011 report provided by Sakhalin Energy. For example, for location W-3 the 2009-2010 extract indicates oil product levels between 2000-3000 mg/kg (i.e. in the "average" band), whereas the data in the 2009-2011 report has the oil product levels all below 100 mg/kg (i.e. well within the "approximate permitted level"). The Company has not provided any explanation for this apparent discrepancy.
 5. Monitoring of pollutant levels in snow. Sakhalin Energy has confirmed that pollutant monitoring in snow has been included in its 2013 monitoring programmes (this commitment has also been included in the HSESAP). Although specific standards are not set for pollutant levels in snow, on-going future monitoring will enable trend analysis to be undertaken to identify whether any unusual pollutant levels in snow are occurring.
 6. Blemishes on vegetation leaves. During the September 2012 site visit, ENVIRON visited some of the Dacha plots to take photographs of the current condition of plants and leaves. Some of the plants, particularly fruit trees, bushes, berries and potatoes exhibited the signs of blemishes on the leaves. However, specific diagnosis by suitably qualified agricultural specialists would be required to confirm the causes of such symptoms. At the time of the visit, similar signs were not evidently noticeable on the wild-type vegetation growing in the surroundings of the dacha plots.
 7. Noise monitoring (Industrial Environmental Control and Local Monitoring (IEC&LM)). Noise monitoring is undertaken quarterly at part of the IEC&LM programme at a number of locations around the SPZ. Monitoring has been reviewed and no exceedances have been identified. However, we note that in some quarterly periods

only night time noise monitoring has been undertaken and we recommend that both day and night time noise monitoring is undertaken each quarter.

8. Noise monitoring (QoL). Ambient noise monitoring in the dacha area as part of the QoL monitoring is prone to be confounded by localised noise sources. In order to better understand whether monitored noise elevations are due to the noise emissions from the Prigorodnoye Production Complex or from other localised non-project related sources we recommend improvements be made to the monitoring protocols to ensure that any noise exceedance can be robustly investigated to determine the source of the noise elevation. This could take the form of manned noise observations with written or audio recording of the noise environment throughout the monitoring period.
9. Monitoring during flaring at the Prigorodnoye Production Complex. IEC&LM air quality monitoring data at locations around the SPZ from 2009, which reportedly coincided with commissioning flaring at the Prigorodnoye Production Complex, have been provided by Sakhalin Energy for review and no exceedances of MPC levels were identified. Nonetheless, we recommend that QoL air quality and noise monitoring at the Dacha plots should be undertaken during flaring activities whenever possible, in order to fully confirm the effects of flaring events on air quality and noise levels at the dacha community.

In addition, and as a general point, we find that Sakhalin Energy has in place a functional mechanism of engagement and social impact monitoring, as well as a rigorous grievance management procedure. These allow the receipt, consideration and communication of responses to raised issues, including addressing those issues where a resolution is within the remit of the Company's jurisdiction and control.

Industrial Safety and Emergency Response

The abovementioned written letter provided by the Company to the Dacha community on 07/08/2012 explains that the existing HSE management system maintained by Sakhalin Energy includes a complex of control measures and mechanisms that allow potential risks associated with the industrial production process to be reduced to the 'As Low As Reasonably Practicable' levels, and also to ensure compliance with the statutory requirements of the Russian Federation.

It is further clarified that the design of the Production Complex in Prigorodnoye was based on the quantitative assessment of the inherent risks which was reflected in the Declaration of Industrial Safety²³ that was prepared by Sakhalin Energy in 2003. The Declaration, which includes the analysis of risks related to the LNG Plant, received approval of the state industrial safety expert review at the time and was authorised by the Russian State Technical Supervision Authority (RTN). Based on the emergency scenarios presented as part of the risk analysis, the RTN concluded that the risks associated with the operating Prigorodnoye Production Complex were of 'acceptable level in relation to the population and populated areas.

²³ Such Declaration is a statutory requirement of the Russian Federation and has to be developed for any hazardous industrial facility, based on the methodology approved by the state. ('Methodological Recommendations for preparing an industrial safety declaration for a hazardous industrial facility', approved by the State Technical Supervision Authority in 2000).

The same Declaration was also approved by the following state bodies:

- Federal State Scientific and Research Institute for Civil Defence and Emergency Situations (under the Russian Ministry of Emergencies);
- Federal State Scientific and Research Institute for Fire Safety (under the Russian Ministry of Emergencies);
- Scientific and Research Centre “Industrial Safety”; and
- Gazprom’s Scientific and Research Institute for Natural Gases and Gas Technologies.

Sakhalin Energy’s letter to the Dacha residents also informs that it conducts on a regular basis planned exercises related to the oil spill response, both at the site of the Production Complex and within the aquatic area of the Prigorodnoye seaport. Additionally, a sound drill is tested at the Production Complex site routinely every Wednesday to ensure that the emergency alarm system is in the working order. This clarification was provided specifically in response to the dacha residents’ concern about the sound of the alarm test that they could hear weekly. The letter also specifies a dedicated telephone number (24-hour free hotline) that can be dialled in case of an emergency or if there are any queries about a specific situation that the residents may be unsure about. Sakhalin Energy reminds that this information was provided to the Dacha residents previously.

And lastly, the Company’s response reiterates that announcements of all planned maintenance works at the LNG Plant that can cause flare of a greater height and temporary smoke formation are published in the district newspaper “Voskhod”, on average two weeks in advance of the works. The announcement also typically contains the details of Sakhalin Energy’s Information Centre in Korsakov that can be contacted in case of any queries. A copy of such an announcement is provided below.

Figure 1: Notification of the planned maintenance works at the Prigorodnoye Production Complex (“Voskhod” newspaper, Issue 70 dated 28/06/2012)



Given the dacha residents' claims that they had not been informed about some planned works recently, Sakhalin Energy has now also made a decision to send such written advance notifications directly to the Head of the 'Stroitel' Dacha Cooperative.

The Company also informs that the Dacha community representatives stopped attending the annual public meetings held at Sakhalin Energy's Information Centre in Korsakov. Therefore, the Company has also made a similar decision about sending personal invitation to such meetings in addition to the public announcements that are disseminated prior to the annual meeting in Korsakov.

Resettlement

The issue of the resettlement has been continuously raised by the Dacha residents over the period of the past five years and consists in the residents' contesting the sufficiency of the final SPZ size of 1 km, despite the fact that the SPZ has been formally approved by the Russian state authorities. The fact of the Dachas being outside of the statutory SPZ boundaries does not allow this community to claim compensation or the initiation of the resettlement process, which would have been automatically triggered in accordance with the Russian law should the dacha plots be located within the formally set SPZ²⁴. The SPZ of 3.5-4.2 km that the dacha residents continue to evoke in their claim for compensation was the preliminary SPZ that had initially been proposed as part of the Project's Technical and Economic Substantiation of Construction ("TEOC" in Russian, or the feasibility study) performed by Sakhalin Energy in 2003²⁵.

Since then, the SPZ size was revised based on the requisite modelling and calculations and has been ultimately approved by the competent state authority (Chief State Sanitary Doctor of the Russian Federation) as 1-km distance from the pollution sources to the residential area. The dacha residents at the same time allege that the Company had not fulfilled the recommendation of the then Ministry of Natural Resources (MNR) which required in 2003 as part of the State Environmental Expert Review process for the Sakhalin-2 (Phase 2) Project that the SPZ size be set up as 2.1 km around the LNG Production Complex during the construction and start-up periods, with the increase of up to 3.5-km distance during operation of the Complex²⁶. Sakhalin Energy contends that according to the existing regulatory practice, the ultimate decision for establishing the SPZ size for the industrial

²⁴ The Law of the Russian Federation on the Sanitary and Epidemiological Welfare of Population prohibits human residence within the Sanitary Protection Zone. Any residents within the SPZ boundaries are subject to resettlement. The same is stipulated in the Sanitary Rules and Norms SanPiN 2.2.1/2003.

²⁵ TEOC for the Sakhalin Project, Phase 2 was performed during 2000-2002. It was subsequently submitted for the Russian State Environmental Expert Review (SEER, or State *Expertiza*)

²⁶ Implementation of an Inadequate Sanitary Defense Zone Surrounding the Prigorodnoye Complex. See pages 11-13 in the Complaint and Request for Mediation to the Dutch and UK National Contact Points for the OECD Guidelines For Multinational Enterprises, RE: Development and Operations of the Sakhalin II Project, Phase 2, Prigorodnoye Production Complex, dated 31 July 2012. The Complaint reads on page 12 that "...in providing its approval, the Ministry required a Sanitary Defense [Protection] Zone of 2.1 kilometres around the Complex during the construction startup period and, taking into account nitrogen dioxide and sulfur dioxide emissions, required an increase to 3.5 kilometres during operation of the Complex." The Complaint refers to Order #600 of the Ministry of Natural Resources of the Russian Federation as of 15 June 2003 (Conclusion of the State Environmental Review of the TEOC for Phase Two of the Sakhalin-2 Project) as a source of this information. Complaint Source: <http://www.accountabilitycounsel.org/wp-content/uploads/2012/03/7.31.12-Complaint-Sakhalin-II-Dutch-UK-NCPs-Final.pdf>

facility rests with the Chief State Sanitary Doctor who has recently decreed²⁷ the maximum SPZ of 1 km from the air emission sources/700 m from the site boundary at the Prigorodnoye Production Complex (LNG plant and the OET). Sakhalin Energy has further pointed out that a conclusion of the State Environmental Expert Review (SEER) typically contains recommendations rather than a prescriptive stipulation of certain measures (such as an approval of an SPZ size which falls within the remit of the Chief State Sanitary Doctor)²⁸.

Although the Dacha community were not legally entitled to compensation and resettlement as a result of their plots being outside the 1-km SPZ, in 2005-2006 the Company offered a two-tier compensation package that consisted of 50% of the property cost as an indemnification for the loss of market value resulting from the proximity of the industrial complex, and further 50% of the property cost as part of the waiver of the land plot title. Relocation assistance was also offered to those dacha owners who accepted the waiver package and agreed to vacate their land plots. (See also Sakhalin Energy's Resettlement Action Plan (RAP), 2005; and a separate explanatory note on the Dacha issue that Sakhalin Energy provided to ENVIRON as part of the monitoring visit in September 2012, presented in Annex D.)

To date, the remaining 37 dacha owners who did not accept the compensation offer contend that the amount offered was not adequate and was insufficient to purchase replacement dacha properties in alternative desirable locations.

The waiver package offer and the evaluation of the market value performed by the third party agency were previously reviewed by the IEC in 2009 and were found to be adequate²⁹. At the time the Company had also informed that the calculation of the waiver compensation was well above the then market rates meaning that it could accommodate the inflation effect. This was in response to the dacha owners' claim that the market compensation and waiver package offered were inadequate due to the high level of inflation of dacha prices in the period between the property evaluation in 2006 and the actual disbursement of the compensation funds in 2007.

Sakhalin Energy maintains that the independent evaluation agency used a so-called "best market price" approach as agreed between the Company and the dacha owners. The compensation for loss of value was taken as 50% of the theoretical equivalent dacha plots (i.e. made on the assumption that the Stroitel dacha plots had lost 50% of the value as compared to equivalent plots not adjacent to the LNG plant). In addition to this 'loss of value' payment, those who accepted the waiver offer also received a second payment of 50% of the theoretical market price to compensation for the final value of their property (i.e. in total they were offered to receive 100% of the theoretical equivalent dacha plot value). Sakhalin Energy also reports that the compensation payment was also topped up with a 13% sum to cover the individual income tax, thereby ensuring that each dacha owner receives a full payment and that the mandatory tax is separately covered by a top-up amount.

²⁷ State Decree No. 25 dated 10/04/2012, see also Annex A: SPZ Decree

²⁸ At present, the procedure of the SEER is regulated by the Federal Law On Environmental Expert Review, and the Statute on Procedure of the State Environmental Expert Review.

²⁹ See http://www.sakhalinenergy.com/en/documents/IEC_May_2009_Site_Visit_Report_FINAL.pdf

With respect to the possible inflation effect, Sakhalin Energy clarified the chronology of the offer and the related payments:

- Originally, the dacha owners who were willing to accept the proposed waiver package were requested to inform the Company of their decision before 5 September 2006. Exceptions were made for those dacha owners that had only received the evaluation reports for their dacha properties later on, in November 2006 (i.e. those dacha owners whose contact information had not been available to the Company for a long time). Those dacha owners had an opportunity to decide on the waiver package before the end of November 2006. This information was duly conveyed to the dacha owners.
- The Company would effect countervailing payments within 35 business days once it had received from the former dacha owner a notification on the waiver of rights to the dacha plot and the vacation thereof.
- Reportedly, some of the dacha owners were unable to provide the required documents in time. In addition, some of the dacha owners who had originally declined the opportunity of receiving compensation within the waiver package in 2006 asked whether it was possible to change their decision. Thus, upon receipt of these requests from the dacha owners, the Company took a decision to extend the validity of the waiver proposal until 15 October 2007. The information regarding the extension of the proposal was passed to the dacha owners in writing, with a clear statement that the waiver package would be paid as per the results of evaluation of their dacha plots as of 2006.

Sakhalin Energy re-confirmed that as the calculation of the waiver compensation in 2006 was above the then market rates, this should allow the period of inflation between September 2006 and October 2007 to be accommodated.

The compensation and resettlement aspects have subsequently been closely monitored by the Independent RAP expert over the period of 2007-2011, with all the reports having been made publicly available.³⁰

Thus, the First Independent RAP monitoring report (2007, p. 12, "Waiver package") states that "[The Company] maintains that the best prices and approaches were used [for the] assessment of market value [of the dachas]". The same First RAP monitoring report further reads on page 30: "[The Company] maintain that the valuation was accurately done by an independent agency, which took into consideration the highest value around Korsakov". The Independent RAP Final evaluation report³¹ also states that a number of the dacha owners who had accepted the waiver package were subsequently consulted as part of the monitoring to establish whether they had been able to find replacement for their dachas and no outstanding claims were reported by those ex-dacha owners.

The RAP monitor also examined the process of upgrading the road to the pipeline block valve stations near the Dacha area by Sakhalin Energy. The existing road used by the dacha owners was also upgraded based on their request.

The Final Evaluation Report by the RAP monitor concluded that *"the Company has met its agreed obligations towards the Prigorodnoye Dacha community. Continual engagement*

³⁰Independent RAP External Monitoring Reports

http://www.sakhalinenergy.com/en/library.asp?p=lib_social_shelf&l=lib_social_relocationreports

³¹ Seventh Independent RAP Monitoring/Final Report (February 2012), see pages 28-29.

mechanism is in place and recommended to be continued along with the air and noise monitoring programme as agreed with the Dacha owners". The Evaluation Report further concluded that the "company is in compliance with the RAP and the World Bank Operational Directive 4.30. The measures to restore or enhance project affected people's standard of living were implemented and livelihood restoration was effectively completed".³²

The Company continues to reiterate the fact that the resettlement process cannot be presently triggered due to the following reasons:

- The Dacha community is outside the 1 km SPZ that has been approved by the competent state bodies. There is therefore no justification for triggering the resettlement process on the basis of the Russian legal requirements;
- The environmental monitoring performed by the Company (including monitoring of air quality, noise and soils) does not show exceedances of the permissible limits that would have demonstrated environmental impact;
- The compensation package and the associated relocation assistance that had been previously offered to the Dacha residents was rejected by the remaining dacha owners, together with the additional social investment fund of USD 50,000³³, and therefore are no longer available.

Having re-examined the issue related to the Dacha community, we find that the Company's engagement process is satisfactory. This includes engagement through:

- The Company's social monitoring.
- Public discussions in the form of open public dialogues related to the annual non-financial reporting³⁴.
- The annual public meetings, operation of the Information Centre in Korsakov.
- The availability of Company's staff for regular contact.
- The formal grievance mechanism.
- The provision of written correspondence whereby the Company clarifies the issues of concerns raised by the Dacha residents.

³² Seventh Independent RAP Monitoring Report (Final Evaluation Report):

http://www.sakhalinenergy.com/en/documents/Seventh_RAP_external_monitoringFinal_RAP_External_Monitoring_Report_1_Feb_2012.pdf

³³ The Company had made a targeted Social Investment fund of USD 50,000 available for any projects or initiatives from the Dacha community that would have been aimed to improve the quality of life at the Stroitel dachas. The Dacha residents refrained from making any proposals for the use of this fund since it was made available in 2005, on the basis that they preferred to be resettled. As no requests or project proposals had been received from the Dacha residents in relation to these funds, this opportunity was ultimately withdrawn by the Company by July 2009. See also IEC's Site Visit Report, May 2009 (section 2.2.4 'Stakeholder Engagement in Korsakov' on p.7)

³⁴ All Sustainable Development Reports published by Sakhalin Energy contain detailed responses that the Company provided to the queries raised during the public dialogues, including those from the Dacha representatives.

ENVIRON notes that despite these mechanisms all being effectively implemented, the Dacha community continues to retain an adversarial attitude towards the Company. This largely results from the dacha residents' unwavering position that they should be resettled.

Based on our findings, ENVIRON recommends that:

- The materials related to the SPZ substantiation for the Prigorodnoye Production Complex should be made available to the Dacha community, either directly or via the Company's Information Centre in Korsakov. Given the considerable volume and technical complexity of such materials that were prepared by the specialised institute, this information could be presented in a format of a non-technical summary or an explanatory note, to aid the understanding by readers with no special technical knowledge;
- The Company should consider arranging an additional information session specifically with the Dacha community to explain the emergency prevention and response system at the Prigorodnoye Production Complex, including organising a site tour if requested;

Overall, ENVIRON notes that the current means of engagement between the Company and the Dacha community enable various avenues of the interaction between the parties and that the existing practices of communication continue to be adequate. Taking into account the remaining sensitivities, ENVIRON reiterates our recommendation outlined in the preceding 2011 site monitoring and audit report that the mechanisms of direct and reciprocal engagement between Sakhalin Energy and the Dacha residents should continue to be maintained. As a manifestation of good will, ENVIRON has previously suggested that if requested by Dacha residents in the future, the Company may consider the possibility of resuming a social investment/assistance programme similar to the one that was offered to the Dacha community in the past as a specific mitigation measure during the Project construction phase³⁵ and which was rescinded due to the absence of project initiatives from the Dacha residents at the time. Consideration of such a programme may contribute to addressing the dacha residents' concerns about the community becoming derelict since a considerable number of the previous owners have either left the area after accepting the compensation offer from Sakhalin Energy or have abandoned their plots.

Sakhalin Energy has responded that the previous social investment fund was eventually revoked in 2009 due to the Dacha owners' declining to accept such funds. The Company further reports that its decision to discontinue the fund had been taken following a number of communications from the Company reminding about the availability of the funding at the time, and offering assistance with the development of project initiatives to be funded through this programme. Given the Dacha owners' unwillingness to avail of the fund's assistance in the past, the Company therefore states that it no longer considers a renewal of this specific programme as such. Sakhalin Energy has however stated that it is ready to consider any projects for social investment within the framework of the existing partnerships, such as the Korsakov Sustainable Development Partnership Council³⁶, which consists of Company representatives and Korsakov stakeholders (including representatives of the authorities and the local society). ENVIRON notes that keeping the

³⁵ The Social Investment fund, as explained on page 29 above; see also footnote ³³

³⁶ <http://www.korsakovsovet.ru>

opportunity for constructive interaction open through the currently active Social Investment Programme initiatives (as described further in section 2.8), including the aforementioned Korsakov Partnership Council, can be considered as a sound way forward.

2.3.6 Community Awareness Programme

The Community Awareness Programme (CAP) has been implemented by Sakhalin Energy for a number of years and is primarily intended to promote public awareness of safety rules in relation to the pipeline.

The CAP pursues the following objectives:

- Enhance awareness of the affected communities and key stakeholders on environmental, safety and land use issues; and
- Educate the affected communities and key stakeholders in activities that help prevent and respond to potential emergency situations.

The CAP is disseminated via the following means:

- Targeted distribution of printed materials (posters, billboards, leaflets);
- Notifications to particular stakeholders (land users, forestry) to communicate specific information related to the integrity of the pipeline – 288 of such notifications were distributed in 2012;
- Group/public meetings (14 events in 2012);
- Quarterly announcements in major Sakhalin newspapers;
- Face-to-face engagement;
- “Vesti” corporate newspaper; and
- Animated cartoon for children audience.



Photo 3 CAP Poster at the Information Centre in Poronaisk

2.3.7 Engagement with Japanese Stakeholders

The Company, via its External Affairs Team, continues to actively engage with the Project stakeholders in Japan. In 2012, the following events have taken place:

- 17 February – first meeting with the Hokkaido Government and Hokkaido Fishery Environmental Centre (HFEC);
- 19-20 February – participation in the Mombetsu Ice Forum;
- 22 June – meeting with Japan Coast Guards in Yokohama;
- 23 August – Sakhalin Project Forum in Wakkanai (together with combined with the joint Oil Spill Response exercise);
- 21 September – second meeting with the Hokkaido Government and HFEC;
- Media visits: TV Tokyo-7 and Asakhi Shimbun.

2.4 Grievance Redress

Sakhalin Energy has established and effectively maintains the formalised internal mechanism (the Community Grievance Procedure) that allows the receipt, investigation, tracking, assigning of actions, and addressing of complaints from the external public, including communities and contractor personnel. The Procedure has been revised in 2011 (with IEC participation) and currently represents a rigorous and functional mechanism that is fully integrated within the Company's overall HSE-SP assurance system and is now embedded in the Human Rights Policy recently released by the Company (as described in section 2.2.3 above).

The IEC has been monitoring Sakhalin Energy's grievance redress mechanism over a number of years and acknowledges that this procedure has evolved into a comprehensive, robust and transparent tool that enables the Company to effectively handle the external grievances by competent staff. A detailed description of the grievance procedure can be found in the IEC's previous reports.

To advertise and maintain awareness of the Procedure, the Company conducts an in-house and public information campaign on a regular basis. Externally, the Procedure is advertised through the dissemination of public leaflets through the Information Centres and at the contractor facilities, as part of the annual meetings with the local communities. Notifications are also published in the local printed media with the provision of contact details of the Company's CLO and the InfoCentres where complaints could be lodged. The means of filing a grievance are also described on Sakhalin Energy's external web-site.



Photo 4 Public Grievance Brochure at the Board in Information Centre

In 2011, a regular campaign was carried out to disseminate information on, and raise awareness of, the Grievance Procedure among the local residents in the areas of Project operations, as well as among employees of the Company's contractors and subcontractors. The procedure is included in the training provided to the Project's contractors and subcontractors. They are specifically informed about the Company's social commitments under the HSESAP via in-house refresher training and inductions for the Company's staff, as well as via special training in the procedure that is delivered by the Company's staff to librarians who act as consultants in the Information Centres.

In total, 16 grievances/claims were lodged using the Community Grievance Procedure in 2011. All lodged grievances have been assessed as "low risk" using the HSESAP Risk Assessment Matrix. Out of the grievances received, five were categorised as relating to community impact, five were concerned with recruitment and employment aspects, and the

rest fell under the 'other' category (i.e. those related to the SIMDP or contract tender process).

ENVIRON reviewed the type of grievances received and did not identify any complaints that were of high risk. All the grievances were properly handled by the Company staff and resolution was achieved on the complaints that were within the Company's control. The complaints that could not be resolved were closed out by the decision of the Business Integrity Committee, mainly because they were found to be not related to the Company's activity and direct jurisdiction or the claim was found to be unsubstantiated. ENVIRON's review and discussions with the custodian of the Community Grievance Procedure showed that the detailed investigation process was undertaken in relation to all the grievances, with proper communication with the complainants throughout the process.

The majority of grievances (12) were finalised within the required period (20 and 45 working days), with four grievances having been resolved over a longer period of time. The latter fact was accounted for by the following reasons:

- The case required detailed investigation and negotiation with the complainant;
- Complainant postponed the response to the Company and was not available for the confirmation of a resolution; and
- Limited access to two complainants residing in a remote location with no internet and telephone connection.

Overall, ENVIRON concludes that Sakhalin Energy's approach to the grievance redress and the internal resourcing of this mechanism is exemplary and represents an illustrative case of good practice. We therefore encourage the Company to share its demonstrative positive practice with other interested parties that may also benefit from the considerable experience accumulated by the Company.

To date, Sakhalin Energy has already been actively participating in the initiatives related to the grievance resolution and means of recourse, including the following:

- Participation in the German Global Compact Network conference with presentation on Sakhalin Energy's grievance mechanism;
- Presentation of Sakhalin Energy's experience and lessons learned at the session on the new UN standard on business and human rights ('Ruggie principles') of the Global Compact Network in Russia;
- Publication of an article "Corporate social responsibility: Business ethical standards and community grievance procedure. Implementation of Ruggie Principles";
- A member of Advisory Group in the European Commission project on development of the Guide for the oil and gas industry sector on corporate responsibility to respect human rights under the UN Guiding Principles on Business and Human Rights; and
- Sakhalin Energy's grievance redress mechanism is included as an example case study of business ethics in the curriculum at four Russian universities.

2.5 SIMDP Management

The development and structure of the SIMDP 2 (Second Five-Year Plan covering the period of 2011-2015) was described in ENVIRON's previous IEC audit and monitoring report for 2011.

The monitoring visit in September 2012 showed that the SIMDP is being actively implemented. A dedicated internal team – the Indigenous People Unit – manages the aspects related to the Project's interaction with the indigenous communities, administration and budgeting of the SIMDP, as well as the continuous internal monitoring. The primary 'on-the-ground' contact between the Company and the indigenous people in the areas of Project operation (primarily Val and Nogliki settlements) is effectively implemented via the IP CLO.

The Company's staff noted the high activity of grant applications and business plans received for the SIMDP's Traditional Economic Activities Support (TEAS) Programme and the Social Development Fund, together with the quality of the applications submitted. A low-interest micro-credit fund has also been made available within the SIMDP structure, in association with the 'Batani' International Fund for Indigenous Peoples. The launch of the TEAS micro-credit programme was accompanied by wide information campaigns, including consultations in the indigenous communities, posters, booklets, and an announcement on the SIMDP website. To ensure high quality of potential applications, special training was provided to representatives of the indigenous communities in the form of interactive seminars 'Basics of Modern Market Economy' that were held in eight settlements and attended by over 60 participants.

To date, the SIMDP's total fund for all its components amounts to RUB 57 million and already comprises over 390 projects.

The SIMDP activities are subject to the two types of monitoring:

- Internal monitoring with the use of a questionnaire survey and assessment of the projects – half-yearly to annually. The last monitoring exercise was conducted in November, 2011 and covered 11 indigenous communities of the Sakhalin island; and
- External monitoring conducted by the independent international expert. The latest monitoring was carried out in May- June, 2012, and covered 13 indigenous communities with 63 individual meetings held. All reports by this External IP monitor are available on the SIMDP web-site.

In addition, the SIMDP operates its own grievance procedure that is separate from the Sakhalin Energy's Community Grievance Procedure described in the preceding section. The dedicated procedure specifically deals with the SIMDP-related issues and was discussed and approved by the SIMDP partners and indigenous communities themselves. This grievance procedure is widely promoted in the settlements, with over 1,000 leaflets having been distributed in the communities and also being available at the Information Centres. The grievances submitted in relation to the SIMDP are also subject to review by the external IP monitor. The SIMDP Grievance Procedure has been specifically mentioned in the 'Report of Lessons Learned: Piloting Principles for Effective Company-Stakeholder Grievance Mechanisms' – a project conducted by the Corporate Social Responsibility Initiative on behalf of the Special Representative of the UN Secretary-General for Business and Human Rights.

The following activities by Sakhalin Energy are also very notable:

- Sakhalin Energy's experience was recognised as the best in Russia at the International Conference "UN Global Compact in Russia: Business and Indigenous People" (Moscow, 2011);
- The Company initiated Task Force on engagement with Indigenous Peoples under the UN Global Compact LEAD framework;
- Delegation from Sakhalin Energy participated in the Rio+20 Corporate Sustainability Forum, particularly in the session on engagement with Indigenous Peoples and their communities;
- Provision of financial support for the translation of the UN Declaration of Human Rights into the Nivkh and Uilta languages, implemented jointly with the UN High Commissioner for Human Rights Office in the Russian Federation³⁷. The translated versions are now available on the official web-site of the UN Office of High Commissioner for Human Rights³⁸.

Protection of rights of the indigenous communities is also included among the governing principles of the Company's Human Rights Policy (2012).

Overall, ENVIRON finds that the activities initiated by Sakhalin Energy in relation to the engagement with the indigenous communities are a commendable example of good practice.

2.6 Contractors' Social Performance

Sakhalin Energy aims to ensure that the performance of its contractors is in line with the Company's HSESAP commitments. To this effect, the Social Performance Team distributed the internal Social Performance Manual (SP Manual) to contractors and provided associated training to the contractor staff, primarily to the Social Focal Points who are typically site managers or their delegated personnel. These focal points are in turn responsible for cascading of the social performance requirements and their implementation internally, including the grievance procedure. All main Project contractors involved in the operations phase are subject to annual training in social performance. Security and transport providers, service contractors and camp management subcontractors are also covered by the training. In total, 15 contractors and subcontractors have been covered by the social performance training and monitoring in 2012.

ENVIRON's monitoring visit in September 2012 included a discussion with the site manager of the Booster Station-2. The site manager demonstrated a good level of awareness of the Company's procedures and confirmed the provision of training and regular contact with the staff of Sakhalin Energy's Social Assessment Group. It was also confirmed that the applicable requirements relating to social performance are conveyed to the personnel upon the commencement of their job assignment (as part of the induction) and that any changes

³⁷ http://www.sakhalinenergy.ru/en/media2.asp?p=media_page&itmID=317
http://www.sakhalinenergy.com/en/media2.asp?p=media_page&itmID=308

³⁸ <http://www.ohchr.org/EN/UDHR/Pages/Language.aspx?LangID=Nivkh> and
<http://www.ohchr.org/EN/UDHR/Pages/Language.aspx?LangID=oaa>

or updates in the requirements are communicated to the staff upon their return to the rotation shift (in case such changes have occurred when personnel were on leave).

The local content requirement is successfully achieved, as 45 of the total 64 personnel at the BS-2 are residents of Sakhalin Island.

The site manager noted that the contact between the contractor servicing the BS-2 and the local community is minimal at the operations stage as the majority of activities are confined to the site. It was noted that in the past the local population expressed some concerns about the safety aspects of the facility, particularly during construction, and that clarifications about the prevention and response measures in place were communicated during the regular public engagement events.

Presently, the contractor is involved in the communication of safety rules to the land users along the pipeline RoW (see also section "Community Awareness Programme" above). Notification of those safety rules are also regularly published in the district newspapers. Contact details of the servicing contractor are provided along the entire length of the pipeline RoW in case of any incidents that the members of public would like to report or enquire about.

The site manager also showed awareness of the chance finds procedure that is enforced in case of the earthworks in any new areas.

The awareness of Sakhalin Energy's grievance procedure was shown to be adequate, with copies of the grievance leaflet available at the site offices. Sakhalin Energy's staff subsequently confirmed that they had previously received complaints from contractor personnel which demonstrated that the mechanism was functioning. All the complaints received were duly investigated, with logging into the Fountain tracking system as part of the social incident reporting. Whenever necessary, Sakhalin Energy staff are available to provide assistance and counsel in the complaint investigation.

As part of other discussions during the visit, ENVIRON noted a comment made by a representative of the indigenous community in the north of the Island. A concern was expressed about the fact that the Northern GTT in Boatasino was not covered by permanent presence of security guards which, according to this member of the community, could affect the promptness of response in case of an emergency. Sakhalin Energy's staff subsequently confirmed that despite the GTT being a fully automated facility, it is regularly patrolled by the Nogliki PMD contractor (on average twice a day) and is protected by CCTV and an intelligent security alarm that activates in case of an unauthorised approach, with all necessary response arrangements also being in place. It was also confirmed that these aspects had been previously explained by the contractor and the security service during the public meetings. ENVIRON recommends that this information should be reiterated to the community as part of the next round of public meetings. Sakhalin Energy has subsequently reported that the IP CLO has had an additional meeting with the representative who originally raised this issue to address the comment.

Additionally we also make the following recommendations:

- It is also recommended that the recent endorsement of the Human Rights Policy by Sakhalin Energy should be reflected in the mandatory training on social performance provided to the contractors and to the providers of the security service. Sakhalin Energy has confirmed its intention to include the conformity with the Human Rights Policy principles as an obligation in the contractual agreements, which is considered by ENVIRON to be a proactive way of contractor management.
- The Company also intends that the contractors will be encouraged to endorse the Sakhalin Energy Code of Conduct (revised edition 2012) or to demonstrate that their own policies related to the personnel code of conduct are in line with the spirit of Sakhalin Energy's principles. ENVIRON recommends that the inclusion of this aspect as part of the contractual obligations would be the most effective way of such encouragement in practice.
- It is further suggested that the CLO and the staff of the Social Performance Team should continue to have regular access to all the Project assets operated by the contractors, in order to ensure the effective delivery of requisite training, carrying out of the monitoring activities, and the provision of advice wherever necessary. This should also apply to the offshore assets which will enable the direct contact with the personnel of the platforms.
- It is particularly important that all new contractors that become involved in the Project activities receive rigorous training in the Company's approach to social management, especially in cases where new contractors have not been previously exposed to such standards of performance. Sakhalin Energy acknowledges this fact, particularly taking into account the potential involvement of a new wave of contractors in the OPF Compression Project and further Project expansion activities. For the purposes of monitoring of contractor performance during future major construction activities, the relevant reporting requirements may also need to be re-introduced for the new contractors, either based on the contractor performance check-lists that were previously in place or on the basis of the existing Social Performance Manual.
- It is expected that the Company will re-enforce 'The Fishing, Hunting and Gathering Policy during Construction' for any future construction works associated with the Project. It is acknowledged that presently there is no compelling need to specifically enforce this Policy during the Operations Phase due to a low probability of potential impact, given the reduced numbers of operations workforce that are confined to the Project assets and are not accommodated in the communities.

Overall, ENVIRON concludes that the monitoring and control of contractor's social performance are in place.

2.7 Protection of Cultural Heritage Resources

The safeguarding of cultural heritage during Project operations is implemented by the 'Plan for Protection of Cultural Resources During Sakhalin II Operations' (The Protection Plan). The Plan was updated in 2012 to specifically incorporate the chance finds procedure and the associated communication protocol.

The Protection Plan stipulates the provision of induction/awareness training on cultural heritage protection for Project personnel and contractors, including the requirement to report any damage or a potential threat to cultural objects to a designated in-house specialist. The Plan also requires that Operations personnel, the CLO and environmental monitors be adequately trained in the aspects regulated by the Protection Plan.

During the monitoring visit, the Company confirmed the need to make necessary arrangements for the timely provision of the aforementioned training. Particularly, this relates to the delivery of training in the “Chance Finds Procedure” and the “Procedure to be Implemented in Case of Emergency” (protection of cultural resources) as well as in the incident reporting requirements both internally and to the contractors, as per the Plan. Subsequently to the visit, Sakhalin Energy has further confirmed that all the relevant procedures and awareness materials regarding the protection of objects of cultural heritage, including in cases of fortuitous finds and during emergencies, will be provided to contractors via the respective contract holders. ENVIRON also notes that a tailored presentation has been prepared that covers these aspects and it is expected that the presentation will be delivered as part of the internal and contractor training by Sakhalin Energy’s cultural heritage specialist.

The Protection Plan also requires that the known objects of cultural heritage and historical sites located in the vicinity of the pipeline RoW and the Project’s assets be subject to periodic monitoring, to ensure that the integrity of the valuable features has not been compromised and that the appropriate protection measures (warning signs and protective zones) are in place. Over the period of 2010-2014, this monitoring is conducted biannually by the specialised contractor – Sakhalin State University. During ENVIRON’s visit in September 2012, this contractor was mobilising for the field monitoring surveys to provide expert assessment of the current condition of the objects by means of visual observations and to install information/warning boards on all of the identified sites (54 in total). The latter measure is particularly welcomed by ENVIRON as initially only 40 of the known archaeological sites considered of high historical value were equipped with the warning signs. The remaining 14 objects were not subject to this measure, despite also having historical value and located at a close distance (25-100 m) from the pipeline RoW or other Project assets.

Prior to the planned monitoring by the external contractor in autumn 2012, the specialists of Sakhalin Energy conducted their own observations of the known sites to ascertain their condition and to determine the need for any specific protection or rescue measures. It is reported that no signs of damage or unauthorised excavations were observed on the protected sites. It was, however, noted during the discussions with ENVIRON that there had been some incidents when tracks of unknown vehicles were seen at some of the sites in the past (despite the fact that the heritage sites are specifically equipped with the warning signs “Protected Zone. Vehicle passage and diggings are forbidden!”). The nature of the vehicles that may have left the tracks and their ownership were undetermined.

It is therefore recommended that annual internal visual monitoring of cultural resources continues to be conducted in addition to and in the interim period of the biannual monitoring by the external contractor. This will allow more prompt detection of any possible damage and the necessity for specific rescue/salvage measures, especially in cases that may require more urgent action than a two-yearly survey. In accordance with requirements of the Protection Plan, annual reports on the current status of the cultural objects under protection

to Sakhalin Energy should be communicated to the management and, upon request, to the local authorities.

ENVIRON also recommended that the availability of the cultural heritage baseline data should be re-confirmed for the site allocated for construction of the OPF Compression Project. Sakhalin Energy has subsequently confirmed that an extended archaeological survey³⁹ was performed in 2008 to cover the area to the east of the current OPF site and that the survey confirmed the absence of any archaeological monuments or other objects of cultural heritage in the studied area. The Company has further received a formal written communication from the Ministry of Culture of Sakhalin Oblast (dated 24/10/2012) confirming that there are no elements of cultural heritage within the site allocated for construction of the OPF Compression Project.

2.8 Social Investment Programme

Sakhalin Energy has been implementing its Social Investment Programme in line with the Company's Sustainable Development Policy. The IEC has been monitoring the evolution of this initiative for a number of years and considers this highly successful practice to be a very beneficial example of corporate philanthropy that has also enabled the formation of effective partnerships with a variety of the external stakeholders. The distinguishing feature of this programme is that Company does not merely sponsor donations or disburse investment funds, but also provides constructive support for projects with the clear emphasis on community and environmental benefits. The establishment of a number of the functional partnerships has evolved into the standalone thematic programmes that continue their operation based on the involvement of the Company together with the partnering organisation and institutions.

The following partnership programmes are currently in progress:

- The Sakhalin Indigenous Minorities Development programme is part of the SIMDP which is described in Section 2.5 above;
- "What to Do in Emergency Situations" is primarily orientated towards the children audience to educate them in the safety aspects (including natural and man-made disasters, personal safety and internet safety). In 2012, this programme also partnered with the Sakhalin Centre of Tsunami and Avalanche/the Emercom to install public warning signs in locations on the Island that are prone to the tsunami and avalanche risks. This initiative has been accompanied by a wide information and awareness raising campaign;
- The Korsakov Partnership Council programme has piloted a 'fair' of project initiatives that allows public presentation of the candidate projects and voting by members of the public for proposals that they deem worthy of a grant support. Such a fair is conducted twice a year;
- The Road Safety Programme continues the initiatives aimed at the prevention of road traffic accidents by means of education and arrangements for the primary emergency response (pre-hospital care). Of special note is the campaign "Be bright, Be noticeable!" that promotes the wear of high-visibility-reflective elements on children's

³⁹ "Additional archeological studies for Sakhalin-2 Project, 2008"

clothing during the winter period when dark hours prevail (this programme is planned to be launched in November 2012). During 2012, the programme “Safe Place with Seatbelt and Booster Chair” is also implemented;

- The Sakhalin Salmon Initiative has been completed in June 2012 as it has fulfilled its commitments within its original scope that spanned over the period of over seven years. During this time, the total funds distributed under the Initiative amounted to US\$ 9.1 million, with Sakhalin Energy’s contribution of US\$ 4.7 million. This programme has allowed the participating fishermen to achieve self-financing and to successfully obtain the Marine Stewardship Council certification.

The total budget plan allocated for the financing of the Social Investment Programme is US\$ 1,297,000 in 2012. The total funds invested by the Company have been scaled down since the previous year, primarily thanks to the contribution of resources by the partners of the programme and, as a result, the reduction of overhead costs and the improved effectiveness of the projects. The Programme is subject to regular external monitoring as well as the internal assessment, primarily in relation to the economic effectiveness and social added value.

Overall, ENVIRON considers the Social Investment Programme to be an illustrative example of the corporate sponsorship initiative with the strong emphasis on strategic long-term partnerships and the promotion of sustainable and ethical approach to the environment and society.

3 Pipeline Right of Way Monitoring

3.1 Introduction

During the site visit a number of locations were visited along the onshore pipeline Right of Way (RoW). The site visit focused on the condition and reinstatement of the RoW in general, although specific visits to a number of pipeline river crossings were also undertaken. The full list of locations visited, together with summary descriptions of the observations from each location, is presented in Annex F.

Inspections along the RoW focused on the status of the following aspects:

- Biological reinstatement
- Drainage and erosion control
- River crossings
- Geotechnical works
- RoW access.

3.2 Biological Reinstatement

3.2.1 Overview

Observations during the previous monitoring trip in October 2011 had indicated a significant improvement in vegetation growth over previous years. Most areas that were seen during that site visit exhibited good, sometimes dense, growth and ground cover.

This year's monitoring visit further reinforced this trend and showed continued and marked improvement in re-vegetation and ground cover over the last 2 years – see for example the comparison of the condition of the RoW near the river Khandusa between June 2010 and September 2012 (Photo 5).



Photo 5 Comparison of re-vegetation on RoW near R. Khandusa in June 2010 (left) and September 2012 (right)

Despite the overall good impression on the status of biological reinstatement, specific issues were observed in relation to:

- Tree growth
- Reinstatement of especially steep slopes along the RoW
- Reinstatement of slopes with sandy soils.

These issues are discussed separately in the sub-sections below.

3.2.2 Tree growth

Following the October 2011 visit, ENVIRON identified the problem of tree sapling growth on many different terrains along the pipeline RoW, and we noted that trees are not permitted on the pipeline RoW under RF regulations.

Sakhalin Energy has since implemented a program to fell the saplings on the RoW. However, observations during the September 2012 site visit indicate that the sapling cover is now more widespread, denser, and that the trees are taller and with thicker trunks than were observed in October 2011 (for example see Photo 6).



Photo 6 Tree growth on the RoW near the R. Slavnaya

We recommend that an accelerated programme be put in place to keep abreast with the annual growth and to eventually keep it to a manageable level. Other means of eradications should be evaluated as well, including pulling of roots for smaller samplings (as opposed to simply cutting above the roots) and ring-barking for large trees.

3.2.3 Steep Slopes (typically in RoW Section 3)

The difficulty in re-vegetating some of the steepest slopes along the RoW has been noted for several years in the Makarov hills area. Although improvement was noted on the slopes of the Gar, Krinka, and Vidnaya Rivers, certain locations such as the Kormovaya River slopes (both north and south) are proving to be very difficult to re-vegetate (see the lack of re-vegetation apparent on slopes in Photo 9 in section 3.3.1). This results in erosion and sedimentation into the river. It is recommended that Sakhalin Energy continues to maintain erosion and drainage control in order to minimise sedimentation impacts on the receiving rivers. Given the difficulties encountered with the re-vegetation of some of these slopes, it is recommended that Sakhalin Energy considers different techniques to ensure successful re-vegetation.

3.2.4 Sandy Slopes

We have previously reported (e.g. ENVIRON's October 2011 site visit report⁴⁰) that the re-vegetation of sandy slopes since completion of construction and initial reinstatement activities has lagged behind other areas. This was mostly due to lack of topsoil preservation during construction and the poorly consolidated makeup of the underlying sandy soils. The poorly consolidated nature of these soils contributed to rapid erosion on the sandy slopes, further inhibiting growth.

During the September 2012 monitoring visit a marked improvement was identified over previous years, both in vegetation ground cover and in slope stability, in many of the sandy areas along the RoW. This is mostly due to an increase in slope stabilisation efforts and additional seeding. An example of this improvement is shown in Photo 7, which shows both good drainage controls via slope breakers (which helps to prevent erosion) and improved vegetation cover.



Photo 7 Sandy slope at KP128 showing improved vegetation cover

⁴⁰ http://www.sakhalinenergy.com/en/library.asp?p=lib_3rdparty_shelf&l=lib_3rdparty_lendersreport

Notwithstanding the general improvement in the re-vegetation of sandy areas, continued efforts are still required to ensure that all such areas are adequately reinstated.

3.2.5 Wetlands

A number of wetlands areas were visited during the September 2012 monitoring visit, including wetlands identified by Sakhalin Energy as:

- Having recovered sufficiently to no longer require further monitoring (e.g. the Pugachevo wetlands around KP422)
- Showing slow recovery and requiring further ongoing monitoring (e.g. the Manui wetlands around KP460 and the Dolinsk wetlands around KP531).

The visual observations made during the site visit were consistent with the results of Sakhalin Energy's wetland monitoring report. In particular, for those wetland areas visited, our visual observations supported Sakhalin Energy's determination of whether future specialist monitoring of recovery is required.

In relation to the Manui wetland, one of the more poorly recovered wetlands, we note that the level of re-vegetation is highly variable over a relatively small spatial scale, ranging from (see Photo 8):

- completely bare soil
- areas predominated by pioneer species
- areas of heavy vegetation dominated by species that are atypical of the surrounding area
- generally small areas recovering to similar conditions/vegetation as adjacent areas



Photo 8 View of Manui wetland showing varied levels of re-vegetation

The diversity of the recovery can be attributed, at least in part, to two main factors:

- In some areas imported materials (e.g. soils and stone) from the construction phase had not been adequately removed. This includes soils used to create the berm over

the pipeline and also the 'running track' road used for machinery/vehicular access on the RoW during construction. In the areas where this material had not been removed, re-vegetation was noticeably less advanced.

- Depressions left on the RoW following construction that have resulted in water ponding/waterlogging.

We recognise that measures to remove the remaining imported materials and to infill depressions would require the use of heavy equipment, which in turn may result in damage to recovering areas as they access the wetland. Nonetheless, if continued poor rates of recovery are identified by future monitoring, then such measures may need to be considered.

3.3 Drainage and Erosion Control

3.3.1 Slope Breakers

Slope breakers play an important part in managing slope drainage and erosion control. During the September 2012 visit slope breakers were found to be in mostly good condition at the RoW locations inspected. There were other locations where slope breakers were repaired by GTT as part of ongoing maintenance activities. It was also observed that in areas where repair work was performed by GTT any damage caused by the heavy maintenance equipment brought in to perform the works was also repaired on the way out of the site. An example of this was identified in relation to repair work undertaken on the south slope of the R. Kormovaya. This is shown in Photo 9, which shows a slope failure observed during the October 2011 site visit (circled on the left-hand-side photograph) that was repaired and slope breakers replaced by the time of the September 2012 site visit (seen in the right-hand-side photograph).



Photo 9 R. Kormovaya showing slope failure (2011) and repair works (2012)

As stated above, the vast majority of the slope breakers were well positioned and in good condition. However, there were a few sites where additional slope breakers could improve drainage. An example is the RoW slope at approximately KP 15 that exhibits erosion on the slope due to a lack of surface stabilisation from slope breakers and/or vegetation (see Photo 10).



Photo 10 RoW at KP15 showing development of erosion

3.3.2 Geojute and Coco matting

Geojute matting (made of jute fibre) and coco matting (made of coconut fibre) are inexpensive but effective erosion control measures. When installed correctly, these materials assist in stabilising un-vegetated soil while providing better germination conditions for seeds and hence promote the establishment of vegetation. Sakhalin Energy has used geojute and coco matting extensively on steep slopes and slopes with highly unconsolidated soils.

During the visit, the use of both types of matting was observed at numerous locations. The two most common and effective uses are the fortification of slope breakers and the coverage of certain steep slopes. Both geojute and coco mats are bio-degradable and will last only a limited number of years depending on soil and climate conditions. However, the use of these materials provides the temporary surface stabilisation necessary for vegetation to establish itself on slopes or slope breakers. Once the vegetation is established it promotes further, permanent soil/slope stability. There are numerous examples where the use of geojute and coco mats has successfully helped to achieve this goal. One such example is the slopes on the Krinka River on which the slope breakers were fortified by geojute and seeded (see Photo 11). Both slopes are now stable, with heavy vegetation completely covering the geojute.



Photo 11 Slopes of the R. Krinka showing dense vegetation on geojute fortified slope breakers

However, there are other locations where geojute and/or coco matting have been installed and not yet degraded, but nonetheless re-vegetation efforts have yet to be successful. We recommend that such locations be re-evaluated by Sakhalin Energy and that reseeded and the potential use of fertilizer be considered (where it is not prohibited). Examples of such locations include the RoW near KP182 (see Photo 12), which has side slopes that have been covered with geojute but nonetheless remain poorly vegetated.



Photo 12 Side slopes on the RoW at KP182

3.3.3 Geotextile

Sakhalin Energy has made extensive use of synthetic geotextiles, including the flat, filament made Enkamat type, and more robust cell-based geonets. Both types of geotextile are used by the company to stabilize slopes and side cuts of varied steepness, sometimes in conjunction with hydro-seeding. During the September 2012 monitoring visit good use of Enkamat type geotextile was observed at a range of locations, including the Tomi River south slope (KP 67) and the Khandusa River south slope (KP 22). One problem area was identified (at Fault Crossing 1) where cell based geonetting has failed on a side cut and is in need of repair (see Photo 13).



Photo 13 **Failure of geonetting at Fault Crossing 1**

3.3.4 Silt Fencing

A silt fence is a low (approximately 50 cm in height) barrier made of a specialty synthetic weave. It is designed to filter sediment-laden water and not as a structural barrier to sediment movement. By its nature the fencing is for temporary use. Silt fencing is mainly used during construction activities and in the post construction vegetation recovery period to protect water bodies. It is typically used above riverbanks and also on temporary roads and bridges above water bodies.

During the September 2012 monitoring visit it was observed that in the vast majority of locations where silt fencing was previously in use, riverbanks and adjacent slopes are successfully re-vegetated. In many cases the silt fencing has already been removed, but in some it is still visible within the vegetation. We recommend that Sakhalin Energy continues its on-going programme of conducting a site-specific evaluation of whether to continue the use of silt fencing. If the continuing presence of the silt fencing in a specific location is no longer needed, then it should be removed (e.g. see Photo 14). Conversely, if the silt fencing still proves useful it should be kept in good repair (e.g. see Photo 15 - note the sediment flow over the top of the gabions on the far bank which need to be controlled through repair of silt fences).



Photo 14 R. Tomi with good re-vegetation and redundant silt fence visible



Photo 15 Slopes adjacent to R. Kormovaya with repairs to silt fencing required

3.4 River Crossings

During the October 2011 site visit river crossing locations, including riverbank stabilisation, were found to be in good condition. The September 2012 site visit found that the condition of the river crossings continues to improve. The main factor that contributes to the continuing stability is the improving vegetation cover on the riverbanks themselves and on the adjacent RoW. In addition, a variety of bank protection measures (including riprap, reno

matting and gabion walls) were installed at many rivers during construction and on-going maintenance of these measures is of a generally good standard. These protection methods are discussed in turn below.

- **Riprap.** The continuing use and installation of heavy-duty rock at locations where previous smaller-scale riprap protection had been damaged during the spring thaw appears to be successful. Numerous good examples were identified during the site visit, including at the Pobedinka, Nitui, Pugachevo and Gornaya Rivers (see Annex F).
- **Reno Matting.** Observations during the September 2012 monitoring visit show that reno matting continues to be effective in protecting riverbanks. During the visit it was observed that continuing, year-on-year, improvements in the vegetation growth at many of the locations help to stabilise and anchor the matting to the banks. The success and survivability of reno matting is subject to the effectiveness of the initial placement and the quality of the construction. At most locations visited the initial reno matting is still in place and mostly in good condition. In a few instances it was observed that the leading corner of the matting on the upstream edge of the river crossing was damaged due to impact during high flow. It is recommended that this type of minor damage is monitored and evaluated by the maintenance crews.
- **Gabion Walls.** Gabion walls have been installed where required, mostly as riverbank protection in high energy rivers (e.g. the R. Pobedinka and R. Vstrechny – see Photo 16) and in many cases in conjunction with reno matting. At locations inspected during the September 2012 site visit the use of gabions on river crossings was seen to be successful, although in some instances recent repair works have been required; from visual inspection these repairs appear to have been undertaken to a good standard.



Photo 16 Gabion wall on the south bank of the R. Pobiedinka

3.5 Geotechnical Works

Sakhalin Energy and its contractor have a process in place to monitor the RoW and identify areas of concern. We understand that the monitoring process comprises weekly helicopter surveillance flights in the autumn and spring and bi-weekly in the winter and summer. Based on the surveillance flight findings (and supplemented by ground inspection as necessary), any identified issues are classified into Category 1, 2 or 3 as follows:

- Category 1 – includes mostly minor issues such as replacement of damaged or missing signage. Works in this category are conducted directly by GTT personnel.
- Category 2 – includes projects that require subcontractor support and at times plant/machinery but do not require specific or specialist engineering design. This type of work is supervised by GTT. Works in this category include repair of reno matting and slope breakers, and seeding etc.
- Category 3 – includes projects that require specific specialist engineering design and are more complex in nature than Category 2 projects. These works are currently entirely controlled by Sakhalin Energy. Works in this category include, inter alia: major overhaul of river bank protection, and repair of landslides and slope failures.

Evidence from visual inspection of a number of locations along the RoW during the September 2012 site visit, including areas where Categories 2 and 3 repairs have recently been completed, indicates that the process is generally working well. Although some areas were identified where geotechnical repairs are required these were minor in nature – e.g. side cuts at Fault Crossing 1 as described in Annex F.

3.6 RoW Access

Several RoW access roads were used during the recent visit and generally the roads lead to selected Block Valve Stations. The roads ranged in length from few hundred meters to several km and appear to be well constructed and with very minor signs of erosion. The majority of the roads used were protected by a locked barrier gate which limits access to sensitive facilities such as bloc valves and general access by the public to the RoW. Other access to the RoW is inherent where the pipeline RoW is crossing public roads/tracks such as forestry tracks. These road crossings provide unhindered access for the general public including fisherman and recreational motor vehicles. During the September 2012 site visit it was observed that fisherman were present at several river crossings and visible tracks of various vehicles entering and traveling on the RoW (including through rivers). It should be recognised that it is difficult/impossible for Sakhalin Energy to block access from road crossings, but it is nonetheless recommended that Sakhalin Energy continues to investigate methods to limit public access to the extent possible.

3.7 Summary

Overall, the September 2012 site visit revealed significant progress in reinstatement of the RoW. Particular improvement was noted on the re-vegetation of sandy areas and in most of the steep slopes (with some exceptions). In addition, maintenance of the pipeline RoW appears to be working successfully. Despite the generally very favourable impression gained from the site visit, areas for improvement were nonetheless identified and the most significant of these are summarised below:

- As noted above, re-vegetation of sandy and steep slopes has improved significantly. However, there are some particularly problematic slopes that due to their steepness and type of soil lithology require continuing efforts and possibly re-thinking of the re-vegetation methods in some cases.
- The presence of tree saplings along the RoW has increased substantially. There is a need for urgent control measures in order to meet RF legal requirements and to bring this issue under control.
- We note that maintaining the RoW in good condition is an on-going activity and we recommend that Sakhalin Energy continues to proactively manage the RoW through inspection and maintenance programs. Such an approach will ensure cost-effective maintenance of the RoW in the longer term.
- Over the last twelve months a number of 'dig-ups' have been undertaken along the RoW in order to inspect sections of the oil and gas pipelines. The need for such inspections is based on the results of routine intelligent PIG surveys. We understand from discussions with Sakhalin Energy personnel that there is currently no written procedure for how the dig-up areas are to be reinstated. We recommend that the Company develops such a procedure and that this should address methods to minimise disturbance, preserve top soil, and techniques to reinstate disturbed areas.
- Given that many sections of the RoW are becoming increasingly difficult to access for visual inspection, we also recommend that Sakhalin Energy makes increased use of aerial photography to assess the recovery of more inaccessible areas.
- Visual observations of wetland areas made during the site visit were consistent with the results of Sakhalin Energy's wetland monitoring report. In particular, for those wetland areas visited, our visual observations supported Sakhalin Energy's determination of whether future specialist monitoring of recovery is required. In cases where weaker recovery was identified, this could be attributed, at least in part, to the residual presence of imported materials (e.g. soils and stone imported during construction) and depressions left on the RoW following construction that have resulted in water ponding/waterlogging. We recognise that measures to remove the remaining imported materials and to infill depressions would require the use of heavy equipment, which in turn may result in damage to recovering areas as they access the wetland. Nonetheless, if continued poor rates of recovery are identified by future monitoring, then we recommend that such measures may need to be considered.

4 Monitoring of Other Project Assets

4.1 Pipeline Maintenance Depots

Five pipeline maintenance depots (PMDs) are located at intervals along the RoW, at Nogliki, OPF, Yasnoye, Gastello (adjacent to BS-2) and Sovetskoye. PMDs store and maintain oil spill response (OSR) equipment (boom, skimmers, vessels, etc.) and training exercises are regularly undertaken in their deployment. Other activities at the PMDs include vehicle washing and maintenance, vehicle refuelling, and oil, lubricant and chemical storage.

ENVIRON, and previously AEA, has inspected a number of PMDs during previous Project monitoring visits and identified no major concerns regarding the storage and maintenance of OSR equipment or bulk fuel storage at PMDs. However, concerns have been raised regarding the areas and practices for the storage of oil and lubricants. Finding S&GW.03 regarding deficiencies in adequate secondary containment at PMDs has been open since April 2010. This Finding contains a number of individual Actions which the Company has been working towards addressing.

ENVIRON visited four PMDs during the September 2012 monitoring visit, namely the two 'stand-alone' PMDs at Nogliki and Yasnoye, and the PMDs at Gastello and OPF. The buildings and facilities at these PMDs are of a standard design and so the majority of comments are common to all PMDs visited.

4.1.1 Secondary Containment

Secondary containment of oil drums at some PMDs has previously been found to be inadequate. Therefore, this issue was the primary focus of our monitoring at PMDs during this visit.

As part of the recent HSESAP revision, the corporate standard for *Soil and Groundwater Industrial Controls*⁴¹ now brings secondary containment requirements in line with IFC and other international standards. Rather than requiring a capacity of at least 150% of the total stored volume, the specification now requires the following controls in unbunded areas:

"The following requirements shall be observed in the design of secondary spill containment facilities.

1.1. For single tank or container (e.g. drum) intended for storage of fuel, lubricants and other hazardous liquids: the minimum capacity of a secondary spill containment facility must be at least 110 %⁴² of the tank holding capacity.

1.2. For two or more tanks and/or containers (e.g. drums) intended for storage of fuel, lubricants and other hazardous liquids: the minimum holding capacity of the secondary spill containment facility must be:

- at least 150 %⁴³ of the largest tank/container OR*

⁴¹ Document 1000-S-90-04-O-0004-00-E Appendix 5, Revision 02, valid from 31.11.11

⁴² 110% and 25% of holding capacity – is required as per Work Bank standards (http://www.ifc.org/ifcext/sustainability.nsf/Content/EHSGuidelines_Russian) and ([http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/gui_EHSGuidelines2007_GeneralEHS_Russian/\\$FILE/General+EHS+-+Russian+-+Final_.pdf](http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/gui_EHSGuidelines2007_GeneralEHS_Russian/$FILE/General+EHS+-+Russian+-+Final_.pdf)) .

⁴³ 150 % of holding capacity is determined as per best international (USA) practices <http://www.unidocs.org/hazmat/aboveground/un-083.html>.

- *at least 25 % of the total holding capacity of all the tanks and containers*
- *Hydraulically linked stand-alone tanks will be considered to be one large tank and fall under the requirement 1.1, that the secondary spill containment facility must have holding capacity at least 110 % of the total capacity of all such tanks."*

It is understood that Sakhalin Energy has dedicated a lot of effort towards providing adequate secondary containment of oil drums at PMDs, including the provision of awareness training and drip trays. While it is agreed that this issue is again much improved, it was noted that different PMDs had interpreted the requirements differently, with a variety of secondary containment/drip tray combinations noted (some adequate, others not) and one PMD unsure what the Company requirements were.

Nogliki PMD

At Nogliki PMD, small plastic gridded drip trays were used in combination with larger fabricated metal trays. While not deep enough to be used alone, the raised plastic grids make it easier to manoeuvre drums onto and off the secondary containment areas, and reduce the risk of structural damage and hence oil leaks. The larger metal trays, being deeper than the plastic grids, provide the storage capacity required for the volume of the largest oil drum stored within it.



Photo 17 Secondary containment of oil drums at Nogliki PMD

The plastic grids were also used alone for storing jerry cans and other small oil containers. This was considered a good solution for smaller containers.

In response to a previous ENVIRON recommendation, a detachable metal ramp was now noted adjacent to the oil storage building, which was reportedly used to facilitate the delivery of oil drums. Making this a permanent feature was considered but not taken forward as it was felt to be more of a hindrance than the step for non-delivery operations at the PMD. ENVIRON's additional recommendation to incorporate this into a permanent bunding solution for the storage area was also not considered practical at this time.

Used oil is stored in a large ISO container. Here, secondary containment is provided only by the plastic gridded drip trays. While these are suitable for empty drums containing oily

residues only, they are not appropriate for full drums. Further containment is required here (Photo 18).



Photo 18 Used oil drums on inadequate secondary containment, Nogliki

Yasnoye PMD

At Yasnoye PMD, most oil drums and containers were situated in adequate secondary containment. The most effective measure was the use of deep metal trays for multiple oil drums. As at Nogliki, shallower plastic gridded drip trays were used to good effect for multiple smaller volume containers.

However, a few drums were placed on plastic gridded drip trays alone, which were of insufficient volume for full drums. Additional secondary containment capacity is required, for example in conjunction with the larger metal trays as at Nogliki.



Photo 19 View of drums in large secondary containment tray



Photo 20 Small volume containers on plastic gridded drip trays

OPF PMD

Secondary containment of oil drums at the OPF PMD was found to be inadequate. The oil storage areas were covered in a 'carpet' of large plastic gridded drip trays. Drums were then stored on top of these, as in **Photo 21** below.



Photo 21 Use of large drip trays at the OPF PMD

Quite a number of drums were stored in this area, in some cases making full use of available space on the drip tray. Drip tray labels indicated the size and capacity of each drip tray. While six drums could be physically stored on a '6 drum workstation', the sump capacity was not sufficient to retain the volume required by the Sakhalin Energy *Soil and Groundwater Industrial Controls* specification. Used alone, these really are 'drip trays' rather than robust secondary containment measures. It is recommended that calculations are made to confirm

the maximum number of drums that may be stored upon them in accordance with the above specification. Sakhalin Energy has subsequently advised ENVIRON that the situation has since been addressed by removing surplus drums and relocating others within the PMD. The adequacy of the new lubricant storage arrangements will be the subject of future monitoring visits/audits.

In addition, drums were seen to straddle different drip trays, potentially allowing spilled oil to seep between the trays and directly onto the ground. This was brought to the attention of the PMD personnel and rectified immediately.

The plastic gridded drip trays were used to good effect under a shelving rack of smaller containers. However, in this instance the volume of material stored on the racks appeared to be greater than the volume of the drip trays. Care should be taken to ensure that the drip tray is appropriate for the volume of liquids stored on the racks.



Photo 22 Drip trays under shelving racks

It is understood that more plastic drip trays are on order for the OPF PMD. ENVIRON was not advised what the capacity of these will be (although it is believed that they are deeper), or whether they are single- or multiple-drum trays. Regardless, Sakhalin Energy must ensure that the capacity of all secondary containment measures is sufficient for the maximum volume of oil stored upon them, in accordance with the *Soil and Groundwater Industrial Controls* specification⁴⁴.

Only one example of no secondary containment was noted in the vehicle workshop area – a red wheeled oil pump was not stored on a drip tray. Oil residue could already be seen on the trolley base, indicating that the container, hose or connectors were already leaking. ENVIRON was advised that the pump was relocated following the visit; the new location will be reviewed during future monitoring visits/audits.

Secondary containment of lead-acid vehicle batteries in the vehicle workshop was appropriate.

⁴⁴ Sakhalin Energy has since advised that the new drip trays have been delivered and are available for use across the facility.

Gastello PMD and BS-2. Secondary containment at the Gastello PMD was similar to that found at the other PMDs. Lubricant and chemical storage was provided with back drip trays and these were generally not over-loaded, but nonetheless in some cases the level of secondary containment did not provide the 110% capacity of the stored liquid. However, it should be noted that in bulk fuel storage (principally diesel storage for site generators) was found to be of a good standard and included double skinned tanks fitted with leak alarms and a dedicated impermeable refuelling pad with and closed sump system.

Lubricant and chemical storage at the BS-2 site was found to be of a good standard, with dedicated storage facilities that provided appropriate secondary containment through impermeable flooring sloped away from the door entrance and provision of an internal drainage system that is routed to the site oil interceptor.

4.1.2 Material Safety Data Sheets and Labelling

The HSESAP requires a full Material Safety Data Sheet (MSDS), in Russian and English, to be available for all chemicals and oil products used at a site. These should ideally be filed in the storage area for easy reference in case of a spill or incident.

In general, MSDS were found in all oil, lubricant and chemical storage areas, for most materials stored within that area. Some MSDS were found to be in English or Russian only, and sometimes were located in the PMD offices rather than the storage area itself. A similar action was raised during the October 2011 visit to the LNG facility (under H&S.10), where the non-compliances were reportedly eliminated and preventative/assurance actions were undertaken.

In addition, a small number of containers were in unsuitable containers and inadequately labelled, one instance being a mineral water bottle being re-used as an oil container with an insufficient description of the contents or hazards.

It is therefore proposed that actions to undertake an asset-wide review of the above issues are added to Findings H&S.10 and H&S.11 to ensure continued compliance with HSESAP requirements.

4.1.3 Waste storage areas

Storage areas for general waste categories 4 and 5 were very clean and organised at all PMDs. All waste containers were covered and labelled in both Russian and English with the type of waste and hazard class. Inspection of the contents suggested that these were being used appropriately. At the OPF and Yasnoye some waste containers were stored under additional shelter, which is good practice.

Waste at Yasnoye is collected twice weekly and disposed at Nogliki landfill by a licensed waste transport company (ETNO).

Wastes of hazard classes 1 to 3 (e.g. mercury and florescent lamps) are stored in locked steel containers, in a secured storage cabin. At the OPF these wastes are stored (again in locked boxes in a secured ISO container) at the waste transit area rather than the PMD itself.

At all PMDs, oily rags and used oil filters are stored in clearly labelled containers in the workshop area. These containers were all noted to be placed on gridded plastic drip trays.

4.1.4 Drinking Water Supply – Yasnoye

Drinking water is supplied by two groundwater wells. The water is tested daily by the PMD system operator using a portable test kit and monthly by a professional laboratory (ANO SakhHydroMet). In addition, RPN receives these results via Sakhalin Energy and reviews them on a monthly basis. Reportedly, the water is of good quality.

4.1.5 Conclusions

The primary focus of our monitoring at PMDs was to assess the adequacy of secondary containment of oil and lubricant containers in storage areas. This has previously been an area of deficiency and non-compliance with the HSESAP, which the Company has been working towards addressing.

The secondary containment measures undertaken by the Company were found to be much improved since previous visits, although still variable at different PMDs. While the commonly-found plastic gridded drip trays are not deep enough to be used alone, they are still used to good effect in combination with a larger metal tray (such as at Nogliki) to achieve adequate secondary containment and also minimise the H&S risks arising from drum handling. Additional care is still required at all PMDs to monitor the volumes of liquid stored in secondary containment, to ensure drip trays are not overloaded.

Secondary containment provisions at Nogliki, Yasnoye and Gastello are therefore considered adequate with the exception of two isolated deficiencies. However, the OPF PMD only had access to shallow plastic drip trays which were not fit for purpose. It is understood that more plastic drip trays are on order, although we were not advised what the new capacities will be. Sakhalin Energy must ensure that the capacity of all secondary containment measures is sufficient for the maximum volume of oil stored upon them, in accordance with the *Soil and Groundwater Industrial Controls* specification. Sakhalin Energy has subsequently advised that the situation has since been addressed by removing or relocating surplus drums to comply with the HSESAP requirements. The adequacy of the new lubricant storage arrangements will be the subject of future monitoring visits/audits.

Isolated instances of missing MSDS or inadequate drum labelling were noted at some PMDs, although all personnel were aware of the correct procedures. Therefore, it is proposed that actions to undertake an asset-wide review of these issues are added to Findings H&S.10 and H&S.11 to ensure continued compliance with HSESAP requirements.

Other aspects of housekeeping were again good across the board, with wastes stored in appropriately lidded and labelled containers.

4.2 Onshore Processing Facility (OPF)

The OPF is located off the north eastern shore of Sakhalin, 7 km inland from the landfall of the offshore gas pipelines from the Lunskeye-A platform. The OPF processes the gas and condensate received from the Lunskeye field, and boosts it together with the oil and gas produced from the Piltun-Astokhskeye field (platforms PA-A and PA-B) through the onshore pipelines to the Prigorodnoye production complex.

ENVIRON undertook a short visit to the OPF during this monitoring visit, accompanied by the Lender group.

4.2.1 Flare Reduction Initiatives

During the April 2010 monitoring visit, the IEC was advised that ongoing operational difficulties with overhead compressors combined with shutdowns at LUN-A had resulted in the OPF using 80% of its permitted flaring limit during the first quarter of that year. At the time, it was expected that the OPF would exceed its annual flaring allowance and hence emissions limits for 2010. Monthly reports of cumulative flared volume were monitored closely for the remainder of the year. Actual flaring in 2010 closed at 87,907 m³, within the RTN limit of 102,739 m³.

A root cause analysis of the failures was carried out, resulting in an improved operating procedure and improved design of the compressor. These improvements have delivered two years' trouble free operation, which is reflected in the much reduced flaring statistics for 2011 and 2012. A summary of annual flared volumes is shown in Table 1.

Table 1 OPF flaring overview – 2010-2012

	Flared volumes at the OPF (m ³ per annum)		
	2010	2011	2012
RTN (permit) Limit	102,739	93,042	66,921
Sakhalin Energy forecast	60,652	24,742	54,469
Actual OPF flaring	87,907	29,832	16,970 *

* End-of-year latest estimate

Further flare reduction measures, including modification of the compressors enabling them to 'ride out' smaller slugs of liquid and being able to bring them on line earlier, have been implemented, and further improvements such as tightening of valves etc. are currently underway.

An increase in the reliability of the power plant has been brought about by an improved design of load shedding and protection systems. This has further reduced flaring at the OPF. At the time of the September 2012 visit, the OPF had achieved over 440 days of trouble free operation.

4.2.2 OPF Compression Project

High level information regarding the technical need for the front end gas compression project was provided while at the OPF, although more detailed technical discussions were held during office meetings in Yuzhno-Sakhalinsk and are described in Section 5.1.1.

The proposed gas compression site was seen during the visit, as well as proposed laydown areas within the current OPF boundary. Photos were taken of both areas as a record of the current, baseline condition of the land.

4.2.3 Process Water Treatment

The OPF has had continued issues with the performance of its process water treatment system. Previous MERPRO and TRIQUA systems for the removal of hydrocarbons and total suspended solids (TSS) have failed, and the OPF still remains without an effective, permanent treatment system. The current system uses simple filters for the removal of TSS, but requires the prior addition of freshwater to avoid exceeding the hydrocarbon discharge limits. Used cartridges cannot be recycled, unlike mono ethylene glycol (MEG) filters, and contractor disposal is costly. Filters are changed 1-2 times per month, making it an OPEX process. This is not ideal, but enables the Company to comply with its licences in the immediate term.

It was advised that both LUN-A trains have now been commissioned for produced water reinjection, thus reducing the volume of water coming to the OPF.

In parallel, the Company is looking to further understand the well capacity to determine whether discharge licences remain appropriate, particularly for iron.

Finding WATER.03 remains open, tracking the installation of a permanent treatment system.

4.2.4 OPF Project Camp

The OPF Project camp, previously used by OPF construction contractor BETS, is the only Sakhalin Energy camp not yet sold, disassembled or abandoned to State. The camp had been mothballed since BETS demobilisation following commissioning. The accommodation will now be re-used by the front-end gas compression workforce, and therefore disposal has been postponed until completion of construction activities (circa. 2017).

During 2011-12, significant work was undertaken to clean out the accommodation buildings, and remove and segregate the different types of wastes. At the time of this visit, piles of wood and metal wastes and approximately 20 shipping containers of general waste had been segregated and were awaiting disposal by Sakhalin Energy's nominated contractor. In addition, approximately 1800 tonnes of scrap metal had already been sold last year.

Ultimate disposal of this waste will be to either Nogliki or Korsakov landfill. While Nogliki landfill is significantly closer and currently has greater capacity going forward, other factors such as contractor proposals and the availability of porcelain grinders would also have an influence. Reportedly, the waste disposal contract was let during our visit although no further information has been provided in this regard.

The camp buildings are scheduled to be refurbished in 2013 ready for site preparation and early construction works later that year.

4.2.5 Other Environmental Initiatives

A number of environmental improvement initiatives were outlined, including:

- Pipeline wax suppression using a chemical inhibitor primarily assigned as a drag reducer. Since addition of the drag reducer, the amount of wax pigged from Piltun has also reduced significantly, from 200 kg to 30 kg every 10 days. This is a considerable reduction in waxy waste, which requires specialist disposal.
- Injection of waste lube oil into the crude oil export line. Up to ~15 barrels of lube oil and 'slop oil' from the OPF may be injected into the oil export line per month instead of going for commercial disposal. This is now in line with the Waste Management

Standards Comparison, which states that “during the operation phase of the Project, lube oil shall be blended with crude oil in a controlled manner”.

- Plastic bottle recycling. Plastic bottles are now compressed and baled on site before being sent for recycling in Yuzhno-Sakhalinsk. The asset manager also agreed that more could and should be done to reduce the amount of plastic bottles being used at the OPF and welcomed an action to investigate the feasibility of a potable water polishing systems to generate drinking water on-site rather than using bottled water (see Finding WASTE.15).
- Introduction of bicycles to reduce motor emissions on site. The introduction of tricycles is also planned to enable personnel to cycle with bags, tools and other equipment.

5 Project Update Discussions

5.1 Project Developments

5.1.1 OPF Compression Project

Sakhalin Energy provided ENVIRON and Lender representatives with an overview update of the OPF front end gas compression project during the site visit. The project entails the installation of additional inlet compression facilities to ensure that gas inlet pressure to the OPF is maintain as the Lunskoye field pressure naturally declines. Sakhalin Energy proposes to install the inlet compression facilities in two stages, the so-called 'Medium Pressure' (MP) and 'Low Pressure' (LP) phases of the Lunskoye field lifetime. The MP phase compression is due to be completed by 2017. The MP compression project requires the installation of gas turbines and associated facilities (including a new flare).

Sakhalin Energy is currently in the process of developing an EHSIA for the OPF Compression Project and has confirmed that, line with the requirements of the HSESAP, this will be provided to Lenders and the IEC for review. We have previously recommended (October 2011 site visit report) that the IEC should also be involved in both the scoping phase for the ESIA and the analysis of development alternatives in order to ensure that any issues are identified at an early stage. In this regard it is good to note that:

- ENVIRON has been given the opportunity to comment on both the terms of reference for the EHSIA development and also the proposed table of contents of the ESIA, and that our comments have been adopted by Sakhalin Energy.
- During the September 2012 site visit, Sakhalin Energy presented the findings of the initial alternatives analysis for discussion with ENVIRON and lenders. As described in ENVIRON's October 2011 site visit report, the selection of the main compression equipment, and specifically the size of the compressors, needed to take into full account the environmental considerations. At that time Sakhalin Energy was considering whether to use twelve 16 MW compressors or six 32 MW compressors. At the September 2012 site visit Sakhalin Energy confirmed that 32 MW compressors will be used (although the precise design and equipment manufacturer options are still being assessed). We note that this is likely to provide significant environmental benefits over the 16 MW compressor options as it is likely to:
 - Require a smaller physical footprint
 - Lead to relatively lower gaseous emissions
 - Provide greater reliability, in particular with regard to the likely levels of flaring required during operational trips.

Sakhalin Energy also provided an update on some of the potential environmental and social aspects of the selected site for the compression equipment, which included confirmation that:

- The location is outside of any designated water protection zones
- Baseline surveys indicate that there are no archaeological or cultural heritage objects within the site footprint
- The location does not impinge on the traditional lands of indigenous people

- The only identified ecological constraint in terms of the location is the presence of Red Book listed lichen on a limited area of less than 0.2 ha in the south-west part of the site. The Company has indicated that this area will be left undisturbed and protected from adjacent construction. While we acknowledge the importance of avoiding direct physical disturbance, we note that lichen are also susceptible to impacts from degraded air quality (the WHO, for example, sets specific air quality guidelines for the protection of lichen), and we recommend that the EHSIA includes specific consideration of the assessment and mitigation of air quality impacts on lichen.

5.1.2 2D Seismic Survey

An offshore 2D seismic survey and geotechnical investigation was planned to be undertaken in the Piltun field during 2012 as part of the preliminary investigation works required for the potential South Piltun Development (SPD) (see below). An ESIA for these survey works was previously produced by Sakhalin Energy and reviewed on behalf of Lenders by ENVIRON⁴⁵. A primary mitigation for the protection of WGW included in the ESIA was that the 2D seismic survey would be completed as early in the year as possible (prior to the arrival of peak numbers of WGW in the area), with a back-stop completion date set as the 15th July.

During the September 2012 site visit it was confirmed that the 2D seismic survey was completed by the 9th July 2012, thus meeting the primary mitigation requirements. Sakhalin Energy was stated that no environmental incidents were recorded during performance of the survey. We anticipate that the performance of the 2D seismic survey will be the subject of further discussion and review at the next meeting of the Western Gray Whale Advisory Panel (WGWAP), which is scheduled for November 2012.

5.1.3 South Piltun Development

Sakhalin Energy has previously notified Lenders that it is investigating how to recover hydrocarbons in the southern portion of the Piltun offshore field through the so-called South Piltun Development (SPD) project. The Company provided a summary update on the potential SPD. The Company has indicated that that it is currently considering four possible schedules for the SPD, with Financial Investment Decision (FID) and First Oil dates as follows:

1. FID 2015 / First Oil 2020
2. FID 2016 / First Oil 2021
3. FID 2017 / First Oil 2022
4. FID 2018 / First Oil 2023.

As previously reported (e.g. October 2011 Site Visit Report), Lenders and Sakhalin Energy have agreed that the SPD should be classified as a Project Expansion under the CTA/HSESAP. Under Project Expansion requirements an ESIA will need to be developed and provided to Lenders for review. In this regard it is good to note that Sakhalin Energy is fully aware of the need to develop the ESIA and that the Company has:

- Engaged specialist consultancy support to help manage the ESIA process from an early stage

⁴⁵ ENVIRON review note UK2217081\Sakhalin\N\3

- Confirmed that it will engage with both ENVIRON and the Lenders Independent Technical Consultant (ITC) in the early stages of the ESIA development process, including option selection.

During the site visit discussions, ENVIRON highlighted a number of specific issues that will require careful attention in the ESIA for the SPD. We recommend that Sakhalin Energy considers how it plans to address these as early in the ESIA process as possible:

- The potential ramifications of the adoption of the 2012 IFC Performance Standards on the assessment of the SPD. In particular, Performance Standard 6 (PS6) sets requirements to design for 'net gains' in critical habitats, and also requirements for the maintenance of the benefits of ecosystem services.
- The assessment of cumulative impacts on the WGW in terms of both potential simultaneous industrial activities by other operators in the region, and year-on-year cumulative impacts of all industrial activity in the region.
- Consideration of how early works, such as potential appraisal drilling, will be managed within the overall SPD ESIA process.

5.1.4 Sakhalin 3 Condensate Pipeline Tie-in Project

During the September 2012 site visit Sakhalin Energy provided a update on the status of the Sakhalin-3 Condensate Pipeline Tie-In Project, in which condensate from the Sakhalin-3 will be tied-in to the Sakhalin Energy oil pipeline for export via the Oil Export Terminal. The project involves the development of a link oil pipeline from Sakhalin 3's onshore processing facility that will tie-into Sakhalin Energy's oil export pipelines immediately south of the OPF. While we do not raise any specific environmental or social concerns with the tie-in project itself, we note that there may be reputational risks to the Company and Lenders in the event of adverse environmental impacts occurring in the relation to the construction and operation of the link pipeline by Sakhalin 3. In this regard we make the following recommendations:

- The Lenders' legal advisor is requested to provide an opinion on how, if at all, the Sakhalin 3 Condensate Pipeline Tie-in Project is covered under the requirements of the CTA.
- Sakhalin Energy provides available documentation on the tie-in project to ENVIRON for review, including the Lenders' ITC review of the tie-in and the OVOS produced by Sakhalin-3 for the link pipeline (if available).
- While recognising that Sakhalin Energy has limited control or influence over the practices of the Sakhalin-3 project, we nonetheless recommend that Sakhalin Energy considers methods for spreading of good environmental practices, building its own experiences of construction and operation in the specific area, to Sakhalin-3, for example through the performance of joint workshops.

5.1.5 General Aspects and Interactions

Sakhalin Energy is currently considering a number of potential or confirmed development projects, including the SPD, the Sakhalin-3 Condensate Pipeline Tie-In Project and a potential third train at the Prigorodnoye Production Complex. ENVIRON notes that there are possible inter-linkages between these potential developments, and we recommend that Sakhalin Energy considers:

- Whether, in combination, these developments may necessitate any additional expansions to existing Sakhalin Energy infrastructure

- How the inter-linkages need to be addressed in the development of the ESIA(s) for the potential developments.

5.2 Waste Management

5.2.1 Background

Sakhalin Energy currently disposes of its non-hazardous wastes to three third party landfill facilities, all of which were previously upgraded with (partial and/or whole) funding from Sakhalin Energy. These landfills are located in:

- Korsakov (which receives Company wastes produced from its assets in the south of the island, including the LNG/OET complex).
- Smirnykh (located in the central portion of the island, and which includes a facility for the receipt of oily contaminated soils/materials in the event of an oil spill)
- Nogliki (located in the north of the island and which receives Company waste from, *inter alia*, the OPF).

Prior to the site visit Sakhalin Energy had notified Lenders that it had become aware of potential issues in relation to non-hazardous waste management, and in particular:

- Concerns over the adequacy of the management of certain third-party landfills utilised by Sakhalin Energy for the disposal of non-hazardous wastes following recent changes of ownership and management of these facilities.
- The future landfill capacity of existing landfill facilities available to Sakhalin Energy.

These issues are described below.

5.2.2 Ownership and Management of Landfill Facilities

We understand that the Sakhalin Oblast is in the process of implementing changes to the ownership and operation of the landfill from municipal to regional control. As part of this process, the Ministry of Natural Resources (MNR) has identified one company, GUP Otkhody, to take over the operation of a number of landfills including the Smirnykh and Nogliki landfills. GUP Otkhody took over the operation of these landfills in 2011, and since then Sakhalin Energy has identified concerns over both the standard of operation of the landfills and the absence of required landfill title documentation required for its activities. These landfills were inspected by ENVIRON during the September 2012 site visit, and while no areas of major concerns in the operation of landfill were identified, areas for improvement were nonetheless noted, for example in relation to the application of daily cover.

The Korsakov landfill currently remains under the ownership of its original operator, OOO Noviy Gorod. Sakhalin Energy considers the operation of this landfill to be of a high standard. ENVIRON inspected the landfill during the site visit and we concur with this view. We were particularly impressed by the innovative approach to waste management displayed by the operators, which included:

- The development of a sheltered facility in which waste compaction and sorting/segregation equipment was being trialled (see Photo 23).
- Purchase of crushing/compacting equipment.
- Purchase of a medical waste incinerator (although it should be noted that this is not used for Sakhalin energy medical wastes).



Photo 23 Waste segregation facilities at the Korsakov landfill

However, the Korsakov landfill is nearing full capacity (see below), and once the landfill is closed any new landfill development in the south of the island would be placed under the ownership and operation of GUP Otkhody.

5.2.3 Remaining Capacity of Existing Landfills

Sakhalin Energy has been made aware of significant capacity restrictions at the Nogliki and Korsakov landfills as follows:

- **Nogliki.** The existing landfill at Nogliki was upgraded with funding from Sakhalin Energy and was originally predominately used for wastes generated by Sakhalin Energy and Exxon Neftigas. However, recently significant use of the landfill has been made by the Sakhalin 3 project and this has raised concerns that the capacity of the landfill is being used up at a higher rate than originally envisaged. Sakhalin Energy is currently endeavouring to ascertain from the operators the likely remaining lifetime of the landfill. This uncertainty represents a significant risk to Sakhalin Energy's current waste management plans for its northern facilities.
- **Korsakov.** The existing landfill cell at Korsakov was upgraded with funding from Sakhalin Energy. The landfill cell is used for both municipal wastes and waste from Sakhalin Energy. The level of municipal wastes being disposed to the landfill has been higher than originally expected and Sakhalin Energy waste currently represents less than 15% of the wastes being disposed at the facility. It is currently anticipated that the landfill will reach full capacity by mid-2013. This represents a major challenge to Sakhalin Energy's medium to long term waste management plans for its southerly facilities, including the LNG/OET complex, and also its offshore facilities (from which wastes are also currently disposed to the Korsakov landfill).

In addition, there have been delays in the re-approval by the local authorities of waste limits from the LNG and it is likely that this is due to concerns over the lack of remaining capacity at the Korsakov landfill.

5.2.4 The Way Forward

In response to the landfill capacity and management challenges described above, Sakhalin Energy is in the process of developing both short- and long-term future waste management strategies. The short-term strategies being considered by the Company are focused on waste streams currently disposed of to the Korsakov landfill and include:

- Tendering for services to collect wastes
- Segregation and incineration of wastes
- Temporary storage of waste (up to 6 months)

While generally supportive of these potential short-term solutions, we note that:

1. These strategies need to be confirmed and implemented as a matter of urgency, and as a minimum well in advance of the Korsakov landfill being closed.
2. Any use of incinerators would need to meet international emission standards.

A range of long-term options for waste management are also under development. These will be subject to on-going review by ENVIRON and we note that, given the likely extended lead time to the implementation of these strategies, it is important that detailed timeframes for investment decisions for the preferred options are developed as a matter of urgency.

5.3 Oil Spill Response

5.3.1 Oil Spill Response Plans

An update on progress made with oil spill preparedness was provided to Lenders during the site visit. In relation to the development of oil spill response plans (OSRP), the current status is summarised below:

- The main OSRPs have been developed by Sakhalin Energy and reviewed/agreed by ENVIRON and its oil spill specialist, PCCI. These plans comprise a corporate level plan (C-OSRP) and six asset-specific plans.
- Summary versions of the main OSRPs described above are also required to be developed and under the terms of the CTA these summary plans are to be made publicly available. At the time of the September 2012 site visit summary plans had been agreed by ENVIRON/PCCI for the C-OSRP and four out of the six asset plans. The two summary asset plans that have not been agreed by ENVIRON/PCCI are the summary OPF OSRP and the summary Lunskeye OSRP. It is ENVIRON's opinion that updating these summary plans from the agreed main plans should not represent a significant challenge. However, the completion of these summary plans should be undertaken as a matter of urgency in order to ensure that the Company brings itself back into compliance with its CTA commitments in this regard.
- The oil in ice manual is an important document that will describe Sakhalin Energy's specific approaches to responding to oil spill in ice conditions. This is still outstanding, but it is currently envisaged that this manual will be provided for review by ENVIRON/PCCI by the end of 2012. We note that agreement of this manual is important to ensure that Sakhalin Energy meets its CTA/HSESAP commitments and to ensure that it is best placed to respond to oil spill events that may occur in ice conditions (which represents a significant proportion of each year of operation).

5.3.2 Oil Spill Response Capability

In May 2012, ENVIRON, working with specialist oil spill consultancy firm PCCI, visited Sakhalin to assess the Company's oil spill response readiness. The visit was timed to include the observation of a major oil spill response exercise at the OPF and participate in a two-day workshop hosted by Sakhalin Energy. ENVIRON/PCCI also took the opportunity to discuss progress against earlier action items and visit a number of oil spill equipment depots and response facilities. The visit was considered both timely and productive on all fronts. The Executive Summary of the resulting report⁴⁶ is presented in Annex G.

We were informed that in 2013 Sakhalin Energy proposes to undertake:

- An audit of its oil spill response capabilities and facilities
- A major (Tier-3) offshore oil spill exercise.
- It was agreed during the site visit that ENVIRON/PCCI would participate in the above audit and exercise.

5.3.3 Oily contaminated storage facilities

A temporary storage and bio-treatment facility for oily contaminated waste was developed with funding from Sakhalin Energy at the Smirnykh landfill. During the September 2012 site visit we were informed by Sakhalin Energy that:

- Land allocation for the facility has not yet been granted
- ENVIRON had previously raised concerns as to whether the facility had the appropriate conditions for bioremediation of contaminated soils and Sakhalin Energy concurs with these concerns. Alternative treatment methods/facilities for oily contaminated soils have been investigated by the Company, and were discussed and agreed with the IEC in 2010. Sakhalin Energy advises that the proposed thermal desorption solution has now been implemented.

5.4 Other Aspects

5.4.1 Treated Water Discharges to Soakaways (Onshore Facilities)

A previously identified issue with the validity of valid environmental permits has been identified, which relates to water discharges to land. A number of water discharges (e.g. treated surface water runoff) to ground were originally permitted by the applicable Russian authority, RosTekhNadzor (RTN). We understand that responsibility for environmental permitting has now moved from RTN to RosPrirodNazor (RPN). However, RPN does not yet have a regulatory procedure in place to issue permits for these discharges. Sakhalin Energy's original RTN permits for discharge of water to land have now expired and applications to obtain new permits from RPN cannot be legally approved due to the current absence of an applicable regulatory procedure for these discharges. In the interim, Sakhalin Energy is continuing to operate in line with the previous (expired) permits issued by RTN, including reporting of monitoring results versus limits and payment of normal fees. We understand that RPN is aware that Sakhalin Energy continues to operate in this way, but that

⁴⁶ ENVIRON report UK22_17081 "Sakhalin Energy Oil Spill Response Readiness – Observations from the May 2012 Response Exercise and Workshop", Issue 2, 26 July 2012

they consider the Company should pay fivefold over-the-limit fees as there is currently no permit in place. Sakhalin Energy considers that the issue is not of their making and disputes that fivefold fees should be paid. Sakhalin Energy's dialogue with RPN to resolve this issue is on-going. We note that the on-going discharges are unchanged from the previously permitted discharges and that the issue is of a technical regulatory nature. Nonetheless, resolution of this issue is required and will be monitored by ENVIRON on behalf of Lenders (this issue has been added to the Findings Log as WATER.08).

In addition, discharges from the sewage treatment plant (STP) at BS-2 during the first 2 quarters of 2012 have shown exceedances of existing Maximum Permissible Discharges (MPD) for phosphate (in quarters 1 and 2) and nitrites (quarter 1 only). Sakhalin Energy has recognised these issues and is working to improve the performance of the STP. ENVIRON will monitoring progress against resolution of this non-compliance (this issue has been added to the Findings Log as WATER.09).

5.4.2 Offshore Sewage Treatment Plant Discharges

The sewage treatment plants installed on the PA-B and LUN-A platforms are designed to meet the performance criteria required under MARPOL 73/78. However, as previously reported (e.g. see Findings Log Item WATER.04) Russian limits for the Sea of Okhotsk are more stringent than the MARPOL standard with the result that Sakhalin Energy has been subject to payments for exceeding Russian limits measured at the point of discharge, most notably for ammonia, nitrites and phenols. It should be noted however that ambient levels in the receiving seawaters meet the RF requirements at the edge of the mixing zone. Sakhalin Energy is currently considering solutions to improve the effluent quality to achieve the Russian limits in wastewater discharge (at the point of discharge). This has included consideration of either upgrade or replacement of the sewage treatment plants. During the September 2012 site visit, Sakhalin Energy stated that replacement costs for the STP are in the region of \$15 million per platform. Given these costs and the fact that ambient concentrations in the seawater meet statutory limits, Sakhalin Energy is currently assessing other options to resolve this issue, including negotiation with the authorities to re-evaluate the emission limits. This issue will be subject to on-going review by ENVIRON.

5.4.3 Flaring

Under Russian Federal Government Decree #7, a 5% cap on the volume of associated gas that can be flared by oil and gas production facilities came in to effect from 1 January 2012 (this cap is applied to each individual facility). Compliance with this cap is likely to be challenging for Sakhalin Energy, particularly in relation to its offshore oil platforms (PA-A and PA-B). To July 2012, the percentage of associated gas flared at PA-A and PA-B are 11% and 8% respectively. Future performance of the Company against the flaring cap will need to be reviewed by ENVIRON.

5.4.4 Staffing

During the September 2012 site visit, Sakhalin Energy raised the issue of increased difficulty of retention and recruitment of suitably qualified staff. The general shortage of qualified local and Russian workers available on Sakhalin is largely due to the high demand for such skills on the island as Sakhalin's wider oil and gas industry continues to expand. This is reflected in Sakhalin Energy's HSE scorecard metrics for "Competence Gap Closure", which to date in 2012 is significantly below target. In terms of environmental and social performance ENVIRON has not identified any specific issues or reduction in performance to date, but the

future issue of retention and recruitment of suitably qualified and experience HSE staff will be the subject of on-going monitoring. We note that in order to maintain appropriate staff levels within its HSE function, increased usage of expatriate personnel may be required.

6 Summary Recommendations

A number of recommendations are made following the site visit that do not relate to specific areas of non-compliance (and hence are not included in the Findings Log – see Section 8), but which are made for the benefit of either Sakhalin Energy and/or Lenders to either improve performance or, in some cases, avoid future areas of non-compliance.

ID	Topic	Recommendation	Action Party
1	RoW	Tree growth - We recommend that an accelerated program be put in place to keep abreast with the annual growth of trees on the RoW. Alternative means of eradications should be evaluated, including pulling of roots for smaller samplings (as opposed to simply cutting above the roots) and ring-barking for large trees.	Sakhalin Energy
2		Erosion/sedimentation control – The difficulty in re-vegetating some of the steepest slopes along the RoW has been noted for several years in the Makarov hills area. Certain locations such as the Kormovaya River slopes are proving to be very difficult to re-vegetate. It is recommended that Sakhalin Energy continues to maintain erosion and drainage control in order to minimize sedimentation impacts on the receiving rivers. Given the difficulties encountered with the re-vegetation of some of these slopes, it is also recommended that Sakhalin Energy considers different techniques to ensure successful re-vegetation.	Sakhalin Energy
3		Silt fencing – We recommend that Sakhalin Energy continues its on-going program of conducting a site-specific evaluation of whether to continue the use of silt fencing. If the continuing presence of the silt fencing in a specific location is no longer needed, then it should be removed. Conversely, if the silt fencing still proves useful it should be kept in good repair.	Sakhalin Energy
4		Natural fibre matting – Geojute and/or coco matting have been used successfully in many areas, but in some localities re-vegetation efforts have yet to be successful (such as the RoW near KP182). We recommend that such locations be re-evaluated by Sakhalin Energy and that reseeded and the potential use of fertilizer be considered (where it is not prohibited).	Sakhalin Energy
5		Reno Matting – In some instances the leading corner of the matting on the upstream edge of the river crossing is damaged due to impact during high flow. It is recommended that this type of minor damage is monitored and evaluated by the maintenance crews.	Sakhalin Energy
6		RoW Access – Where the pipeline RoW crosses public roads/tracks there is unhindered access for the general public including fisherman and recreational motor vehicles. It is recognised that it is difficult/impossible for Sakhalin Energy to block access from road crossings, but it is	Sakhalin Energy

ID	Topic	Recommendation	Action Party
		nonetheless recommended that Sakhalin Energy continues to investigate methods to limit public access to the extent possible.	
7	RoW	Dig-ups – Over the last twelve months a number of ‘dig-ups’ have been undertaken along the RoW in order to inspect sections of the oil and gas pipelines. We understand that there is currently no written procedure for how the dig-up areas are to be reinstated. We recommend that the Company develops such a procedure and that this should address methods to minimise disturbance, preserve top soil, and techniques to reinstate disturbed areas.	Sakhalin Energy
8		Aerial photography – Given that many sections of the RoW are becoming increasingly difficult to access for visual inspection, we also recommend that Sakhalin Energy makes increased use of aerial photography to assess the recovery of more inaccessible areas.	Sakhalin Energy
9		General inspection/maintenance – We recommend that Sakhalin Energy continues to proactively manage the RoW through inspection and maintenance programs. Such an approach will ensure cost-effective maintenance of the RoW in the longer term.	Sakhalin Energy
10		For those wetland areas visited, our visual observations supported Sakhalin Energy’s determination of whether future specialist monitoring of recovery is required. In cases where weaker recovery was identified, this could be attributed, at least in part, to the residual presence of imported materials and depressions left on the RoW following construction that have resulted in water ponding/waterlogging. We recognise that measures to remove the remaining imported materials and to infill depressions would require the use of heavy equipment, which in turn may result in damage to recovering areas as they access the wetland. Nonetheless, if continued poor rates of recovery are identified by future monitoring, then we recommend that such measures may need to be considered.	Sakhalin Energy
11	OPF PMD	<p>Oil storage – A number of drums were stored in this area, in some cases making full use of available space on drip trays. Drip tray labels indicated the size and capacity of each drip tray. While six drums could be physically stored on a ‘6 drum workstation’, the sump capacity was not sufficient to retain the volume required by the Sakhalin Energy Soil and Groundwater Industrial Controls specification. Used alone, these do not constitute robust secondary containment measures. It is recommended that calculations are made to confirm the maximum number of drums that may be stored upon them in accordance with the above specification.</p> <p>Following our visit, secondary containment calculations since been undertaken and new guidance written to support PMD lubricant storage management personnel. We are also advised that surplus drums have been removed from</p>	Sakhalin Energy, ENVIRON (future monitoring)

ID	Topic	Recommendation	Action Party
		overloaded storage areas. The adequacy of these actions will be subject to future monitoring visits/audits.	
12	OPF Compression Project	Lichen air quality impacts – The only identified ecological constraint in terms of the location of is the presence of Red Book listed lichen on a limited area of less than 0.2ha in the south-west part of the site. The Company has indicated that this area will be left undisturbed and protected from adjacent construction. While we acknowledge the importance of avoiding direct physical disturbance, we note that lichen are also susceptible to impacts from degraded air quality (the WHO, for example, sets specific air quality guidelines for the protection of lichen), and we recommend that the ESIA includes specific consideration of the assessment and mitigation of air quality impacts on lichen.	Sakhalin Energy
13	SPD ESIA	2012 performance Standards – The potential ramifications of the adoption of the 2012 IFC Performance Standards on the assessment of the SPD should be addressed. In particular, Performance Standard 6 (PS6) sets requirements to design for ‘net gains’ in critical habitats, and also requirements for the maintenance of the benefits of ecosystem services.	Sakhalin Energy
14		Cumulative impacts – The assessment of cumulative impacts on the WGW should be assessed in terms of both potential simultaneous industrial activities by other operators in the region, and year-on-year cumulative impacts of all industrial activity in the region.	Sakhalin Energy
15		Early works – The ESIA should include consideration of how early works, such as potential appraisal drilling, will be managed within the overall SPD ESIA process.	Sakhalin Energy
16	Sakhalin 3 Condensate Pipeline Tie-in Project	CTA requirements – We recommend that the Lenders’ legal advisor is requested to provide an opinion on how, if at all, the Sakhalin 3 Condensate Pipeline Tie-in Project is covered under the requirements of the CTA.	ENVIRON/ Lenders
17		Good environmental practice – While recognising that Sakhalin Energy has limited control or influence over the practices of the Sakhalin-3 project, we nonetheless recommend that Sakhalin Energy considers methods for spreading of good environmental practices, building its own experiences of construction and operation in the specific area, to Sakhalin 3, for example through the performance of joint workshops.	Sakhalin Energy
18	Project Developments – General ESIA aspects	Development inter-linkages – Sakhalin Energy is currently considering a number of potential or confirmed development projects, including the SPD, the Sakhalin-3 Condensate Pipeline Tie-In Project and a potential third train at the Prigorodnoye Production Complex. There are possible inter-linkages between these potential developments, and we recommend that Sakhalin Energy considers: <ul style="list-style-type: none"> • Whether, in combination, these developments may necessitate any additional expansions to existing 	Sakhalin Energy

ID	Topic	Recommendation	Action Party
		Sakhalin Energy infrastructure <ul style="list-style-type: none"> • How the inter-linkages need to be addressed in the development of the ESIA(s) for the potential developments. 	
19	Waste Management	Waste management strategies – In response to landfill capacity and management challenges, Sakhalin Energy is in the process of developing both short- and long-term future waste management strategies. While generally supportive of these potential short-term solutions (which include consideration of incineration), we recommend that: <ul style="list-style-type: none"> • These strategies are confirmed and implemented as a matter of urgency, and as a minimum well in advance of the Korsakov landfill being closed. • Any use of incinerators would need to meet international emission standards 	Sakhalin Energy
20		Long term waste management options – A range of long-term options for waste management are under development. Given the likely extended lead time to the implementation of these strategies, it is important that detailed timeframes for investment decisions for the preferred options are developed as a matter of urgency.	Sakhalin Energy
21	Staffing	We note that in order to maintain appropriate staff levels within its HSE function, increased usage of expatriate personnel may be required.	Sakhalin Energy
22	Social performance controls	Social impact monitoring. For any new long-term construction activities the monitoring of social impact will need to remain among the key tools for tracking the resultant community effects, with the frequency and depth of monitoring activities to be commensurate with the scale of a potential impact.	Sakhalin Energy
		Social impact/contractor performance monitoring. It is recommended that staff of the Social Performance Team (and the Social Assessment Group, in particular) as well as the Community Liaison Organisation continue to have access to the Project assets, including those operated by the contractors, on an as required basis to ensure the effective coverage of the social compliance component of the monitoring and the effective delivery of requisite training,	Sakhalin Energy
23		Public opinion surveys. It is recommended that any other new locations that can potentially be impacted by Project expansion/construction activities in the future should be covered by the public opinion surveys in due course.	Sakhalin Energy
24		Contractor training. It is recommended that specific efforts are placed on ensuring that all new contractors involved in new construction activities receive rigorous training in the Company's approach to social management, especially in cases where new contractors have not been previously exposed to such standards of performance. For the purposes of monitoring of contractor performance during	Sakhalin Energy

ID	Topic	Recommendation	Action Party
		future major construction activities, the relevant reporting requirements may also need to be re-introduced for the new contractors, either based on the contractor performance check-lists that were previously in place or on the basis of the existing Social Performance Manual.	
25		Fishing, Hunting and Gathering. It is recommended that the Company will re-enforce 'The Fishing, Hunting and Gathering Policy during Construction' for any future construction works associated with the Project.	Sakhalin Energy
26		Cultural heritage baseline. During the site ENVIRON recommended that the availability of the cultural heritage baseline data should be re-confirmed for the site allocated for construction of the OPF Compression Project. Sakhalin Energy has subsequently provided such re-confirmation.	Sakhalin Energy
27	Human Rights Policy and Code of Conduct	We recommend that the newly adopted Human Rights Policy and the updated Code of Conduct should be integrated within the existing training procedure, both internally and in relation to the Project's contractors, including the providers of the security service. Inclusion of the conformity with or endorsement of the Sakhalin Energy Human Rights Policy principles as an obligation in the contractual agreements can also be adopted as a proactive way of contractor management.	Sakhalin Energy
28	Public Consultation	We recommend that an exit questionnaire should continue to be administered at the end of regular public meetings to collect participants' feedback on the quality and clarity of the information presented to gauge the level of audience's understanding of the subjects discussed.	Sakhalin Energy
28a	Public Consultation	We recommend that the format of the information conveyed during public consultations continue to be tailored to the target audience, with Company's technical specialists being available to provide clarifications as necessary.	Sakhalin Energy
28b	Public Meetings	We recommend that that the Company continues to optimise the timing of the public meetings to maximise the possibilities for residents' attendance, i.e. by selecting days and hours that would allow the greatest possible number of community members to participate.	Sakhalin Energy
29	Dacha Complaint	IEC&LM Air quality monitoring. We note that NO ₂ air quality monitoring is based on 20-minute average data, and on the basis of the reported NO ₂ levels it is not possible to fully confirm that project standards for other time-averaging periods (e.g. 24-hour or annual averages) are met and we recommend that further analysis is required to confirm this. Sakhalin Energy has subsequently provided annual average concentrations of NO ₂ , statistically calculated from 20-minute average data, and which are within the WHO and RF standards. ENVIRON is in the process of reviewing these data.	Sakhalin Energy, ENVIRON (to complete review)
30		IEC&LM Noise monitoring. Noise monitoring is undertaken quarterly as part of the IEC&LM programme at a number of	Sakhalin Energy

ID	Topic	Recommendation	Action Party
		locations around the SPZ. However, we note that in some quarterly periods only night time noise monitoring has been undertaken. We are advised that day and night time noise monitoring is included in Sanitary Monitoring programme (not as part of IECM) and is conducted once a year, however it is our recommendation that both day and night time noise monitoring is undertaken each quarter as part of the IEC&LM programme.	
31		QoL and IEC&LM Noise Monitoring, in order to better understand whether monitored noise elevations are due to the noise emissions from the Prigorodnoye Production Complex or from other localised non-project related sources. We understand that improvements have been made to the monitoring protocols to ensure any noise exceedance can be robustly investigated to determine the source of the noise elevation. This has apparently taken the form of manned noise observations with written records of the noise environment throughout the monitoring period. However, on the basis of the information provided to date it is not possible for ENVIRON to fully determine the adequacy of this approach and we recommend that ENVIRON reviews the protocols in detail during the next IEC site visit.	ENVIRON
32		QoL Monitoring. We recommend that further, robust air quality and noise monitoring at the Dacha plots should be undertaken during all flaring activities, whenever possible, in order to fully confirm the effects of flaring events on air quality and noise levels at the dacha community.	Sakhalin Energy
33		Dissemination of SPZ materials. The materials related to the SPZ substantiation for the Prigorodnoye Production Complex should be made available to the Dacha community, either directly or via the Company's Information Centre in Korsakov. Given the considerable volume and technical complexity of such materials that were prepared by the specialised institute, this information could be presented in a format of a non-technical summary or an explanatory note, to aid the understanding by readers with no special technical knowledge.	Sakhalin Energy
34		Consultation on Emergency Planning. The Company should consider arranging an additional information session specifically with the Dacha community to explain the emergency prevention and response system at the Prigorodnoye Production Complex, including organising a site tour if requested.	Sakhalin Energy

ID	Topic	Recommendation	Action Party
35		Dacha social investment/assistance programmes. Sakhalin Energy to consider any projects or means for social investment/assistance for the Dacha community. The Company has advised that it is willing to consider any projects within the framework of existing partnerships such as the Korsakov Sustainable Development Partnership Council, which consists of Company representatives and Korsakov stakeholders.	Sakhalin Energy
36	Northern GTT Security.	In order to allay local concerns, we recommend that information on the security arrangements at the Northern GTT are reiterated to the community as part of the next round of public meetings.	Sakhalin Energy
37	Contractor Code of Conduct	Code of Conduct. The Company also intends that the contractors will be encouraged to endorse the Sakhalin Energy Code of Conduct (its revised edition 2012) or to demonstrate that their own policies related to the personnel code of conduct are in line with the spirit of Sakhalin Energy's principles. ENVIRON recommends that the inclusion of this aspect as part of the contractual obligations would be the most effective way of such encouragement in practice.	Sakhalin Energy
38	Cultural Resources	Visual monitoring. It is recommended that annual internal visual monitoring of cultural resources continues to be conducted in addition to and in the interim period of the biannual monitoring by the external contractor. This will allow more prompt detection of any possible damage and the necessity for specific rescue/salvage measures, especially in cases that may require more urgent action than a two-yearly survey.	Sakhalin Energy

7 Data/Information Requests

A summary of information requests that were not available at the time of the site visit

ID	Data Request
1	We have requested that Sakhalin Energy provides available documentation on the Sakhalin-3 Condensate Pipeline Tie-In project to ENVIRON for review, including the Lenders' ITC review of the tie-in and the OVOS produced by Sakhalin-3 for the link pipeline (if available).

8 Findings Log

The IEC has previously documented all observations, issues and recommendations arising from its environmental monitoring visits in the subsequent reports. The resolution and/or close-out of these issues is tracked by ENVIRON and Sakhalin Energy through the Findings Log, which includes:

- a) All issues not closed out at the date of the previous report plus new Findings identified during that visit;
- b) All actions from the Rivers, Erosion and Wetlands Remedial Action Plan (RemAP) 2007 for completeness;
- c) HSE Issues⁴⁷ raised in regular reports to Lenders since the date of the last IEC visit (i.e. from October 2011 to date) and still having open actions;
- d) Actions arising from HSESAP revision process.

Only new, open and recently closed items are presented in the Findings Log.

Findings are listed in the **Findings** column, and have been categorised, put into chronological order (by date identified) and given a reference number (AIR.01, AIR.02 etc). Items have also been ranked according to Sakhalin Energy's Methodology⁴⁸, and where applicable, a reference to the relevant HSESAP, RemAP or other stakeholder commitment has been provided.

The **Action Progress Review** column shows recent progress made towards resolving or closing the outstanding items, and any RemAP status updates.

⁴⁷ Note that issues/incidents shall be reported to the Lenders and tracked via regular reports in accordance with the Loan Agreement, and are not separately included in this Findings Log. If a new RemAP is subsequently agreed in relation to any issue/incident, then this will be included in the Findings Log because it includes formally agreed actions. Where a RemAP is not required, the issue/incident should carry over to the next report until its status is shown as closed. Lenders can request additional information on any issue/incident at any time (as per Loan Agreement).

⁴⁸ Assessed as per Risk Assessment Matrix

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
AIR EMISSIONS AND ENERGY MANAGEMENT								
AIR.06	Low Amber	Closed	Jun 10	Air emissions – SPZ Solyanka River	0000-S-90-04-O-0257-00-E Appendix 1	A dacha was noted living very close to the pipeline by the Solyanka River. As per RF law, living accommodation is not permitted within an area designated as an SPZ.	<p>Action: Advise whether the dacha is within the SPZ for the pipeline, and what actions the Company has taken, if applicable.</p> <p>13.12.10: Sakhalin Energy has conducted the survey of the distance between the dacha and gas line axis. The survey has indicated that the dacha is within the pipelines exclusion zone. Sakhalin Energy will start the negotiation with the dacha owner regarding the removal of the dacha.</p> <p>19.7.11: Sakhalin Energy provided an update on resettlement issue: The Sakhalin Authority has proposed a bill that may potentially reduce the pipeline SPZ. This bill has passed the first reading but has not yet been ratified. If the SPZ is reduced, Sakhalin Energy will not need to resettle the owner. It was hoped that the bill would come into force in August 2011.</p> <p>28.9.11: The bill has not yet been ratified and Sakhalin Energy has taken no further action to contact or resettle the dacha owner. Sakhalin energy to provide update within six months (March 2012).</p> <p>14.03.12: Sakhalin Energy reported that the location of this dacha was in fact identified at the design stage and that the risks to the residence were controlled via pipeline design mitigation and that the location of the dacha has therefore been approved by the Russian Federation authorities. It is agreed that review of</p>	467964 – closed

⁴⁹ This Findings Log includes all Findings that were open at the date of the previous report (October 2011 in this case), plus newly identified findings.

⁵⁰ **Ref:** Finding number. **Rank:** RAM: Red / High Amber / Low Amber / Blue. **Status:** New (Finding raised during this visit), Open (Finding from a previous visit or review). **Date:** date of report or review in which the Finding was initially raised. **HSESAP Ref.:** Reference to relevant HSESAP document and requirement number, or stakeholder commitment. **Action Progress Review:** new information confirmed at this visit. **Action#:** Fountain database action reference number(s).

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							pipeline design aspects in this regard are not within the scope of the IEC and Lenders are referred to the Independent Technical Consultant for further details on this matter. Closed from the IEC perspective.	
AIR.07	Low Amber	Open	Oct 11 (PA-B audit)	Stack emission monitoring	Air Emissions and Energy Standard Rows 10 & 11 Doc. 0000-S-90- 04-O-0257-00-E App 4, Rev 02	To date there has been no measurement of emissions from either the compressor/generator stacks. Moreover there is no means to take such samples i.e. no sampling window for such monitoring. Sakhalin Energy is therefore unable to demonstrate that emissions from these sources meet the applicable Project standards.	Action: Rework MOC #3000-S-10-32-Y-0027 to develop full engineering solution for installation of sampling points on compressor/generator exhaust stacks. Ensure design reflects requirement of appropriate engineering standards i.e. GOST-R/ISO11042-1 "Exhaust gas emission. Measurement and evaluation".	612347
							Action: Implement suitable sampling points in exhaust ducts of Main Power Generators A-4001 A/B and gas exhaust compressor A-0401 to allow emission sampling using portable air emission tester.	612348

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
AIR.08	Low Amber	Open	Oct 11 (PA-B audit)	Flaring	Air Emissions and Energy Standard Doc. 0000-S-90- 04-O-0257-00-E App 1 Rev 03	Platform personnel were unable to present the Auditor with a written PA-B Flaring Strategy.	Action: Provide approved Flaring Strategy (either in isolation or as a pan asset document).	612350
AIR.09 ⁵¹	Low Amber	Open	Oct 11 (PA-B audit)	Workplace air quality	HSE monitoring and reporting standard table AC1.2 (0000-S- 90-04-O-0009- 00-E Appendix 6)	Whereas the actual monitored parameters broadly align with the HSESAP requirements, there are some deviations. In particular, the data reviewed does not include total VOCs, nor does it specify sampling at the HVAC intake/accommodation block. This Finding is related to Finding GEN.02, regarding revision of the HSE Monitoring Overview document.	Action: Refer to existing Action #467749- Review HSE Monitoring Overview (0000-S-90-04-O-0009-00-E Appendix 6). 28.08.12: HSE-MO has been revised by Sakhalin Energy and approved by Lenders Consultants, and Lenders.	612352

⁵¹ Referenced as AIR.10 in the September 2011 monitoring report

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WATER.04	Low Amber	Open	Oct 11 (PA-B audit)	Effluent quality – PA-B	Water Use Standard (Row 4 0000-S- 90-04-O-0255-00 E Appendix 5)	Monitoring results to date for 2011 for the chemical parameters show exceedences in the levels of ammonia nitrogen, nitrite (thought to be due to poor nitrification process caused by poor composition of bacteria species) and phenols (thought to be due to poor bioreactor aeration process).	Action: Provide update to Lenders on progress of PA-B and LUN-A STP solutions. 05.09.12: The current STP design does not allow for both aerobic and anaerobic compartments to fully break down nitrites. The cost of replacing each reactor is reportedly \$15 million, and additional hot work and safety risks must be considered. Sakhalin Energy is currently discussing relaxing compliance with the Authorities.	612355
WATER.05	Low Amber	Open	Oct 11 (PA-B audit)	Seawater analysis	HSE monitoring and reporting standard table AC1.1 (0000-S- 90-04-O-0009- 00-E Appendix 6)	Seawater and sediment samples are collected for analysis. However the parameters analysed do not match those specified in the HSESAP. In addition there are discrepancies with the HSESAP in terms of the number of monitoring stations for sediment analysis and the locations of control points. This Finding is related to Finding GEN.02, regarding revision of the HSE Monitoring Overview document.	Action: Refer to existing Action #467749- Review HSE Monitoring Overview (0000-S-90-04-O-0009-00-E Appendix 6). 28.08.12: HSE-MO has been revised by Sakhalin Energy and approved by Lenders Consultants, and Lenders.	612359
WATER.06	Low Amber	Open	Oct 11 (PA-B audit)	Hazardous materials	Soil and Groundwater Standard (0000-S-90-04- O-0018-00-E Appendix 5)	Drip trays have an 83 litre capacity for 200 litre drums does not meet the standard for Soil and Groundwater Industrial Controls, which states 'Where bunded areas are not practical, chemicals are stored over grated drip trays designed to hold and retain 150% stored volume'. This Finding is related to Finding S&GW.03, regarding secondary containment. (N.B. The IEC notes that the relevant standard in the HSESAP, which is included in the Soil & Groundwater section of the HSESAP, needs to be reviewed for its applicability to offshore platforms.)	Action: HSESAP revision to properly specify offshore secondary containment requirements. 05.06.12: The practical difficulties in finding appropriate secondary containment for use with limited floor space were discussed. Action: Sakhalin Energy to provide details of its platform topsides containment and surface water capture and treatment. Action: ENVIRON to forward any applicable Oil & Gas UK (formerly UKOOA) guidance for consideration.	612361

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WATER.07	Low Amber	Open	Oct 11 (LNG audit)	Water Use	0000-S-90-04-O- 0255-00-E Appendix 1	In July 2011 the Federal Service for Supervision of Natural Resources wrote to Sakhalin Energy (Ruling No. ЯШ - 01 - 005/2011), informing the company that it will be fined RUR 300,000 for breaches of permit requirements (license IOCX 00338 ВЭ) including over abstraction, use of faulty water flow meters, and inadequate water quality sampling.	<p>Action: Investigate the root cause of the non-compliance and implement appropriate corrective and preventative measures.</p> <p>13.02.12: Sakhalin Energy's Legal Dept reported that the fine levied by the authorities has been paid by the Company without a dispute, and all the instructions issued by the authorities to rectify the problem have been implemented. The completeness of rectification actions will need to be verified to enable the closure of this item.</p> <p>02.07.12: Sakhalin Energy provided information with regard to flow meters calibration and inspections. Copies of current calibration certificates were also provided.</p>	612363
WATER.08	Low Amber	New	Sept 12	Water use permit	Permit compliance	<p>An issue has been identified with the validity of valid environmental permits has been identified, which relates to water discharges to land. A number of water discharges (e.g. treated surface water runoff) to ground were originally permitted by the applicable Russian authority, RTN. Responsibility for environmental permitting has now moved from RTN to RPN. However, RPN does not yet have a regulatory procedure in place to issue permits for these discharges. Sakhalin Energy's original RTN permits for discharge of water to land have now expired and applications to obtain new permits from RPN cannot be legally approved due to the current absence of an applicable regulatory procedure for these discharges. In the interim, Sakhalin Energy is continuing to operate in line with the previous (expired) permits issued by RTN, including reporting of monitoring results versus limits and payment of normal fees. Resolution of this issue is required</p>		

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
WATER.09	Low Amber	New	Sept 12 (BS-2)	Water use permit	Permit compliance	Discharges from the sewage treatment plant (STP) at BS-2 during the first 2 quarters of 2012 have shown exceedances of existing Maximum Permissible Discharges (MPD) for phosphate (in quarters 1 and 2) and nitrites (quarter 1 only).		
WASTE MANAGEMENT								
WASTE.01	Blue	Open	Sep 07 (p 235, section 8.3.8)	Waste – oily waste handling	0000-S-90-04-O- 0258-00-E Appendix 9	Sakhalin Energy to develop the relevant facility for Oily waste storage. Sakhalin Energy to provide quarterly update on obtaining legal permits on operating the facility.	23.04.10: Sakhalin Energy reported that the relevant facility, Smirnykh Oily Waste Holding Area (OWHA), has been developed. Land allocation is an outstanding issue to be resolved by the local administration. A legal permit is required to operate facility thereafter. Action: Commission the Smirnykh Oily Waste Holding Area after resolution of the land allocation issue by the local administration.	467659
WASTE.06	Low Amber	Closed	Apr 10	Waste management	0000-S-90-04-O- 0258-00-E Appendix 1	Approximately 540 shipping containers, most of which are 40 feet in length, are located in various open fields at the OPF site. Reportedly, the containers were left by Project contractor BETS and are now the responsibility of Operations. Within the last year the OPF maintenance department has been systematically opening and surveying the containers, and classifying the contents and structural condition of the containers themselves to ascertain what content can be reused at the facility and what needs to be classified as waste and disposed of. To date 540 containers have been examined for lifting integrity and 488 examined for content.	Action: Complete examination and inventory of legacy waste containers at OPF. Prepare a plan (with timescales and end-points) for disposal of this waste. 28.7.11: Sakhalin Energy has completed the examination and inventory of legacy wastes containers and removal schedule was developed and is currently ongoing. Company provided OPF Clean-Up Plan for the details. 28.7.11: IEC requested an estimate of how much material may be re-used at the facility, the volume of waste for disposal (including the scrapped containers), and the ultimate end-points of this waste. 23.8.11: Sakhalin Energy provided Act showing estimated quantities for disposal. It is reportedly difficult to give specific details on quantities for re-use, however approximately 9000 line items have been identified by the team for introduction into OPF stock. Scrap is being prepared for removal. 1.9.11: IEC requested proposed end-points for the waste/scrap identified, as per agreed action. 16.1.12: Considering that full resolution of the waste	467663 – closed

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							disposal is likely to extend into 2013, IEC agreed to close this action and will supersede it with more specific follow-up actions.	
WASTE.08	High Amber	Closed	Apr 10	Landfills	0000-S-90-04-O-0258-00-E Appendices 5 & 9	<p>A review of the Waste Management Standards Comparison and Approved Waste Diversion and Disposal Facilities specification highlighted that some aspects of landfill engineering at the upgraded Smirnykh, Nogliki and Korsakov landfills might not comply with international standards (i.e. the Landfill Directive). This seemed to conflict with statements within these documents that the upgraded landfills met international standards. Risk Assessment reports for each of these facilities were prepared in 2004 and have been reviewed. The statement of full compliance with the European IPPC Directive (Directive 96/61/EC) and the landfill Directive (Directive 99/31/EC) cannot be justified from the contents of the Risk Assessment reports.</p> <p>It is recommended that Sakhalin Energy clearly confirm and clarify the relevant engineering measures that have been carried out at the upgraded landfills. These should be compared to the requirements of the Landfill Directive. Amendments should then be made to the appropriate parts of the Waste Management Standard, as necessary, to reflect the status of the landfills with respect to international standards.</p>	<p>Action: Review the Approved Waste Diversion and Disposal Facilities Specification (0000-S-90-04-O-0258-00-E Appendix 9) to ensure appropriate specification of landfill engineering measures within 12 months following Project Completion.</p> <p>18.11.11: Revised document provided by Sakhalin Energy</p> <p>02.04.12: Following an iterative review process, ENVIRON has no further comments on the revised document.</p>	467667 – closed

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WASTE.11	Low Amber	Closed	Oct 11 (LNG audit)	Waste Management	0000-S-90-04-O- 0258-00-E Appendix 10	Inadequate waste labelling was observed outside the canteen: <ul style="list-style-type: none"> • Labelling of four metal bins containing general waste was non-existent ; • A metal bin labelled for oily rags actually contained only cardboard; and • Waste cooking oil was stored in unlabelled drums. 	Action: Ensure all waste bins are appropriately labelled. It is understood that a request has already been submitted to the maintenance department for refurbishment of waste containers (cleaning, repainting, repair and labelling). 25.06.12: Waste containers were adequately labelled and all wastes are stored in the appropriate containers. Photos provided. 31.07.12: Finding closed	612365 – closed
WASTE.12	Blue	Closed	Oct 11 (LNG audit)	Waste Management	0000-S-90-04-O- 0258-00-E Appendix 10	Clause 7 of the Waste Containers, Labelling and Transport Specification, forming part of the Waste Management Standard requires that “waste containers shall be used for the protection of wastes from vermin and scavenging animals”. However, a general waste bin had no cover, so there is a risk of wind-blown litter generation or vermin gaining access to the waste.	Action: Ensure all general and food waste containers are protected from vermin. 25.06.12: Appropriate cover was provided for the containers. Photos provided. 31.07.12: Finding closed	612549 – closed
WASTE.13	Low Amber	Closed	Oct 11 (LNG audit)	Waste Management	0000-S-90-04-O- 0258-00-E Appendix 8	Clause 3k of the Approved Waste Storage and Accumulation Facilities Specification, forming part of the Waste Management Standard, requires “spill containment for liquid wastes such as oil and chemicals”. However, concrete staining indicates that leaks of cooking oil have occurred.	Action: Provide secondary containment for waste cooking oil tanks. 25.06.12: Waste cooking oil tanks were provided with secondary containment. Photos provided. 31.07.12: Finding closed	612551 – closed

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WASTE.14	Blue	Closed	Oct 11 (LNG audit)	Waste Management	0000-S-90-04-O- 0258-00-E Appendix 5	The Waste Management Standards Comparison, which is part of the Waste Management Standard states that “during the operation phase of the Project, lube oil shall be blended with crude oil in a controlled manner”. However, waste lube oil is actually sent for off-site recycling. It was reported that the Commercial Department will not allow waste lube oil to be blended into the crude system due to quality control concerns.	Action: Sakhalin Energy LNG to work with Commercial Department to investigate the feasibility of blending waste lube oil into the crude system. 02.09.12: Lube oil slip stream into crude oil export line permitted at the OPF as of August 2012. Up to ~15 barrels lube oil and ‘slop oil’ may be injected per month instead of commercial disposal. Follow up for Prigorodnoye production complex. 02.10.12: A feasibility study into the blending of spent lube oil with crude oil was undertaken by the LNG laboratory. Based on the results, spent lube oil can be mixed with crude in controlled concentrations without adverse effects on crude quality. A Management of Change was raised in accordance with the feasibility report. Finding closed.	612553 – closed
WASTE.15	Blue	Open	Oct 11 (LNG audit)	Waste Management	0000-S-90-04-O- 0258-00-E Appendix 7	Clause 2b of the Waste Minimisation, Diversion and Disposal Specification, which is part of the Waste Management Standard requires the company to “procure materials in bulk and in returnable containers”, and to “procure materials in refillable and returnable packaging” to minimise packaging waste. Room for improved performance was noted in the audit. For example, drinking water is currently supplied to staff in 500ml plastic (non-returnable) bottles. It is recommended that consideration is given to alternative water supplies to avoid generation of waste plastic. Options include: <ul style="list-style-type: none"> • Potable water supply (which meets WHO drinking water standards); or • Refillable water cooler systems. Waste avoidance is a better option in the waste management hierarchy than recycling or disposal.	Action: Investigate opportunities to avoid the use of disposable drinking water bottles. Ideally this should be investigated as part of a wider, systematic waste minimisation/resource efficiency initiative. 02.09.12: Issue discussed at the OPF. Asset manager to action an investigation into options for a water polishing system to generate potable water on-site, rather than using bottled water.	618501

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WASTE.16	Blue	Open	Oct 11 (LNG audit)	Waste Management	0000-S-90-04-O- 0258-00-E Appendix 7	Clause 5c of the Waste Minimisation, Diversion and Disposal Specification, which is part of the Waste Management Standard, requires certain wastes (including plastic and paper) to be diverted to recycling where practicable. Waste paper and waste plastic is segregated at source for recycling. Sakhalin Energy has not yet signed contracts with recycling companies so this material is currently mixed with general waste before off-site disposal. However, it is understood that recycling companies have now been identified (two plastics recyclers on Sakhalin Island and a paper recycler on the mainland) and that arrangements will soon be in place to recycle this material.	Action: Conclude the contracts with waste plastic and paper recyclers as soon as possible and investigate opportunities to recycle, reuse, reduce or avoid other waste streams. 02.09.12: At the OPF, plastic bottles are now compacted and baled on-site before being sent to a plastic recycler in Yuzhno-Sakhalinsk.	618503
SOIL AND GROUNDWATER								
S&GW.03	High Amber	Open	Apr 10	Secondary containment of drums containing fuel, oil and oil- contaminated materials	1000-S-90-04-O- 0004-00-E Appendix 5	Drums and other containers containing diesel, new and waste oil, and other oil-contaminated materials were noted to be without secondary containment at many Project facilities and all PMDs. This was of particular concern at Nogliki PMD since spills from the storage area could run directly to unmade ground.	Progress since September 2011: 7.12.11: Revised Soil & Groundwater Industrial Controls Specification (1000-S-90-04-O-00004-00-E) provided by Sakhalin Energy. New Appendix 5 agreed February 2012. 13.07.12: Action #516456 closed as Appendix 5 agreed by IEC and assessment of secondary containment at PMDs having been carried out by Sakhalin Energy (although it was agreed that this did not identify practicable immediate solutions for PMD secondary containment). ACTION #467675 REMAINS OPEN FOR PROVISION OF ADEQUATE SECONDARY CONTAINMENT AT PMDs. ENVIRON to review progress during Sept 12 monitoring visit. Sept 2012. Improvements identified (especially at Nogliki PMD). However further improvements required to ensure 110% secondary containment is provided in all cases.	467680 – Closed 467677 – Closed 467678 – Closed 467676 – Closed 467675 467679 516456 – Closed
S&GW.04	Low Amber	Closed	Jun 10	Secondary containment –	1000-S-90-04-O- 0004-00-E	Diesel day tanks have been observed at some BVS, for example at the Ai River (KP 511.5).	Action: Sakhalin Energy to provide secondary containment (e.g. drip trays) for all day tanks currently	467966 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
				'Day Tanks' at BVS	Appendix 5	These are reportedly necessary for the backup generator since the gas take-off generator is in repair. These require secondary containment. Even if the tanks themselves are double skinned, the ground is unprotected from leaks from the hoses/connectors.	<p>at BVS.</p> <p>16.6.11: Earthen berms constructed with impermeable membrane base. Photo evidence of examples provided.</p> <p>28.6.11: Earthen berms considered adequate in these circumstances. Action closed provided they are:</p> <ul style="list-style-type: none"> • Of sufficient depth to contain an entire tank volume • Well maintained, e.g. impermeable membrane regularly checked for wear/damage, and no gaps/damage to bund walls • Always cleared of snow in winter time, and other debris throughout the year. <p>Sept 11: Sakhalin Energy commented upon the high failure rate of the original BVS generators. The diesel day tanks and temporary generators are being used as old generators are removed and replaced with new models. Following reconsideration, this Finding is re-opened as the containment was not deemed adequate at many BVS (especially in northern sections of the pipeline).</p> <p>Action: To bring secondary containment for temporary diesel generators and tanks into compliance with the requirements of the Soil & Groundwater Industrial Controls Specification.</p> <p>21.09.12: In 2012 the upgrade of the CCTV generators at BVS sites has been completed along the whole ROW except 2 sites (Smirnykh and Dolinsk districts). Commissioning of the CCTV generators and accordingly dismantling of the old temporary diesel generators is planned to be fully completed by the end of November, 2012. On the 2 sites mentioned above secondary containment is organised in accordance with the requirements – hydro isolation and bunding able to hold 150% (photo provided). Dismantled diesel generators were removed from BVS sites to PMDs. After they had been inspected, it was revealed</p>	Re-opened 612881

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							<p>that most of them were no longer fit for purpose. 35 diesel generators were written-off and handed over to a special contractor (on August 9 and 15, 2012) for further utilisation.</p> <p>Several generators were left at PMDs as back-up in case of emergency and failure of the main equipment. Sept 2012 site visit. Situation much improved since 2011 and also now currently only 2 in use at BVSS.</p>	
S&GW.05	High Amber	Closed	Oct 11 (LNG audit)	Waste Management	0000-S-90-04-O- 0258-00-E Appendix 8	<p>There is a hole in the bund wall around the external waste storage area. At the time of the audit this area only contained empty drums but the facility is used to accommodate liquid wastes when Building 10 is full. There is a risk of contamination of the ground immediately outside the breached bund wall. This issue was noted in the last Independent Environmental Consultant (IEC) monitoring visit report, dated April 2010, and no action has been taken. This issue has therefore been raised as a Finding due to the "frequent exceedence of statutory or other prescribed limit".</p>	<p>Action: Immediately repair the bund wall.</p> <p>25.06.12: The bund wall was repaired. Photo provided. Finding closed.</p>	612556 - closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
S&GW.06	Low Amber	Closed	Oct 11 (LNG audit)	Storage of Hazardous Materials	0000-S-90-04-O- 0018-00-E Appendix 5	<p>Two above ground diesel storage tanks of 0.5 m³ capacity each are used in the effluent treatment plant construction site, serving two generators. Both had drip trays. However, the drips trays do not meet Clause 1b of the Soil and Groundwater Industrial Controls Specification, forming part of the Soil and Groundwater Standard , which requires that “where bunded areas are not practical, chemicals are stored over grated drip trays designed to hold and retain 150% stored volume”). Also, two holes were noted in one of the drip trays that appear to have been created to allow rainwater to drain away.</p> <p>This Finding is related to Finding S&GW.03, regarding secondary containment.</p>	<p>Action: Ensure that effective secondary containment is provided at the two diesel tanks, and work with the contractor to ensure that the root cause of this non-compliance is identified, and corrective actions taken.</p> <p>28.08.12: Diesel tanks in question now have over grated drip trays designed to hold and retain >150% of stored volume. Photos provided.</p> <p>28.08.12: Drip trays now appear adequate, assessed against recently revised S&GW Industrial Controls Specification (requiring 110% containment for a single container and 150% of largest/25% total stored volume for multiple containers). Sakhalin Energy also confirmed that the contractor was strongly advised not to drill holes in the drip trays.</p> <p>31.08.12: Action closed</p>	612561 – closed
S&GW.07	Low Amber	Closed	Oct 11 (LNG audit)	Storage of Hazardous Materials	0000-S-90-04-O- 0018-00-E	<p>Five 205 litre drums and three smaller drums were noted outside C107 on hardstanding adjacent to gravel. No secondary containment was provided. The lack of secondary containment is non-compliant with Clause 1b of the Soil and Groundwater Industrial Controls Specification, forming part of the Soil and Groundwater Standard, which requires that “there shall be an appropriate use of bunded areas to provide spill containment of 110% of the largest stored vessel or double skinned tanks” and “where bunded areas are not practical, chemicals are stored over grated drip trays designed to hold and retain 150% stored volume”.</p> <p>This Finding is related to Finding S&GW.03, regarding secondary containment.</p>	<p>Action: Investigate the root cause of the non-compliance and implement appropriate corrective and preventative measures.</p> <p>Sakhalin Energy Action: Provide effective secondary containment for drums stored outside C107. Work with the contractor to ensure that the root cause of the non-compliance revealed during Lenders audit is identified, and corrective actions taken (provide report).</p> <p>18.09.12: All drums have been removed immediately photo provided). LNG team confirms that the contractors have been strongly advised on the requirements of the Soil and Groundwater Industrial Controls Specification with regard to secondary containment. Action closed.</p>	612566 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
LAND MANAGEMENT								
LAND.06	Low Amber	Closed	Aug 07	Land management – river monitoring	RemAP R2 item	<ol style="list-style-type: none"> 1) Identify the most critical rivers affected by non-compliances during the winter crossing(s) 2) Set up a post-construction monitoring programme (2008) 3) Execute a medium term monitoring programme (2008-2011) 4) Evaluate the results. <p>(Note that closure of this issue requires completion of 2011 monitoring, and presentation of all results and evaluation.)</p>	<p>Update since September 2011:</p> <p>May 12: 2008 – 2011 monitoring complete. Following review of the river benthic and hydrology strategy report, Action# 467684 can be closed. The IEC notes that future monitoring will be undertaken as per the local monitoring programmes, but this represents routine management activities and not a Finding.</p>	<p>467684 – closed</p> <p>467976 – closed</p> <p>467977 – closed</p>
LAND.07	Low Amber	Closed	Aug 07	Land management – remediation of river habitats	RemAP R3 item	<ol style="list-style-type: none"> 1) Obtain expert input and agreement with Russian authorities on remedial actions, if any. Identify remediation benchmarks and criteria that indicate successful remediation. 2) Execute remedial actions, if any. 	<p>May 10: Based on analysis of river environmental sampling and monitoring results, additional intervention is not indicated at this time. The RoW inspection programme shall be implemented as per new Finding in June report (LAND.14).</p> <p>Action: Based on evaluation of results of 2010 river environmental sampling and monitoring programme, determine whether any rivers remedial actions are required as per RemAP R3.1.</p> <p>18.06.12: Report has been provided to ENVIRON and approval was obtained. ENVIRON requested to include 4 rivers in the upcoming monitoring visit schedule (Leonidovka, Nitui, Gornaya and Lesnaya). Actions and Finding closed.</p>	<p>467687 – closed</p>

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LAND.09	High Amber	Open	Sep 07 (Table 6- 4 Item 6.24)	Land management – temporary equipment/ bridges	0000-S-90-04-O- 0254-00-E Appendix 8	Remove equipment bridges as soon as possible after permanent seeding.	<p>23.4.10: Sakhalin Energy reported that 15 temporary bridges are planned to be removed. Construction was still ongoing for 5 access roads. A survey is planned to identify and evaluate remaining temporary bridges.</p> <p>10.6.10: As per LAND.12, the Orkunie River bridge will be modified to be able to contain any spillage on bridge surface and thereby protect the river from pollution. Survey must be conducted to identify what is required to make it permanent. Appropriate authority approvals to be obtained as required.</p> <p>Action: Complete additional survey of temporary bridges. Identify bridges to be removed, and requirements for bridge upgrade where applicable. Provide updated plan for temporary bridge removal and permanent bridge upgrade.</p> <p>Action: Provide to Lenders six-monthly updates on the status of implementation of the plan for removal/upgrade of temporary bridges.</p> <p>Sept 12: Update – this action is still ongoing.</p>	<p>467691 – Closed</p> <p>467693 – Closed</p> <p>467972 – Closed</p> <p>467973 – Closed</p>

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
LAND.11	Low Amber	Open	Sep 08 (p 18)	Construction camps – Pipelines	0000-S-90-04-O-0259-00-E Appendix 1	<p>Detailed decommissioning plans are required for construction camps once the future disposal/ abandonment options are confirmed, including plans for the disposal of assets and materials and appropriate site investigation/remediation and to manage the termination of local employment. Guarantees must be in place to ensure camp emissions and effluents remain within legal limits.</p> <p>Sakhalin Energy to provide AEA with quarterly updates on current status of camp demobilisation/ decommissioning plans, including whether these will be sold or retained/mothballed by Sakhalin Energy.</p>	<p>Jan 10: Progress update provided.</p> <p>23.04.10: Detailed progress presentation provided to AEA in relation to pipeline construction camps.</p> <p>Action: Provide quarterly updates on decommissioning of temporary facilities (including Pipeline and Asset camps and other sites).</p> <p>Nov10: Sakhalin Energy provided AEA with updates on temporary facilities' decommissioning in Q3 and Q4 2010. AEA approved closure of 4 actions.</p> <p>July11: Sakhalin Energy provided AEA with updates on LNG camp decommissioning. AEA approved the closure of this action.</p> <p>25.6.12: Given Sakhalin Energy's current waste disposal issues, this Finding remains open until the OPF camp waste has been removed and disposed of. Expected completion is end September.</p> <p>02.09.12: OPF camp waste segregated and awaiting removal and disposal to landfill. Contractor reportedly now appointed. Expected completion date remains as above.</p>	<p>467695 – Closed</p> <p>467698 - Closed</p> <p>467699 – Closed</p> <p>467700 – Closed</p> <p>467701 - Closed</p> <p>467703 - Closed</p> <p>467696 - Closed</p> <p>467704 – Closed</p>
LAND.16	Low Amber	Open	Oct 2011	Land management – reinstatement of sandy and steep slopes	0000-S-90-04-O-0254-00-E Appendix 6	<p>Progress on re-vegetation of sandy and certain steep slopes remains slow and continued efforts on reinstatement are required. A number of recommendations to how biological reinstatement can be improved have been identified by the IEC in the October 2011 Site Visit report and these should be actioned by Sakhalin Energy.</p>	<p>Action: Incorporate IEC recommendations on biological reinstatement improvements into RoW plans.</p> <p>Action: Develop an Action Plan for sandy and steep slope re-vegetation</p>	612568
LAND.17	Low Amber	Open	Oct 2011	Tree growth on RoW	RF Requirement	<p>Significant tree growth was identified at numerous locations along the RoW, which is contrary to RF permit requirements. Sakhalin Energy needs to undertake a major tree control programme.</p>	<p>Action: Incorporate tree control into RoW maintenance programme and implement in 2012 season. This Finding requires ongoing implementation and is subject to annual review during Lenders' monitoring visits.</p> <p>Sept 2012 site visit. While maintenance activities were seen to be undertaken, further major efforts are required in order to get tree growth under control.</p>	612571

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LAND.18	Blue	Open	Oct 2011	Maintenance of permanent bridge	RF Requirement	The Project access roads also require a number of permanent bridges over rivers. The quality of the permanent bridges viewed during the site visit was mixed, and at some bridges (e.g. the access to BVS NOB24) maintenance works are required to install silt fencing to prevent sediment egress into the river.	Action: Install silt fencing to prevent sediment egress into the affected rivers. 05.09.12: Discussed during Sept 12 monitoring visit. Sakhalin Energy to provide details and photos of works undertaken.	612574
BIODIVERSITY								
BIODIV.02	Low Amber	Closed	Sep 07 (Table 1.2)	Biodiversity – induced access control	0000-S-90-04-O-0259-00-E Appendix 1	Sakhalin Energy to provide an induced access control document for AEA review. (N.B. Induced access refers to an increase in access to previously inaccessible/ difficult areas that has occurred as a result of the Project.)	09.04.10: Document provided by Sakhalin Energy. Finding closed. Oct 11: During the October 2011 site visit some evidence of this was identified at the River Khandusa, where geotextile netting (Enkamat) installed by the Company for surface stabilisation on the RoW was found to have been pulled up and used as impromptu netting across the river, presumably for illegal fishing during the salmon spawning season. We note that the River Khandusa is not only a salmon river, but is also thought to support the protected Sakhalin Taimen. We recommend that Sakhalin Energy investigates further methods for the control of induced access to sensitive rivers, especially those that may also support Taimen. 05.09.12: Discussed during Sept 12 monitoring visit. It is accepted that the Company has taken all reasonable actions to control induced access to rivers (locking gates to BVS, foot/helicopter patrol). No further preventative actions were identified. As a wider issue, it was agreed that the subject of poaching would be brought to the Biodiversity Group Forum and Taimen Research Programme. Action closed.	612847 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
BIODIV.05	High Amber	Closed	Sep 07 (p141)	Biodiversity – Wetlands remediation W3	RemAP W3, 0000-S-90-04-O- 0009-00-E Appendix 6	Complete remediation of wetlands as per RemAP scope W3, which is: <ol style="list-style-type: none"> 1) Assessment of immediate remediation works required. 2) Development of practical tools to be used by the construction team for wetland remediation upon completion of the construction activities. 3) Immediate remediation measures implemented (as determined on a site by site basis) by Sakhalin Energy Reinstatement and Environmental coordinators and carried out under their supervision. 4) Remediation Plan and Prioritisation list developed. 5) Remediation measures implemented under Reinstatement and Environmental Coordinators' supervision. 6) The need for post-construction remediation measures identified via inspection and monitoring 2008-2010 and advice sought from wetlands expert. Remediation measures implemented under Operations supervision. 	<p>23.04.10: Items 1-5 completed.</p> <p>Action: Based on evaluation of results of 2010 wetlands environmental sampling and monitoring programme, determine whether any wetlands remedial actions are required as per RemAP W3.6. [RemAP W3.6: The need for post-construction remediation measures identified via inspection and monitoring 2008-2010 and advice sought from wetlands expert. Remediation measures implemented under Operations supervision.]</p> <p>23.3.12: Based on 2010 wetlands monitoring results the recommendations were provided with regard to the remedial actions required on separate locations. Those remedial actions were included in the general plan of repair activities on the ROW for 2011 (numbers of locations 16, 19, 20, 33, 90). Report provided containing results of the remedial actions taken.</p> <p>19.4.12: Following iterative review and clarification of comments, final Report on Remedial Work at Pipeline/Wetland Crossings was accepted by ENVIRON. Closure of Finding agreed.</p>	467708 – closed
BIODIV.07	Low Amber	Open	Oct 2011	Biodiversity – Wetlands reinstatement W1	0000-S-90-04-O- 0259-00-E Appendix 4	In areas where project access roads have been retained (e.g. the access road to BVS NOB24) there is evidence that drainage channels/culverts under the road are disturbing wetland flows Inspection and maintenance of these roads is required.	<p>Action: Identify locations where access roads' drainage channels/culverts are disturbing wetlands flows and provide corrective action plan.</p> <p>05.09.12: Discussed during Sept 12 monitoring visit. Sakhalin Energy to provide details and photos of works undertaken.</p>	612849

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OIL SPILL RESPONSE								
OSR.05	High Amber	Closed	01/05/20 09 (p 27)	Oil Spill Response Plans	0000-S-90-04-O- 0014-00-E Appendix 15	Current versions of the OPF and Onshore Prigorodnoye plans assume 100% secondary containment 100% of the time and therefore do not contain measures for reacting to an incident in which a spill breaches the facility containment. International best practice requires this to be analysed in a worst-case scenario. AEA recommends the plans be revised to accommodate international best practice procedures.	<p>09.03.10: Sakhalin Energy agreed that the plans should be revised as indicated. However, the schedule for revision and associated regulatory review timelines make it impractical to complete this in the short term. Hence addenda will be prepared.</p> <p>Action: Review capabilities for response to loss of secondary containment on OPF and Onshore Prigorodnoye and document response arrangements in temporary internal addenda to the OSRPs.</p> <p>24.5.11: Addenda were developed for OPF and Onshore Prigorodnoye Oil Spill Response Plans, and provided to the IEC for review. They were not considered to meet industry best practice - Finding remains open.</p> <p>22.2.12: Instead of adding worst-case discharge scenarios at this time to the plans, Sakhalin Energy will conduct exercises in 2012 simulating: (1) the loss of oil from the On-shore Processing Facility during spring “break up,” where the oil escapes secondary containment; and (2) the loss of oil offsite from the Prigorodnoye onshore facility to the adjacent river. Sakhalin Energy also intends to conduct a Tier 3 exercise involving the pipeline and third party damage. Given the difficulties and restrictions Sakhalin Energy has encountered in changing their approved plans, the proposed approach of exercising for spill scenarios outside of secondary containment appears to be a viable way of ensuring that planning for response operations for such spills has been considered.</p> <p>Action #594732: Sakhalin Energy to conduct exercise in 2012 simulating the loss of oil from the On-shore Processing Facility during spring “break up”, where the oil escapes secondary containment.</p> <p>Action #594733: Conduct exercise in 2012 simulating the loss of oil offsite from the Prigorodnoye onshore</p>	<p>467712 - closed (moot)</p> <p>594732 – closed</p> <p>594733 – closed</p>

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							<p>facility to the adjacent river.</p> <p>28.06.12: The above exercises were conducted and reports provided.</p> <p>27.07.12: Subject to the exercise recommendations being implemented (including more challenging, robust oil spill scenarios in future, both in terms of volume and migration away from the facility to more difficult environments for response) , PCCI agrees to closure of Actions #594732 and #594733.</p>	
OSR.14	Low Amber	Open	Sep 09	Oil Spill Response – redacted/summary plans	0000-S-90-04-O-0014-00-E Appendix 15	<p>PCCI discussed the current asset-specific OSRPs, specifically where the OSRPs were considered to fall short of international best practice and standards; Sakhalin Energy concurred with PCCI’s suggestions, and planning for a potential breach of secondary containment would now go forward. Sakhalin Energy to publish redacted/summary OSR Plans as per PCCI’s recommendations.</p>	<p>09.03.10: Sakhalin Energy proposed to revise the redacted plans to include the information as recommended by PCCI (however of course we reserve the right to omit commercial, legal, and security-sensitive information):</p> <ul style="list-style-type: none"> • Primary, secondary and worst case oil spill risks • Discovery and notification process • Spill pathways, receptors (i.e. environmental, economic, cultural and historic resources), and sensitivities and priorities for protection • Sakhalin Energy response resources (personnel and equipment) and strategies for protection, recovery, disposal, and restoration and recovery of the environment • Sakhalin Energy readiness in terms of equipment maintenance, upgrade, compatibility with the operating environment, and also in terms of personnel qualifications and experience • Sakhalin Energy compliance with RF standards and industry best practice. <p>Also proposed to change the terminology from “redacted” to “summary” of plans as indicated in the attached Draft 3 specification. This was supported.</p> <p>Action: Update and republish Summary OSR Plans for Assets, as per item OSR.13. Provide to AEA/PCCI</p>	467739

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							<p>for review.</p> <p>Jan 2012: Sakhalin Energy provided six asset plan summaries for IEC review. Review comments on all six asset plans returned by March 2012.</p> <p>14.06.12: Revised plan summaries provided for comment.</p> <p>03.08.12: PCCI's review of Rev.3 of the six asset OSRP summaries was provided to the Company and Lenders. Four summaries were found to be fully adequate for publication. The OPF summary was considered only marginally adequate and Lunskeye not at all adequate. Sakhalin Energy will publish acceptable plan summaries, and provide revisions of OPF and Lunskeye summaries for further review.</p>	
OSR.15	Red	Open	Apr 10	Summary ER Standard	0000-S-90-04-O-0014-00-E Appendix 15	Sakhalin Energy has committed to publish a "Summary of the Corporate ER Standard in relation to oil spill preparedness and response".	<p>Action: Provide a draft "Summary of the Corporate ER Standard in relation to oil spill preparedness and response" for Lender comment.</p> <p>13.02.11: Sakhalin Energy provided a draft summary of the "Corporate ER Standard in relation to oil spill preparedness and response" for Lender comment.</p> <p>25.02.11: Action closed as review received.</p> <p>04.03.11: IEC provided feedback regarding the ER STO summary; it was not considered to adequately inform the public of the Company's oil spill risks, mitigation measures and response procedures. Sakhalin Energy to provide a revised summary to the IEC for further review.</p> <p>Oct11: Sakhalin Energy remains out of compliance with HSESAP requirements in relation to OSRP and in order to return to compliance it is now critical that as a matter of urgency Sakhalin Energy resolves to the satisfaction of ENVIRON/PCCI and Lenders:</p> <ul style="list-style-type: none"> The development of an overarching project oil spill plan (either in the form of a reinstated Corporate OSRP or an improved ER STO) 	<p>467741 – Closed</p> <p>594736 – Closed</p>

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							<ul style="list-style-type: none"> Finalisation of the OPF OSRP, the Prigorodnoye Onshore OSRP and the Oil in Ice Manual The public dissemination of all OSRP documentation as required under the HSESAP. <p>Action #594736: Sakhalin Energy will reinstate and update the Corporate OSRP and will provide both the update, and a summary of the update, of the plan to PCCI for review in 2012. The ER STO may be maintained as a company standard, but will not replace the Corporate OSRP. The summary will be published on Sakhalin Energy's public website in Russian, English and Japanese.</p> <p>09.07.12: The C-OSRP (0000-S-90-04-P-0076-00 effective in 2008) was 'polished' and reinstated internally. Evidence provided showing publication of the C-OSRP and the Livelink upload. Action #594736 closed.</p> <p>11.07.12: Revised C-OSRP summary provided for review.</p> <p>06.08.12: C-OSRP summary considered acceptable for publication. Sakhalin Energy to translate and publish. Finding OSR.15 may be closed when the document is published in all three languages.</p> <p>01.10.12: In accordance with article 4.8. of Schedule 8 of the CTA, the summary of the corporate ER standard in relation to oil spill preparedness and response (C-OSRP summary) was placed at the Sakhalin Energy website in Russian, English and Japanese.</p>	

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
OSR.17	Low Amber	Open	Oct 11 (Nogliki PMD)	Handling of oiled wildlife	General	Basic equipment for the treatment of oiled seabirds is located at the Nogliki PMD and this is reportedly for preliminary treatment of birds in the event of an oil spill prior to the arrival of full wildlife treatment equipment and trained personnel from Prigorodnoye. However, discussions with staff indicated that none of the responders at the Nogliki PMD had any training in how to handle or treat oiled wildlife. We recommend that in order to protect both human health and safety and the wellbeing of wildlife, all responders expected to provide preliminary treatment of oiled wildlife be provided with basic training.	Action: Provide oiled wildlife response training to PMD responders.	612851
OSR.18	Low Amber	Closed	Oct-11	OPF OSRP Approval	RF permit requirements	<p>An updated OPF OSRP issued in 2008 was approved by all the relevant Russian Federation (RF) authorities except the Emergencies Ministry (Federal EmerCom). Federal EmerCom has advised Sakhalin Energy that a number of amendments to the OPF OSRP are required before it can be approved.</p> <p>We understand that Sakhalin Energy disputes the legal basis for the above requirements from Federal EmerCom and that on the 6th September 2011 the Company submitted a Statement of Claim to Arbitrazh Court in Moscow challenging the inaction of Federal EmerCom in approving the revised OPF OSRP.</p>	<p>Oct11 Sakhalin Energy to provide Lenders with an update on outcome of legal action.</p> <p>28 .12.11: Subsequent to the site visit, Sakhalin Energy provided the following update to lenders and the IEC on this issue:</p> <p><i>“On October 14, 2011 EmerCom issued a letter of approval of the OPF OSRP. The approval is granted on condition that the Company should provide a number of documents which have been amended since the date of submitting the OPF OSRP for approval. The Company does have the documents in its possession and is planning to submit them shortly. EmerCom has also requested that the Company conducts a drill to test its abilities in Oil Spill Response, however this should not affect the validity of the OPF OSRP approval.</i></p> <p><i>Taking into account that EmerCom voluntarily satisfied the Company’s claim and approved the OPF OSRP before the court hearings, the Company filed a motion to the Court with request to renounce the claim in connection with its voluntary satisfaction by the EmerCom.</i></p>	612853 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							<p><i>On October 19th, 2011 the court accepted Company's petition and terminated the court proceedings."</i></p> <p>Action closed, although the IEC will review progress on fulfilment of the EmerCom conditions.</p>	
OSR.19	High Amber	Open	October 2011	OSRP Exercises	0000-S-90-04-O-0014-00-E Appendix 15	Discussions with Sakhalin Energy's OSR personnel also indicated that major oil spill exercises incorporating third party organisation (either field or desk-based) had not been undertaken. The involvement of third parties in major oil spill exercises is vital if major exercises are to be adequately undertaken and we strongly recommend that such an exercise is planned and implemented in the near future.	Action: Conduct a Tier 3 exercise involving the pipeline and third party damage (joint exercise with Sakhalin Oblast Counter Terrorism Committee). Scheduled May 2012.	594734
OSR.20	Low Amber	Closed	Oct-11 (OSR visit)	OSRP Exercises	0000-S-90-04-O-0014-00-E Appendix 15	It is recommended that additional procedures be developed to ensure that the boom is deployed on or near the centerline of the stern to reduce the potential for accidental tripping over the permanent berms on the stern deck by the inflation crew.	<p>Action: Communicate in Toolbox Talk prior to OSR exercises that boom is to be deployed on or near the centerline of the stern to reduce the potential for accidental tripping over the permanent berms on the stern deck by the inflation crew.</p> <p>04.05.12 Tool Box talk was conducted (page 3) and the consequent OSR exercise.</p> <p>25.06.12: Finding closed</p>	594747 – closed

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OSR.21	Low Amber	Closed	Oct-11 (OSR visit)	OSRP Exercises	0000-S-90-04-O-0014-00-E Appendix 15	It is recommended that some measure be taken to prevent chafing of the skimmer hydraulic and discharge hoses when deployed. Possible measures could include either the use of chafing gear to prevent contact between the hoses and the turnbuckle attachment for the boom or movement of the turnbuckle attachment point away from the skimmer deployment location such that this problem is eliminated.	<p>Action: Provide chafing gear and change the point of spreader beam fastening to prevent contact between the hoses and the turnbuckle attachment for the boom.</p> <p>04.05.12: Evidence provided to show how this has been addressed</p> <p>25.06.12: The soft pad fastened to vessel gunnels is considered only a temporary fix or improvement to the chafing problems; longer term, we recommend that Sakhalin Energy considers a "hose saddle" such that chafing can be prevented and the sharp angle of the skimmer hoses can be reduced to prevent them becoming pinched.</p> <p>17.07.12: Sakhalin Energy does not agree with PCCI comments; this method is used regularly in practice and it is deemed effective. PCCI to consider this and revert.</p> <p>28.08.12: PCCI considered SEIC comments and also consulted other colleagues at PCCI. This approach has been observed before, and while it is not considered to be the best approach or state-of-the-art, PCCI considers Sakhalin Energy's solution to be marginally adequate. PCCI offers to forward examples of good practice using a hose saddle. Action closed.</p>	594748 – closed
OSR.22	Low Amber	Closed	Oct-11 (OSR visit)	OSRP Exercises	0000-S-90-04-O-0014-00-E Appendix 15	It is recommended that a metal hook (similar to the hook that was used by deck personnel during the deployment and recovery of the heavy-duty boom) be used anytime personnel must retrieve the crane cable. This will enable the crewmember to retrieve the crane cable without being located right at the gunnel, thereby reducing the risk of falling overboard while trying to reach for the cable.	<p>Action: Communicate in Toolbox Talk prior to OSR exercises to use a metal hook (similar to the hook that was used by deck personnel during the deployment and recovery of the heavy-duty boom) anytime personnel must retrieve the crane cable. This will enable the crewmember to retrieve the crane cable without being located right at the gunnel, thereby reducing the risk of falling overboard while trying to reach for the cable.</p> <p>04.05.12: Evidence provided to show how this has been addressed</p> <p>25.06.12: Finding closed</p>	594750 – closed

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OSR.23	Low Amber	Closed	Oct-11 (OSR visit)	OSRP Exercises	0000-S-90-04-O-0014-00-E Appendix 15	This exercise deployed operational, emergency response boom. Should there have been an accident that damaged this operational equipment, the capabilities of this vessel would have been reduced until the boom had either been repaired or replaced. As such, it is recommended to obtain training boom that can be used in these exercises in vice of the operational emergency boom.	<p>Action: Every STBV is equipped with OSR Vessel Kit which is included 600 m of Heavy-duty oil boom (HDB) 200 m on each reel (total 3 reels). Due to the requirement to maintain the reel and boom which is possible only during the OSR training, from 2012 every reel and every boom one by one shall be used during the year in OSR trainings in summer season.</p> <p>04.05.12: Evidence provided to show how this has been addressed</p> <p>25.06.12: Finding closed</p>	594751 – closed
OSR.24	Low Amber	Closed	Oct-11 (OSR visit)	OSRP Exercises	0000-S-90-04-O-0014-00-E Appendix 15	It is recommended that additional oil spill operational response training be developed and provided to all responders. This training should include discussion on how oil behaves in the environment, including spreading and weathering characteristics. This would enable the vessel response personnel to better estimate the amount of oil that they observe on the water.	<p>Action #594752: Vessel crew is NERT and has the classroom and hands-on trainings every month. Include at the class training consideration of oil behaviour, including spreading and weathering characteristics.</p> <p>04.05.12: Evidence provided to show how this has been addressed</p> <p>25.06.12: Finding closed</p> <p>Action #594753: Include at the class training consideration of oil behaviour, including spreading and weathering characteristics.</p> <p>28.08.12: Documentation provided advising that 14 of the 16 person crew of the Ikaluk received specific training on the "Behaviour of oil at sea" on April 4, 2012. A second session was conducted on August 16, 2012 that trained another 14 crew members, this time also utilizing a LAMOR DVD in the training.</p> <p>12.09.12: In looking at the topics presented and the solid length of time that was devoted to this session, PCCI considers this action item to have been adequately met.</p> <p>In addition to the LAMOR video, PCCI also recommends that Sakhalin Energy considers using in their future training on this subject an excellent presentation and 'job aid' that was developed by the</p>	594752 – closed 594753 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
							US National Oceanic and Atmospheric Administration's Response and Restoration Branch. This presentation and job aid greatly assist in the identification of oil on the sea surface, and include practical guidance on estimating spilled oil volumes. Both the presentation and the job aid are free for download at the following locations: http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/open-water-oil-identification-job-aid.html . Finding closed	
OSR.25	Low Amber	Closed	Oct-11	OSRP (OSR Exercises visit)	0000-S-90-04-O-0014-00-E Appendix 15	It is recommended that a future exercise involve using the J-boom configuration to simulate skimming oil from the surface of the water. This would provide several training opportunities, including (a) an opportunity for the operator of the FRDC and the MSV Ikaluk Conning Officer to manoeuvre together as a team; (b) an opportunity to practice placing the skimming device in the most favourable location for recovery of the oil within the pocket of the boom; and (c) an opportunity to determine if the FRDC is capable of successfully supporting an advancing skimming operation.	Action: In order to improve the skill of STBV crew in J-configuration experience since 2012 the OSR exercises with HDB and support vessel (i.e. FRDC) will be conducted three times in summer season every year. 27.06.12: The training is included in the HSE Plan, evidence provided. 28.06.12: Finding closed	594749 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
OSR.26	Low Amber	Open	Oct-11 (OSR visit)	OSR Training	0000-S-90-04-O-0014-00-E Appendix 15	<p>The ECT requires basic training on oil spill response equipment, strategies, and techniques. Suggested sources for the technical training would be the Alaska-based Cooperative “Alaska Clean Seas.” This training could take place in Alaska, on-site in Yuzhno-Sakhalinsk, or with Mr Stillings and his Ecoshelf organization.</p> <p>In addition to this necessary training, the ECT really needs to have in their rotation as ECT Leaders very experienced oil spill response managers who can immediately assess any situation and determine the best mix of personnel and equipment to respond to the event.</p> <p>The ECT and CMT members should also have team, process, and role training on the Incident Command System. Suggested sources for the ICS process and role training would be Alaska Clean Seas or another Industry Cooperative “Clean Islands Council” in Honolulu, HI, or Mr Stillings and Ecoshelf.</p>	<p>Action: Provide to ECT basic training on OSR equipment and tactics, and provide team, process, and role training on the Incident Command System (via service provider in line with industry good practice).</p> <p>04.07.12: From April 24 to April 27, 2012 the training “Incident Command System (ICS-OS-420-1)” provided by the Institute of Sea Protection and Shelf Development. Marine State University, Vladivostok was conducted for ECT. Evidence was provided for more information.</p> <p>13.07.12: PCCI considers the finding to be only partially met. Specifically, the requirement for basic ICS training has been met by 33 Sakhalin Energy ECT/CMT personnel and two Ecoshelf contracted personnel. To fully close out this action, PCCI recommends that oil spill response strategy training be conducted by someone like Ecoshelf and Ecospac so that Sakhalin Energy’s response managers fully understand the Company’s response capabilities and when, how and from where to call in additional support. PCCI also recommends that Sakhalin Energy identifies at least four qualified ECT Leaders who rotate this position as either primaries or alternates.</p>	594743

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
OSR.27	Low Amber	Open	Oct-11 (OSR visit)	Non-Mechanical Response Options and Capability	0000-S-90-04-O-0014-00-E Appendix 15	<p>Non-Mechanical Response Options and Capability – Just prior to PCCI's visit, Sakhalin Energy had met with and briefed the Russian Federation officials in an attempt to move forward the planning for non-mechanical response options for oil spills. With the assistance of a visiting Spill Response Specialist/Environmental Scientist from Shell Global Solutions (US) Inc., Dr Victoria Broje, Sakhalin Energy highlighted the effectiveness of in-situ burning and dispersants as response techniques to the Deepwater Horizon oil spill in the U.S. Gulf of Mexico last summer. Significant progress was made in convincing the Russian Federation that in-situ burning and dispersants should be considered as response options. Much work remains to be done in getting pre-approvals for the rapid use of these response techniques during a spill, and then in establishing the capability for deploying these response techniques during an actual incident. This is a high priority issue. As further discussed in the Offshore Exercise Evaluation, Sakhalin Energy's offshore mechanical containment and recovery capabilities are very limited, and non-mechanical response techniques such as dispersants and in-situ burning may be the only response options available to them during most wave and weather conditions.</p>	<p>Action: Report progress in half-yearly (or earlier if relevant) to Lenders regarding non-mechanical OSR options (dispersants, in-situ burning). Communications with authorities, status of planning/pre-approval, and establishment of company capabilities for use of these options.</p> <p>17.07.12: During last 6 months Sakhalin Energy has conducted 2 meetings with authorities:</p> <ol style="list-style-type: none"> 1. In the beginning of 2012 the meeting was held with local MChS 2. In March 2012 Alexander Gutnik took part in the meeting organised by the Deputy Minister of MChS in Moscow. <p>On both meetings the possibility of dispersants application and in-situ burning was brought up by Sakhalin Energy. The more or less favourable opinion was expressed by MChS representatives and the instruction was given to work out these options inside MChS organisation. However, no any clear consent or instructions were provided to Sakhalin Energy. Nevertheless, Sakhalin Energy's OSRPs stipulate dispersants application. NEBA has been conducted for certain areas. A mechanism exists for getting Authorities' approval in case dispersants application is necessary, but the decision can be taken (and will be taken) inside the Company if required. Sakhalin Energy proposes to close this action and provide updates in the HSESAP half-year reports.</p> <p>07.08.12: Six-monthly update and reporting proposal accepted. Action #594741 closed. Finding OSR.27 remains open</p>	<p>594741 – closed</p> <p>Six-monthly updates to be provided in HSESAP reports.</p>

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HEALTH AND SAFETY								
H&S.07	Low Amber	Open	Oct 11 (PA-B audit)	Hazardous materials	Occupational Health and Hygiene Standard – Chemicals Management (0000-S-90-04- O-0270-00-E Appendix 3)	Isolated incidence of unlabelled chemical drums and drums without secondary containment. Cross ref to water secondary containment	Action: Provide proper drum labeling and secondary containment and conduct inspection. Action Taken: The revealed non-compliances have been eliminated (please see attached the extract from the original audit report and the photo of the current situation). - All drums have been labeled and installed in drip trays. - As per the design chemical storage is equipped by the drainage system. - Regular inspections and audits are conducted.	612588
H&S.08	Low Amber	Open	Oct 11 (PA-B audit)	Hazardous materials	Occupational Health and Hygiene Standard – Chemicals Management (0000-S-90-04- O-0270-00-E Appendix 3)	The volume of chemicals stored on the Platform exceeded the capacity of chemical storage facilities resulting in increased handling of chemicals and risk to workers.	Action: Investigate opportunities to optimise chemicals storage and delivery. 05.09.12: During the 2012 monitoring visit, Sakhalin Energy advised that a staged (phased) delivery of chemicals, storage in different containers (tanks rather than drums, so they can be stored elsewhere) and semi-mechanised shelving (more efficient use of space) were all being considered. This action remains open until measures are implemented.	618505
H&S.09	Blue	Closed	Oct 11 (PA-B audit)	Medical fitness	Occupational Health and Hygiene Standard Doc. 0000-S-90- 04-O-0270-00-E App 3, Rev 02	DTP vaccinations are not mandatory but instead are recommended based on a risk based approach. The non-mandatory nature of these vaccinations is in contrast to the requirements of the HSESAP. (N.B. The IEC notes that the HSESAP requirements in relation to vaccination requirements need to be checked against RF legal requirements to ensure compatibility.)	Action: Update DTP vaccination requirements in HSESAP considering RF legal requirements. 31.08.12: Sakhalin Energy has updated Occupational Health and Hygiene Standard, Community Health Specification (see highlighted text in the file attached) where the requirements for DTP vaccination are reflected. 06.09.12 & 18.09.12: Clarification provided confirming vaccination is 'diphtheria, tetanus, polio', and administration of the vaccine to staff and contractors. 18.09.12: Finding closed	612857 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
H&S.10	Blue	Open	Oct 11 (LNG audit)	Storage of Hazardous Materials	0000-S-90-04-O- 0270-00-E Appendix 9	<p>Clause 6 of the Chemicals Management Specification, forming part of the Occupational Health and Hygiene Standard requires that “a full Material Safety Data Sheet (MSDS), in English and Russian shall be made available for all chemicals and oil products used at the site”. The following non-compliances were noted in the chemical storage area:</p> <ul style="list-style-type: none"> • No MSDS (in English or Russian) was available in the C103 store for the Hydranal Coulomat AD reagent. An electronic copy of the MSDS was later produced for inspection in the office but the MSDS file in C103 was incomplete. • In C104 and C106 the MSDS for chemicals stored were only available in Russian. 	Action: Ensure that dual language MSDS documentation is provided in each chemical store. Periodically check the documentation, for example during audits and inspections.	612859
H&S.11	Blue	Open	Oct 11 (LNG audit)	Storage of Hazardous Materials	0000-S-90-04-O- 0270-00-E Appendix 9	<p>Clause 6a of the Chemicals Management Specification, forming part of the Occupational Health and Hygiene Standard requires that “chemicals are appropriately labelled”. The following deficiencies were identified:</p> <ul style="list-style-type: none"> • A drum of liquid in C104 is stored in a box with an incorrect stock code (the MSDS with the corresponding stock code - 1000941689 - was for High-density polyethylene (HDPE)). • Two metal drums of liquid were noted in C107 that had labels in Japanese only. • Five 205 litre drums and three smaller drums were noted outside C107. The drums were full but the contents unknown as there were no labels. 	Action: Ensure that all chemical containers have adequate labelling. Periodically check labels, for example during audits and inspections.	612861

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
SOCIAL								
SOC.03	Low Amber	Open	Oct 11 (section 3.5.2)	Social monitoring for operational phase: Actions related to Public grievance	SP Standard (0000-S-90-04-O- 0021-00-E)	An outstanding grievance submitted by the resident of the nearest dwelling adjacent to the LNG camp fence. The grievance was related to the smell of unburned hydrocarbons in the air, which if confirmed may pose health risks to the local community. On this basis this issue classified as Low Amber.	<p>20.10.11: Investigation underway to determine whether the LNG accommodation facility has caused this problem and what equipment/asset may have been a source of the smell.</p> <p>NB: Since the site visit Sakhalin Energy has reported that the grievance was resolved with satisfaction and it was agreed that the Company would conduct additional investigations.</p> <p>Action: Sakhalin Energy will provide an update on the resolution and further investigations agreed. Target date: 29/002/2012.</p> <p>Action: Sakhalin Energy to provide an update on the resolution of the grievance submitted by the resident of the nearest dwelling adjacent to the LNG camp fence related to the smell of unburned hydrocarbons in the air.</p> <p>Sept12: Sakhalin Energy had performed a week-long investigation of the complaint. It has been agreed that Sakhalin Energy will provide the available materials from the investigation for the IEC review (air samples taken at the pollutant sources on the LNG Accommodation site, etc.). Once received, ENVIRON will review these materials and provide an opinion regarding the status of this action.</p>	612863

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
SOC.04	Blue	Closed	Oct 11 (section 3.4)	Sakhalin Energy Policy on Fishing, Gathering and Hunting during Construction	SP Standard (0000-S-90-04-O-0021-00-E)	The Policy on Fishing, Gathering and Hunting should be adapted for Operations or should be kept as a general policy, i.e. applicable to all Project phases, assets and personnel.	<p>Action: Update the Policy on Fishing, Gathering and Hunting as appropriate.</p> <p>13.6.12: The Policy on Fishing, Gathering and Hunting during Construction was analysed by Sakhalin Energy. It was concluded there is no need to keep it as a general Policy as these issues are well regulated under Russian legislation and there is no need for additional restrictions during Operations apart from Russian legislation. The Policy on Fishing, Gathering and Hunting during Construction will be kept and applied for constructions works and operations period.</p> <p>Sept12: ENVIRON's discussions with the Social Performance Team concluded that there is no need to specifically enforce the aforementioned Policy during the Project's Operations Phase due to a low probability of the potential impact (primarily due to the small numbers of operations workforce whose presence and activities are confined to the Project Assets). The regulation of any fishing, gathering and hunting activities therefore remains within the remit of the applicable Russian legislation. It has also been agreed that The Fishing, Gathering & Hunting Policy will be duly re-enforced for any future construction works associated with the Project expansion, modification, retrofitting, etc. Provided the latter caveat, this action could now be closed out.</p>	612866 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
SOC.05	Blue	Open	Oct 11 (section 3.4)	Plan for Protection of Cultural Resources During Sakhalin II Operations	SP Standard (0000-S-90-04-O-0021-00-E)	Currently, the Plan for Protection of Cultural Resources During Sakhalin II Operations (0000-S-90-04-P-7003-00-R-01) provides for the preservation of chance finds only encountered in the process of an emergency/accident response during operations.	<p>Action: Reinstate a chance finds procedure and associated communication protocols as part of the Plan for Protection of Cultural Resources During Sakhalin II Operations 0000-S-90-O4-P-7003-00-R-01 (i.e. as a standard measure, not only with respect to emergency situations).</p> <p>02.05.12: Cultural Heritage Plan was updated and now includes the Chance Finds Procedure as a standard measure. ENVIRON to discuss during Sept 12 monitoring visit.</p> <p>19.09.12: Chance finds procedure and associated communication protocol was included in the Plan for Protection of Cultural Resources During Sakhalin II Operations 0000-S-90-04-P-7003-00-R-02, section 6.3. All the procedures and awareness materials (presentation provided) regarding Objects of Cultural heritage, Chance Finds Procedure and Emergency Case will be provided to contractors via Contract Holders.</p>	612873

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
SOC.06	Blue	Closed	Oct 11 (PA-B audit)	Grievance procedure – Sakhalin Energy employees	SP Standard – Addressing Grievances (0000-S-90-01-O- 0021-00_E Appendix 08)	There is limited awareness of Sakhalin Energy’s formal grievance mechanism on the PA-B platform. All Sakhalin Energy and contractor staff should be made fully informed of the Grievance Procedure.	<p>Action: Implement measures aimed at improving PA-B platform staff awareness of the Sakhalin Energy’s Public Grievance Procedure. Target date: 29/02/12</p> <p>21.06.12: Action taken by Sakhalin Energy:</p> <ul style="list-style-type: none"> * Grievance leaflets delivered to all three platforms and placed in publicly available spots (offices, canteens). * Awareness sessions conducted on PA-B platform. * Slide on Grievance Procedure is included in induction presentation for all platforms personnel. * Awareness sessions planned on other platforms (PA-A, LUN-A). <p>25.06.12: As ENVIRON is not able to verify the actual level of personnel awareness during its forthcoming monitoring visit, factual evidence of the actions taken is requested, e.g. copies of the awareness sessions attendance sheets (number of personnel attending), an updated induction presentation, and a schedule of awareness sessions planned for the other platforms. Alternatively, these aspects could be discussed with the Social Performance Team during the monitoring visit in August/ September 2012.</p> <p>20.09.12: ENVIRON has received photographic evidence of the information session on the PA-B and the grievance leaflets having been made available at the PA-B and LUN-A platforms, as well as photos of attendance logs of communication safety meetings at the PA-B signed by the participants. We have also been informed that the information sessions will be conducted at the PA-A and LUN-A platforms during the period of September-November this year. The provided materials are sufficient to close this action.</p>	612875 – closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
GENERAL								
GEN.02	Low Amber	Closed	Apr-10	Monitoring	0000-S-90-04-O-0009-00-E Appendix 6	HSE Monitoring Overview is to be revised considering monitoring results to date and operational requirements.	<p>Action: Review HSE Monitoring Overview (0000-S-90-04-O-0009-00-E Appendix 6) and update where appropriate within 6 months of formal Project Completion date.</p> <p>Feb12: Majority of local Monitoring Strategy Reports provided to IEC for review (four reports are yet to be received). These reports support and justify changes to the Company's monitoring programme, and must be agreed prior to agreement of the revised HSE Monitoring Overview.</p> <p>Document updates have now extended beyond Project Completion + 12 months, and as such Sakhalin Energy is out of compliance with the CTA. Consequently, the IEC elevates this Finding to High Amber.</p> <p>28.08.12: CED has endorsed adoption of the current IFC standards. Lenders also approved documents. Sakhalin Energy has now finalised all the document revisions and published them on external website.</p> <p>31.08.12: Finding closed</p>	467749 - closed
GEN.03	Low Amber	Closed	Apr-10	General	International Requirements specifications	<p>"International Requirements" and "Standards Comparison" specifications are based on original project data and standards in force at date of signing. These documents shall be reviewed based on operational data and revised standards where applicable, within 12 months following Project Completion.</p>	<p>Action: Review "International Requirements" and "Standards Comparison" specifications referenced in HSESAP and update where appropriate within 12 months of formal Project Completion date.</p> <p>28.8.12: CED have endorsed adoption of the current IFC standards. Sakhalin Energy have now finalized all the document revisions and published them on external web-site. Lenders also approved documents.</p> <p>31.08.12: Actions and Finding closed</p>	<p>467753</p> <p>467762</p> <p>467760</p> <p>467759</p> <p>467758</p> <p>467757</p> <p>467754</p> <p>467752</p> <p>467751</p> <p>467756</p>
								All closed

Ref ⁴⁹	Rank ⁵⁰	Status	Date	Topic	HSESAP Ref.	Finding	Action Progress Review	Action#
GEN.04	High Amber	Closed	Oct-11	Local Monitoring	0000-S-90-04-O- 0009-00-E Appendix 6	<p>During the presentation of the Local monitoring programmes, it became apparent that some changes to the current monitoring programmes have already been made (for 2011). However, these changes were not agreed with Lenders and ENVIRON. While we do not necessarily disagree with the appropriateness of the changes identified, this does represent a breach of procedural CTA requirements, whereby any changes to the HSESAP must be agreed in advance with the Lenders. As such, current Local monitoring arrangements are not fully compliant with the existing agreed HSESAP monitoring requirements. This situation needs to be corrected as soon as possible by the provision of detailed (and justified) revised Local monitoring programmes to Lenders and ENVIRON for review and agreement.</p>	<p>Action: Sakhalin Energy to expedite agreement with IEC and Lenders on future local monitoring requirements</p> <p>Feb12: IEC review of Sakhalin Energy's revised local monitoring Strategy Reports underway, however four reports are yet to be received. These reports support and justify changes to local monitoring programmes and inform the HSE Monitoring Overview. The deadline agreed with Lenders for agreement of the HSE Monitoring Overview has not been achieved. Due to the significant delay in regaining compliance with the CTA, the IEC elevates this Finding to High Amber.</p> <p>Action: Refer to existing Action #467749- Review HSE Monitoring Overview (0000-S-90-04-O-0009-00-E Appendix 6). This has now been updated, agreed with IEC and Lenders and posted to Sakhalin Energy website.</p> <p>28.08.12: Sakhalin Energy has prepared Strategy Reports for each of the local monitoring programmes, ENVIRON and Lender approval has been obtained, and updated HSE monitoring overview has been approved and published.</p> <p>31.08.12: Action closed</p>	<p>See GEN.02</p> <p>612878 – closed</p>

Annex A: SPZ Decree

Formal decision decreeing the SPZ size for the Prigorodnoye Production Complex and Oil Export Terminal, Issued by the Chief State Sanitary Doctor of the Russian Federation on 10/04/2012

ПОСТАНОВЛЕНИЕ Главного государственного санитарного врача РФ от 10.04.2008... Page 1 of 1



ГЛАВНЫЙ ГОСУДАРСТВЕННЫЙ САНИТАРНЫЙ ВРАЧ
РОССИЙСКОЙ ФЕДЕРАЦИИ

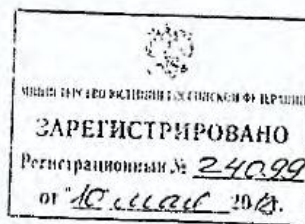
ПОСТАНОВЛЕНИЕ

10.04.2008

Москва

№ 25

Об установлении размера санитарно-защитной зоны имущественного комплекса «Завод по производству сжиженного природного газа и терминал отгрузки нефти» на территории Корсаковского района Сахалинской области



Я, Главный государственный санитарный врач Российской Федерации Г.Г. Онищенко, рассмотрев материалы по вопросу об установлении размера санитарно-защитной зоны имущественного комплекса «Завод по производству сжиженного газа и терминал отгрузки нефти» на территории Корсаковского района Сахалинской области, и в целях предотвращения угрозы возникновения массовых неинфекционных заболеваний (отравлений), на основании статьи 51 Федерального закона от 30.03.1999 № 52-ФЗ «О санитарно-эпидемиологическом благополучии населения» (Собрание законодательства Российской Федерации 1999, № 14, ст. 1650; 2002, № 1 (ч.1), ст.2; 2003, № 2, ст. 167; № 27 (ч.1), ст. 2700; 2004, № 35, ст.3607; 2005, № 19, ст.1752; 2006, № 1, ст.10; № 52 (ч. 1), ст. 5498; 2007, № 1 (ч. 1), ст. 21, 29; №27, ст. 3213; № 46, ст. 5554; № 49, ст. 6070; 2008; № 29 (ч. 1), ст.3418; № 30 (ч. 2), ст. 3616; 2009, № 1, ст. 17; 2010, № 40 ст. 4969; 2011, №1, ст.6; №30(ч. 1), ст.4563; №30(ч. 1), ст. 4590; №30 (ч.1), ст. 4591; №30 (ч.1), ст. 4596) и, в соответствии с п. 4.2. и 4.5. СанПиН 2.2.1./2.1.1.1200-03 «Санитарно-защитные зоны и санитарная классификация предприятий, сооружений и иных объектов» в новой редакции (введены в действие постановлением Главного государственного санитарного врача Российской Федерации от 25.09.2007 № 74, зарегистрированы в Минюсте России 25.01.2008, регистрационный № 10995), с изменениями № 1 (утверждены и введены в действие постановлением Главного государственного санитарного врача Российской Федерации от 10.04.2008 № 25, зарегистрированы в Минюсте России 07.05.2008, регистрационный номер 11637), с изменениями № 2 (утверждены и введены в действие постановлением Главного

2

государственного санитарного врача Российской Федерации от 06.10.2009 № 61, зарегистрированы в Минюсте России 27.10.2009, регистрационный номер 15115), с изменениями № 3 (утверждены и введены в действие постановлением Главного государственного санитарного врача Российской Федерации от 09.09.2010 № 122, зарегистрированы в Минюсте России 12.10.2010, регистрационный номер 18699) постановляю:

1. Установить для имущественного комплекса «Завод по производству сжиженного газа и терминал отгрузки нефти» на территории Корсаковского района Сахалинской области санитарно-защитную зону от границы промышленной площадки переменного размера:

- западном направлении 700 м (1000 м от источников выбросов в атмосферу);
- в северо-западном направлении 520 м (800 м от источников выбросов в атмосферу);
- в северном направлении 650 м (800 м от источников выбросов в атмосферу);
- в северо-восточном направлении по границе промышленной площадки завода (500 м от источников выбросов в атмосферу);
- в восточном направлении от 200 м до 300 м (500 м от источников выбросов в атмосферу);
- в юго-восточном, южном и юго-западном направлениях по границе побережья залива Анива.

2. Руководителю Управления Роспотребнадзора по Сахалинской области Б.Б. Дарижапову обеспечить контроль за соблюдением размера санитарно-защитной зоны имущественного комплекса «Завод по производству сжиженного газа и терминал отгрузки нефти» на территории Корсаковского района Сахалинской области.

3. Заместителю Главного государственного санитарного врача Российской Федерации И.В. Брагиной довести настоящее постановление до сведения заинтересованных лиц.

4. Контроль за выполнением настоящего постановления возложить на заместителя Главного государственного санитарного врача Российской Федерации И.В. Брагину.



Г.Г. Онищенко

КОПИЯ ВЕРНА!
 Для начисления взносов
 и уплаты за землю собственники
 обязаны решить вопрос с
 Г.Г. Онищенко

Annex B: Quality of Life Monitoring
Example of a monthly report on air quality and noise level
submitted to the Head of “Stroitel’ Dacha Cooperative
(Russian original)

Автономная некоммерческая организация «Сахалинское гидрометеорологическое агентство»
(АНО «Сахалинское Метеоагентство»)
ЭКОЛОГО-АНАЛИТИЧЕСКАЯ ЛАБОРАТОРИЯ (ЭАЛ)
693000, г. Южно-Сахалинск, ул. Западная, 78, тел. (4242) 42-39-45, 42-36-56, тел./факс 42-20-33
e-mail: lab@sakhmeteo.ru

Аттестат аккредитации испытательной
лаборатории в СААЛ № РОСС.RU.0001.516065
от 24.01.2010



ПРОТОКОЛ ИСПЫТАНИЙ № 167
от «09» июля 2012 г.

Заказчик Компания Сахалин Энерджи Инвестмент Компани Лтд.
Описание пробы, поступившей в лабораторию атмосферный воздух
Место отбора пробы п. Пригородное. Дачи. Точка «Строитель-2».
Дата отбора пробы 03.07.2012г.
Дата анализа пробы 04.07.2012г.
Лабораторный шифр пробы АВ-001-07-12

Результаты испытаний

№п/п	Определяемый показатель	Единицы измерения	Нормативный документ на методику выполнения анализа	Результат анализа	ПДК, мг/м ³
1	Бенз(а)пирен	мг/м ³	РД 52.04. 186-89	0,3×10 ⁻⁶	1,0×10 ⁻⁶
2	Диоксид азота	мг/м ³	РД 52.04. 186-89	0,026	0,200
3	Диоксид серы	мг/м ³	РД 52.04. 186-89	0,012	0,500
4	Оксид углерода	мг/м ³	РД 52.04. 186-89	0,6	5,000
5	Сажа	мг/м ³	РД 52.04. 186-89	0,054	0,150
6	Формальдегид	мг/м ³	РД 52.04. 186-89	0,011	0,035
7	Углеводороды	мг/м ³	КПГУ 413322002 ПС	<0,5	1,000

Заключение: уровень загрязнения атмосферного воздуха по всем определяемым веществам не превышает нормативы ГН 2.1.6.1338-03 «Предельно допустимые концентрации загрязняющих веществ в атмосферном воздухе населенных мест».

Ответственная за оформление протокола

Протасова В.А.

Копирование без специального разрешения запрещено

Лист 1 из 1

протокол измерения шума № 614 от 06.07.2012г 1 из 2
 Федеральная служба по надзору в сфере защиты прав потребителей и благополучия человека
 Федеральное бюджетное учреждение здравоохранения
 «Центр гигиены и эпидемиологии в Сахалинской области»
 ФИЛИАЛ ФБУЗ «ЦЕНТР ГИГИЕНЫ И ЭПИДЕМИОЛОГИИ В САХАЛИНСКОЙ ОБЛАСТИ
 В КОРСАКОВСКОМ РАЙОНЕ»
АККРЕДИТОВАННЫЙ ИСПЫТАТЕЛЬНЫЙ ЛАБОРАТОРНЫЙ ЦЕНТР
 694020, г. Корсаков, ул. Нагорная 7/1, Телефон/ Факс 4-11-50, электронный адрес: korsafov@sakhfbuз.ru

Аттестат Системы аккредитации лабораторий, осуществляющих санитарно-эпидемиологические исследования, испытания № ГСЭН.RU.ЦОА.107.05 зарегистрирован в государственном реестре 20 июня 2008 года N РОСС.RU.0001.510808



**Протокол №614
 измерения шума
 от «06» августа 2012 г.**

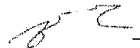
- 1. Наименование и адрес организации (заказчика):** «Сахалин Энерджи Инвестмент Компани ЛТД»г. Южно-Сахалинск, ул. Дзержинского, 35.
- 2. Место проведения измерений:** «Сахалин Энерджи Инвестмент Компани ЛТД» граница санитарно защитной зоны завода Сиг и Тон пос. Пригородное (контрольные точки согласно карте-схеме) Т-1, садоводческое товарищество «Строитель»
- 3. Характеристики и обозначение испытаний, исследований, измерений:** уровни звукового давления дБ, в октавных полосах со среднегеометрическими частотами 31,5;63, 125, 250, 500, 1000, 2000, 4000, 8000 Гц, Уровень звука LA и эквивалентный уровень звука LA экв, дБА, максимальный уровень звука LA макс, дБА.
- 4. Представители организации заказчика:** Инженер по ООС Алексеева О.А.
- 5. Дата проведения измерений:** 27.07.2012г -10.00, 27.07.2012-23.00
- 6. Средство измерения:** Шумомер-анализатор спектра, виброметр портативный «Октава -110А» № АЭ100144 поверочное свидетельство № 004435 до 06 февраля 2013г погрешность измерений составляет +- 0,7 дБА.
- 7. НД, регламентирующие объем, методы измерений, гигиеническую оценку:** СН 2.2.4/2.1.8.562-96, «Шум на рабочих местах, в помещениях жилых, общественных зданий и на территории жилой застройки»,ГОСТ 23337-78 (СТ СЭВ 2600-80) «Шум. Методы измерения шума на селитебной территории и в помещениях жилых и общественных зданий».
- 8. Дополнительные сведения:** производственный контроль договор № У-06050. условия измерения: ветер 0,10-0,12 м/с, присутствие естественного шума: шум волн, пение птиц, проезжающий автотранспорт, работа буксиров ,танкера в акватории порта Пригородное. шум постоянный, широкополосный.
- 9. Результаты измерений:**

№ п/п	Место проведения измерений	Уровни звукового давления в октавных полосах со среднегеометрическими частотами в Гц, дБ									Уровень звука LA и экв. уровень звука LA экв, дБА	максимальный уровень звука LA макс, дБА
		31,5	63	125	250	500	1000	2000	4000	8000		
1	Т1. «Строитель»	86	73	66	58	52	49	45	43	38	53	68
	ПДУ (с7.00 до 23.00)	90	75	66	59	54	50	47	45	44	55	70
	превышение	-	-	-	-	-	-	-	-	-	-	-
2	Т1. «Строитель»	81	65	56	48	43	37	36	34	30	43	55
	ПДУ (с23.00 до 7.00)	83	67	57	49	44	40	37	35	33	45	60
	превышение	-	-	-	-	-	-	-	-	-	-	-

Ответственный за измерения и оформление протокола эксперт-физик Чеколовец П.С.

В обследованных точках уровни звука в дБА, и звукового давления дБ, в октавных полосах со среднегеометрическими частотами 31,5;63, 125, 250, 500, 1000, 2000, 4000, 8000 Гц соответствуют требованиям СН 2.2.4/2.1.8.562-96, «Шум на рабочих местах, в помещениях жилых, общественных зданий и на территории жилой застройки»

/ Руководитель (заместитель) ИЛЦ

 А.И.Нижник.

составлено в 2-х экземплярах

Annex C: Selected Noise and Air Quality Monitoring Data

Quality of Life Monitoring

Results of noise and air quality monitoring on the SPZ border with the Stroitel Dachas in May-July 2012

May 2012 – Noise levels at Stroitel dacha monitoring point, Daytime*

	Sound pressure level in octave bands centre frequencies in Hz, dB									Sound level LA and LEQ, dBA	Maximum sound level LA max, dBA
	31.5	63	125	250	500	1000	2000	4000	8000		
Actual readings	81	74	63	59	53	49	46	43	36	54	69
MPL**	90	75	66	59	54	50	47	45	44	55	70
Exceedance	-	-	-	-	-	-	-	-	-	-	-

* Taken on 22/05/2012, at 10:00 hours

** Maximum Permissible Level (from 07:00 to 23:00 hours), according to Sanitary Norms "Noise at workplaces, inside residential dwellings, public buildings and on the territory of residential built-up areas"

Measurement conditions: wind velocity 0.12-0.14 m/sec, background noise – bird singing, sea waves, passing motor transport, tanker at the Prigorodnoye seaport.

May 2012 – Noise levels at Stroitel dacha monitoring point, Night time*

	Sound pressure level in octave bands centre frequencies in Hz, dB									Sound level LA and LEQ, dBA	Maximum sound level LA max, dBA
	31.5	63	125	250	500	1000	2000	4000	8000		
Actual readings	78	64	56	46	43	38	35	33	32	41	52
MPL**	83	67	57	49	44	40	37	35	33	45	60
Exceedance	-	-	-	-	-	-	-	-	-	-	-

* Taken on 23/05/2012, at 00:50 hours

** Maximum Permissible Level (from 23:00 to 07:00 hours), according to Sanitary Norms "Noise at workplaces, inside residential dwellings, public buildings and on the territory of residential built-up areas"

Measurement conditions: wind velocity 0.12-0.14 m/sec, natural noise.

May 2012 - Air quality monitoring results as of 19/05/2012

Parameter, mg/m ³	Monitoring results	Maximum Permissible Concentration*, mg/m ³
Benzopyrene	<0.2x10 ⁻⁶	1.0 x10⁻⁶
NO ₂	0.023	0.200
SO ₂	0.011	0.500
CO	1.8	5.000
Soot	0.026	0.150
Formaldehyde	<0.010	0.035

* MPC of pollutants in the air of populated areas

June 2012 – Noise levels at Stroitel dacha monitoring point, Daytime*

	Sound pressure level in octave bands centre frequencies in Hz, dB									Sound level LA and LEQ, dBA	Maximum sound level LA max, dBA
	31.5	63	125	250	500	1000	2000	4000	8000		
Actual readings	85	74	65	53	51	45	43	45	36	51	69
MPL**	90	75	66	59	54	50	47	45	44	55	70
Exceedance	-	-	-	-	-	-	-	-	-	-	-

* Taken on 28/06/2012, at 10:00 hours

** Maximum Permissible Level (from 07:00 to 23:00 hours), according to Sanitary Norms "Noise at workplaces, inside residential dwellings, public buildings and on the territory of residential built-up areas"

Measurement conditions: wind velocity 0.07-0.14 m/sec, background noise – bird singing, sea waves, passing motor transport, tug-boats at the Prigorodnoye seaport.

June 2012 – Noise levels at Stroitel dacha monitoring point, Night time*

	Sound pressure level in octave bands centre frequencies in Hz, dB									Sound level LA and LEQ, dBA	Maximum sound level LA max, dBA
	31.5	63	125	250	500	1000	2000	4000	8000		
Actual readings	81	66	54	45	41	35	35	31	30	42	56
MPL**	83	67	57	49	44	40	37	35	33	45	60
Exceedance	-	-	-	-	-	-	-	-	-	-	-

* Taken on 28/06/2012, at 23:05 hours

** Maximum Permissible Level (from 23:00 to 07:00 hours), according to Sanitary Norms "Noise at workplaces, inside residential dwellings, public buildings and on the territory of residential built-up areas"

Measurement conditions: wind velocity 0.07-0.14 m/sec, natural noise.

June 2012 - Air quality monitoring results as of 14/06/2012

Parameter, mg/m ³	Monitoring results	Maximum Permissible Concentration*, mg/m ³
Benzopyrene	<0.2x10 ⁻⁶	1.0 x10 ⁻⁶
NO ₂	0.025	0.200
SO ₂	<0.010	0.500
CO	1.1	5.000
Soot	<0.025	0.150
Formaldehyde	0.014	0.035
Hydrocarbons	0.24	1.000

* MPC of pollutants in the air of populated areas

July 2012 – Noise levels at Stroitel dacha monitoring point, Daytime*

	Sound pressure level in octave bands centre frequencies in Hz, dB									Sound level LA and LEQ, dBA	Maximum sound level LA max, dBA
	31.5	63	125	250	500	1000	2000	4000	8000		
Actual readings	86	73	66	58	52	49	45	43	38	53	68
MPL**	90	75	66	59	54	50	47	45	44	55	70
Exceedance	-	-	-	-	-	-	-	-	-	-	-

* Taken on 27/07/2012, at 10:00 hours

** Maximum Permissible Level (from 07:00 to 23:00 hours), according to Sanitary Norms "Noise at workplaces, inside residential dwellings, public buildings and on the territory of residential built-up areas"

Measurement conditions: wind velocity 0.10-0.12 m/sec, background noise – bird singing, sea waves, passing motor transport, tug-boats and a tanker at the Prigorodnoye seaport.

July 2012 – Noise levels at Stroitel dacha monitoring point, Night time*

	Sound pressure level in octave bands centre frequencies in Hz, dB									Sound level LA and LEQ, dBA	Maximum sound level LA max, dBA
	31.5	63	125	250	500	1000	2000	4000	8000		
Actual readings	81	65	56	48	43	37	36	34	30	43	55
MPL**	83	67	57	49	44	40	37	35	33	45	60
Exceedance	-	-	-	-	-	-	-	-	-	-	-

* Taken on 27/07/2012, at 23:00 hours

** Maximum Permissible Level (from 23:00 to 07:00 hours), according to Sanitary Norms "Noise at workplaces, inside residential dwellings, public buildings and on the territory of residential built-up areas"

Measurement conditions: wind velocity 0.10-0.12 m/sec, natural noise.

July 2012 - Air quality monitoring results as of 03/07/2012

Parameter, mg/m ³	Monitoring results	Maximum Permissible Concentration*, mg/m ³
Benzopyrene	<0.3x10 ⁻⁶	1.0 x10 ⁻⁶
NO ₂	0.026	0.200
SO ₂	0.012	0.500
CO	0.6	5.000
Soot	0.054	0.150
Formaldehyde	0.011	0.035
Hydrocarbons	<0.5	1.000

* MPC of pollutants in the air of populated areas

Wind Direction Data

Wind Direction	N	NE	E	SE	S	SW	W	NW
%	13.5	17.2	14.2	6.2	14.6	10.3	13.2	10.9

Annex D: Sakhalin Energy Explanatory Note on Dacha Issue

Annex E: Monitoring Visit ToR

Dated 29 August 2012

Terms of Reference – Lenders Monitoring VisitAugust 2012Background

Under the Common Terms Agreement between Sakhalin Energy and the Phase 2 Senior Lenders (CTA), the Company commits to comply in all material respect with HSESAP which has been developed for the Sakhalin-2 Phase 2 Project.

The HSESAP consolidates the commitments from the Environmental, Health and Social Impact Assessments. It details the measures agreed between the Company and the Phase 2 Senior Lenders to eliminate, mitigate or manage identified adverse HSE and social impacts to acceptable level.

ENVIRON, working with AEA Technology (AEA), is the Independent Environmental Consultant (IEC) acting on behalf of the Lenders to the Sakhalin-2 Phase 2 project (the 'Project'). Under the CTA, the IEC and Lender representatives should undertake Annual Project Monitoring visits (see CTA clause 4.5):

“...one site visit during each 12 (twelve) month period after the Completion Date by the Nominated Representatives to monitor the progress of the Project or any Project Expansion and the Project Facilities or any Project Expansion Facilities insofar as Environmental Matters or Social Matters are concerned and the Company's compliance with material Environmental Law, Environmental Consents, Project Expansion Environmental Consents and/or Interim Permissions, the Pre-Signing Remedial Action Plan, any Remedial Action Plan and the HSESAP. The focus and timing of each visit shall be determined by the Phase 2 Senior Lenders (following consultation with and, with respect to timing, having due regard to any reasonable views expressed by the Company) and they shall give the Company reasonable prior notice of the planned dates of such visits which visits shall, whilst on or at any Project Facilities or any Project Expansion Facilities only, be accompanied at all material times by representatives of the Company.”

The Company sees several benefits from annual monitoring visits, including demonstrating environmental, social and occupational health and safety commitments to staff and external stakeholders, regular focus through management review to help us maintain controls and improve performance, regular external review and evaluation, assurance of conformance to requirements, improved staff awareness and commitment, and improved reputation of the Company.

In August – September 2012, the IEC will conduct a Project Monitoring visit to the RoW, a range of project assets and other relevant locations, and also to undertake office-based discussions with Sakhalin Energy personnel.

Objectives

The overall purpose of the Project Monitoring visit is to determine conformance with the HSESAP requirements in managing the HSE and Social Performance (SP) risks and issues, compliance with legal and other requirements and continual improvement.

Scope

This site visit will be focused on the following selected project facilities, areas and topics:

• **Monitoring Visit:**

Areas/facilities:

- Pipeline RoW, to include rivers and wetland locations, as detailed in Appendix 1(Leonidovka, Nitui, Gornaya and Lesnaya + additional locations specified by IEC)
- Yasnoye PMD
- Gastello PMD
- Nogliki PMD
- Nogliki landfill
- Korsakov landfill
- Booster Station 2 (BS-2)
- OPF
- Prigorodnoye dachas
- LNG permanent accommodation
- Company’s information centres

Focus Topics:

- RoW vegetation cover (including steep and sandy slopes re-vegetation), tree growth control, maintenance, river bank erosion, silt fences and temporary bridges, technical reinstatement, and known high risk locations,
- Social Performance compliance, including: grievance management; indigenous peoples; public consultations (including community liaison organization); social investments; internal and contractor roll-out of compliance/performance requirements.
- Review of open findings from previous visits (measurement of emissions from generator/compressor stacks at platforms, platforms chemicals storage capacity, STPs, secondary containment)
- Waste management (landfills issue, waste minimisation)
- Oil spill response (C-OSRP, OSR Summaries, options for non-mechanical OSR, options of decanting of recovered oil during response operations)
- HSESAP and Lender standards
- Projects update discussion, including:
 - OPF Compression Facilities
 - South Piltun Development
 - Sakhalin 3 Condensate
- Flaring strategy and compliance

Parties involved in this visit

The site visit team will be provided by ENVIRON and the parties involved will be as described below:

Project Monitoring Visit	
ENVIRON personnel	Sakhalin Energy Personnel
Jon Hancox (Environmental issues and team leader)	Rob van Velden (Finance Director)
Paul Bochenski (environmental issues)	Natalia Matveenko (Treasurer)
	Zhanna Lyubaeva (Senior Loan Compliance Officer,

<p>Helen Yip (environmental issues)</p> <p>Tatyana Vassilevskaya (social issues)</p>	<p>Focal Point Finance)</p> <p>Elena Solonenko (Treasury Specialist, Visit Logistics Coordinator)</p> <p>Stephanie Lock (HSE Assurance Manager, Focal Point HSE)</p> <p>Marina Ee (Head of Social Assessment Group, Focal Point SP)</p> <p>Elena Klishina (HSE SAP Engineer, Visit Assurance Coordinator)</p>
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The monitoring report will be subject to peer review by Emma Goodchild (ENVIRON).

Standards and special conditions

The Project Monitoring Visit shall determine conformance with the requirements of the HSESAP and applicable environmental laws and consents.

Timing/Schedule

A detailed visit programme is attached (below).

Methodology, Communication of Results, Report and Report Distribution

- **Close out meetings:**
 - A final close-out meeting for the overall site visit will be undertaken on the final day where the summary findings of the Project Monitoring visit will be presented.

- **Reporting.**

Following the site visit a single report will be provided. This report will provide:

- A summary of the findings of the Project Monitoring visit
- A combined tabulated summary of all recommendations and actions.

In line with the requirements of the IEC Schedule Contract Scope of Work the timetable for preparation, comment on and final delivery of the site visit report will as follows:

- Within 10 working days of the conclusion of the site visit the IEC will provide an initial draft of the report to the Role Bank (Mizuho) and JBIC, copied to Sakhalin Energy.
- The Role Bank, JBIC and Sakhalin Energy shall provide any comments on the report to the IEC within 10 days of their receipt of the draft report.
- The IEC shall amend any factual errors in the report brought to their attention and shall consider any reasonable comments made by the reviewers.
- The IEC will produce a final version of the site visit report within 5 working days of receiving comments and shall issue this to the Role Bank and JBIC, copied to Sakhalin Energy.

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Monitoring Visit Schedule

Date/Team	Team 1 – Northern Team Bochenski, Yip	Team 2 – Southern Team Hancox	Team 4 – Social Team Vassilevskaya
29 Aug 12	Arrive Introductions, opening presentations	Arrive Introductions, opening presentations	Arrive Introductions, opening presentations
30 Aug 12	Nogliki Landfill Bochenski: RoW Section 1AB Yip: Nogliki PMD	RoW Section 3	Indigenous communities Nogliki information centre OPF: Compression project
31 Aug 12	RoW Section 1AB	RoW Section 3	Nysh, Tymovskoye and Poronaisk information centres
1 Sep 12	RoW: Section 1C	BS-2 environmental visit Gastello PMD	BS-2 social visit Makarov information centre
2 Oct 12	Bochenski: RoW Section 2 Yip: OPF	RoW Section 4 (north)	Office discussions
3 Sep 12	Yip: OPF compression site Bochenski: Yasnoye PMD Both: RoW	RoW Section 4 (south) Korsakov landfill	Prigorodnoye dacha update Meeting with head of Stroitel LNG permanent accommodation
4 Sep 12	RoW Section 3	Office discussions	Office discussions
5 Sep 12	Bochenski: Report preparation Yip: Office discussions: open findings	Office discussions: open findings and South Piltun EIA	Office discussions
6 Sep 12	Close-out meeting; Depart	Close-out meeting; Depart	Close-out meeting; Depart

Annex F: Individual RoW Descriptions

**Annex G: May 2012 Response Exercise and Workshop
Executive Summary to IEC Report: *Sakhalin Energy Oil Spill Response
Readiness – Observations from the May 2012 Response Exercise and
Workshop***

Executive Summary to IEC Report: Sakhalin Energy Oil Spill Response Readiness – Observations from the May 2012 Response Exercise and Workshop (ENVIRON contract UK2217081, Issue 2, 26 July 2012)

In May 2012, ENVIRON, working with the specialist oil spill consultancy firm PCCI, visited Sakhalin Energy to assess the Company oil spill response readiness. The visit was timed to coincide with a major oil spill response exercise at the Oil Processing Facility (OPF) and a 2-day workshop hosted by Sakhalin Energy. ENVIRON/PCCI also took the opportunity to discuss progress against earlier action items and visit a number of oil spill equipment depots and response facilities.

Overall, the ENVIRON/PCCI visit to Sakhalin Energy was both timely and productive on all fronts. The results of this visit are discussed in more detail below.

Oil Spill Response Planning Issues and Discussions

The meetings in Sakhalin Energy's offices to discuss PCCI comments on shortfalls associated with the response plans and documents, and also with the readiness exercises went well. Sakhalin Energy was well prepared to discuss each of the issues, and they had both proposed solutions and also written schedules to address each of the major shortfalls. Several of the shortfalls, such as a lack of planning and capability to use non-mechanical response methods like dispersants, will require on-going action by both Sakhalin Energy and Russian Federation officials with cognizance over these clean-up methods.

Many of the issues and topics addressed in these early discussions were also scheduled for the workshop later in the week. Some of these issues were therefore revisited by the wider workshop participants.

Sovetskoye Pipeline Maintenance Depot (PMD) Visit

A one-day visit was arranged prior to the start of the oil spill exercise to the Sovetskoye PMD. Though only visual checks were made on the oil spill response and support equipment, the maintenance and upkeep appeared to be excellent. The response equipment was clearly well stored and protected, and also positioned for rapid mobilization. Substantial material handling equipment and transportation equipment was stored and maintained on-site, immediately adjacent to the response equipment warehouse. This equipment included snow graders, ploughs, tracked vehicles and other heavy equipment to remove snow or transport equipment and personnel over snow covered or frozen terrain. Also noteworthy was the equipment maintenance shop located adjacent to the storage warehouse. In addition to performing periodic scheduled maintenance on all equipment, the maintenance shop had the capability to perform modest repair of broken equipment as well as light and heavy duty vehicle maintenance.

Nogliki PMD visit

A brief visit was made to the Nogliki PMD en-route to the OPF to view the oil spill equipment stockpile. There was no attempt to check equipment levels against an inventory or equipment needs specified in the oil spill response plans.

The Nogliki PMD oil spill response stockpile was found to be well managed and maintained by a specialist oil spill response firm. There was a large supply of response equipment, including mobile incinerators, heli-torches for in-situ burning, dispersant and dedicated vehicles and vessels for the deployment of equipment.

Prigorodnoye Wildlife Care Facilities Visit

A half day visit was made to the wildlife stabilization and care facilities located at the Oil Export Terminal (OET)/LNG facility in Aniva Bay. Substantial progress has been made with this capability over the last two and half years since PCCI's first visit to these facilities. All equipment has been expertly packaged, stored, inventoried and readied for local use or ground or air transport. One bay of the vehicle storage shop where the equipment can be set up and operated has been upgraded since PCCI's previous visit with electrical and plumbing to meet all of the anticipated demands for power and hot water for bird stabilization, treatment and overall care.

The site visit to Aniva Bay confirmed that the wildlife response specialists were well trained and the wildlife care equipment has been improved and is well maintained. Through discussions with the wildlife care staff, PCCI learned that for spills in the north, such as from the Lunskeye or the Piltun platforms or associated subsea pipelines, oiled wildlife would need to be transported to the Prigorodnoye wildlife care facilities for treatment. PCCI recommends that Sakhalin Energy review their full range of wildlife hazing, capture, stabilization and treatment capabilities in the north and determine if any additional capabilities beyond transporting wildlife equipment from the south, or transporting oiled wildlife in the north to the south, is necessary.

In conjunction with the visit to Aniva Bay, PCCI also accompanied Dr. Brian Dicks and Sakhalin Energy's Peter Van de Wolff to the Sakhalin Zoo to participate in discussions with the resident veterinary staff at the zoo. Though much of the meetings focused on issues and challenges associated with conducting bioassays on any Western Grey Whales that turned up on Sakhalin Island shores, the veterinaries expressed high interest and intent to assist Sakhalin Energy with any expertise for wildlife assessment and treatment as required during an oil spill.

Oil Spill Exercise

The exercise scenario was based on a terrorist attack involving a breach of the OPF perimeter fence, the catastrophic rupture of a condensate/crude oil tank and subsequent loss of approximately 20m³ of condensate/crude mix from the bunded area. The scenario also included multiple casualties. In addition to the Sakhalin Energy emergency control teams in Yuzhno and at the OPF, fire, paramedic and oil spill response personnel were deployed to the incident. The federal security service (FSB) also participated in the exercise and were responsible for securing the site before oil spill response and clean-up operations could begin.

Sakhalin Energy's performance both in the field at the OPF and on the Emergency Control Team (ECT) and Crisis Management Team (CMT) in Yuzhno was noticeably stronger than in the previous exercise that PCCI observed in October 2011. The ENVIRON team found that the response team demonstrated a high degree of professionalism and responded swiftly. Communications appeared to work well and responders were well trained and well equipped. However a number of observations were made that challenge the effectiveness of the response and the extent the scenario reflected real conditions. In particular, the potential loss of hydrocarbons via the site's drainage system prior to responders arriving on scene was not considered.

ENVIRON/PCCI offer a number of recommendations for improving future Sakhalin Energy exercises; these recommendations are not considered deficiencies, but rather opportunities for enhancement of the company's oil spill response readiness. It is ENVIRON's view that

regardless of the drain plugs used during the exercise, loss of secondary containment would have potentially resulted in condensate in the open drainage network and ultimately discharge to the surrounding forest (a sensitive receptor). There was no obvious consideration that the spill could migrate downstream of the immediate spill area.

Whereas the exercise ran extremely smoothly, it is recommended that future exercise scenarios should be designed to be more challenging. Sakhalin Energy should consider the use of an organisation or individual (possibly independent) to control the scenario, allowing it to evolve over time, and to provide additional information/surprises to stretch responders' decision-making and response capabilities.

Oil Spill Response Workshop

The workshop was well organized and expertly facilitated by Bill Stillings of Ecoshelf. The timing of the workshop, just before Sakhalin Energy begins major updates of their facility Oil Spill Response Plans (OSRPs), was very advantageous. Participation by the key decision-makers and oil spill programme managers within Sakhalin Energy was excellent. Furthermore, the outside guests and speakers who participated in the workshop were very knowledgeable in their areas of specialty and all participants appeared to greatly benefit from the workshop. A summary of each day of the workshop is provided below:

- **Day 1.** A number of presentations and discussions took place during the course of the day. Significant discussions took place concerning the use of dispersants and the need for a Net Environment Benefit Analysis (NEBA) prior to the application of dispersant, most notably during a presentation given by G Semanov from the Central Marine Research & Design Institute (CNIIMF). Consensus was reached that although a NEBA should be performed prior to application of dispersants in an emergency situation, certain conditions for dispersant use could be pre-determined (i.e. areas and conditions where the use of dispersants is considered to result in a net environmental benefit). The strong implication was that, in the event of an emergency situation, the reasonable and considered use of dispersants by Sakhalin Energy would be acceptable to the CNIIMF. Sakhalin Energy will continue discussions with CNIIMF and other Russian parties with legitimate interest in the use of dispersants, such as the Ministry of Fisheries and officials within the Sakhalin Oblast, that were not present at the workshop. Brian Dicks stressed that the WGWAP is firmly against the use of dispersants in and around the WGW feeding areas, and that whereas they don't rule out the use of dispersants elsewhere, caution needs to be applied if used in locations away from the feeding area.

Sakhalin Energy will also review and confirm its dispersant stockpiles on Sakhalin and its means of dispersant delivery, and also the dispersant types, types and deliver methods of mutual aid partners.

- **Day 2.** A smaller number of participants attended the second day of the workshop. The morning session involved a desk top oil spill response exercise based on a tanker release of crude oil in Aniva Bay. The scenario was designed by Bill Stillings from Ecoshelf and included periodic release of new information as the incident evolved. The exercise was very challenging for ECT and CMT members as it involved a large spill volume, weather and oil movement that could not readily be contained, significant shore impacts and threats to numerous birds as well as marine life. Overall, the exercise was well-organised and in the opinion of ENVIRON proved to be a valuable session. This view was shared by those who participated from Sakhalin Energy. In the afternoon there was a general discussion amongst

remaining participants about the findings of the week, and proposed actions for the future.